GROUND LEASE

BETWEEN

THE PORT OF VANCOUVER, U.S.A.

AND

TESORO SAVAGE PETROLEUM TERMINAL LLC

Commission Approval Date: July 23, 2013

Effective Date: August 1, 2013

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GROUND LEASE

THIS GROUND LEASE is made by and between the PORT OF VANCOUVER, a municipal corporation organized and existing under the laws of the State of Washington, hereinafter referred to as "Lessor," and TESORO SAVAGE PETROLEUM TERMINAL LLC, a Delaware limited liability company, hereinafter referred to as "Lessee." Capitalized terms have the meanings set forth in the Glossary of Terms attached hereto as Exhibit "E" or as defined elsewhere in this Lease.

W I T N E S S E T H:

That the Parties do hereby mutually agree as follows:

1. **BASIC LEASE PROVISIONS:** These are provisions of this Lease, except as they may be modified hereafter.

A.	DATE OF GROUND LEASE:	August 1, 2013 (referred to herein as the "Effective Date").
B.	PRELIMINARY AND FINAL PREMISES DESCRIPTIONS:	As of the Effective Date, the Parties have not determined the precise boundaries of the Premises. During the Contingency Period, Lessor and Lessee shall develop mutually agreeable depictions and legal descriptions of the Rail/Rack Area, the Support Areas, the Storage Area, and the Marine Terminal Area (collectively, the "Final Premises"), which shall replace Exhibits "A", "B-1", "B-2" and "B-3" attached hereto on the Effective Date. Until such substitution has occurred, the Premises shall consist of the following (the "Preliminary Premises"): The area outlined on the attached Exhibits "A", "B-1", "B-2" and "B-3", all in "AS-IS" condition, all as described more particularly in Paragraph 2 below, and consisting of: "Rail/Rack Area": Approximately 9.92 acres (432,115 square feet) of land area for construction and operation of a petroleum products unloading facility, including exclusive rail tracks as described in Exhibit "J" and more particularly depicted on Exhibit "B-1". "Support Areas": Approximately 1.54 acres (67,082 square feet) ("Support Area A") and approximately 3.93 acres (171,191 square feet) ("Support Area B") of land for administrative and rail operations support activities for the Facility, more particularly depicted on Exhibit "B-1".

"Storage Area": Approximately 20.84 acres (969,210 square feet) of vacant land to be used for construction and use of petroleum products storage tanks and more particularly depicted on Exhibit "B-2". The possession of the Storage Area will be delivered in two phases (Phase 1, approximately 15.97 acres; and Phase 2, approximately 4.87 acres) as described in Paragraph 3.E below.

"Marine Terminal Area": Approximately 5.76 acres (250,906 square feet) consisting of the berthing areas commonly known as Berth 13 and Berth 14, Terminal 4, to be used exclusively by Lessee for the loading of Petroleum Products onto vessels docked at the Marine Terminal Area from time to time. The Marine Terminal Area is to be used in accordance with the terms of this Lease.

C. TERM:

Initial Lease Term:
The term of this Lease shall commence on the Effective Date, and shall continue for a full one hundred twenty (120) months after the Rent Commencement Date (i.e., ending at midnight on the last day of the calendar month that is a full 120 months after the Rent Commencement Date), unless sooner terminated in accordance with the terms and provisions of this Lease. The period from the Rent Commencement Date until the end of the term of this Lease (including any exercised Extension Terms) is referred to herein as the "Operating Term".

Extension Terms:
Lessee is granted two (2) successive options to extend, each for an additional Extension Term of five (5) years. The Extension Term(s) must be exercised in accordance with the provisions of Paragraph 3.B.

Early Termination:
If any or all of the conditions precedent set forth in Paragraph 2.D has not been satisfied or waived on or before the Conditions Precedent Outside Date, either Lessor or Lessee may terminate this Lease on or before the Conditions Precedent Outside Date by written notice of termination to the other Party, without further cost or obligation, except as set forth expressly herein. The security instrument required by the first paragraph of Paragraph 1.G hereof will be retained by Lessor until all outstanding expenses owed to Lessor are reimbursed in full by Lessee.

D. INITIAL FEES AND RENT:

During the Contingency Period: Thirty Thousand Dollars ($30,000.00) per month during the first eighteen (18) months of the Contingency Period,

and thereafter, until the Conditions Precedent Expiration Date, Fifty Thousand Dollars ($50,000.00) per month ("Contingency Period Fees").

During the Construction Period: Fifty Thousand Dollars ($50,000.00) per month until the Rent Commencement Date ("Construction Period Fees").

On and after the Rent Commencement Date: Five and thirty-two one hundredths cents ($0.0532), multiplied by the annual percentage increases in the Index from the Effective Date until the Rent Commencement Date, per square foot per month ("Base Monthly Rent"), plus Leasehold Tax.

Rent Adjustment:
During the Initial Lease Term and any Extension Term, the Base Monthly Rent shall be increased annually on each anniversary of the Effective Date (each, an "Adjustment Date"). On each annual Adjustment Date, the Base Monthly Rent set forth above shall be adjusted by multiplying the Base Monthly Rent by the percentage increase in the Consumer Price Index All Urban Consumers U.S. City Average (1982-84=100) published by the United States Department of Labor, Bureau of Labor Statistics ("Index"). The percentage increase shall be calculated by comparing the Index that was in effect on the ninetieth (90^{th}) day preceding the Effective Date for the first annual adjustment and prior to the Adjustment Date on each successive annual adjustment to the Index that is in effect on the ninetieth (90^{th}) day preceding the then current Adjustment Date. In the event that the Adjustment Date falls on a day other than the 1^{st} of the month, the adjustment in Base Monthly Rent shall take effect on the first day of the following month.

E. CURRENT LEASEHOLD TAX RATE:

Twelve and 84/100 percent (12.84%).

F. ADDITIONAL CHARGES:

Common Area Maintenance ("CAM") charges: $.0054 per square foot, as adjusted below, and as described in Paragraph 5.E.

Rail Access Fee ("RAF"): Twenty-Five Dollars ($25.00) per BNSF-delivering carrier Loaded Rail Car, or Fifty Dollars ($50.00) per non-BNSF-delivering carrier Loaded Rail Car, pursuant to the terms outlined in Paragraph 5.C.

CAM charges and the Rail Access Fee shall increase annually on the first day of each January ("CAM Adjustment Date"), beginning on January 1, 2014. On each CAM Adjustment Date, the CAM and RAF charges set forth shall be adjusted by multiplying such CAM and RAF charges by the percentage increase in the Consumer Price Index All Urban Consumers U.S. City Average (1982-84=100) published by the United States Department of Labor, Bureau of Labor Statistics ("Index"). The percentage increase for the first annual adjustment shall be calculated by comparing the Index that is in effect on the 1st day of October preceding January 1, 2013 to the Index that is in effect on the 1st day of October preceding January 1, 2014. Each successive annual adjustment will compare the Index in effect on October 1st prior to the previous CAM Adjustment date to the Index that is in effect on October 1st preceding the current CAM Adjustment Date. No such adjustments shall be less than an increase of Two percent (2%) or more than an increase of Six percent (6%) of the CAM and RAF charges in effect immediately prior to such adjustment.

Rail Maintenance Fee: For the Port's Rail System, as determined by the Port's annual Rail Tariff pursuant to the terms outlined in Paragraph 5.D; the Rail Maintenance Fee is, as of the Effective Date, Four Dollars ($4) per Loaded Rail Car.

Lessee shall be responsible for all individual rail maintenance and repair expenses on all rail spurs and tracks used exclusively by Lessee.

G. LEASE SECURITY AMOUNT:

Bond, letter of credit, or cash in an amount of [redacted] Dollars [redacted], as and to the extent required in Paragraph 6.

Additionally, as security for payment of the sums to be paid by Lessee to Lessor under the terms of the MGA Agreement, Lessee shall deliver to Lessor a deed of trust creating, for the benefit of Lessor (or the holders of bonds issued by Lessor or a trustee acting for the benefit thereof), a first position security interest on the improvements and Alterations constituting the Facility (as more particularly described in Paragraph 6.B), or such other security instrument as is proposed by Lessee and is acceptable to Lessor in its sole discretion, until such time as Lessee has paid to Lessor, in respect of Wharfage, Service and Facilities Fees, a total of [redacted]

H.	GUARANTY:	If applicable with respect to an assignee, one or more Parent Company Guaranties, in the form attached hereto as Exhibit "G".
I.	PERMITTED USE:	Rail/Rack Area: (i) Loading and unloading of Petroleum Products by rail, (ii) transfer of such Petroleum Products to and from the Storage Area or the Marine Terminal Area, and (iii) rail operations and other operational and maintenance activities associated with the receipt, loading, unloading and transfer of such Petroleum Products, including but not limited to inspection, repair and storage of rail cars and installation and upgrading of equipment from time to time. Support Areas: Office, administrative and support activities relating to the operation of the Facility, including installation and upgrading of equipment from time to time. Storage Area: (i) Storage and blending of Petroleum Products delivered by rail, or vessel via pipeline, to the Rail/Rack Area, (ii) transfer of such Petroleum Products via pipeline to the Marine Terminal Area, and (iii) operational and maintenance activities associated with the storage, blending and transfer of such Petroleum Products, including installation and upgrading of equipment from time to time. Marine Terminal Area: (i) Loading and unloading of vessels with Petroleum Products delivered to the Premises; and (ii) operational and maintenance activities, including installation and upgrading of equipment from time to time, including equipment used to load and unload Petroleum Products onto and from vessels and the inspection, repair and handling of vessels.
J.	PROPERTY INSURANCE:	Lessee Provided: Maximum Deductible: One Million Dollars ($1,000,000) and five percent (5%) of values per location (i.e., the Rail/Rack Area, the Support Areas, the Storage Area, and the Marine Terminal Area) for the perils of earthquake and flood; and subject to adjustment pursuant to the provisions of Paragraph 15.
K.	LIABILITY INSURANCE:	Minimum Coverage Amounts for Paragraph 15.B: Ten Million Dollars ($10,000,000) per occurrence/ Fifteen Million Dollars ($15,000,000) aggregate; subject to adjustment pursuant to the provisions of Paragraph 15.

Minimum Coverage Amounts for Paragraph 15.D(4) – Employer Liability Act:
One Million Dollars ($1,000,000).

Minimum Coverage Amounts for Paragraph 15.D(5) – Automobile Liability:
One Million Dollars ($1,000,000) per occurrence.

L. POLLUTION LEGAL LIABILITY INSURANCE

Lessee shall also obtain pollution legal liability insurance in the amount of Twenty-Five Million Dollars ($25,000,000) as an extension of the commercial general liability insurance or as a separate policy, and further pursuant to the provisions of Paragraph 15.C.

M. ADDRESSES FOR NOTICE PURPOSES:

Notices to Lessor shall be sent to:

The Port of Vancouver, U.S.A.
3103 NW Lower River Road
Vancouver, WA 98660
Attention: Executive Director
Telephone: 360-693-3611
Facsimile: 360-735-1565

With a copy to:

Alicia Lowe, POV General Counsel
Schwabe, Williamson & Wyatt
700 Washington Street, Suite 701
Vancouver, WA 98660
Telephone: 360-694-7551
Facsimile: 360-693-5574

Notices to Lessee shall be sent to:

Tesoro Savage Petroleum Terminal LLC
c/o Savage Services Corporation
6340 South 3000 East, Suite 600
Salt Lake City, Utah 84121
Attention: Group Leader, Oil and Gas Solutions
Email: [redacted]
Facsimile: [redacted]

With a copy to:

Savage Companies
6340 South 3000 East, Suite 600
Salt Lake City, Utah 84121
Attention: General Counsel
Email: [redacted]
Facsimile: [redacted]

And to:

Tesoro Refining & Marketing Company LLC
19100 Ridgewood Parkway

San Antonio, Texas 78259
Attention: Senior Director, Managing Attorney, Commercial
Email: [redacted]
Facsimile: [redacted]

N. BROKERS:

Lessor's Broker: None
Lessee's Broker: None

Lessor shall lease the Premises (as defined below in Paragraph 2) to Lessee, and Lessee shall lease the Premises from Lessor, in accordance with the Terms of this Lease, after Lessor and Lessee execute this Lease, which consists of _____ pages including Exhibits A, B-1, B-2, B-3, C, D, E, F, G, H, I, J, K, L, M, N, O, P, and Q. Any and all exhibits attached hereto are made a part of this Lease and incorporated herein.

2. **PREMISES**:

A. Lessor hereby leases to Lessee and Lessee hereby leases from Lessor, subject to and with the benefit of the terms and conditions of this Lease, including the attached exhibits, the Preliminary Premises, located in the Port District of the Port of Vancouver, hereinafter known as the "Port," located in the City of Vancouver, Clark County, Washington, as described in Paragraph 1.B and as represented by the area outlined on the attached Exhibits "A", "B-1", "B-2", and "B-3" together with the nonexclusive right of ingress and egress to and from the Premises across those portions of the Port dedicated from time to time as streets, roadways, and Common Areas. Lessor further agrees to convey to Lessee one or more nonexclusive pipeline easements for the purpose of constructing and maintaining pipelines to transport Lessee's Petroleum Products between the Rail/Rack Area, the Support Areas, the Storage Area, and the Marine Terminal Area, substantially in the form of Pipeline Easement Agreement attached hereto as Exhibit "K" (each, a "Pipeline Agreement"). Except for the Existing Environmental Conditions as generally described below in Paragraph 2.C, Lessee hereby accepts said Premises in "As-Is" condition. Notwithstanding that Lessee accepts the Premises in "As Is" condition, Lessor shall, prior to the Rent Commencement Date and at Lessor's sole cost and expense, complete the improvements to the Port that are described as "Lessor's Infrastructure Improvements" on Exhibit "D" attached hereto, to enable Lessee to fully utilize the Premises for the Permitted Use.

B. It is understood that the Premises constitute a portion of a multiple occupancy area, including warehouses and office buildings, in the Port. During the term hereof and subject to the covenants, terms and conditions hereof, Lessee, and its agents, employees, customers, invitees, and licensees, shall have the nonexclusive

right to use, in common with Lessor and other lessees of building and unimproved land space in the Port, and their agents, employees, customers, invitees, and licensees, thereto, all Common Areas. Lessee shall use Common Areas in conformity with the reasonable rules and regulations and changes thereto from time to time promulgated by Lessor after written notice of any changes to such rules and regulations has been provided to Lessee. The manner and nature of the installation and maintenance of the Common Areas shall be subject to the sole discretion of Lessor, but in a manner consistent with the requirements of Paragraph 5.E below. Lessor reserves the right from time to time to make changes in the shape, size, location and extent of Common Areas provided that, except as may be required by law or government agencies, no such change shall materially adversely affect Lessee's Permitted Use of the Premises or Lessee's means of access to and from the Premises. Lessor further retains the right to temporarily close Common Areas from time to time in order to prevent a dedication thereof or for the making of repairs or performance of maintenance. No such temporary closures shall prevent Lessee's normal business operations at the Premises or materially adversely and unreasonably affect Lessee's access to and from the Premises.

C. Lessor and Lessee acknowledge that portions of the Premises and portions of the areas to which Lessee may be granted an easement pursuant to a Pipeline Agreement are subject to the Consent Decree, in which the previous land owner agreed to remediate the Premises. Portions of the Premises and portions of the areas to which Lessee may be granted an easement pursuant to a Pipeline Agreement also are subject to the Restrictive Covenants, which require capping of residual contamination and restrict activities that would disturb the contamination. Lessee's possession, including but not limited to Lessee's use and operations, throughout the Term(s) of the Lease, shall be consistent with all requirements of the Consent Decree and Restrictive Covenants, which are incorporated by reference in this Lease. Lessor shall be responsible for proper management of all Existing Environmental Conditions, including in connection with the pre-occupancy construction of improvements on the Premises, all as set forth in Paragraph 11.B hereof. Lessor, with Lessee's cooperation, will obtain the necessary approvals from the Washington Department of Ecology so as to allow Lessor or Lessee to modify any monitoring well location or cap, including modifications to conduct baseline and geotechnical testing, for pre-occupancy construction of improvements and pre-occupancy construction of the tenant improvements necessary for the Permitted Use (provided Lessee presents a reasonable design which is consistent with the Consent Decree and Restrictive Covenants, as well as the other terms and conditions of this Lease) of the Premises under this Lease. Lessee (with Lessor's reasonable cooperation, but at no cost to Lessor) shall be responsible for obtaining any other

licenses, permits and approvals needed for its operations on the Premises, and shall cooperate reasonably with Lessor to ensure that the scope and breadth of such licenses, permits and approvals are adequate for completion of any work to be performed by Lessor under such licenses, permits and approvals.

D. Notwithstanding anything to the contrary set forth herein, the Parties' respective obligations under this Lease (other than: (1) Lessee's obligation to pay the Contingency Period Fee pursuant to Paragraph 4.A; (2) the Parties' obligations to work diligently and in good faith to pursue all necessary licenses, permits and approvals required for the development and construction of the Facility for the Permitted Use; and (3) the indemnity obligations set forth in Paragraphs 11, 13, 16, 23, and 39; each of which such obligations set forth in this Paragraph 2.D shall be absolute and irrevocable as of the Effective Date through the date of any termination based on the failure of the Conditions Precedent) shall be subject to satisfaction or waiver of the following Conditions Precedent on or before the Conditions Precedent Outside Date:

(1) all necessary licenses, permits and approvals have been obtained for the Permitted Use; and

(2) Lessee shall obtain a baseline investigation of environmental conditions at the Premises by an independent, reputable professional environmental consultant to assess the presence of contamination on the Premises prior to Lessee's use of the Premises (the "Baseline Assessment"). The selection of such consultant and the scope of work for the Baseline Assessment shall be approved by Lessor prior to the engagement of the consultant or the initiation of the assessment work. The scope of work shall include the sampling and analysis plan for the Baseline Assessment.

The Condition Precedent in Paragraph 2.D(1) is for the benefit of both Lessor and Lessee. The Condition Precedent in Paragraph 2.D(2) is for the sole benefit of Lessee. If the Conditions Precedent are satisfied or waived by the Party or Parties to whose benefit they run on or before the Conditions Precedent Outside Date, then Lessee shall promptly commence construction of the Facility. If neither Party provides the other Party with a termination notice on or before the Conditions Precedent Outside Date, the Conditions Precedent shall then be deemed satisfied.

During the Contingency Period, Lessor and Lessee shall work diligently and in good faith to: develop and approve depictions and legal descriptions of the Final Premises (the cost of preparation thereof to be borne by Lessor), and such depictions and legal descriptions shall, prior to the Conditions Precedent Expiration Date, be substituted into this Lease as replacement Exhibits "A", "B-1", "B-2" and "B-3" by a mutually executed

amendment to this Lease; and develop and mutually approve milestones and preliminary engineering and construction plans, specifications and designs (to be submitted by Lessee to Lessor for Lessor's review and approval), and rail track plans and specifications, for the development, construction, and operation of the Facility. Notwithstanding anything to the contrary herein, if Lessor is not reasonably satisfied on or before the Conditions Precedent Outside Date that Lessee is prepared to, and intends to, commence construction within [redacted] after the Conditions Precedent Expiration Date, Lessor may terminate this Lease without any further obligations on the part of either Party hereto, except as expressly set forth herein.

E. Lessee's use of the Rail/Rack Area shall be at all times in accordance with and subject to the terms, conditions, and limitations set forth in Exhibit "J" ("Rail Operations") attached hereto.

F. During the first twelve (12) months of the Contingency Period (unless otherwise expressly agreed in writing by the Parties), Lessor may use the Premises, and allow third parties to use the Premises, for any and all purposes other than the Permitted Use, so long as such use does not unreasonably change the condition of the Premises in such a way that would inhibit Lessee's development of the Facility following the Conditions Precedent Expiration Date.

3. **LEASE TERM**:

A. In accordance with the terms and conditions of this Lease, but subject to Paragraph 3.F below, Lessee shall have and hold the Premises commencing on the Conditions Precedent Expiration Date, unless this Lease shall be sooner terminated as herein provided.

B. Provided no Default under any of the provisions or covenants of the Lease has occurred which has not been cured, Lessee is hereby granted the number of successive options set forth in Paragraph 1.C to extend the Term of this Lease, each for an additional Extension Term as set forth in Paragraph 1.C (each of which periods is referred to herein as an "Extension Term"). Lessee shall exercise each option by giving written notice (the "Exercise Notice") to Lessor of its intent to extend the Lease Term no less than One Hundred Eighty (180) days prior to the expiration of the then current Term. Upon the timely exercise of the option to extend and subject to the assent of the Port, which shall not be unreasonably withheld, the Extension Term shall be on the same terms and conditions, except Base Monthly Rent, contained in the Lease. Base Monthly Rent for the Extension Term shall not be less than the Base Monthly Rent provided for herein. Base Monthly Rent shall be in the amount set forth below and there shall be no further options to extend the Term beyond the number of Extension Terms set forth in

Paragraph 1.C. Any attempted exercise of an option to extend the Term shall be null and void and wholly ineffective unless this Lease is still in full force and effect and Lessee shall not be in Default beyond applicable notice and cure periods under the terms of this Lease. For any assignment of this Lease requiring Lessor's approval or consent pursuant to Paragraph 19, Lessor's express approval shall also be required in order for any extension options available to Lessee to be included with the assignment of the Lease, with the same standard of consent (i.e., sole or reasonable discretion) applicable for Lessor's approval of the assignment of the Lease also being applicable to Lessor's approval of the assignment of the extension options. For any assignment of this Lease not requiring Lessor's approval or consent pursuant to Paragraph 19, any extension options available to Lessee shall be assigned automatically with the assignment of the Lease.

C. If Lessee fails to give timely written notice to Lessor of its election to extend the Term, the Term shall expire and this Lease terminate as of the end of the then expiring Term. If the Term is extended as aforesaid, all of the same terms, provisions and conditions set forth in this Lease shall apply, except that the Base Monthly Rent during the Extension Term shall be as set forth in Paragraphs 1.D and 4.

D. If Lessee timely gives written notice to Lessor of Lessee's first or second election to extend the Term, but Lessor elects to withhold its assent to such extension, then Lessee shall have no obligation, notwithstanding the terms of Paragraph 28 below, to pay for removal of the improvements and Alterations made by Lessee to the Premises. Additionally, in such event, Lessor may not, without compensating Lessee for the same (based on the fair market value thereof), enter into a lease, license or other occupancy agreement with a third party for all or any portion of the Premises whereby the Premises and the improvements and Alterations made by Lessee are used by such third party for a use substantially similar to the Permitted Use.

E. Any reference in this Lease to the "Term" or "Term of this Lease" or "Lease Term" shall mean the Initial Term together with any Extension Term accruing pursuant to Paragraph 3.B. If any option to extend the Term is not exercised strictly in accordance with Paragraph 3.B, then all other options to extend the Term shall automatically terminate and be null and void.

F. Lessee acknowledges that a portion of the Premises is, as of the Effective Date, occupied by a third party tenant, whose lease thereof expires on December 31, 2013. Accordingly, notwithstanding anything to the contrary herein, Lessee shall not have access to or possession of the portion of the Storage Area shown on Exhibit

"B-2" as "Storage Area – Phase 2" until written notice from Lessor to Lessee that such portion of the Premises is available (the "Phase 2 Possession Notice Date").

4. **FEES AND RENT:**

A. Lessee agrees to pay, during the Contingency Period, the Contingency Period Fees.

B. Lessee agrees to pay, during the Construction Period, the Construction Period Fees, which will not be credited back to Lessee.

C. Lessee agrees to pay as rental during the Term of this Lease, commencing on the Rent Commencement Date, the Base Monthly Rent set forth in Paragraph 1.D, as adjusted. Lessee also agrees to pay, during the Term of this Lease, commencing on the Effective Date, all Leasehold Taxes, including Leasehold Taxes applied by the Washington State Department of Revenue ("DOR") with respect to the Premises as determined by the DOR under RCW 82.29A.020. Base Monthly Rent and Leasehold Taxes are referred to collectively herein as the "Rent." The current Leasehold Tax Rate is set forth in Paragraph 1.E.

D. The Contingency Period Fee, the Construction Period Fee and the Rent shall be paid in advance on or before the first day of the month in which payment is due. All Additional Charges, including those described in Paragraph 5, shall be paid within no more than thirty (30) days from the date of billing. All payments shall be payable at Lessor's office in Vancouver, Washington without counterclaim, setoff, deduction or defense.

E. If any payment of the Contingency Period Fee, the Construction Period Fee, Rent or Additional Charges due to Lessor is not received within five (5) days from the date herein set for payment, Lessee shall pay to Lessor a late charge in the amount of ten percent (10%) of the payment then due and in arrears and interest on said payment at the "Interest Rate." Interest shall be calculated on outstanding payments from the date first due until received by Lessor. Lessee shall be responsible for any attorney fees or related charges incurred by Lessor for collection of rent. A charge of Seventy-Five and 00/100 Dollars ($75.00) shall be levied for any check received which is returned for insufficient funds.

F. Any Contingency Period Fee, Construction Period Fee or Rent payment for any fractional month during the Term hereof shall be prorated on the number of days in such month and payable on the next applicable payment date.

G. The Base Monthly Rent for each Extension Term shall be equal to the greater of: (i) the Base Monthly Rent payable immediately prior to the commencement of such Extension Term, plus an annual rent

adjustment in accordance with Paragraph 1.D, or (ii) the "Fair Market Rent" for the Premises which shall be determined as follows:

"Fair Market Rent" shall mean the effective flat rental rate per square foot received by landlords of comparable water accessible, heavy industrial land in the Vancouver, Washington, metropolitan area with similar amenities and fixtures, assuming Lessor were to put the space in question (in its then-existing "as-is" condition) on the market for lease to a new lessee, assuming a new lessee with comparable attributes to Lessee. In determining such "Fair Market Rent" there shall be taken into account, among other things, (i) rental rates, (ii) concessions then being given to prospective tenants such as construction and other allowances for tenant improvements, moving and other allowances, and (iii) any expenses that would be incurred by a landlord in connection with a third party lease such as leasing commissions, and (iv) the Base Year being utilized to determine such rent. Items referred to in clauses (ii) through (iv) above are hereinafter collectively referred to as "concessions" and Fair Market Rent shall be reduced to the extent necessary to amortize the amount of such concessions over the full term of the Extension Term. Fair Market Rent as of the date of the Extension Term shall be determined by mutual agreement of Lessor and Lessee not later than thirty (30) days after receipt of the Exercise Notice, subject to arbitration as hereinafter provided. If the Parties are unable to reach agreement as to Fair Market Rent within such thirty (30) day period, the Parties shall submit the dispute to arbitration. The arbitration shall be conducted and determined in Vancouver, Washington in accordance with the then prevailing rules of the American Arbitration Association or its successor for arbitration of real estate valuation disputes, except that the procedures mandated by such rules shall be modified as follows:

(1) Within ten (10) business days after expiration of the thirty (30) day period for mutual agreement on Fair Market Rent, Lessee shall notify Lessor of the name and address of the person to act as arbitrator on Lessee's behalf. The arbitrator shall be a MAI certified real estate appraiser with at least ten (10) years full-time experience who is familiar with the Fair Market Rent of water accessible, heavy industrial land similar to the Premises in Vancouver, Washington. Within ten (10) business days after Lessee identifies in writing its arbitrator, Lessor shall give notice to Lessee specifying the name and address of the person designated by Lessor to act as arbitrator on Lessor's behalf, which person shall be similarly qualified. If Lessor fails to notify Lessee of the appointment of Lessor's arbitrator within the time specified, then the arbitrator appointed by Lessee shall be the arbitrator to determine the Fair Market Rent for the Premises.

(2) If two arbitrators are chosen, the arbitrators so chosen shall meet within ten (10) business days after the second arbitrator is appointed and shall appoint a neutral arbitrator who shall be a competent and impartial person with qualifications similar to those required of the first two arbitrators. If they are unable to agree upon such appointment within five (5) business days, the neutral arbitrator shall be selected by the presiding judge of the Clark County Superior Court.

(3) The Fair Market Rent shall be fixed by the three arbitrators in accordance with the following procedures. Each Party-appointed arbitrator shall state, in writing, such arbitrator's determination of the Fair Market Rent supported by the reasons therefor and shall make counterpart copies for the other Party-appointed arbitrator and the neutral arbitrator. The Party-appointed arbitrators shall arrange for a simultaneous exchange of their proposed Fair Market Rent determinations. The role of the neutral arbitrator shall be to select whichever of the two proposed determinations of Fair Market Rent most closely approximates the neutral arbitrator's own determination of Fair Market Rent. The neutral arbitrator shall have no right to propose a middle ground or any modification of either of the two proposed determinations of Fair Market Rent. The determination of Fair Market Rent that the neutral arbitrator chooses as that most closely approximating the neutral arbitrator's determination of the Fair Market Rent shall constitute the decision of the arbitrators and shall be final and binding upon the Parties. The arbitrators shall have no power to modify the provisions of this Lease.

(4) The neutral arbitrator's decision shall be made not later than thirty (30) days after the submission by the arbitrators of their proposals with respect to the Fair Market Rent. The Parties have included these time limits in order to expedite the proceeding, but they are not jurisdictional, and the neutral arbitrator may for good cause allow reasonable extensions or delays, which shall not affect the validity of the award. Absent fraud, collusion or willful misconduct by the neutral arbitrator, the award shall be final, and judgment may be entered in any court having jurisdiction thereof.

(5) Each Party shall pay the fees and expenses of its respective arbitrator and both Parties shall share the fees and expenses of the neutral arbitrator equally.

(6) The entire arbitration process, beginning after expiration of the thirty (30) day period for mutual agreement on Fair Market Rent, shall be completed in not more than sixty-five (65) days.

Notwithstanding the foregoing, in the event that the Parties have modified the terms of the MGA Agreement such that a mutually agreeable MGA (as defined in the MGA Agreement) has been established and

agreed upon for the entirety of the applicable Extension Term or Extension Terms, the Base Monthly Rent for such Extension Term or Extension Terms shall not be subject to such Fair Market Rent adjustment, but shall continue to be subject to annual rent adjustment in accordance with Paragraph 1.D.

H. This is intended to be a net lease, meaning that Lessee shall pay all expenses of every type relating to the Premises after the Conditions Precedent Expiration Date, and all Contingency Period Fees, Construction Period Fees, Rent and Additional Charges shall be received by Lessor without setoff, offset, abatement, or deduction of any kind except as provided herein. **Under no circumstances or conditions, whether now existing or hereafter arising or whether beyond the present contemplation of the Parties, shall Lessor be expected or required to make any payment of any kind whatsoever or be under any obligation or liability under the Lease except as expressly set forth in the Lease.**

5. **ADDITIONAL CHARGES**: Upon commencement of the Construction Period, Lessee shall timely make all payments owing by Lessee under this Lease in addition to either (as the case may be) the Construction Period Fees or Rent ("Additional Charges"), including but not limited to the following:

A. charges for all utilities and services furnished to the Premises and assessments for utilities and services furnished to the Premises. "Utilities" include, but are not limited to, water, natural gas, electricity, sewer and refuse disposal, storm water collection and treatment, garbage and recycling, trackage for Lessee's exclusive use, and monthly inspection fees for any trackage for Lessee's exclusive use. "Services" include, but are not limited to, landscaping, paving, parking lot striping, catch basin repair and maintenance, irrigation, security and fire protection and monitoring systems and all associated operation services. Lessee shall also pay for all charges for maintenance associated with the Premises. Lessor has the first right to supply any of such Utilities to Lessee and, if Lessor elects to do so, Lessee shall purchase and pay for the same as an Additional Charge at the same rate schedule charged other users in the Port; provided that such rate shall not exceed the rates available from other suppliers of the same utility in the Vancouver area. Payments for all Utilities provided by third parties shall be made by Lessee directly to such providers. If Lessor furnishes a utility to the Premises and such utility is not separately metered, then Lessor shall apportion the utility charges, and the charges associated therewith, on an equitable basis, in its reasonable discretion. In no event shall Lessor be liable for the interruption or failure in the supply of any Services or Utilities to the Premises, whether or not being furnished by Lessor, provided, however, that, in the case of

Utilities furnished by Lessor, Lessor shall use diligent efforts to restore such Services and/or Utilities as soon as reasonably possible.

B. any insurance premiums to be reimbursed by Lessee to Lessor pursuant to Paragraph 15.

C. a Rail Access Fee in the amount specified in Paragraph 1.F. This fee shall be billed to the Lessee each month and shall be calculated by the actual railcar traffic as reported by BNSF, Lessor's exclusive rail operator.

D. a Rail Maintenance Fee for the common rail system internal to the Port in an amount to be determined by Lessor's annual rail tariff. Lessee shall also be responsible for individual rail maintenance and repair expenses on all rail spurs and tracks used exclusively by Lessee.

E. as a component of Additional Charges, a monthly CAM (as defined below) fee during each calendar year, or portion thereof, during the term of this Lease. Lessee shall pay the amount stated in Paragraph 1.F, which amount is subject to adjustment as described in Paragraph 1.F. Any amount collected by Lessor that exceeds any given year's total CAM expenses will be deposited in a reserve account and used towards any following year's total CAM capital improvements. During the Term hereof, Lessor shall repair, maintain and keep the Common Areas in good order, repair and condition, including without limitation, utilities and roads (including roads and utility lines within the Premises which are not exclusively used by Lessee and which are not maintained by the utility service provider). Common Area Maintenance ("CAM") expenses shall include, but not be limited to, all costs and expenses incurred by Lessor for the management, administration, maintenance, upkeep, and operation of the Common Areas, including, but not limited to, the costs and expenses of water, natural gas, electricity, sewer and refuse disposal, storm water collection and treatment, garbage and recycling, landscaping, paving, parking lot striping, catch basin repair and maintenance, irrigation, fire protection and monitoring systems, fencing, storage area screenings, common lighting, signage, security shacks, security card access, security guards and services, Common Area liability insurance, and the cost of capital improvements made to comply with the law or to reduce future expenses and all charges associated therewith. Administration costs and expenses shall include but not be limited to maintaining records of CAM expenses.

F. any charges, costs, and expenses that Lessor pays or agrees to pay under this Lease, together with all interest and other charges that may accrue thereon in the event of the failure of Lessee to pay those items, and all

other damages, costs, expenses, and sums that Lessor may suffer or incur, or that may become due, by reason of any Default of Lessee under this Lease.

G. any charges, costs, and expenses that Lessee pays or agrees to pay under any other agreement with Lessor, including but not limited to the MGA Agreement and any berthing agreement and/or trackage agreement.

H. any and all rentals and charges due the State of Washington under the Port Management Agreement as such applies to the Premises and as required by the DNR.

6. **LEASE SECURITY**: Lessee shall, upon execution of this Lease, and prior to occupancy, file with Lessor a bond, letter of credit or cash in accordance with RCW 53.08.085, as amended. The terms and document of the security instrument shall be subject to the reasonable approval of Lessor, and shall extend for a period of sixty (60) days subsequent to the Term of this Lease. The initial amount of security shall be as set forth in Paragraph 1.G. In the event of an exercise of an option to renew as provided in Paragraph 3.B or the execution of an Amendment to the Lease, subsequent security amounts shall increase and readjust in proportion to any subsequent increase in Rent or as reasonably determined by the Port Commission. Additional security corresponding to such increase shall be filed with Lessor within thirty (30) days after the effective date of the increase in Rent and prior to cancellation of any bond or letter of credit issued pursuant to this Paragraph. Upon any Default by Lessee in its obligations under this Lease, Lessor may collect on the security to offset any liability of Lessee to Lessor. Collection on the security shall not relieve Lessee of liability, shall not limit any of Lessor's other remedies, and shall not reinstate or cure the Default or prevent termination of the Lease because of the Default.

If a guaranty is required by Paragraph 1.H in connection with an assignment of this Lease, the assignee's parent company shall execute a guaranty in the same form as that attached hereto as Exhibit "G".

7. **POSSESSION**: Lessee has examined the Premises and, by taking possession, accepts them "as is" in their present condition without obligation or liability on the part of Lessor, to make any Alterations, improvements, repairs or maintenance except to the extent set forth expressly herein with respect to Existing Environmental Conditions and to the extent, if any, specifically set forth in writing and included herein or as an exhibit attached to this Lease.

8. **USE OF PREMISES**:

A. Lessee shall occupy and use the Premises for the Permitted Use set forth in Paragraph 1.I and shall not use the Premises for any other purpose without the prior written consent of Lessor. Lessee shall use the entire

Premises for the Permitted Use continuously during the entire term of this Lease, commencing on the Rent Commencement Date, except for: (i) periods of time (not exceeding twelve (12) months) that Lessee is prevented from using the Premises due to Force Majeure or damage or destruction of improvements, so long as following any damage or destruction, Lessee is using diligent efforts to make repairs or restoration of such improvements; or (ii) temporary closures (not exceeding thirty (30) days) as may be necessary for repairs or remodeling or for reasons beyond Lessee's control. Should Lessee use, or permit or suffer the use of, the Premises for any business or purpose other than the Permitted Use without the prior written consent of Lessor, except for temporary closures permitted by this Lease, Lessee shall be deemed in Default under the terms of this Lease. Except for Petroleum Products and those Hazardous Substances listed in Exhibit "H" (as the list may be modified during the Term through the new product approval process described in Exhibit "I"), it is further understood and agreed that the Premises shall not be used to store, distribute or otherwise handle flammable or Hazardous Substances.

B. Lessee agrees that it will not make or permit any unusual disturbance, noise, vibration, dust or other condition in, on or about the Premises, which would tend to create a Nuisance or unreasonably disturb Lessor or any other tenant of Lessor.

C. Lessee shall not use the Premises in such a manner as to increase the rates of insurance to the Premises or adjacent premises, without prior written approval of Lessor, and if permitted, Lessor may charge to Lessee as additional charges the full amount of any resulting premium increases incurred by Lessor or any of its adjacent tenants.

D. No invasive testing (except to the extent expressly approved by Lessor in conjunction with the Baseline Assessment and any approved geotechnical testing) or construction activities shall be conducted at the Premises during the Contingency Period.

E. During the MGA Term, so long as Lessee has, by the date that is [redacted] full months following the Rent Commencement Date (measured, at such time, based on a rolling 6-month average commencing on the second anniversary of the Rent Commencement Date), and each month thereafter, based on a rolling 6-month average, achieved and sustained an average throughput volume of [redacted] barrels per day of Petroleum Products (such period of time during the MGA Term with sustained throughput over [redacted] being referred to herein as the "Exclusive Period"), Lessor agrees not to lease any premises (other than the Premises that are subject to this Lease) located within the Port to a third party that will be permitted (directly or

indirectly) to operate a crude oil by Rail Facility for Unit Trains (the "Exclusive Use"), it being the intention of the Parties that Lessee shall during the Exclusive Period have the exclusive right in the Port to operate and conduct on the Premises a business for the Exclusive Use. If, thereafter, Lessee fails to maintain such throughput volume for a period of twelve (12) months or longer, the Exclusive Period and the right of first opportunity with respect to the Second PBR Facility (defined below) shall automatically terminate, and the Exclusive Use shall be of no further force and effect.

If the Facility achieves an average throughput volume that exceeds [redacted] barrels per day (measured on a rolling 12-month basis), and Lessor desires to develop another facility for the Exclusive Use (the "Second PBR Facility"), then Lessee shall have a right of first opportunity to lease additional real property from Lessor for the Second PBR Facility, either by (a) expanding the Premises and thereby adding additional throughput capacity, or (b) adding a facility at the Port that is separate from the Premises. If Lessee achieves an average throughput volume that exceeds [redacted] barrels per day (measured on a rolling 12-month basis) and Lessor desires to develop a Second PBR Facility, then Lessor shall give written notice to Lessee indicating the same, and Lessee shall have thirty (30) days following receipt of such written notice to accept or decline to enter into negotiations for the Second PBR Facility (the "Exercise Date"). If Lessee timely elects to enter into such negotiations, then Lessor and Lessee shall negotiate diligently and in good faith to reach and enter into a definitive agreement governing the development of the Second PBR Facility. If the Parties are unable to enter into such a definitive agreement within six (6) months following the Exercise Date, or if Lessee elected not to exercise its right of first opportunity (or failed to timely do so), then and only then shall Lessor be permitted to commence negotiations with third parties concerning the Second PBR Facility, and such Second PBR Facility will not be subject to the Exclusive Use. If Lessee has elected not to exercise its right of first opportunity (or failed to timely do so) at any point during the Lease Term, the right of first opportunity shall automatically terminate and be of no further force and effect for the balance of the Lease Term.

In the event that Lessor suffers or permits any use of the Port that is in violation of Lessee's Exclusive Use during a period in which Lessee has achieved and maintained an average throughput volume of [redacted] barrels per day of crude oil (measured on a rolling 12-month basis), Lessee shall be entitled to all remedies at law or in equity, including, should such violation remain for a period of twelve (12) months or longer in duration, the right to terminate this Lease with reservation of Lessee's remedies at law or at equity.

A portion of the Premises is owned by the DNR and is subject to the Port Management Agreement. Lessee shall be responsible throughout the Term to comply with the terms of the Port Management Agreement insofar as it applies to the Premises.

9. **WATERBORNE COMMODITIES; OPERATIONS AT MARINE TERMINAL AREA**:If applicable, Lessee agrees that throughout the Term of this Lease it will use commercially reasonable efforts, in conjunction with Lessor, to promote and aid the movement of cargo through the Port. Lessee further agrees that movements of Lessee's waterborne commodities, if any, shall be made through Lessor's port facilities if such routing is competitive with other ports.

B. The portion of the Premises described as the "Marine Terminal Area" includes Berths 13 and 14 in Terminal 4 (collectively, the "Berth"). Lessee shall have exclusive use of the Berth, as shown on Exhibit "B-1"/ "B-2" attached hereto, together with the nonexclusive rights of vehicular ingress and egress over and across those areas of the Port designated for driveway usage between the Berth and the balance of the Premises. Lessee shall use the Berth and the Marine Terminal Area solely in conjunction with the operation of the Facility for loading and unloading of Petroleum Products. The use of the Berth is subject to the following terms, conditions and requirements:

(1) Lessee shall be solely responsible for all capital improvements, replacement, maintenance and repair of the docks located in the Berth area, all at Lessee's sole expense.

(2) Lessor shall, at Lessor's sole cost and expense, perform all dredging necessary to provide continuous, safe access to the Berth and the dock located in the Berth area, and shall maintain the Berth's established depth to be the same as or deeper than the federal navigation channel depth plus two feet (2') for vessel under keel clearance.

If at any time during the Term, Lessee conducts or causes to be conducted a hydrographic survey of the Berth, and such survey reveals that the depth of the Berth has not been maintained in accordance with the preceding Paragraph 9.B(2), then Lessor shall, within ninety (90) days after the date on which such hydrographic survey is provided to Lessor, cause dredging to be completed to the required depth at Lessor's sole cost and expense; provided, however, that the period provided for Lessor to complete the dredging shall be extended if, during such 90-day period, dredging is prohibited either by the Army Corps of Engineers or the Washington State Department of Natural Resources.

(3) Lessee or its agent shall be the sole arbiter with respect to vessels having the right to tie up to the dock whether working cargo or idle. Notwithstanding the foregoing, Lessee shall allow vessels to dock under emergency conditions, provided that Lessee may require such vessel to vacate the Berth at the earliest possible time.

(4) Lessor retains the right to permit or refuse cargoes, other than Petroleum Products which have been approved in accordance with the requirements of this Lease, vessel stores (food and supply products) and fuel necessary for the operation of vessels. Permission for Lessee to handle any such other cargo may be granted or withheld by Lessor in Lessor's sole and absolute discretion, and shall be granted in writing (if at all) prior to the handling, transshipping, loading, unloading, storage or other presence of such other cargo at the Berth. Lessor shall not be liable to Lessee or any third party for any loss, damage, claim or liability arising from Lessor's failure to permit any such other cargo. Any other cargo so approved shall be subject to Lessor's terminal tariff.

(5) Lessee shall prepare and submit to Lessor timely reports including: (i) vessel schedules, (ii) vessel length overall and gross registered tons, (iii) time at berth, (iv) amount of product handled in barrels, and (v) such other information as may be reasonably required for Lessor's prudent and safe operation of the Port. Lessee considers the quantities of specific types of Petroleum Products, and the bills of lading relating thereto, to constitute a trade secret, as defined in RCW 19.108.010(4). Except to the extent reasonably determined by Lessor to be required by law to be disclosed by Lessor (including, without limitation, pursuant to the Washington Public Records Act), Lessor agrees to maintain the confidentiality of such information; provided, however, that Lessor shall provide reasonable notice to Lessee of any request for information that Lessor is required by law to disclose so that Lessee may seek legal protection for the information, and Lessor shall cooperate with Lessee in Lessee's efforts to prevent disclosure of such information. If Lessee is unable to obtain such protection, Lessor may disclose the information, but only to the extent required by law. The Parties agree to share information reasonably related to the performance of this Agreement, excluding trade secrets and such other proprietary information that is confidential, and to cooperate reasonably with all contractors, entities and other persons associated with such activities as permitting and repair work at the Berth.

(6) Lessor shall have the right to audit all of Lessee's reports of tonnage for Petroleum Products transported through the Berth.

(7) Lessor reserves to itself a right of access and/or easement upon, over, across and beneath the Berth for access, subject to Lessee's security processes, together with the right to grant, to third parties, utility easements upon, over, across, and beneath the Berth, provided that such easements do not interrupt or materially interfere with Lessee's operations pursuant to this Lease.

(8) Lessee shall operate the Berth in a prudent manner in accordance with all statutes, ordinances, and applicable regulations in effect, including but not limited to rules and regulations promulgated by the U.S. Coast Guard. Lessor shall not impose rules or regulations relating to the operation of the Berth that would have the effect of interrupting or materially interfering with Lessee's safe operation of the Berth.

(9) Terminal tariff fees invoiced to the vessel shall be paid to and collected by Lessor from the vessel or its agents. Lessor shall receive all dockage, vessel security fees and MFSA safety fees, per Lessor's terminal tariff; to the extent that Lessee receives such fees from any vessel, Lessee shall promptly remit such fees to Lessor.

10. **GENERAL COMPLIANCE WITH ALL LAWS**: In its use of the Premises, Lessee agrees to comply with all applicable federal, state and municipal laws, ordinances and regulations and Lessor shall have the right to review all related documents. In the event Lessor requires copies of any such documents, Lessee will be reimbursed for any associated reasonable costs. Lessor's right to review Lessee's documents does not imply that Lessor has accepted any responsibility for accuracy, completeness, or legal compliance. Lessee shall pay any fees for any federal, state or municipal inspections and/or certificates required for use and occupancy of the Premises. Further, Lessee shall pay all licenses, fees, and taxes covering the business conducted on the Premises, together with all taxes and assessments on the property of Lessee on the Premises. Lessee shall notify Lessor of any violation of any local, state, and federal laws, ordinances, regulations, permits, plans, and approvals.

11. **PRESENCE AND USE OF HAZARDOUS SUBSTANCES**:

A. **Use, Storage, and Disposal**: Except as expressly permitted by the terms of Paragraph 8.A above, Lessee shall not use, transport, store, treat, generate, sell or dispose of any Petroleum Products or Hazardous Substances on or in any manner that affects the Premises, Pipeline Agreement areas, or surrounding properties. "Affects the Premises, Pipeline Agreement areas, or surrounding properties" shall include but not be limited to allowing any Petroleum Products or Hazardous Substances to migrate off the Premises or Pipeline Agreement areas,

or the Release of any Petroleum Products or Hazardous Substances into adjacent surface waters, soils, sediments, groundwater or air.

B. **Deed Restricted Areas**: As set forth in Paragraph 2.C, the Parties acknowledge that portions of the Premises and portions of the areas to which Lessee may be granted an easement pursuant to a Pipeline Agreement are the subject of the Consent Decree and subject to the Restrictive Covenants, and that construction on such areas may require disturbing the environmental caps and may generate soil or groundwater contaminated with Hazardous Substances that will require special handling and disposal. Lessor and Lessee understand that disturbance or removal of portions of the environmental caps is required for pre-occupancy construction and pre-occupancy tenant improvements for Lessee's Permitted Use and such removal or disturbance of a cap requires prior approval by the Washington Department of Ecology. Lessor, with Lessee's cooperation (which shall include, without limitation, Lessee's presentation of a reasonable design which is consistent with the Consent Decree and Restrictive Covenants, as well as the other terms and conditions of this Lease), will obtain approval from the Washington Department of Ecology that will allow Lessor or Lessee to modify the cap for: (i) Baseline Assessment and geotechnical testing, (ii) pre-occupancy construction, (iii) pre-occupancy tenant improvements, and (iv) the Permitted Use of the Premises under this Lease. Without limiting Lessor's responsibility for Existing Environmental Conditions, Lessor will be responsible for characterization and proper disposal (in compliance with Environmental Laws and as required by the Washington Department of Ecology) of contaminated media generated in connection with the pre-occupancy construction necessary for Lessee's Permitted Use. Lessor's obligation shall not extend to any new Releases of Petroleum Products or Hazardous Substances to the extent such Petroleum Products or Hazardous Substances are first brought onto the Premises by Lessee or Lessee's employees, contractors or agents during the Term of the Lease. Lessor represents and warrants to Lessee that there are monitoring wells on the Premises in the locations described on Exhibit "Q" attached hereto. To the extent that such monitoring wells are described on Exhibit "Q," and such monitoring wells are required to be relocated, then Lessee will be solely responsible for costs associated with all monitoring well relocation required in conjunction with Lessee's development of the Facility and Permitted Use of the Premises; to the extent that such monitoring wells are not described on Exhibit "Q" and are required to be relocated, the costs associated with such monitoring well relocation shall be borne by Lessor.

C. **Compliance with Environmental Laws**: Lessee shall, at its sole cost and expense, comply with all Environmental Laws, including but not limited to all permits applicable to the Premises and issued to Lessee. Pursuant to this Paragraph 11.C, Lessee shall, at its sole cost and expense, comply with the terms of the National Pollutant Discharge Elimination System ("NPDES") Western Washington Phase II Municipal Stormwater Permit issued to Lessor and any other applicable permit covering stormwater or other discharges from the Premises. Lessee agrees to comply with the requirements of Lessor's Stormwater Management Program ("SWMP") and Illicit Discharge Detection and Elimination policy ("IDDE") as required by the NPDES Western Washington Phase II Municipal Stormwater Permit. Lessor agrees to make the NPDES permit, SWMP, and IDDE available to Lessee on the Lessor's website.

D. **Environmental Audits**: The Port of Vancouver environmental department conducts periodic environmental audits of leased premises. These environmental audits do NOT imply compliance with state or federal regulations. Lessee agrees to cooperate with the Port's environmental department in its conducting environmental audits of the Premises and Pipeline Agreement areas and to comply with the Port's requests made pursuant to the environmental audit results for the Premises and Pipeline Agreement areas. In addition, Lessee shall provide an updated Tenant Environmental Questionnaire at Lessor's request.

E. **Monitoring**: Lessor or its designated agents may, at Lessor's sole discretion and at reasonable times, enter upon the Premises for the purpose of (1) monitoring Lessee's activities conducted thereon, and (2) conducting environmental testing and sampling to determine compliance with Environmental Laws and the terms of this Lease; provided Lessor shall not unreasonably interfere with the conduct of Lessee's business. If such monitoring discloses a Release of Petroleum Products or Hazardous Substances (except to the extent caused by Lessor, its employees, agents, or contractors, or by any other tenant of Lessor or by a railroad serving the Port that is not carrying Petroleum Products for Lessee or the Facility), a violation by Lessee of Environmental Laws or a Default by Lessee of its obligations under this Lease, the cost of such monitoring, testing and sampling shall be paid by Lessee. In addition, within five (5) days of Lessor's written request, Lessee shall provide Lessor with a detailed written description of Lessee's generation, use, sale, transportation, storage, treatment and disposal of Petroleum Products or Hazardous Substances on or which may otherwise affect the Premises, Pipeline Agreement areas, or the surrounding properties. Lessor's discretionary actions pursuant to this subparagraph shall not substitute for any

obligation of Lessee hereunder, or constitute a release, waiver or modification of Lessee's obligations otherwise specified in this Lease.

F. **Notifications**: Lessee shall notify Lessor of the presence or Release of Hazardous Substances or the Release of Petroleum Products on or that may affect the Premises, Pipeline Agreement areas, or the surrounding properties immediately following a Release caused by Lessee, its employees, agents, or contractors, or upon Lessee's discovery of a Release caused by Lessor, its employees, agents, or contractors, by any other tenant of Lessor, or by a railroad serving the Port that is not carrying Petroleum Products for Lessee or the Facility, or of the presence of such Hazardous Substances (other than Permitted Hazardous Substances). Lessee shall provide Lessor with the following documentation:

(1) copies of any notifications submitted by Lessee to any governmental entity relating to the Release or presence of Hazardous Substances or Release of Petroleum Products on the Premises or Pipeline Agreement areas at the same time they are submitted to the appropriate governmental authorities;

(2) any inspection report, complaint, order, fine, request, notice, or other correspondence from any entity, pursuant to any Environmental Law, that may affect the Premises, Pipeline Agreement area, or the surrounding properties, within ten (10) days of receiving such documentation;

(3) all reports, manifests, material safety data sheets ("MSDS"), or any other documentation related to Lessee's compliance with Environmental Laws at the Premises, upon written request by the Port.

G. **Environmental Assessment**: Lessee shall, upon written request from Lessor made at any time during the Term of this Lease or within sixty (60) days thereafter, based on a sufficient reason to believe there has been a Release of Petroleum Products or Hazardous Substances other than by Lessor, its employees, agents or contractors, by any other tenant of Lessor or by a railroad serving the Port that is not carrying Petroleum Products for Lessee or the Facility, or violation by Lessee of Environmental Laws, provide Lessor with an environmental assessment prepared by a qualified professional mutually agreed upon by Lessor and Lessee, which assent shall not be unreasonably withheld. In the event of refusal by Lessee to assent within twenty-four (24) hours of an emergency or within seven (7) days of a non-emergency, Lessor shall unilaterally select the qualified professional to perform said assessment. The environmental assessment shall, at a minimum, (1) certify that a diligent investigation of the Premises and Pipeline Agreement areas has been conducted, including a specific description of the work performed, and (2) either (a) certify that diligent investigation of the Premises and Pipeline Agreement areas has

revealed no evidence of a Release of Petroleum Products or Hazardous Substances or violation of Environmental Laws, or (b) if a Release or violation of Environmental Laws is detected, identify and describe: (i) the types and levels of Petroleum Products or Hazardous Substances detected; (ii) the physical boundaries of any actual Release, including property other than the Premises; (iii) to the extent determinable, the person or parties that caused the Release; (iv) the actual and potential risks to the environment from such Release or violation; and (v) the procedures and actions necessary to remedy the Release or violation in compliance with Environmental Laws. If such environmental assessment discloses a Release of Petroleum Products or Hazardous Substances that is caused, at least in part, by Lessee, its employees, agents or contractors, a violation by Lessee of Environmental Laws or a Default by Lessee of its obligations under this Lease, Lessee shall pay the expense of obtaining the environmental assessment.

H. **Hold Harmless and Indemnity**: Lessee shall defend (with attorneys approved in advance and in writing by Lessor), indemnify and hold Lessor and its agents harmless from any damages, loss, claim, fine or penalty arising from (i) the Release of Petroleum Products or Hazardous Substances that is caused, at least in part, by Lessee, its employees, agents or contractors, whether or not within the Premises, (ii) any violation of Environmental Laws, (iii) a default by Lessee of the provisions of this Paragraph 11, or (iv) any exacerbation of Existing Environmental Conditions affecting the Premises, Pipeline Agreement areas, or the surrounding properties, to the extent caused by Lessee or by Lessee's employees, contractors or agents. Such obligation shall include, but shall not be limited to, environmental response and remedial costs, other cleanup costs and charges, environmental consultants' fees, attorneys' fees, civil and criminal fines and penalties, laboratory testing fees, claims by third parties and governmental authorities for death, personal injuries, property damage, business disruption, Lessor's lost business and sales, natural resource damages and any other costs, and Lessor's expenses as provided in subparagraph 11.G. Lessee's obligations pursuant to this subparagraph shall survive expiration or other termination of this Lease.

Lessor shall defend (with attorneys approved in advance and in writing by Lessee), indemnify and hold Lessee and its agents harmless from any damages, loss, claim, fine or penalty arising from (i) the Existing Environmental Conditions, or (ii) a violation of Environmental Laws to the extent caused by Lessor or by Lessor's employees, contractors or agents. Such obligation shall include, but shall not be limited to, environmental response and remedial costs, other cleanup costs, environmental consultants' fees, attorneys' fees, fines and penalties,

laboratory testing fees, claims by third parties and governmental authorities for death, personal injuries, property damage, business disruption, lost profits, natural resource damages and any other costs. Lessor's obligations pursuant to this subparagraph shall survive expiration or other termination of this Lease.

I. **Assignments and Subleases**: Lessor may withhold its consent to any assignment, sublease, or other transfer if the proposed transferee's use of the Premises may involve the use, transportation, storage, treatment, generation, sale or disposal of Petroleum Products or Hazardous Substances (other than Permitted Hazardous Substances).

J. **Lessor's Remedies**: Notwithstanding any other provision of this Lease, and without prejudice to any other right or remedy available to Lessor at law, in equity or under this Lease, Lessor, in the event of a Release of Hazardous Substances not caused solely by Lessor, a violation by Lessee of Environmental Laws, or a Default by Lessee of the provisions of this Paragraph 11, shall be entitled to any or all of the following rights and remedies, at Lessor's option:

(1) To terminate this Lease if Lessee has failed, following a Release that is caused, at least in part, by Lessee, its employees, agents or contractors, a violation by Lessee of Environmental Laws, or a Default by Lessee of the provisions of this Paragraph 11, to diligently and timely take such actions as are required (a) by any governmental agency having jurisdiction to remediate the Release (or cause the remediation by the party responsible therefore), (b) by any governmental agency having jurisdiction to cure the violation of Environmental Laws, or (c) to remedy the Default of the provisions of this Paragraph 11 by responding in accordance with the requirements of this Lease.

(2) To recover damages as described in, and to be indemnified as provided in, subparagraph H.

(3) If Lessee has failed to act diligently and to Lessor's satisfaction, to enter upon the Premises and cure any such Release, violation or Default, and, to the extent such Release is not caused by Lessor, its employees, agents or contractors, by any other tenant of Lessor, or by a railroad serving the Port that is not carrying Petroleum Products for Lessee or the Facility, either (i) charge to Lessee as Additional Charges an amount sufficient to recover the cost of such cure, together with interest thereon at the Interest Rate, or (ii) if Lessor does not elect to terminate this Lease, increase Rent by such amount as will permit Lessor to fully recover the cost of such cure, together with interest thereon at the Interest Rate, during such portion of the unexpired Term of this Lease as Lessor

may deem proper. Such election by Lessor shall be without prejudice to any other right or remedy provided to Lessor at law, in equity or in this Lease.

The remedy provisions provided in Subsections (1), (2) and (3) above shall not apply to the Rail/Rack and Pipeline Agreement areas defined above in paragraph I.I., except to the extent caused by Lessee, its employees, agents or contractors.

K. **EPA Identification Number**: Lessee shall also provide to Lessor Lessee's Environmental Protection Agency Identification Number to dispose of Hazardous Substances if Lessee has one. Lessee shall also provide to Lessor copies of all of Lessee's disposal manifests.

L. **Vacation of the Premises**: Prior to vacation of the Premises, in addition to all other requirements under this Lease, Lessee shall remove any Petroleum Products or Hazardous Substances placed on the Premises during the term of this Lease or Lessee's possession of the Premises, and shall demonstrate such removal to the Port's satisfaction. This removal and demonstration shall be a condition precedent to the Port's payment of any Lease security to Lessee upon termination or expiration of this Lease. As a component of Lessee's requirements under this paragraph, Lessee agrees to cooperate with the Port's environmental department in conducting an environmental exit audit of the Premises and Pipeline Agreement areas and to comply with the Port's requests made pursuant to the environmental exit audit results.

M. **Exit Contamination Assessment**:

(1) Prior to vacation of the Premises upon the expiration or earlier termination of this Lease, without limitation of other applicable requirements under this Lease, Lessee will have an environmental assessment conducted on the Premises and Pipeline Agreement areas by an independent, reputable professional environmental consultant reasonably approved by Lessor to assess the presence of contamination on the Premises and Pipeline Agreement areas as of the termination of this Lease to compare its condition at that time with the condition established by the Baseline Assessment (such assessment, the "Exit Contamination Assessment").

(2) The scope of work for the Exit Contamination Assessment shall be timely, and in any event within 20 days of Lessee's notice to Lessor of the identity of the consultant and the proposed scope of work, reviewed and approved by Lessor, acting reasonably, prior to its initiation and it shall be intended to address whether there have been (a) Releases on the Premises or Pipeline Agreement areas, (b) violations of Environmental Laws in Lessee's or its Related Parties' use or occupancy of the Premises and Pipeline Agreement areas, or

(c) exacerbation of Existing Environmental Conditions, which were caused or suffered by Lessee or its Related Parties after the Effective Date.

(3) If the Exit Contamination Assessment reveals: (a) Releases on the Premises or Pipeline Agreement areas that materially worsen the condition of the Premises or Pipeline Agreement areas when compared to Existing Environmental Conditions; (b) violations of Environmental Laws in Lessee's or its Related Parties' use or occupancy of the Premises or Pipeline Agreement areas; or (c) exacerbation of Existing Environmental Conditions that materially worsens the condition of the Premises when compared to Existing Environmental Conditions; and provided and to the extent that such Releases, violations or exacerbation were caused or suffered, in whole or in part, by Lessee or its Related Parties after the Effective Date of this Lease, then Lessee shall be responsible to remediate or clean up the Premises and Pipeline Agreement areas to the extent caused or suffered by Lessee or any Related Party, such that the Premises and Pipeline Agreement areas, from an environmental condition perspective, are in the same condition upon termination of this Lease and Lessee's surrender of the Premises and Pipeline Agreement areas, as when the Premises and Pipeline Agreement areas were delivered to Lessee (with the exception of, and to the extent of, any conditions caused by Lessor, its employees, agents or contractors, by any other tenant of Lessor or by a railroad serving the Port that is not carrying Petroleum Products for Lessee or the Facility). Except to the extent of any exacerbation, Lessee shall have no obligation to remediate or clean up any Existing Environmental Conditions.

(4) Lessor reserves the right to conduct its own exit contamination assessment of the Premises and Pipeline Agreement areas at Lessor's expense.

12. **RESERVATIONS BY LESSOR**:

A. Lessor reserves to itself a right and easement (and the right to grant easements to third parties, including utility providers) upon, over and beneath the Premises for the construction, maintenance, repair and replacement of roadways, non-exclusive railroad tracks and all surface, overhead or underground utilities to include, but not be limited to, storm water treatment devices and/or structures, provided that Lessor's activities do not unreasonably interfere with Lessee's Permitted Use. Lessee shall, upon reasonable notice from Lessor, provide access to areas identified by Lessor for these purposes, including but not limited to removing any obstructions (other than permanent structures which have been installed with the approval of Lessor) from these areas. This reservation includes the responsibility of Lessor to repair any physical damage done to the Premises incidental to the exercise of

its rights under this reservation. Lessor shall make reasonable efforts to cooperate with Lessee in the exercise of Lessor's rights under this Paragraph 12.A and, to the extent possible, shall schedule any non-emergency work in advance.

B. Lessor reserves the right to enter upon and inspect the Premises at any and all reasonable times during the Term of this Lease, and during the last six (6) months of the Term (or any applicable Extension Term) to show the Premises to prospective tenants or purchasers. Any such inspection shall be conducted in such a manner as not to unduly interfere with Lessee's operations. The right of inspection shall not impose any obligation on Lessor to do so, nor shall Lessor incur any liability for not making inspections. During the last six (6) months of the Term, or any applicable Extension Term thereof, Lessor may place upon the Premises the usual "for rent," "for lease," and "available" notices advertising the availability of the Premises for lease which notices Lessee shall permit to remain thereon without molestation. Prior to vacation of the Premises, Lessee agrees to cooperate with Lessor's facilities department in conducting an exit audit of the Premises and to comply with Lessor's reasonable requests made pursuant to the exit audit results.

C. Lessor reserves the right for Lessor and Lessor's agents to enter upon the Premises to conduct any remedial action, monitoring, audit, and investigation, including but not limited to soil and sediments tests, groundwater tests, cap inspections, well drilling and well relocation that may be required for any purpose. Lessee shall, upon reasonable notice from Lessor, provide access to areas identified by Lessor for these purposes, including but not limited to removing any obstructions from these areas. Notwithstanding of the foregoing, (i) Lessor shall use reasonable efforts to minimize interference with Lessee's business and operations on the Premises (including the scheduling of any non-emergency work in advance), and (ii) Lessee shall not be required to move, demolish or alter any building or other improvements located on the Premises for which Lessor has provided its written consent to facilitate Lessor's actions under this Paragraph 12.C, unless the need to conduct any remedial action, monitoring, audit, and investigation is caused by Lessee's operations or is required by the Consent Decree or other applicable law or regulation.

D. Except to the extent, if any, otherwise expressly provided in this Lease, Lessor reserves to itself any water rights that may be appurtenant to or required for the Premises or for any business or other activities thereon, and such water rights will belong to Lessor upon expiration or termination of the Lease. Lessee shall not submit any application for water rights with respect to wells in the Port, without first obtaining Lessor's prior written

consent. If Lessee acquires any interest in water rights with respect to wells in the Port, Lessee shall not seek to convey, assign, encumber or otherwise transfer such interest apart from this Lease.

13. **MAINTENANCE AND REPAIR:**

A. Lessee shall, at its sole cost and expense, take or cause to be taken good care of the Premises and the Alterations during the Term of this Lease, it being understood that Lessor shall not be required to make any repairs to the Premises or the Alterations during the Term hereof, except to the extent of any damage to improvements, Alterations or fixtures located on the Premises which is caused by Lessor's employees, agents or contractors, or for which Lessor is expressly responsible under the terms of this Lease. Without limiting the generality of the foregoing sentence, Lessee aggress to maintain, repair and replace the Alterations, all sidewalks, vaults, sidewalk hoists, roads and curbs on the Premises (including keeping the same free and clear of rubbish, ice and snow), and all water, sewer, and gas connections, pipes, and mains which service the Premises shall comply with all applicable laws with respect thereto. Lessee's obligation to maintain all water, sewer, and gas connections, pipes, and mains shall apply to, but not be limited to, water lines and faucets within the Premises, sanitary sewer and drain lines extending to the sewer/septic connections, and all plumbing fixtures. Lessee is responsible for any discharge that damages or fouls the septic tank, sewer, or drain line systems serving the Premises. If the Premises' sanitary system includes a holding tank or is served by a septic system, Lessor will conduct an annual inspection and complete any necessary maintenance and pumping. Lessee is responsible for any maintenance expenses resulting from the annual inspection and shall remit payment to Lessor within thirty (30) days of the date of invoice. At the end or other termination of this Lease, Lessee shall deliver to Lessor the Premises with all Alterations thereon in good repair and condition, ordinary wear and tear, depreciation, and casualty and condemnation loss being excepted (provided that the foregoing shall not abrogate Lessee's obligations under Paragraphs 14.I and 28 hereof).

B. Lessee shall, at its sole cost and expense, take good care of the Premises, make all repairs and replacements thereto, interior and exterior, structural and non-structural, ordinary and extraordinary, foreseen and unforeseen, and shall maintain and keep the Premises in first class condition and in good order and repair, and Lessor shall not be responsible for the foregoing. Lessee shall indemnify, defend, protect and hold Lessor harmless of and from any and all claims or demands: (i) upon or arising out of the failure of Lessee to perform the covenant contained herein, or (ii) arising out of any accident, injury or damage to any person or property which shall or may happen in or upon the Premises or any part thereof, or upon the sidewalks about the Premises, except to the extent

such accident, injury or damage is caused by Lessor, its employees, agents, or contractors. Lessee shall keep the Premises free and clear of any and all mechanics' liens or other similar liens or charges incidental to work done or material supplied in or about the Premises.

C. If Lessor is required to make any repairs to the Premises by reason of Lessee's negligent acts or omission to act or failure to perform its obligations under this Lease, then Lessor may add the cost of such repairs plus a fifteen percent (15%) administrative fee as an Additional Charge next owing from Lessee, which cost shall become due upon billing by Lessor.

D. In the event of damage or destruction to the Premises required by the terms of this Lease to be covered by insurance, or which happens to be covered by insurance maintained by either Party, the provisions of this Paragraph 13 shall not apply and the obligations of the Parties shall be controlled by Paragraph 17 of this Lease.

14. **ALTERATIONS**:

A. Lessee shall not make any Alterations to the Premises (other than those described conceptually on Exhibit "D" to the extent subsequently approved by Lessor for actual construction) without the prior written consent of Lessor having first been obtained; provided, however, that in the event that the Alteration is an immaterial, insubstantial or ordinary non-structural repair or replacement that does not require a permit and that clearly and convincingly will not affect or impact (i) the terms of the Restrictive Covenants or the Consent Decree, (ii) adjacent tenants or property owners, or (iii) any other obligations of Lessee under this Lease, Lessor's consent shall not be required.

B. Lessee shall, prior to making any Alteration that requires Lessor's consent under Paragraph 14.A, submit to Lessor the plans and specifications for such Alteration and obtain Lessor's prior written approval, such approval not to be unreasonably withheld so long as it does not affect, alter, or expand the Permitted Use. All Alterations shall be substantially in accordance with the plans, specifications, and elevations approved in writing by Lessor in advance thereof and shall be completed with all reasonable dispatch. No Alterations shall interfere with any easements and/or utilities.

C. In order to facilitate coordination of the development and construction of any approved Alterations and to provide for efficient communications between the Parties in the day-to-day implementation of certain other provisions of this Agreement, the Parties shall form a project team (the "Project Team") consisting of at least two (2) members appointed by Lessor and two (2) members appointed by Lessee. As of the Effective Date, Curtis Shuck

and Monty Edberg shall be Lessor's Project Team members, and Rick Weyen and Kent Avery shall be Lessee's Project Team members. At any time during the Term that Alterations are being designed, developed, or implemented, the Project Team shall meet on a weekly basis, including by teleconference as appropriate under the circumstances, or such other frequency as the Parties may agree to in writing, to keep one another apprised of the progress of the applicable Alterations, so as to minimize disruptions or delay in the completion of such Alterations and the other terms and conditions of this Agreement. Such coordination should include coordinated scheduling (including the review and recommendations for modifications thereof) of the timing and location of the applicable Alterations or activities to be performed on or about the Premises in order to effectuate the intent of this Paragraph.

D. Lessee warrants that any Alterations, whether done with or without Lessor's consent, shall be completed lien-free and in a good and workmanlike manner with new materials; will be performed in complete compliance with local, state and federal building, fire and other codes and construction guidelines, including but not limited to the Americans with Disabilities Act, if applicable, and all other applicable covenants, terms and conditions hereof (and proof of such compliance shall be provided to Lessor); and that all workmanship and materials shall be free from defects, and that all fixtures erected or installed by Lessee shall be new or completely reconditioned. Proof of compliance shall include providing to Lessor copies of certificates and permits issued by local, state and federal building, fire and other code and construction agencies. Further, Lessee shall provide Lessor with updated "as-built" drawings. Lessee may deliver said drawings to Lessor electronically or on disk, and a hard copy shall also be provided.

E. No electrical wiring, communications (including telephonic), or other electrical apparatus, including air conditioning equipment, shall be installed, maintained or operated on said Premises except with the approval of, and in a manner satisfactory to Lessor. In no event shall Lessee overload the electric circuits from which Lessee obtains current. Any additional air conditioning required as a result of heat generating equipment, special lighting or other equipment installed by Lessee shall be installed and operated, only with Lessor's prior written approval, at Lessee's sole expense.

F. Lessee shall be required to provide lien releases to Lessor from contractors and other individuals performing work on the Premises for Lessee promptly following the completion of such work. Lessee will notify Lessor in advance of intended work on the Premises, obtain any required approval from Lessor and all applicable

governmental bodies, and, if required by Lessor, will provide Lessor with financial assurances or bonding, as required by Lessor. Lessor shall be entitled to post notices of non-responsibility on the Premises.

G. Any sign, decoration, awning or canopy, or advertising matter to be installed by Lessee shall comply with all regulation requirements of the State of Washington, Clark County or City of Vancouver (or any other appropriate governmental agency). In addition Lessee shall not install any sign, decoration, awning or canopy, or advertising matter without prior written approval by Lessor. Lessee shall submit a written and graphic description of the proposed sign, decoration, awning or canopy, or advertising matter to Lessor in requesting approval and shall be responsible for obtaining any permits required for such installation.

H. Lessor will respond to all written requests for approval of proposed Alterations within thirty (30) days of the receipt of Lessee's request accompanied by plans and specifications for any such proposed Alterations. Lessee shall be responsible to pay any of Lessor's out-of-pocket expenses related to review and approval of any proposed Alterations. However, in the event the proposed Alterations are so complex or involved that thirty (30) days is inadequate for the appropriate review, Lessor shall have such additional time as is reasonable. Lessee acknowledges that Port Commission approval may also be required and that Lessor shall have reasonable additional time to obtain said approval.

I. All Alterations and improvements made by Lessee shall become the property of Lessor unless there is a written agreement to the contrary attached to this Lease or agreed to by the Parties in writing at a later date. Lessor shall have the option, at the expiration or termination of this Lease to require Lessee to remove the Alterations and improvements at Lessee's expense; provided, however, that (i) such election to remove must be made with respect to all or none of the Alterations and improvements, and Lessor may not require Lessee to remove some, but not all of the same (unless both Parties otherwise mutually agree at the time); and (ii) if the Alterations and improvements, as of the expiration or termination of this Lease, remain economically and operationally viable (as determined by an independent third party expert mutually selected by or acceptable to the Parties, if Lessor and Lessee are unable to agree on whether the Alterations and improvements are then economically viable, taking into consideration future uses of the Premises which are both economically and operationally viable), then Lessee shall not be required to remove the Alterations and improvements. In the event that Lessor does not require removal, the Alterations and improvements shall be surrendered to Lessor as part of the Premises in accordance with the terms of this Lease.

J. All Lessee's trade fixtures (including, but not limited to, shelving, portable partitions, modular offices, and cabinets), furnishings and other moveable personal property shall remain the property of Lessee and may be removed on or before the termination of this Lease, or any renewal thereof, provided Lessee shall make any repairs necessary to restore the Premises to its original condition upon such removal. If not removed by Lessee upon expiration of this Lease or any extension thereof, Lessor shall have the option to require Lessee to remove such items at Lessee's expense or to treat such items as abandoned. In the event Lessor treats such items as abandoned, they shall become the property of Lessor.

15. **INSURANCE:**

A. **Property Damage**:

(1) If Lessee's use of the Premises requires improvements to be constructed on-site, the construction is at the risk of Lessee until final completion of Lessee's construction. Lessee shall purchase and maintain Builders Risk insurance upon the work at the site to the full insurable value until Lessee's final construction completion. This insurance shall cover the interests of the Port, designers of Lessee's work, Lessee, its contractor, subcontractors and sub-subcontractors in the work at the project site, all of whom shall be listed as additional insureds. The interests of any loss payees shall be automatically included for coverage. Said insurance will insure against the "all-risk" perils including earthquake and flood for physical loss and damage. The insurance shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property, including, but not limited to, fees of designers and other professionals. If not covered under the "all risk" insurance, Lessee shall maintain similar property insurance on portions of the work stored on and off the site or in transit when such portions of the work are to be included in a progress payment application. Losses up to the deductible in Paragraph 1.J shall be the sole responsibility of Lessee.

(2) Lessee shall, at all times, maintain "all risk" property insurance (including boiler and machinery insurance) upon any buildings and facilities, including any permanent additions and improvements thereto, of which the Premises form a part with coverage for perils as set forth on the Causes of Loss - Special Form, with a coverage extension for the perils of earthquake, windstorm and flood coverage, in an amount equal to the full replacement cost thereof. Such insurance shall contain an agreed valuation provision in lieu of any co-insurance clause, an ordinance and law endorsement, debris removal coverage and a waiver of subrogation endorsement. All policies or certificates of insurance, indemnity bonds and similar securities protecting the Premises from damage

shall name Lessor as a loss payee, as its interests may appear. Any and all payments from said policies or certificates of insurance, indemnity bonds and similar securities shall be made jointly payable to Lessor and Lessee, deposited in an account satisfactory to Lessor and Lessee during the Term of this Lease for application toward any required repairs or restorations, and made available to Lessee for use in making repairs or restorations. Further, Lessee shall notify Lessor within five (5) days of Lessee's receipt of notification of any modification or cancellation of any insurance contract. Lessee shall provide Lessor with replacement coverage acceptable to Lessor prior to the applicable modification or cancellation taking effect, and in no event more than thirty (30) days of Lessee's notification to Lessor of such modification or cancellation of any insurance contract or indemnity bond. Lessee shall be solely responsible for the insurance premium and any deductible (which shall not exceed the Maximum Deductible set forth in Paragraph 1.J or in such amount as shall be adopted by the Port Commission from time to time, which amount shall be consistent with industry standards).

(3) Lessor may, from time to time, require qualified appraisals to be made of the Premises and any and all improvements thereon. Lessee will cooperate with Lessor's appraiser to access and evaluate the Premises upon reasonable notice to Lessee. Upon the establishment of any new insurance premium or deductible, Lessor will advise Lessee by written notice. Lessee shall, within thirty (30) days, submit to Lessor evidence of such increased coverage.

(4) Lessee shall maintain "all risk" property insurance upon any building improvements and personal property owned by Lessee with coverage for perils as set forth on the Causes of Loss - Special Form, with a coverage extension for the perils of earthquake, windstorm and flood coverage, in an amount equal to the full replacement cost thereof. Such insurance shall contain an agreed valuation provision in lieu of any co-insurance clause, an ordinance and law endorsement, debris removal coverage and a waiver of subrogation endorsement.

B. **Liability**:

(1) Lessee shall maintain, with financially sound and reputable insurers (see Paragraph D(1) below), commercial general liability insurance written on an "occurrence" policy form with coverage at least as broad as ISO CGL form CG 0001, including contractual liability insurance coverage, against claims for bodily injury, property damage, personal injury, products and completed operations, and advertising injury occurring on or about the Premises or in any way relating to or arising out of Lessee's use or occupancy of the Premises with minimum limits as provided in Paragraph 1.K or in such amount as shall be adopted by the Port Commission from

time to time, which amount shall be consistent with industry standards but in no event shall be less than the Minimum Coverage Amount set forth in Paragraph 1.K. Lessor and its "Related Parties" shall be named as additional insureds with coverage at least as broad as form ISO CG 2026 – Designated Person or Organization (or other comparable endorsement), without modification, affording coverage regardless of the additional insureds' concurrent negligence. Such insurance shall be endorsed to provide that the insurance shall be primary to and not contributory to any similar insurance carried by Lessor, and shall contain a severability of interest or cross liability clause. Further, Lessee shall notify Lessor within five (5) days of Lessee's receipt of notification of any modification or cancellation of any insurance contract or indemnity bond. Lessee shall provide Lessor with replacement coverage acceptable to Lessor prior to the applicable modification or cancellation taking effect, and in no event more than thirty (30) days of Lessee's notification to Lessor of such modification or cancellation of any insurance contract or indemnity bond. Lessor retains the right to increase the coverage amount upon receipt of notice, as required in Paragraph 14, that Lessee intends to make Alterations to the Premises.

(2) In the event that Lessee's use of the Premises requires improvements to be constructed on-site, Lessee shall also provide Contractor's Pollution Liability insurance in the amount of Five Million Dollars ($5,000,000) per claim and in the aggregate covering Lessee's general contractor and all sub-contractors of every tier during the construction of an improvement. This insurance shall be kept in effect until final completion of the project. In the event that the insurance is written on a claims made basis, the retroactive date shall be before the start of the project. Lessor shall be named as an additional insured on this coverage.

C. **Pollution Legal Liability**: Lessee shall also obtain pollution legal liability insurance against claims for bodily injury, property damage (including third party claims), natural resource damages, and clean up and defense costs occurring on or about the Premises or in any way relating to or arising out of Lessee's use or occupancy of the Premises and use of the Pipeline Easement areas, in the amount specified in Paragraph 1.L as an extension of the commercial general liability insurance or as a separate policy. Such policy or policies shall include coverage for sudden and accidental releases as well as any gradual releases arising in any way from Lessee's occupancy of and operations at the Premises. Lessor and its Related Parties shall be named as additional insureds with coverage at least as broad as form ISO CG 2026 – Designated Person or Organization (or other comparable endorsement), without modification, affording coverage regardless of the additional insureds' concurrent negligence. Such insurance shall be endorsed to provide that the insurance shall be primary to and not contributory

to any similar insurance carried by Lessor, and shall contain a severability of interest or cross liability clause. Further, Lessee shall notify Lessor within five (5) days of Lessee's receipt of notification of any modification or cancellation of any insurance contract or indemnity bond. Lessee shall provide Lessor with replacement coverage acceptable to Lessor prior to the applicable modification or cancellation taking effect, and in no event more than thirty (30) days of Lessee's notification to Lessor of such modification or cancellation of any insurance contract or indemnity bond. Lessor has assessed the pollution legal liability coverage amount specified in Paragraph 1.L based on the site conditions investigated by Lessor and the operational information provided by Lessee. A copy of the Tenant Environmental Questionnaire is attached as Exhibit "H". Lessee agrees that it shall provide notice to Lessor of any change in the site conditions or site operations, including without limitation changes in Hazardous Substances handled at the Premises as provided through the new product approval process described in Exhibit "I" thirty (30) days prior to any such change. Lessor retains the right to increase the coverage amount upon its knowledge that Lessee intends to: (i) change its operations, (ii) change its use or other handling of Petroleum Products or Hazardous Substances at the Premises, or (iii) make Alterations to the Premises.

D. **Miscellaneous**:

(1) Lessee's insurance carrier, for all insurance referenced in this Lease, shall be a reputable insurance company reasonably acceptable to Lessor and licensed to do business in the State of Washington. Lessee's insurance carrier(s) shall have a minimum A-VIII rating as determined by the then current edition of Best's Insurance Reports published by A.M. Best Co.

(2) Lessee shall provide Lessor with certificates of insurance, with a copy of additional insured endorsement in favor of Lessor attached, prior to or at occupancy, concurrently with the execution of this Lease and upon each renewal thereafter, to establish that Lessee's insurance obligations have been met and that the policies are not subject to cancellation or material change without at least thirty (30) days advance written notice to Lessor.

(3) Lessor reserves the right to inspect and require full copies of all insurance policies to be provided to Lessor.

(4) Lessee shall provide workers' compensation coverage (including all coverage mandated by any federal law) pursuant to all statutory requirements as may apply and any other insurance coverage required by law. It is the sole responsibility of Lessee to determine the laws applicable to Lessee's employees and

contractors and the employees and contractors of Lessee's agents operating the Facility. At no time shall Lessor incur any costs or liability due to Lessee's failure to obtain and maintain all insurance coverage required pursuant to applicable law. Lessee further agrees to maintain Employer Liability Act ("ELA") or stop gap insurance coverage of at least the Minimum Coverage Amount set forth in Paragraph I.K. In the event that the workers at the Facility are employed by one or more contractors of Lessee rather than by Lessee directly, Lessee shall not be required to maintain such coverage, but shall require such contractor or contractors to maintain such coverage for all workers at the Facility.

(5) Lessee shall provide Automobile Liability insurance with coverage at least as broad as Business Automobile Liability ISO form CA 0001, covering all owned, non-owned and hired automobiles brought on the Premises, with coverage of at least the Minimum Coverage Amount set forth in Paragraph I.K.

(6) Notwithstanding anything in this Lease to the contrary, neither Party, nor its Related Parties, nor, in case of Lessee, its sublessees, shall be liable to the other Party or to any insurance company (by way of subrogation or otherwise) insuring the other Party, for any loss or damage to any building, structure or other property (whether real or personal) arising from any cause that (i) would be insured against under the terms of any property insurance required to be carried hereunder, or (ii) is insured against under the terms of any property insurance actually carried, regardless of whether the same is required hereunder, even though such loss or damage might have been occasioned by the negligence of such Party or its Related Parties. Each Party shall notify their respective insurance companies of this waiver of any rights of subrogation that such companies may have against Lessor or Lessee, as the case may be and shall obtain any necessary endorsement to avoid such waiver's invalidating the policy in whole or in part. Further, neither Lessor nor any Related Party of Lessor shall be liable for any such damage caused by other lessees or persons in, upon or about the Premises, or caused by operations in construction of any private, public or quasi-public work.

(7) Lessor and Lessee each hereby waive, and in no event shall either Party be liable to the other for, any lost profits, damage to business, or any form of special, indirect of consequential damages.

(8) Lessee shall be solely responsible for all losses up to the applicable deductible.

16. **RELEASE AND INDEMNIFICATION COVENANTS:**

A. Lessee releases Lessor and all officials and employees of Lessor from, and covenants and agrees that neither Lessor nor any Related Party of Lessor shall be liable for, and Lessee agrees to defend, indemnify and

hold Lessor and its Related Parties (hereinafter the "Lessor Indemnitee" or "Lessor Indemnitees") harmless against, any and all claims, actions, proceedings, damages, liabilities, costs, and expenses incurred (including, without limitation, all attorneys' fees and expenses arising in connection with each such claim, action or proceeding) from or in connection with: (i) the conduct, operation or management of the Premises or of any business therein, or any work or thing whatsoever done, or any condition created therein or thereon, (ii) any act, omission, or negligence of Lessee or any of its sublessees or licensees or its or their partners, directors, officers, agents, employees, invitees or contractors; (iii) any incident, injury or damage whatever occurring in, at or upon the Premises; and/or (iv) any breach or Default by Lessee in the full and prompt payment and performance of Lessee's obligations under this Lease, except that (1) Lessee's indemnity shall not apply to any loss, damage, injury or death to the extent attributable to the negligence or intentional misconduct of Lessor or Lessor Indemnitees (provided, however, that in such event the indemnity shall remain valid for all other Lessor Indemnitees); (2) if and to the extent that this Lease is subject to Section 4.24.115 of the Revised Code of Washington, it is agreed that where liability for damages arising out of bodily injury to persons or damage to property is caused by or results from the concurrent negligence of (a) the Lessor Indemnitee or Lessor Indemnitee's agents or employees, and (b) the Lessee or its Related Parties, Lessee's obligations of indemnity under this Paragraph 16 shall be effective only to the extent of the Lessee's negligence; and (3) liability for any loss, claim, fine or penalty arising from the Release of Petroleum Products or Hazardous Substances or any violation of Environmental Laws shall be governed by the terms of Paragraph 11.H of this Lease.

B. In case any action shall be brought against any Lessor Indemnitee in respect of which indemnity may be sought against Lessee, such Lessor Indemnitee shall promptly notify Lessee in writing and Lessee shall assume the defense thereof, including the employment of counsel and the payment of all expenses incident to such defense. Such Lessor Indemnitee shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be paid by such Lessor Indemnitee unless the employment of such counsel has been authorized by Lessee or counsel for Lessee shall have advised Lessor in writing that there exists actual or potential conflicts of interest which make representation by the same counsel inappropriate. Lessee shall not be liable for any settlement of any such action without its consent but, if any such action is settled with the consent of Lessee or if there be final judgment for the plaintiff of any such action, Lessee

agrees to indemnify and hold harmless Lessor Indemnitees from and against any loss or liability by reason of such settlement or judgment.

C. Lessee specifically and expressly waives any immunity that may be granted Lessee under the Washington State Industrial Insurance Act, Title 51 RCW, or its successor. Further, the indemnification obligation under this Lease shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable to or for any third party under all workers' compensation act (including, but not limited to, the Washington State Industrial Insurance Act, disability benefits acts or other employee benefits acts.

D. Lessor shall indemnify and hold harmless Lessee and its Related Parties ("Lessee Indemnitee" or "Lessee Indemnitees") from and against any and all third party claims for bodily injury and/or property damage arising from or in connection with: (i) any accident, injury or damage whatever occurring in, at or upon the Common Areas; (ii) any act, omission, or negligence of Lessor or its or their officers, agents, employees, invitees or contractors; and/or (iii) any breach or Default by Lessor in the full and prompt performance of Lessor's obligations under this Lease; together with all costs, expenses and liabilities incurred or in connection with each such claim or action or proceeding brought thereon, including, without limitation, all attorneys' fees and expenses at trial and upon appeal, except that (1) Lessor's Indemnity shall not apply to bodily injury, death and/or property damage to the extent attributable to the negligence or intentional misconduct of Lessee or Lessee Indemnitee(s) (provided, however, that in such event the indemnity shall remain valid for all other Lessee Indemnitees); (2) if and to the extent that this Lease is subject to Section 4.24.115 of the Revised Code of Washington, it is agreed that where liability for damages arising out of bodily injury to persons or damage to property is caused by or results from the concurrent negligence of (a) a Lessee Indemnitee or Lessee Indemnitees, and (b) the Lessor or the Lessor's agents or employees, Lessor's obligations of indemnity under this paragraph shall be effective only to the extent of the Lessor's negligence; (3) liability for any loss, claim, fine or penalty arising from the Release of Petroleum Products or Hazardous Substances or any violation of Environmental Laws shall be governed by the terms of Paragraph 11.H of this Lease and not by this Paragraph 16.D; and (4) liability for property damage arising from a fire or other casualty shall be governed by Paragraph 17 of this Lease and not by this Paragraph 16.D.

E. The indemnification provisions of this Paragraph 16 shall survive the expiration or earlier termination of this Lease, and are independent of, and will not limit or be limited by, any insurance obligations in this Lease (whether or not complied with).

17. **DAMAGE OR DESTRUCTION:**

A. In the event the Premises or any portion thereof shall be damaged or destroyed by fire or any other insured casualty, or any other insured peril whatsoever, at any time during the term of this Lease, then and in such event, unless the damage exceeds fifty percent (50%) of the replacement cost thereof or will take more than one year to repair, Lessee will or will cause to repair and restore the buildings and improvements in substantially the same location and condition before damage occurred.

B. In the event Lessee elects, undertakes, or is required to rebuild, the proceeds of any insurance policies which are required hereunder shall be first devoted exclusively to the repair and restoration of the damaged or destroyed buildings and improvements located on the Premises and the expenditure of such sum by Lessee for the restoration thereof shall be considered full compliance with the covenant to repair and restore. All property insurance proceeds on Lessee's buildings and improvements owned by Lessee, whether or not used to repair or restore said damage, shall be paid to Lessor and Lessee jointly. All property insurance proceeds on Lessor provided site improvements shall be paid to Lessor.

C. In the event the Premises or any portion thereof is damaged or destroyed to an extent exceeding fifty percent (50%) of the replacement cost thereof, or if Lessor reasonably determines that repair or restoration of any damage cannot be completed within one year, or if there is less than three (3) years remaining in the Term, Lessee shall have the option to elect either to repair and restore the buildings and improvements located on the Premises to substantially the same location and condition as existed before damage occurred or to terminate this Lease. In the event Lessee elects to terminate this Lease: (i) Lessee shall give Lessor written notice of such termination within forty-five (45) days of the date of damage, and (ii) Lessor shall be entitled to any casualty insurance proceeds necessary to repair or replace the improvements or Alterations to the extent affected by such damage or destruction. If Lessee is not in Default under this Lease, any prepaid or unearned rent shall be returned to Lessee.

D. In the event the Premises or any portion thereof is damaged or destroyed, to whatever extent, but Lessor and Lessee agree to maintain this Lease during the time of repair and restoration, Lessee shall be entitled to a reduction of Rent equal to that portion of the Premises unusable as a result of the damage and/or destruction so long as Lessee is at all times diligently pursuing such repair or restoration to completion.

18. **SUBORDINATION AND ATTORNMENT:**

A. Lessor shall have the absolute right to sell, transfer, convey, assign and encumber its interest in this Lease and its estate in the Premises (called "Lessor's Interest"), or any part thereof (including, but not limited to, Lessor's reversion), and to delegate all or any portion of its obligations hereunder, from time to time as it sees fit, without obtaining any approval from Lessee.

B. This Lease shall be subject and subordinate to any encumbrances and to any extensions or renewals thereof which are now, or may hereafter be placed by Lessor, its successors or assigns, upon the whole or any part of Lessor's property and which includes the Premises. Promptly upon request by Lessor and without expense to Lessor, Lessee shall execute and deliver any instrument which may be reasonably required by Lessor or its current or prospective lender, bondholders or the trustee for Lessor's bonds, or the holder of the secured party's interest in any loan (collectively "Mortgagee") with regard to the Premises in confirmation of such subordination. If Lessee shall fail at any time to execute and deliver any such subordination, Lessor, in addition to any other remedy available to it in consequence thereof, may execute and deliver such instrument as the attorney-in-fact of Lessee; and Lessee hereby appoints Lessor as attorney-in-fact for such limited purpose.

C. In the event that Lessor sells or assigns its interest or estate absolutely, Lessee shall be bound to the purchaser or assignee under all of the covenants, terms and conditions of this Lease for the balance of the Term with the same force and effect as if such purchaser or assignee was the lessor under the Lease and Lessee hereby attorns to such purchaser or assignee as its landlord, such attornment to be effective and self-operative without the execution of any further instrument on the part of either of the Parties hereto immediately upon such purchaser's or assignee's succeeding to the interest or estate of Lessor. Specifically, on receipt of a notice from Mortgagee that Rents should be paid to Mortgagee, Lessee shall pay all Rents to Mortgagee or its designee directly. If the Mortgagee succeeds to the interest of Lessor under the Lease, Mortgagee shall not be: (i) liable for any act or omission of Lessor or any prior landlord; (ii) liable for the return of any Security Deposit unless such deposit has been delivered to Mortgagee by Lessor or is in an escrow fund available to Mortgagee; (iii) subject to any offsets or defenses that Lessee might have against any prior landlord (including Lessor); (iv) bound by any rent or additional rent that Lessee might have paid for more than the current month to any prior landlord (including Lessor); (v) bound by any amendment, modification, or termination of the Lease made without Mortgagee's consent; (vi) personally liable under the Lease, Mortgagee's liability hereunder being limited to its interest in the Premises; or (vii) bound by

any notice of termination given by Lessor to Lessee without Mortgagee's prior written consent thereto. If during the pendency of foreclosure proceedings or otherwise, there is appointed by the court a receiver for the property of which the Premises are a part, Lessee hereby attorns to the receiver as its landlord during the pendency of such foreclosure proceeding, such attornment to be effective and self-operative without the execution of any further instrument on the part of either Party.

D. If requested by any Mortgagee, or any ground lessor, Lessee will agree to give such Mortgagee or ground lessor, a reasonable opportunity to cure any Default by Lessor under this lease.

19. **ASSIGNMENT OR SUBLEASE**:Except as specifically provided in this Paragraph 19, Lessee shall not assign, in whole or in part, this Lease or any extension thereof, nor shall Lessee rent or sublease all or any part of the Premises, to a third party, without the prior written consent of Lessor, which shall not be unreasonably withheld or delayed so long as the Permitted Use and all other terms and conditions hereof (other than the identity of Lessee) remain unchanged following such assignment, and so long as Lessee demonstrates to Lessor's sole satisfaction that the proposed assignee (i) has the financial ability to pay and perform the obligations of Lessee under this Lease, and (ii) has the ability and experience to operate the Facility for the Permitted Use, and no rights hereunder in or to said Premises shall pass by operation of law or other judicial process or through insolvency proceedings. Notwithstanding the foregoing, if the assignment is the direct result of a change of ownership or control of the business operated by Lessee at the Premises by a non-third-party merger or consolidation of Lessee (including an internal merger or consolidation of the Lessee or a division(s) thereof) or a transfer to an affiliate of Lessee or an entity owned or controlled by Tesoro Corporation, a Delaware corporation, or Savage Companies, a Utah corporation, Lessor's consent shall not be required. The rights and obligations hereof shall extend to and be binding upon Lessor's and Lessee's respective permitted successors and assigns as the case may be. Lessee will furnish Lessor with copies of all such assignment, sublease or rental documents. For the purposes of this Lease, any change of fifty percent (50%) or more of the beneficial ownership of the Lessee including sale, liquidation or other disposition of corporate stock or limited liability company units (or a sale of substantially all of the assets) will be considered an assignment. Should Lessor consent to any assignment made by Lessee solely for the purposes of obtaining a loan or other consideration from a third party (as opposed to a merger, consolidation, sale of assets, corporate stock or limited liability units), then Lessor's consent shall be made in accordance with a mutually agreed

Consent to Assignment. Upon any assignment of this Lease or sublease of the Premises, Lessee shall continue to be obligated under this Lease.

B. If Lessor refuses to consent to an assignment, Lessee's sole remedy shall be the right to bring declaratory action to determine whether Lessor was entitled to refuse such assignment under the terms of this Lease.

C. The granting of consent to any assignment or sublease shall not constitute a waiver of Lessor's discretion to approve or disapprove any future request for permission to assign or sublease in accordance with the requirements of Paragraph 19.A. Acceptance of rent or other performance by Lessor following an assignment or sublease, whether or not Lessor has knowledge of such assignment or sublease, shall not constitute consent to the same nor a waiver of the requirement to obtain consent to the same.

D. Unless otherwise agreed in writing, the initial Lessee and any assignee of Lessee shall remain liable for the full performance of all obligations of Lessee hereunder during the entire Term of this Lease.

E. A minimum handling and transfer fee ("Transfer Fee") of Two Thousand Five Hundred and 00/100 Dollars ($2,500.00) shall be payable by Lessee to Lessor if Lessee requests that Lessor's consent to a proposed assignment (including an assignment to a creditor for security purposes), sublease or modification of this Lease. Such Transfer Fee shall be submitted to Lessor at the same time that Lessee requests Lessor's consent to the proposed sublease, assignment or modification. If Lessor's reasonable and customary attorneys' fees exceed the Transfer Fee, then Lessee agrees to reimburse Lessor for such additional reasonable and customary attorneys' fees. Lessee's failure to remit this additional amount within sixty (60) days of the mailing of notice of such charges shall constitute a Default under this Lease.

F. In the event Lessee fails or refuses to pay Rent or Additional Charges when due or is otherwise in Default as defined in Paragraph 23 of this Lease, any sublessee of Lessee shall direct all rental and other payments under the sublease directly to Lessor upon written notice from Lessor and without liability to the original Lessee. In the event Lessor elects to terminate the Lease due to a Default by Lessee, any sublease previously agreed to shall, at Lessor's sole discretion, automatically become a direct lease between Lessor and the sublessee, subject to all terms and conditions of this Lease (including bond, security and insurance requirements) without further action by any Party.

20. **LEASEHOLD MORTGAGES**:Lessee shall have the right, in addition to any other rights granted and without any requirement to obtain Lessor's consent, to mortgage or grant a security interest in Lessee's interest in

this Lease, the Premises and the Alterations, and in any subleases, under one or more leasehold mortgages or pursuant to a sale-leaseback financing arrangement to one or more Lending Institutions (as defined in Paragraph 20.B) and/or under one or more purchase-money leasehold mortgages to a Lending Institution, and to assign this Lease and any subleases to a Lending Institution as collateral security for such leasehold mortgages or pursuant to the sale-leaseback financing arrangement, on the condition that all rights acquired under such leasehold mortgages or pursuant to the sale-leaseback financing arrangement shall be subject to each and all of the covenants, conditions, and restrictions set forth in this Lease and to all rights and interests of Lessor, none of which covenants, conditions, restrictions, rights, or interests is or shall be waived by Lessor by reason of the right given to mortgage or grant a security interest in Lessee's interest in this Lease and the Premises and the Improvements, except as expressly provided otherwise. During any period of time that Lessor's deed of trust to secure the payment of the WS&F Lien Amount is an encumbrance against the improvements and Alterations located on the Premises, any Permitted Leasehold Mortgage (defined below) shall be subject and subordinate to Lessor's deed of trust.

B. Any mortgage or sale-leaseback financing arrangement made pursuant to this paragraph is referred to as a "Permitted Leasehold Mortgage," and the holder of or secured party under a Permitted Leasehold Mortgage is referred to as a "Permitted Leasehold Mortgagee." The Permitted Leasehold Mortgage that is prior in lien or interest among those in effect is referred to as the "First Leasehold Mortgage," and the holder of or secured party under the First Leasehold Mortgage is referred to as the "First Leasehold Mortgagee." For the purposes of any rights created under this paragraph, any so-called wraparound lender that is a Lending Institution shall be considered a First Leasehold Mortgagee. If a First Leasehold Mortgage and a Permitted Leasehold Mortgage that is second in priority in lien or interest among those in effect are both held by the same Permitted Leasehold Mortgagee, the two Permitted Leasehold Mortgages are collectively referred to as the "First Leasehold Mortgage." A "Permitted Leasehold Mortgage" includes, without limitation, mortgages and trust deeds as well as financing statements, security agreements, sale-leaseback instrumentation, and other documentation that the lender may require. The words "Lending Institution", as used in this Lease, mean (1) a bank (state, federal or foreign), trust company (in its individual or trust capacity), insurance company, credit union, savings bank (state or federal), pension, welfare or retirement fund or system, real estate investment trust (or an umbrella partnership or other entity of which a real estate investment trust is the majority owner), federal or state agency regularly making or guaranteeing mortgage loans, investment bank, subsidiary of a Fortune 500 company (such as General Electric Capital Corporation), real

estate mortgage investment conduit, or securitization trust; (2) any issuer of collateralized mortgage obligations or any similar investment entity (provided that either (a) at least certain interests in such issuer or other entity are publicly traded or (b) such entity was or is sponsored by an entity that otherwise constitutes a Lending Institution or has a trustee that is, or is an Affiliate of, any entity that otherwise constitutes a Lending Institution), or any Person acting for the benefit of or on behalf of such an issuer; (3) any Person actively engaged in commercial real estate financing and having total assets (on the date when its Leasehold Mortgage is executed and delivered, or on the date of such Leasehold Mortgagee's acquisition of its Leasehold Mortgage by assignment, but excluding the value of any Leasehold Mortgage encumbering this Lease) of at least Five Hundred Million and 00/100 Dollars ($500,000,000.00); (4) any Person that is a wholly owned subsidiary of or is a combination of any one or more of the foregoing Persons; or (5) any of the foregoing when acting as trustee, agent, or administrative agent for other lender(s) or investor(s), whether or not such other lender(s) or investor(s) are themselves Lending Institutions. The fact that a particular Person (or any Affiliate of such Person) is a partner, member, or other investor of the then Lessee shall not preclude such Person from being a Lending Institution and a Leasehold Mortgagee provided that: (a) such entity has, in fact, made or acquired a bona fide loan to Lessee secured by a Leasehold Mortgage or is a Mezzanine Lender; (b) such entity otherwise qualifies as Lending Institution and a Leasehold Mortgagee (as applicable); and (c) at the time such entity becomes a Leasehold Mortgagee, no Default exists under this Lease, unless simultaneously cured.

C. If a Permitted Leasehold Mortgagee sends to Lessor a true copy of its Leasehold Mortgage, together with written notice specifying the name and address of the Permitted Leasehold Mortgagee, then as long as such Permitted Leasehold Mortgage remains unsatisfied of record or until written notice of satisfaction is given by the holder to Lessor, the following provisions shall apply (in respect of such Permitted Leasehold Mortgage):

(1) Except as expressly provided otherwise below, a Leasehold Mortgagee shall not be bound by any cancellation, termination, surrender, acceptance of surrender, amendment, or modification of this Lease without in each case the prior consent in writing of the Permitted Leasehold Mortgagee. Nor shall any merger result from the acquisition by, or devolution upon, any one entity of the fee and the leasehold estates in the Premises.

(2) Lessor shall, upon serving Lessee with any notice, whether of Default or any other matter, simultaneously serve a copy of such notice on the Permitted Leasehold Mortgagee, and no such notice to

Lessee shall be deemed given unless a copy is so served on the Permitted Leasehold Mortgagee in the manner provided in this Lease for giving notices.

(3) In the event of any Default by Lessee under this Lease, each Permitted Leasehold Mortgagee has the same period as Lessee has, plus thirty (30) days, after service of notice on it of such Default, to remedy or cause to be remedied or commence to remedy and complete the remedy of the Default complained of for such default, and Lessor shall accept such performance by or at the instigation of such Permitted Leasehold Mortgagee as if the same had been done by Lessee. Each notice of non-monetary Default given by Lessor will state the amounts of whatever Rent or Additional Charges are then claimed to be in default, if any.

(4) If Lessor elects to terminate this Lease by reason of any Default of Lessee, the Permitted Leasehold Mortgagee, in addition to the rights granted under the preceding paragraph, shall also have the right to postpone and extend the specified date for the termination of this Lease as fixed by Lessor in its notice of termination, for a period of six months, provided that the Permitted Leasehold Mortgagee shall cure or cause to be cured any then-existing defaults in payment of Rent and Additional Charges and meanwhile pay the Rent and Additional Charges, and provided further that the Permitted Leasehold Mortgagee shall forthwith take steps to acquire or sell Lessee's interest in this Lease by foreclosure of the Permitted Leasehold Mortgage or otherwise and shall prosecute the same to completion with all due diligence. If, at the end of the six-month period, the Permitted Leasehold Mortgagee is actively engaged in steps to acquire or sell Lessee's interest, the time of the Permitted Leasehold Mortgagee to comply with the provisions of this Paragraph 20.C shall be extended for such period as is reasonably necessary to complete such steps with reasonable diligence and continuity.

(5) Lessor agrees that the name of the Permitted Leasehold Mortgagee may be added to the "Loss Payable Endorsement" of any and all insurance policies required to be carried by Lessee or Lessor.

(6) Lessor agrees that in the event of termination of this Lease by reason of any Event of Default by Lessee, Lessor will enter into a new lease of the Premises with the Permitted Leasehold Mortgagee or its nominee, for the remainder of the Term, effective on the date of such termination, at the Rent and Additional Charges and on the terms, provisions, covenants, and agreements contained in this Lease and subject only to the same conditions of title as this Lease is subject to on the date this Lease is executed, and to the rights, if any, of any parties then in possession of any part of the Premises, provided:

a) The Permitted Leasehold Mortgagee or its nominee shall make written request on Lessor for such new lease within fifteen (15) days after the date of termination indicated in the notice of termination given to Permitted Leasehold Mortgagee and such written request shall be accompanied by payment to Lessor of Rent and Additional Charges then due to Lessor under this Lease.

b) The Permitted Leasehold Mortgagee or its nominee shall pay to Lessor, at the time the new lease is executed and delivered, any and all Rent and Additional Charges that would be due at the time of the execution and delivery of the new lease pursuant to this Lease but for such termination, and in addition any expenses, including reasonable attorneys' fees, to which Lessor shall have been subjected by reason of such Default.

c) The Permitted Leasehold Mortgagee or its nominee shall ensure that any security and guaranty(ies) are in full force and effect, and shall perform and observe all covenants contained in this Lease on Lessee's part to be performed and further shall remedy any other conditions that Lessee under the terminated Lease was obligated to perform; and upon execution and delivery of such new lease, any subleases, security that may have been assigned and transferred previously by Lessee to Lessor, as security under this Lease, shall then be held by Lessor as security for the performance of all the obligations of Lessee under the new lease.

d) Lessor shall not warrant possession of the Premises or the Improvements to Lessee under the new lease.

e) Such new lease shall be expressly made subject to the rights, if any, of Lessee under the terminated Lease.

f) Lessee under such new lease shall have the same right, title, and interest in and to the Alterations on the Premises as Lessee had under the terminated Lease.

g) Nothing contained in this Lease requires the Permitted Leasehold Mortgagee or its nominee to cure any Default that occurs as a result of the status of Lessee, such as Lessee's bankruptcy or insolvency, or to discharge any lien, charge, or encumbrance against Lessee's interest in this Lease junior in priority to the lien of the Permitted Leasehold Mortgage.

h) The First Leasehold Mortgagee shall be given notice of any arbitration or other proceeding or dispute by or between the Parties and shall have the right to intervene and be made a party to any such arbitration or other proceeding. In any event, each Permitted Leasehold Mortgagee shall receive notice of, and a copy of, any award or decision made in the arbitration or other proceeding.

i) Any award or payment in condemnation or eminent domain in respect of the improvements shall be paid to the First Leasehold Mortgagee for the benefit of the Parties and applied in the manner specified in this Lease.

j) No fire or casualty loss claims shall be settled and no agreement will be made in respect of any award or payment in condemnation or eminent domain without in each case the prior written consent of the First Leasehold Mortgagee.

k) Except as otherwise provided in this Paragraph 20, no liability for the payment of Rent or Additional Charges or the performance of any of Lessee's covenants and agreements shall attach to or be imposed on the Permitted Leasehold Mortgagee (other than any obligations assumed by the Permitted Leasehold Mortgagee), all such liability (other than any obligations assumed by the Permitted Leasehold Mortgagee) being expressly waived by Lessor.

l) Lessor, within 10 days after request in writing by Lessee or any Permitted Leasehold Mortgagee, shall furnish a written statement, duly acknowledged, that this Lease is in full force and effect and unamended, or if there are any amendments, such statement will specify the amendments, and that there are no Defaults by Lessee that are known to Lessor, or if there are any known Defaults, such statement shall specify the Defaults Lessor claims exist.

m) No payment made to Lessor by any Permitted Leasehold Mortgagee shall constitute agreement that such payment was, in fact, due under the terms of this Lease; and the Permitted Leasehold Mortgagee having made any payment to Lessor pursuant to Lessor's wrongful, improper, or mistaken notice or demand shall be entitled to the return of any such payment or portion, provided it shall have made demand not later than one year after the date of its payment.

n) Lessor, on request, shall execute, acknowledge, and deliver to each Permitted Leasehold Mortgagee an agreement prepared at the sole cost and expense of Lessee, in form satisfactory to the Permitted Leasehold Mortgagee and Lessor, among Lessor, Lessee, and the Permitted Leasehold Mortgagee, agreeing to all the provisions of this paragraph.

o) Lessor shall at no time be required to subordinate its fee simple interest in the Premises to the lien of any leasehold mortgage, nor to mortgage its fee simple interest in the Premises as collateral

or additional security for any leasehold mortgage. Lessor shall attorn to any Permitted Leasehold Mortgagee or any other person who becomes Lessee by, through, or under a Permitted Leasehold Mortgage.

p) If Lessee is declared bankrupt or insolvent and this Lease is thereafter lawfully canceled or rejected, Permitted Leasehold Mortgagee or its nominee, shall accept the existing lease in bankruptcy.

q) If Lessor declares bankruptcy and Lessor's bankruptcy trustee rejects this Lease when there is a Permitted Leasehold Mortgagee, Lessee's right to elect to terminate this Lease or to retain its rights pursuant to 11 USC §365(h)(1) shall be exercised by the Permitted Leasehold Mortgagee.

21. **ESTOPPEL CERTIFICATE**: Lessee and Lessor shall each, at any time and from time to time without charge, and within ten (10) days after written request therefor by the other Party, complete, execute, and deliver to the requesting Party a written statement concerning the terms of this Lease, whether it is in full force and effect, if there are any Defaults hereunder, and such other information as may be required by the requesting Party, but only as typically provided in an estoppel certificate.

22. **[INTENTIONALLY DELETED]**.

23. **LIENS**: Except for the deed of trust granted by Lessee to Lessor to secure the payment of the WS&F Lien Amount and any Permitted Leasehold Mortgage, Lessee shall keep the Premises and Lessee's leasehold interest therein free and clear of, and shall indemnify, defend and hold harmless Lessor against, all liens, charges, mortgages, and encumbrances which may result from any act or neglect of Lessee, including but not limited to liens for utility charges and mechanics and materialman liens, and all expenses in connection therewith, including attorneys' fees; it being expressly agreed that Lessee or any transferee, assignee, delegate or sublessee shall have no power or authority to create any such lien, charge, mortgage or encumbrance except with the prior written approval of Lessor. Nothing herein shall prevent Lessee from litigating any Lien not believed by Lessee to be valid, providing that (i) such contest will not expose Lessor to civil or criminal liability, fine or penalty, (ii) such contest will not subject the Premises to sale, forfeiture, foreclosure or interference, and (iii) Lessee provides to Lessor security, reasonably satisfactory to Lessor against any loss or injury by reason of such contest and prosecutes the contest with due diligence.

24. **DEFAULT OR BREACH**:

Time is of the essence of this Lease. Each of the following events shall constitute an event of default and breach ("Default") of this Lease:

A. If Lessee, or any successor or assignee of Lessee while in possession, shall file a petition in bankruptcy or insolvency or for reorganization under any Bankruptcy Act, or shall voluntarily take advantage of any such Act by answer or otherwise, or shall make an assignment for the benefit of creditors.

B. If involuntary proceedings under any bankruptcy law or insolvency act shall be instituted against Lessee, or if a receiver or trustee shall be appointed for all or substantially all of the property of Lessee, and such proceedings shall not be dismissed or the receivership or trusteeship vacated within one hundred twenty (120) days after the institution or appointment.

C. If Lessee shall fail to pay to Lessor Rent or Additional Charges when due, taking into account any grace period for payment provided hereunder.

D. If Lessee shall fail to provide a bond or other security in violation of Paragraph 6 and maintain it throughout the Term of this Lease and sixty (60) days thereafter.

E. If Lessee shall fail to provide the insurance required under Paragraph 15.

F. If Lessee shall fail to occupy and use the Premises continuously during the Term of this Lease in violation of Paragraph 8.A.

G. If this Lease or the interest of Lessee under this Lease shall be assigned, sublet or otherwise transferred to or shall pass to or devolve on any other person or party, voluntarily or involuntarily, except in the manner expressly permitted in this Lease.

H. If Lessee shall fail to perform or comply with any other term or condition of this Lease, and if the non-performance shall continue for a period of twenty (20) days after notice of non-performance given by Lessor to Lessee or, if the performance cannot be reasonably accomplished within the twenty (20) day period, Lessee shall not in good faith have commenced performance within the twenty (20) day period and shall not diligently proceed to completion of performance within a reasonable time thereafter.

I. If any default or event of default of Lessee shall arise under any Pipeline Agreement and continue beyond any applicable notice or cure period available to Lessee thereunder.

H. Lessor shall use commercially reasonable efforts to mitigate its damages following a Default by Lessee hereunder.

In the event that Lessor fails to perform or comply with any term or condition of this Lease, and if the non-performance shall continue for a period of twenty (20) days after notice of non-performance given by Lessee to

Lessor or, if the performance cannot be reasonably accomplished within the twenty (20) day period, Lessor shall not in good faith have commenced performance within the twenty (20) day period and shall not diligently proceed to completion of performance within a reasonable time thereafter, then Lessee shall have all rights and remedies available at law or in equity as a result of Lessor's breach.

25. **EFFECT OF DEFAULT:**

In the event of any Default by Lessee under this Lease, Lessor shall have the following rights and remedies:

A. In the event of any Default by Lessee or any person claiming under, by, or through Lessee, or any threatened or attempted Default by such person, Lessor shall be entitled to pursue an injunction against such person enjoining such Default (other than an injunction to cause Lessee to continuously operate the Premises pursuant to the terms of Paragraph 8.A). Nothing herein contained precludes Lessor from pursuing any other remedies available hereunder or at law or equity to Lessor for such breach, including eviction and the recovery of damages.

B. Lessor shall have the right to terminate this Lease, as well as all right, title and interest of Lessee under this Lease, by giving to Lessee not less than thirty (30) days notice of the termination effective on a date specified in the notice. No act of Lessor or its agents shall be deemed a termination of this Lease and no agreement of Lessor to terminate this Lease shall be valid, effective, or enforceable unless in writing and signed by Lessor. On the termination date specified in the notice, this Lease, and the right, title and interest of Lessee under this Lease, shall terminate in the same manner and with the same force and effect, except as to Lessee's liability, as if such termination date was the end of the Term originally set forth in this Lease.

C. Lessor may elect, but shall not be obligated, to make any payment required of Lessee in this Lease or to comply with any agreement, term, or condition required by this Lease to be performed by Lessee. Lessor shall have the right to enter the Premises for the purpose of curing any such Default and to remain until the Default has been cured. In either case, Lessor may charge to Lessee as Additional Charges the amount of such payment or the cost of such compliance or cure, together with interest thereon at the Interest Rate from the date of such payment. Any such cure by Lessor shall not be deemed to waive or release the Default of Lessee or the right of Lessor to take any action as may be otherwise permissible under this Lease in the case of any Default.

D. Lessor may re-enter the Premises immediately and remove the personal property and personnel of Lessee, and store the property in a public warehouse or at a place elected by Lessor, at the expense of Lessee. **Lessor may also remove any third party's property, and store the same in a public warehouse or other place**

elected by Lessor at the third party's expense, after Lessor has contacted the third party owner and given said third party owner ten (10) days' notice of Lessor's intent to remove the property. After re-entry, Lessor may terminate this Lease on giving thirty (30) days' notice of termination to Lessee. Without the notice, re-entry will not terminate this Lease.

E. After re-entry, Lessor may relet the Premises or any part of the Premises for any term without terminating this Lease, at the rent and on the terms as Lessor may choose. Lessor may make Alterations and repairs to the Premises. The duties and liabilities of the Parties upon the reletting of the Premises as provided in this paragraph shall be as follows:

(1) In addition to Lessee's liability to Lessor for breach of this Lease, Lessee shall be liable for all expenses of the reletting, for the Alterations and repairs made, and for the difference between the rent and additional charges received by Lessor under the new lease agreement, and the Rent and Additional Charges that are due for the same period under this Lease.

(2) To the fullest extent permitted by law, Lessor shall have the right to apply the rent received from reletting the Premises to any amount as Lessor may decide in Lessor's sole discretion, including but not limited to any or all of the following: (a) the interest owed by Lessee to Lessor under this Lease, (b) attorneys' fees and costs owed by Lessee to Lessor under this Lease, (c) expenses of the reletting and alterations and repairs made, (d) Rent or Additional Charges due under this Lease, or (e) future Rent or Additional Charges under this Lease as they become due.

(3) If the new Lessee does not pay a rent installment promptly to Lessor, and the rent installment has been credited in advance of payment to the indebtedness of Lessee other than Rent, or if rentals from the new Lessee have been otherwise applied by Lessor as provided for in this subparagraph E and during any rent installment period or less than the rent payable for the corresponding installment period under this Lease, Lessee shall pay Lessor the deficiency, separately for each rent installment deficiency, and before the end of that period. Lessor may at any time after reletting terminate this Lease for the breach on which Lessor had based the re-entry and subsequently relet the Premises, and in such event the provisions of subparagraph G hereof shall apply.

F. Lessor shall be entitled to recover damages from Lessee for any Default by Lessee, without prejudice to any of Lessor's other rights or remedies hereunder or at law or equity, including Lessor's right to terminate this Lease. If this Lease is terminated for any reason, Lessee's liability to Lessor for damages shall

survive such termination. In the event of termination as a result of any Default by Lessee, Lessor shall be entitled to recover immediately without waiting until the due date of any future Rent and/or Additional Charges or until the date fixed for expiration of the Term, the following amounts as damages determined as of the date of termination:

(1) Any Rent, Additional Charges and late charges due under the Lease as of the date of termination, together with interest thereon at the Interest Rate from the date each sum became due through the date of termination;

(2) Notwithstanding anything to the contrary herein and notwithstanding the exercise of any other rights and remedies of Lessor, including but not limited to the right to re-enter the Premises as set forth herein, any excess of the value of all of Lessee's obligations under this Lease, including the obligation to pay Rent and Additional Charges, from the date of termination until the end of the Term remaining immediately prior to such termination, over the reasonable rental value of the Premises for the same period figured as of the date of termination, plus the loss of reasonable rental value of the Premises as of the end of the Term resulting from Lessee's Default, the net result to be discounted to the date of termination at the rate of five percent (5%) per annum;

(3) The reasonable costs of re-entry and re-letting including without limitation the cost of any clean-up, refurbishing, removal of Lessee's property and fixtures, and any other expense occasioned by Lessee's failure to quit the Premises upon termination or to leave them in the required condition, and any remodeling costs, broker commissions and advertising costs, together with interest thereon at the Interest Rate from the date such costs are incurred by Lessor until paid; and

(4) Any other damages recoverable at law, in equity or under this Lease, including but not limited to any doubling of damages permitted under RCW 59.12.170.

The foregoing damages shall bear interest at the Interest Rate from the termination date until paid.

G. Lessor's rights and remedies shall be cumulative and may be exercised and enforced concurrently. Any right or remedy conferred upon Lessor under this Lease shall not be deemed to be exclusive of any other right or remedy it may have. In the event of a Default in the payment of Additional Charges, Lessor shall have all the rights and remedies provided at law, in equity or in this Lease for a Default in the payment of Rent.

26. **CONDEMNATION OR TERMINATION BY COURT ORDER:**

A. If all or any part of the Premises are condemned by any public body, and the part not taken is not suitable for continued operation of Lessee's business (as determined by Lessee and Lessor after consultation, or, if Lessor and Lessee are unable to agree, as determined by a court of competent jurisdiction), Lessee may, at its option, terminate this Lease as of the date of such taking, and, if Lessee is not in Default under any of the provisions of this Lease on said date, any Rent or Additional Charges prepaid by Lessee shall be promptly refunded to Lessee. Upon such termination, the entire estate and interest of Lessee in the Premises shall cease and Lessee shall have no further rights or obligations hereunder, except for any rights and obligations intended to survive the expiration or termination of this Lease, including (without limitation) the obligations of Lessee pursuant to Paragraph 28; provided, however, that if only a portion of the Premises is condemned, then Lessee's obligations for repair and restoration of any improvements located on the Premises shall apply only to the portion of the Premises that is surrendered to Lessor and is not the subject of the condemnation action.

B. In the event that any court having jurisdiction in the matter shall render a decision which has become final and which will prevent the performance by Lessor of any of its obligations under this Lease, then either Party hereto may terminate this Lease by written notice, and all rights and obligations hereunder (with the exception of any undischarged rights and obligations that accrued prior to the effective date of termination and any rights and obligations intended to survive the expiration or termination of this Lease) shall thereupon terminate. If Lessee is not in Default under any of the provisions of this Lease on the effective date of such termination, any Rent or Additional Charges prepaid by Lessee shall, to the extent allocable to any period subsequent to the effective date of termination, be promptly refunded to Lessee.

C. In every case of taking or sale of the Premises, or any part thereof to which this Paragraph 26 is applicable; (i) the net proceeds (excluding any portion thereof which is attributable to Lessee's trade fixtures and equipment, which shall belong to Lessee so long as Lessee is not then in Default hereunder, and any separate award to Lessee for relocation costs) shall be applied following order of priority until the net proceeds are exhausted:

(1) First, to Lessor, to the extent of the Land Award;

(2) Second, to Lessee, to the extent of the Building Leasehold Award;

(3) Last, to Lessor, to the extent of any remaining net proceeds; and

(ii) if this Lease is not terminated pursuant to Paragraph 26.A, the Rent shall be reduced proportionately to the reduction in the square footage of the Premises as a result of the taking. If a court that is authorized to fix and determine the condemnation award fails to fix and determine, separately and apart, the Land Award and Building Leasehold Award, such amounts shall be determined and fixed by agreement between Lessor and Lessee (or if Lessor and Lessee are unable to agree, shall be determined by a proceeding in the court in which the eminent domain proceeding is brought).

27. **HOLDING OVER**: In the event Lessee for any reason shall hold over after the expiration of this Lease, without written consent by Lessor, such holding over shall not be deemed to operate as a renewal or extension of this Lease, but shall only create a tenancy terminable at will at any time by Lessor. In this event the Rent owing from Lessee to Lessor shall equal one hundred fifty percent (150%) of the Base Monthly Rent during the last month prior to the holdover period, unless otherwise agreed. If Lessee, with written consent of Lessor, holds over after the expiration or sooner termination of this Lease, the resulting tenancy shall be on a month-to-month basis, upon agreed upon Rent terms. Lessee shall continue to be bound by all other pertinent provisions of this Lease.

28. **SURRENDER OF PREMISES**: Prior to the vacation of the Premises, and in addition to the requirements in Paragraph 11, Lessee shall promptly surrender possession of the Premises, and shall deliver all keys that it may have to any and all parts of the Premises. The Premises shall be surrendered to Lessor in the same condition in which the Premises were received, reasonable wear and tear excepted, and in the state of repair and maintenance required by the terms of this Lease. All Alterations and improvements allowed by Lessor shall be surrendered to Lessor in the same condition in which they were made, reasonable wear and tear excepted, and in the state of repair and maintenance required by the terms of this Lease, unless Lessor elects to permit or require Lessee to remove some or all of such improvements or Alterations (to the extent Lessor may require such removal pursuant to the terms hereof). Lessor may, at its option, exercised within ten (10) days after termination notice or expiration of this Lease, require Lessee expeditiously to remove any or all improvements and fixtures placed on the Premises by Lessee and which would otherwise remain the property of Lessor. In addition to all other requirements under this Lease, including but not limited to Paragraphs 11.L and 12.B, Lessor may require Lessee to repair any physical damage resulting from such removal, or Lessor may elect to do so itself and charge the cost to Lessee with interest at fifteen percent (15%) per annum from the date of expenditure, which shall be payable by Lessee forthwith on demand.

29. **JOINT AND SEVERAL LIABILITY:**

A. Each and every party who signs this Lease, other than in the representative capacity, as Lessee, shall be jointly and severally liable hereunder.

B. It is understood and agreed that for convenience the word "Lessee" and verbs and pronouns in the singular number and neuter gender are uniformly used throughout this Lease, regardless of the number, gender or fact of incorporation of the party who is, or of the parties who are, the actual Lessee or Lessees under this Agreement. In construing this Lease, if the context so requires, the singular pronoun shall be taken to mean and include the plural, the masculine, the feminine and the neuter, and that generally all grammatical changes shall be made, assumed and implied to make the provisions hereof apply equally to entities and individuals.

30. **RULES AND REGULATIONS:** Lessor, for the proper maintenance of the Premises, the rendering of good service thereon, and the providing of safety, order and cleanliness thereof, may make and enforce such rules and regulations as Lessor may reasonably deem necessary or appropriate for such purposes but not inconsistent with the covenants, terms and conditions of this Lease. Lessor's Rules and Regulations attached hereto as Exhibit "F" and the Health and Safety Guidelines for the Facility, prepared by Savage Corporation, in its capacity as the operator of the Facility, attached hereto as Exhibit "L" are acknowledged by Lessee as current and binding. Lessee reserves the right from time to time to modify the Health and Safety Guidelines, and shall provide a copy of such modified Health and Safety Guidelines to Lessor within thirty (30) days after Lessee's implementation thereof, which implementation shall not be subject to Lessor's review, consent, or approval. In addition, a final Facility Operation and Safety Plan shall be mutually approved prior to operation of the Facility.

31. **CAPTIONS AND PARTICULAR PROVISIONS:**

A. The captions in this Lease are for convenience only and do not in any way limit or amplify the provisions of this Lease.

B. If any term or provision of this Lease or the applications thereof to any person or circumstances shall, to any extent, be invalid or unenforceable, the remainder of this Lease or the application of such term or provision to persons or circumstances other than those as to which it is held invalid or unenforceable shall not be affected thereby and shall continue in full force and effect.

32. **NON-DISCRIMINATION**:

A. Lessee agrees that in the performance of this Lease it will not discriminate by segregation or otherwise against any person or persons because of sex, race, creed, age, color or national origin.

B. It is agreed that Lessee's non-compliance with the provisions of this clause shall constitute a Default of this Lease following the lapse of any applicable notice and cure periods without a cure. In the event of such noncompliance, Lessor may take appropriate action to enforce compliance, may terminate this Lease, or may pursue such other remedies as may be provided by law.

33. **NOTICES**: All notices hereunder may be delivered (personally or by reliable overnight courier) or mailed. If mailed, they shall be sent by certified or registered mail to the address set forth in Paragraph 1.M or to such other address as either party hereto may hereafter from time to time designate in writing. Notices sent by mail shall be deemed to have been given three (3) days after the date on which properly mailed, postage prepaid, certified mail, return receipt requested. Notices delivered by reliable overnight courier service shall be deemed to have been given one (1) business day after the date on which deposited with such overnight courier service, properly addressed to the address set forth in Paragraph 1.M or to such other address as either party hereto may hereafter from time to time designate in writing, with charges paid for next business day delivery. Lessee shall also provide information to Lessor regarding Lessee's billing address if it is different from the notice listed above. Lessee shall also provide emergency contact information to Lessor within thirty (30) days of this Lease going into effect and shall keep such information current throughout the Term of this Lease.

34. **ATTORNEY'S FEES AND COURT COSTS**: In case suit or action is instituted to enforce compliance with any of the terms of this Lease, the losing Party agrees to pay the prevailing Party a reasonable attorney's fee before or at trial or any appeal, together with all costs and expenses incurred in connection with such actions, including the reasonable cost of searching the records to determine the condition of title at the time suit is commenced.

35. **SUCCESSORS AND ASSIGNS**: All rights, remedies and liabilities herein given to or imposed upon either of the Parties hereto shall inure to the benefit of and bind the executors, administrators, successors and assigns of such Parties. Nothing herein shall or is intended to confer upon any person, other than the Parties and their respective successors and assigns, any rights, remedies, obligations or liabilities.

36. **WAIVER**: Lessor shall not be deemed to have waived any rights under this Lease unless the waiver is given in writing and signed by Lessor. No delay or omission on the part of Lessor in exercising any right shall operate as a waiver of the right or any other right. A waiver by Lessor of a provision of this Lease shall not prejudice or constitute a waiver of Lessor's right otherwise to demand strict compliance with that provision or any other provision of this Lease. No prior waiver by Lessor shall constitute a waiver of any of Lessor's rights or of any of Lessee's obligations as to any future transactions.

37. **TOTAL AGREEMENT**: This Lease and the MGA Agreement contain the entire agreement between the Parties. Each Party represents that no promises, representations or commitments have been made by the other as a basis for this agreement which have not been reduced to writing herein. No oral promises or representations shall be binding upon either Party, whether made in the past or to be made in the future, unless such promises or representations are reduced to writing in the form of a modification to this Lease executed with all necessary legal formalities by the Commission of the Port of Vancouver. This Lease shall be construed without regard to any presumption or other rule requiring construction against the Party causing this Lease to be drafted.

38. **PROVISION OF FINANCIAL INFORMATION**: Within twenty (20) days' notice, and/or upon reasonable request, Lessee shall provide Lessor with current financial information concerning Lessee or any assignee, sublessee or guarantor, including financial statements certified, reviewed or compiled by a certified public accountant, if available, or, in the absence thereof, a balance sheet and income statement and other up-to-date financial information certified by Chief Financial Officer or other appropriate officer of Lessee or such assignee, sublessee or guarantor, as applicable, all as requested by Lessor; provided however, that Lessor acknowledges that such financial information with regard to a non-public company is Confidential Information and is to be used and disclosed only to Lessor's management personnel, Lessor's management company, attorneys and accountants for Lessor's internal purposes and to third parties only for the purpose of financing, refinancing, or sale of any portion of the Premises, and then only with reasonable confidentiality restrictions.

This Paragraph 38 does not prohibit either Party from disclosing Confidential Information to the extent such disclosure is required by law. If either Party, or any person to whom either Party transmits Confidential Information pursuant to this Lease, becomes legally compelled to disclose any Confidential Information, including without limitation Confidential Information subject to the Washington Public Disclosure Act, then such Party will provide prompt notice to the other Party prior to any such disclosure so that the other Party may seek a protective

order or other appropriate remedy and/or waive compliance with the provisions of this Paragraph with respect to such disclosure. If such protective order or other remedy is not obtained, or the other Party waives compliance with the provisions of this Paragraph, then the first Party will furnish only that portion of Confidential Information that such Party is advised by written opinion of counsel is legally required and will exercise such Party's best efforts to cooperate with the other Party's efforts to obtain reasonable assurance that confidential treatment will be accorded Confidential Information.

39. **BROKERS**: Nothing contained in this Lease shall impose any obligation on Lessor to pay a commission or fee to any party unless specifically agreed to in writing. Lessee and Lessor each hereby agrees to indemnify, defend and hold the other harmless for, from and against any claim for a compensation or fee by any broker or agen engaged by such party.

40. **COUNTERPARTS**: This Lease may be signed in counterparts. All signatures taken together shall amount to the concurrence of all Parties. In that regard, a photostatic copy of any signature shall have the same effect as the original.

41. **NO OPTION BY SUBMISSION OF LEASE DRAFT**: The submission of this Lease for examination does not constitute a reservation of or option for the Premises to the prospective Lessee and this Lease shall become effective as a Lease only upon execution by both Lessor and Lessee.

42. **APPLICABLE LAW AND VENUE**: This agreement shall be governed by and construed in accordance with the laws of the State of Washington, and in the event of any litigation arising out of or relating to this Lease, the Parties hereto stipulate and agree that the venue of any such action shall be laid in Clark County, Washington.

IN WITNESS WHEREOF, the Parties hereto have signed this Lease as of the 23rd day of July, 2013.

PORT OF VANCOUVER, Lessor

By: _____
President

By: _____
Vice President

By: _____
Secretary

TESORO SAVAGE PETROLEUM TERMINAL LLC, Lessee

By: _____

Title: AUTHORIZED REPRESENTATIVE

Approved as to form:

SCHWABE, WILLIAMSON & WYATT

By: Alicia L Lowe

Alicia L. Lowe, Port Counsel

STATE OF WASHINGTON)
) ss.
County of Clark)

On this day personally appeared before me NANCY I. BAKER, GERALD T. OLIVER, and BRIAN WOLFE, all Commissioners of the PORT OF VANCOUVER, and to me known to be the individuals that executed the foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of said Port of Vancouver for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute the said instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this 23rd day of July, 2013.

Notary Public
State of Washington
BETSY LYNN ROGERS
My Appointment Expires Mar 1, 2016

Betsy Lynn Rogers
Print Name Here: Betsy Lynn Rogers
NOTARY PUBLIC in and for the State of Washington
residing at Vancouver
My Commission Expires: March 1, 2016

STATE OF Washington)
) ss.
County of Clark)

On this day personally appeared before me Curtis C. Dowd, to me known to be the Authorized Representative respectively of TESORO SAVAGE PETROLEUM TERMINAL LLC that executed the foregoing instrument, and acknowledged said instrument to be the free and voluntary act and deed of said limited liability company for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute the said instrument on behalf of said Lessee.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this 23rd day of July, 2013.

Notary Public
State of Washington
BETSY LYNN ROGERS
My Appointment Expires Mar 1, 2016

Betsy Lynn Rogers
Print Name Here: Betsy Lynn Rogers
NOTARY PUBLIC in and for the State of Washington
residing at Vancouver
My Commission Expires: March 1, 2016

EXHIBIT "A"

OUTLINE OF PREMISES LOCATION WITHIN THE OVERALL PORT PROPERTY

[attached]

EXHIBIT A

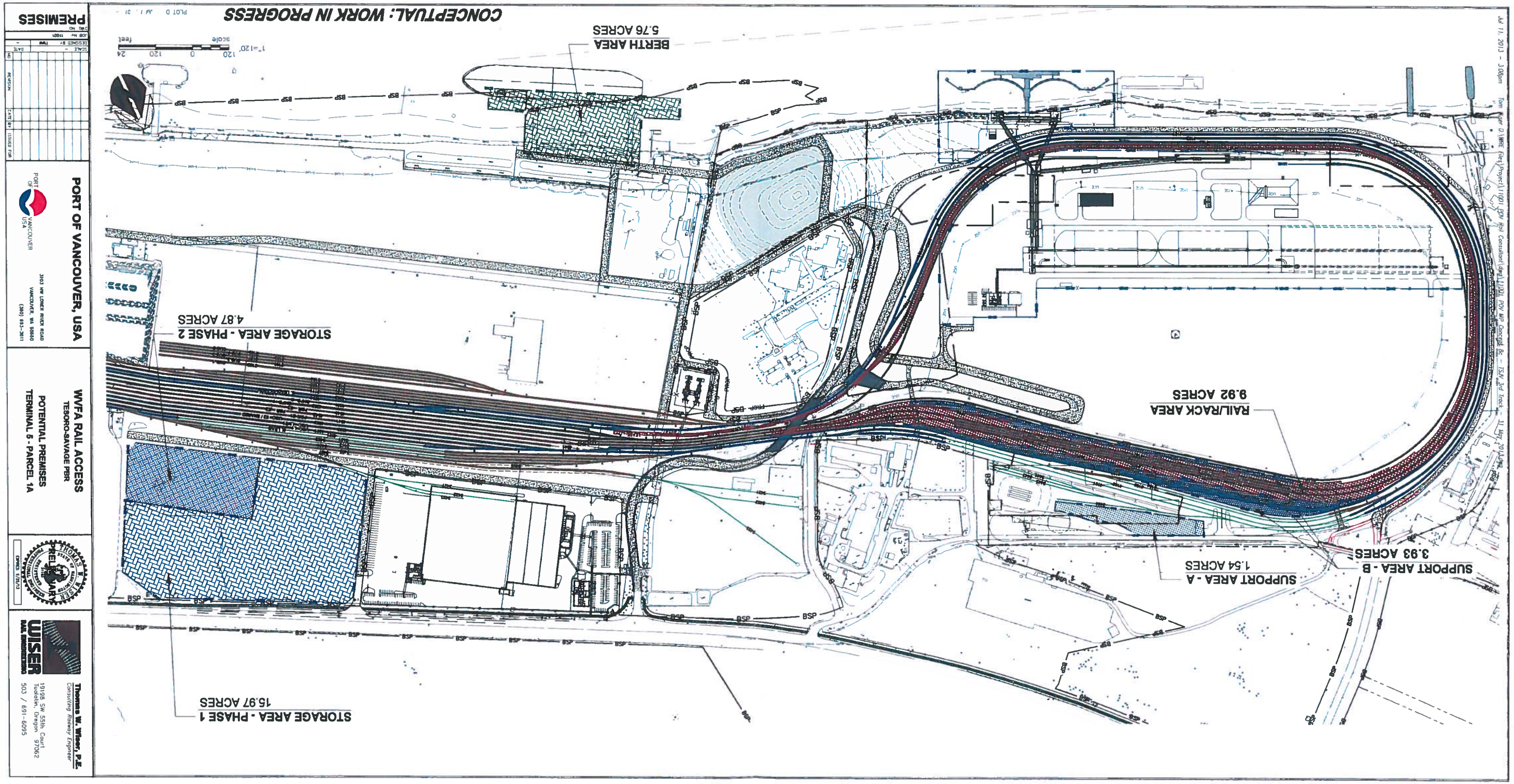

CONCEPTUAL: WORK IN PROGRESS
BERTH AREA
5.76 ACRES
STORAGE AREA - PHASE 2
4.87 ACRES
STORAGE AREA - PHASE 1
15.97 ACRES
RAIL/RACK AREA
9.92 ACRES
SUPPORT AREA - A
1.54 ACRES
SUPPORT AREA - B
3.93 ACRES
BSP
1"=120'
scale
feet
PREMISES
PORT OF VANCOUVER, USA
3103 NW LOWER RIVER ROAD
VANCOUVER, WA 98660
(360) 693-3611
WVFA RAIL ACCESS
TESORO-SAVAGE PBR
POTENTIAL PREMISES
TERMINAL 5 - PARCEL 1A
PRELIMINARY
Thomas W. Wiser, P.E.
Consulting Railway Engineer
19198 SW 55th Court
Tualatin, Oregon 97062
503 / 691-6095

EXHIBIT "B-1"

PREMISES SITE OUTLINE

[attached]

EXHIBIT B-1

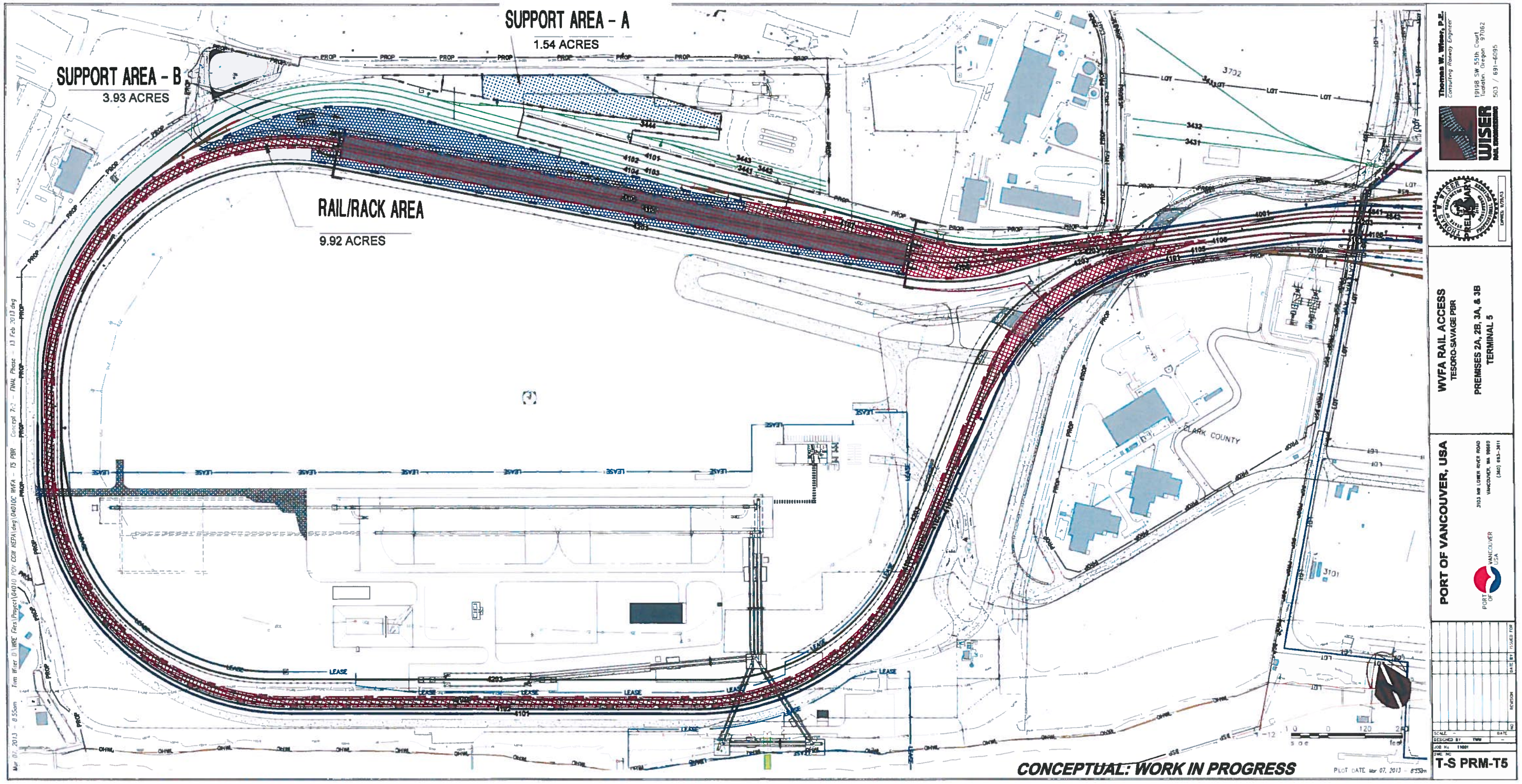
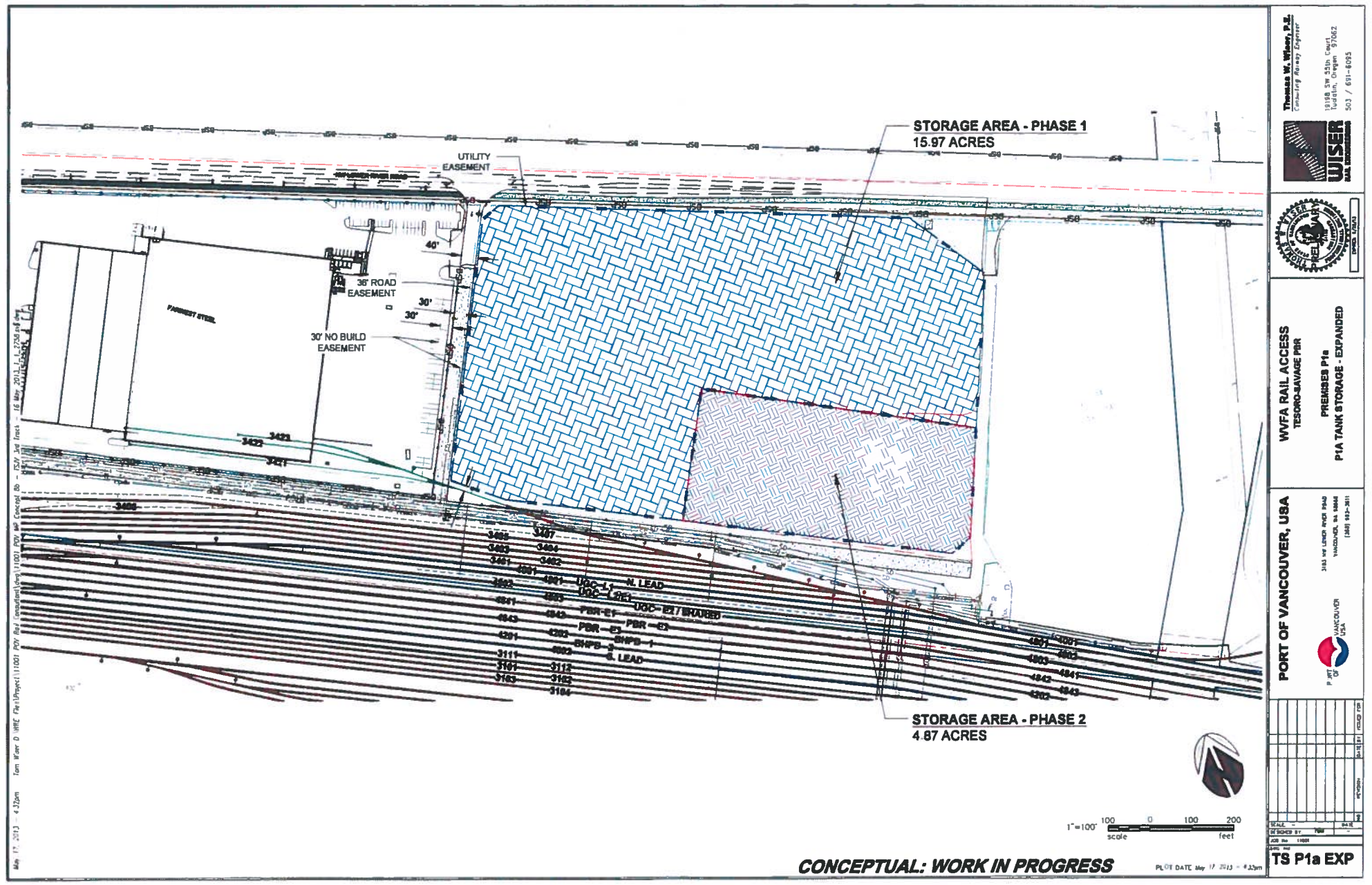

SUPPORT AREA - A
1.54 ACRES
SUPPORT AREA - B
3.93 ACRES
RAIL/RACK AREA
9.92 ACRES
CLARK COUNTY
CONCEPTUAL: WORK IN PROGRESS
WVFA RAIL ACCESS
TESORO-SAVAGE PBR
PREMISES 2A, 2B, 3A, & 3B
TERMINAL 5
PORT OF VANCOUVER, USA
T-S PRM-T5

EXHIBIT "B-2"

PREMISES SITE OUTLINE

[attached]

EXHIBIT B-2



Thomas W. Wiser, P.E.
Consulting Railway Engineer
19108 SW 55th Court
Tualatin, Oregon 97062
503 / 691-4085

WISER RAIL ENGINEERING

WVFA RAIL ACCESS
TESORO-SAVAGE PDR

PREMISES P1a
P1A TANK STORAGE - EXPANDED

PORT OF VANCOUVER, USA
3103 NW LEWIS RIVER ROAD
VANCOUVER, WA 98660
(360) 693-3611

SCALE: -
DESIGNED BY: TWW
JOB No: 11020
DWG. no:
TS P1a EXP

EXHIBIT "B-3"

PREMISES SITE OUTLINE

[attached]

EXHIBIT B-3

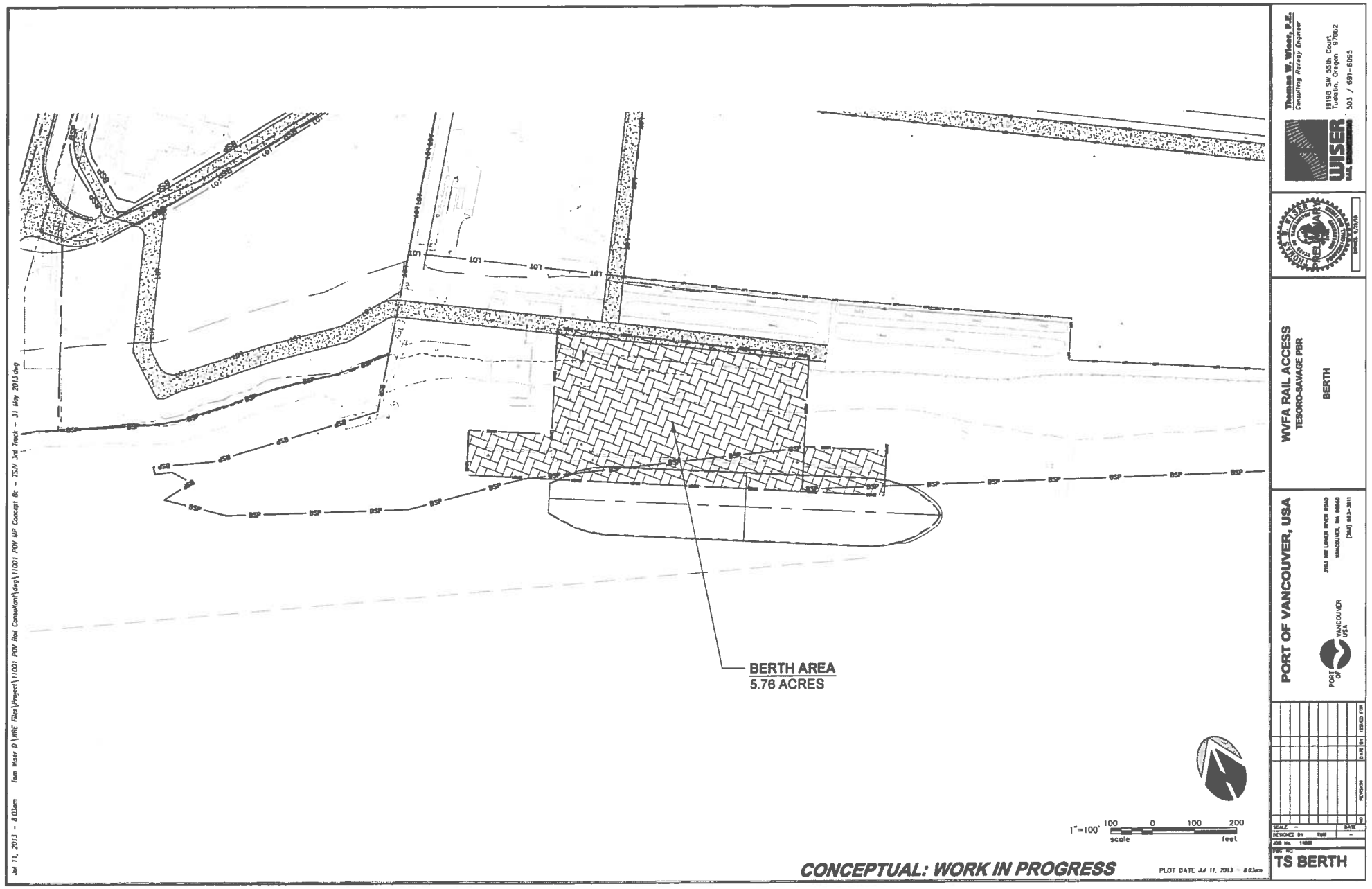

BERTH AREA
5.76 ACRES
1"=100'
100 0 100 200
scale feet
CONCEPTUAL: WORK IN PROGRESS
PLOT DATE Jul 11, 2013 - 8:03am
Jul 11, 2013 - 8:03am Tom Wiser D:\WRE Files\Projects\1001 POV Rail Consultant\dwg\1001 POV WP Concept Bc - TSW 3rd Track - 31 May 2013.dwg
Thomas W. Wiser, P.E.
Consulting Railway Engineer
19185 SW 45th Court
Tualatin, Oregon 97062
503 / 691-6055
WVFA RAIL ACCESS
TERORO-SAVAGE PBR
BERTH
PORT OF VANCOUVER, USA
2603 NW LOWER RIVER ROAD
VANCOUVER, WA 98660
(360) 693-3611
ISSUED FOR
BY
DATE
REVISION
SCALE -
DESIGNED BY TWW
DATE -
JOB No. 1001
SHEET No.
TS BERTH

EXHIBIT "C"

LEGAL DESCRIPTION

A portion (approximately as shown on Exhibits B-1, B-2, and B-3) of the following described real property:

3/31/09 ALCOA DEED (T-5)

PARCEL I

A TRACT OF LAND LOCATED IN SECTIONS 17, 18, 19 AND 20, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591"

THENCE ALONG THE SOUTHERN LINES OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9206090248 THE FOLLOWING COURSES:

SOUTH 65°59'34" EAST, 861.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 62°05'21" EAST, 78.63 FEET A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°53'48" EAST, 278.45 FEET TO THE SOUTHWESTERN LINE OF THAT PROPERTY CONVEYED TO THE UNITED STATES OF AMERICA AS DESCRIBED IN AUDITOR'S FILE E36885;

THENCE ALONG SAID SOUTHWESTERN SOUTH 40°06'49" EAST, 9.21 FEET THE EASTERN LINE OF THAT PROPERTY CONVEYED TO ALCOA, INC. AS DESCRIBED IN AUDITOR'S FILE 3451521;

THENCE ALONG SAID EASTERN LINE SOUTH 23°47'45" WEST, 526.31 FEET;

THENCE ALONG THE SOUTHERN AND EASTERN LINES OF THOSE PROPERTIES DESCRIBED IN AUDITOR'S FILES 9609250325 AND 9506230321 THE FOLLOWING COURSES:

SOUTH 66°56'33" EAST, 61.43 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 22°18'35" WEST, 26.79 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 66°01'38" EAST, 546.86 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 25°14'59" WEST, 5.80 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 69°29'52" EAST, 1.06 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°56'09" WEST, 152.66 FEET TO A POINT OF NON-TANGENT CURVATURE WITH A 220.00 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS NORTH 07°47'59" EAST;

THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 19°29'02" (THE CHORD BEARS NORTH 88°03'28" EAST, 74.45 FEET) AN ARC DISTANCE OF 74.81 FEET;

THENCE NORTH 78°18'57" EAST, 61.62 FEET TO A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 220.00 FEET RADIUS CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 54°14'23" (THE CHORD BEARS NORTH 51°11'45" EAST, 200.58 FEET) AN ARC DISTANCE OF 208.27 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°04'34" EAST, 471.83 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591" AT A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 270.00 FEET RADIUS CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 38°56'34" (THE CHORD BEARS NORTH 04°36'17" EAST, 180.00 FEET) AN ARC DISTANCE OF 183.51 FEET TO A POINT OF REVERSE CURVATURE;

THENCE ALONG THE ARC OF A 330.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 22°54'37" (THE CHORD BEARS NORTH 03°24'42" WEST, 131.08 FEET) AN ARC DISTANCE OF 131.95 FEET;

THENCE NORTH 08°05'38" EAST, 30.56 FEET TO THE SOUTHERN RIGHT-OF-WAY LINE OF LOWER RIVER ROAD AT A POINT OF NON-TANGENT CURVATURE WITH A 497.00 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 02°19'17" EAST;

THENCE ALONG SAID RIGHT-OF-WAY CURVE THROUGH A CENTRAL ANGLE OF 06°58'17" (THE CHORD BEARS SOUTH 88°50'08" EAST, 60.44 FEET) AN ARC DISTANCE OF 60.47 FEET;

THENCE ALONG THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1A THE FOLLOWING COURSES:

SOUTH 08°05'03" WEST, 37.80 FEET TO A POINT OF NON-TANGENT CURVATURE WITH A 270.00 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 81°57'23" EAST;

THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 22°54'37" (THE CHORD BEARS SOUTH 03°24'41" EAST, 107.24 FEET) AN ARC DISTANCE OF 107.96 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT A POINT OF REVERSE CURVATURE;

THENCE ALONG THE ARC OF A 330.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 38°56'34" (THE CHORD BEARS SOUTH 04°36'17" WEST, 220.00 FEET) AN ARC DISTANCE OF 224.29 FEET;

THENCE SOUTH 24°04'34" WEST, 471.83 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 280.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 36°12'35" (THE CHORD BEARS SOUTH 42°10'52" WEST, 174.02 FEET) AN ARC DISTANCE OF 176.95 FEET TO THE NORTHERN RIGHT-OF-WAY OF THE SPOKANE, PORTLAND AND SEATTLE RAILROAD AS DESCRIBED IN AUDITOR'S FILE E24906;

THENCE ALONG SAID RIGHT-OF-WAY LINE SOUTH 73°39'14" WEST, 507.82 FEET TO THE WESTERN LINE OF THE VAN ALMAN DONATION LAND CLAIM;

THENCE THEN ALONG SAID WESTERN LINE SOUTH 09°54'57" WEST, 497.01 FEET TO THE SOUTHERN RIGHT-OF-WAY LINE THE SPOKANE, PORTLAND AND SEATTLE RAILROAD;

THENCE ALONG SAID SOUTHERN RIGHT-OF-WAY NORTH 39°07'39" EAST, 468.36 FEET TO A POINT OF CURVATURE;

THENCE CONTINUING ALONG SAID RIGHT-OF-WAY ALONG THE ARC OF A 739.50 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 33°02'42" (THE CHORD BEARS NORTH 55°39'00" EAST, 420.62 FEET) AN ARC DISTANCE OF 426.50 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT ITS INTERSECTION WITH THE WESTERN LINE OF THAT PROPERTY CONVEYED TO CLARK COUNTY AS DESCRIBED IN AUDITOR'S FILE 9804030486;

THENCE ALONG THE WESTERN AND SOUTHERN LINES OF SAID CLARK COUNTY PROPERTY THE FOLLOWING COURSES:

SOUTH 04°28'45" WEST, 79.82 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT A POINT OF NON-TANGENT CURVATURE WITH A

691.97 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 21°15'02" EAST;

THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 29°41'58" (THE CHORD BEARS SOUTH 53°53'59" WEST, 354.68 FEET) AN ARC DISTANCE OF 358.68 FEET;

THENCE SOUTH 39°03'00" WEST, 741.81 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE SOUTH 24°08'35" WEST, 28.79 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE SOUTH 89°38'19" EAST, 352.44 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE NORTH 82°45'01" EAST, 712.86 FEET TO THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1B;

THENCE ALONG SAID WESTERN LINE SOUTH 35°02'02" WEST, 44.85 FEET;

THENCE CONTINUING ALONG SAID WESTERN LINE SOUTH 35°00'15" WEST, 749.59 FEET;

THENCE CONTINUING ALONG SAID WESTERN LINE SOUTH 35°00'15" WEST 1.05 FEET TO THE ORDINARY HIGH WATER LINE OF THE COLUMBIA RIVER;

THENCE ALONG THE ORDINARY HIGH WATER LINE THE FOLLOWING COURSES:

NORTH 89°29'12" WEST, 9.52 FEET;

THENCE NORTH 77°40'26" WEST, 16.60 FEET;

THENCE SOUTH 86°36'31" WEST, 77.49 FEET;

THENCE NORTH 78°50'38" WEST, 173.64 FEET;

THENCE NORTH 84°19'36" WEST, 254.87 FEET;

THENCE NORTH 76°30'55" WEST, 20.14 FEET;

THENCE NORTH 69°05'45" WEST, 310.36 FEET;

THENCE NORTH 73°25'50" WEST, 31.58 FEET;

THENCE NORTH 78°01'48" WEST, 41.07 FEET;

THENCE NORTH 75°14'34" WEST, 70.64 FEET;

THENCE NORTH 67°13'09" WEST, 106.03 FEET;

THENCE NORTH 85°08'56" WEST, 14.42 FEET;

THENCE NORTH 69°41'50" WEST, 102.24 FEET;

THENCE NORTH 62°47'21" WEST, 22.10 FEET;

THENCE NORTH 85°06'24" WEST, 12.19 FEET;

THENCE NORTH 78°40'23" WEST, 23.96 FEET;

THENCE NORTH 68°36'38" WEST, 11.78 FEET;

THENCE NORTH 54°35'29" WEST, 28.64 FEET;

THENCE NORTH 61°34'46" WEST, 105.07 FEET;

THENCE NORTH 70°03'25" WEST, 111.12 FEET;

THENCE NORTH 61°56'51" WEST, 18.49 FEET;

THENCE NORTH 66°35'10" WEST, 27.88 FEET;

THENCE NORTH 71°57'33" WEST, 28.64 FEET;

THENCE NORTH 61°44'43" WEST, 36.12 FEET;

THENCE NORTH 70°11'57" WEST, 27.01 FEET;

THENCE NORTH 75°26'06" WEST, 88.93 FEET;

THENCE NORTH 69°07'46" WEST, 82.68 FEET;

THENCE NORTH 85°00'29" WEST, 9.41 FEET;

THENCE NORTH 79°39'38" WEST, 24.20 FEET;

THENCE NORTH 71°31'12" WEST, 49.99 FEET;

THENCE NORTH 76°56'35" WEST, 34.63 FEET;

THENCE NORTH 79°53'56" WEST, 6.78 FEET;

THENCE NORTH 74°55'38" WEST, 53.64 FEET;

THENCE NORTH 73°16'30" WEST, 41.35 FEET;

THENCE NORTH 69°24'34" WEST, 52.13 FEET;

THENCE NORTH 62°17'46" WEST, 32.15 FEET;

THENCE NORTH 65°47'53" WEST, 33.52 FEET;

THENCE NORTH 63°32'11" WEST, 25.50 FEET;

THENCE NORTH 55°03'48" WEST, 52.98 FEET;

THENCE NORTH 34°13'21" WEST, 10.50 FEET;

THENCE NORTH 48°48'47" WEST, 8.46 FEET;

THENCE NORTH 67°23'10" WEST, 34.95 FEET;

THENCE NORTH 62°28'18" WEST, 21.35 FEET;

THENCE NORTH 60°53'29" WEST, 42.70 FEET;

THENCE NORTH 62°43'59" WEST, 61.76 FEET;

THENCE NORTH 47°54'15" WEST, 13.10 FEET;

THENCE NORTH 57°42'47" WEST, 34.21 FEET;

THENCE NORTH 45°30'34" WEST, 26.68 FEET;

THENCE NORTH 63°11'33" WEST, 91.74 FEET;

THENCE NORTH 63°52'03" WEST, 43.89 FEET;

THENCE NORTH 68°40'24" WEST, 45.31 FEET;

THENCE NORTH 63°18'56" WEST, 41.82 FEET;

THENCE NORTH 55°08'42" WEST, 40.63 FEET;

THENCE NORTH 65°23'25" WEST, 39.33 FEET;

THENCE NORTH 68°13'41" WEST, 36.75 FEET;

THENCE NORTH 59°46'47" WEST, 20.47 FEET;

THENCE NORTH 56°29'02" WEST, 23.33 FEET;

THENCE NORTH 73°15'43" WEST, 30.91 FEET;

THENCE NORTH 65°05'42" WEST, 34.79 FEET TO THE EASTERN LINE OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC AS DESCRIBED IN AUDITOR'S FILE 8706250115;

THENCE ALONG THE EASTERN LINE OF SAID PROPERTY THE FOLLOWING COURSES:

NORTH 24°51'44" EAST, 19.90 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°51'44" EAST, 75.00 FEET;

THENCE SOUTH 67°02'30" EAST, 150.95 FEET;

THENCE SOUTH 24°24'13" WEST, 8.03 FEET;

THENCE SOUTH 65°32'25" EAST, 139.46 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°25'27" EAST, 190.47 FEET TO A BRASS SCREW IN LEAD;

THENCE SOUTH 65°26'27" EAST, 75.44 FEET;

THENCE NORTH 24°33'33" EAST, 16.47 FEET;

THENCE SOUTH 65°26'27" EAST, 3.23 FEET TO A BRASS SCREW IN LEAD;

THENCE NORTH 24°02'00" EAST, 8.74 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°37'38" EAST, 30.69 FEET;

THENCE NORTH 24°22'22" EAST, 43.42 FEET;

THENCE SOUTH 66°03'36" EAST, 202.10 FEET;

THENCE SOUTH 21°35'33" WEST, 53.64 FEET;

THENCE SOUTH 66°03'43" EAST, 337.03 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°23'48" EAST, 332.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°37'48" EAST, 491.35 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°34'33" WEST, 17.72 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°13'05" EAST, 25.00 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 23°39'31" EAST, 602.51 FEET;

THENCE NORTH 65°35'48" WEST, 483.30 FEET TO A SPINDLE;

THENCE NORTH 09°15'46" WEST, 56.18 FEET TO A SPINDLE;

THENCE NORTH 24°23'13" EAST, 214.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°27'24" WEST, 22.46 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°16'52" EAST, 40.03 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°35'26" WEST, 440.76 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°23'35" EAST, 253.74 FEET TO A BRASS SCREW IN LEAD;

THENCE SOUTH 65°35'08" EAST, 29.66 FEET TO A BRASS SCREW IN LEAD;

THENCE NORTH 19°44'44" WEST, 68.68 FEET;

THENCE NORTH 65°36'36" WEST, 109.69 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°23'37" EAST, 435.28 FEET TO THE POINT OF BEGINNING.

EXCEPTING THERE FROM:

COMMENCING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°22'35" EAST, 2,450.69 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591" AND THE TRUE POINT OF BEGINNING;

THENCE SOUTH 65°57'51" EAST, 137.31 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°06'06" WEST, 125.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°57'29" WEST, 137.25 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°04'31" EAST, 125.66 FEET TO THE POINT OF BEGINNING.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.

PARCEL II

A TRACT OF LAND LOCATED IN SECTIONS 18 AND 19, TOWNSHIP 2 NORTH, RANGE 1 EAST, AND SECTION 13, TOWNSHIP 2 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591"

THENCE NORTH 83°36'37" WEST, 2,411.16 FEET TO A POINT ON THE SOUTHERN LINE OF THE TIDEWATER TRACT BEING THE MOST NORTHERN NORTHWEST CORNER OF THAT PROPERTY CONVEYED TO RUSSELL TOWBOAT AND MOORAGE CO. AS DESCRIBED IN AUDITOR'S FILE 9501260058 AND THE TRUE POINT OF BEGINNING;

THENCE ALONG THE WESTERN LINE OF SAID RUSSELL PROPERTY THE FOLLOWING COURSES:

SOUTH 25°51'55" WEST, 511.44 FEET;

THENCE SOUTH 65°53'18" EAST, 426.16 FEET;

THENCE SOUTH 49°01'37" WEST, 182.34 FEET;

THENCE SOUTH 49°01'33" WEST, 782.97 FEET;

THENCE NORTH 65°32'10" WEST, 53.72 FEET;

THENCE NORTH 08°41'22" WEST, 212.96 FEET;

THENCE NORTH 66°14'51" WEST, 109.99 FEET TO THE SOUTHERN MOST CORNER OF THAT PROPERTY CONVEYED TO VANALCO INC AS DESCRIBED AS PARCEL 1 AUDITOR'S FILE 9501260083;

THENCE ALONG THE EASTERN AND NORTHERN BOUNDARY OF SAID VANALCO PROPERTY THE FOLLOWING COURSES:

NORTH 23°44'52" EAST, 93.21 FEET;

THENCE SOUTH 72°34'32" EAST, 28.67 FEET;

THENCE SOUTH 78°41'13" EAST, 29.76 FEET;

THENCE SOUTH 88°59'26" EAST, 29.49 FEET;

THENCE NORTH 84°48'34" EAST, 28.92 FEET;

THENCE NORTH 68°13'10" EAST, 40.09 FEET;

THENCE NORTH 40°50'00" EAST, 30.39 FEET;

THENCE NORTH 27°26'22" EAST, 49.86 FEET;

THENCE SOUTH 64°08'05" EAST, 96.65 FEET;

THENCE NORTH 25°51'55" EAST, 376.04 FEET;

THENCE NORTH 65°53'18" WEST, 993.55 FEET TO THE SOUTHEASTERN LINE OF THAT PROPERTY CONVEYED TO TIDEWATER ENVIRONMENTAL SERVICES, INC AS DESCRIBED IN AUDITOR'S FILE 9104290287;

THENCE ALONG SAID SOUTHEASTERN LINE NORTH 23°15'04" EAST, 606.83 FEET TO A FOUND ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE ALONG THE SOUTHERN LINE OF SAID TIDEWATER TRACT SOUTH 65°25'50" EAST, 1,021.02 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 19.87 ACRES MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.

PARCEL II-A

AN EASEMENT FOR INGRESS, EGRESS AND UTILITIES AS DISCLOSED UNDER AUDITOR'S FILE NO. 9501260050 AND 9501260056.

PARCEL III

A TRACT OF LAND LOCATED IN NORTHEAST ONE-QUARTER OF SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°22'35" EAST, 2,450.69 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591" AND THE TRUE POINT OF BEGINNING;

THENCE SOUTH 65°57'51" EAST, 137.31 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°06'06" WEST, 125.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°57'29" WEST, 137.25 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°04'31" EAST, 125.66 FEET TO THE POINT OF BEGINNING.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.

PARCEL IV

AN EASEMENT FOR PLACEMENT AND MAINTENANCE OF A FENCE AND AS DISCLOSED BY EASEMENT AGREEMENT RECORDED UNDER AUDITOR'S FILE NO. 9005240083.

PARCEL V

AN EASEMENT FOR ACCESS TO GROUNDWATER SAMPLING WELLS AS DISCLOSED BY EASEMENT AGREEMENT RECORDED UNDER AUDITOR'S FILE NO. 9506230325.

PARCEL VI

AN EASEMENT FOR INGRESS, EGRESS AND INSTALLATION AND MAINTENANCE OF UTILITIES AS DISCLOSED BY EASEMENT AGREEMENT RECORDED UNDER AUDITOR'S FILE NO. 9506230327.

PARCEL VII

AN EASEMENT FOR ACCESS AS DISCLOSED BY EASEMENT AGREEMENT UNDER AUDITOR'S FILE NO. 9609250326.

PARCEL VIII

AN EASEMENT FOR INGRESS, EGRESS AND INSTALLATION AND MAINTENANCE OF UTILITIES AS DISCLOSED BY EASEMENT AGREEMENT RECORDED UNDER AUDITOR'S FILE NO. 9804030488.

PARCEL IX

EASEMENTS FOR THE USE OF VARIOUS SHARED FACILITIES, ACCESS THERETO AND OTHER PURPOSES AS DISCLOSED BY DECLARATION OF EASEMENTS, COVENANTS, CONDITIONS AND RESTRICTIONS AND SHARED FACILITIES AGREEMENT RECORDED UNDER AUDITOR'S FILE NO. 8706250113, AS AMENDED BY INSTRUMENT RECORDED AT AUDITOR'S FILE NO. 9501260085

1-29-09 EVERGREEN DEED (T-5)

PARCEL I:

THOSE PORTIONS OF THE JOHN H. MATHEWS DONATION LAND CLAIM AND PATRICK MARKEYS DONATION LAND CLAIM SITUATED IN SECTIONS 18 AND 19, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN, IN CLARK COUNTY, WASHINGTON, THE POINT OF BEGINNING BEING THE SECTION CORNER COMMON TO SECTIONS 17, 18, 19, AND 20 IN SAID TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN, THAT IS MONUMENTED WITH A 1-1/2" IRON PIPE SIZE PROJECTING 5.6 FEET ABOVE GROUND; SAID SECTION CORNER BEING SOUTH 02°30'12" WEST 273.26 FEET FROM A DONATION LAND CLAIM CORNER COMMON TO THE PATRICK MARKEYS AND H. VAN ALMA DONATION LAND CLAIM THAT IS MONUMENTED WITH A 1-1/2" IRON PIPE SIZE PROJECTING 10.6 FEET ABOVE GROUND; SAID PORTIONS MORE PARTICULARLY DESCRIBED AS A SINGLE PARCEL AS FOLLOWS:

(THE FOLLOWING COURSES ARE ON A GRID BEARING WASHINGTON STATE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983. A SCALE AND ELEVATION FACTOR OF 1.000049 HAS BEEN APPLIED TO THE MEASURED FIELD DISTANCES.)

BEGINNING AT SAID SECTION CORNER; THENCE NORTH 65°35'57" WEST 2013.30 FEET TO A 5/8" IRON ROD WITH A PLASTIC CAP AS THE TRUE POINT OF BEGINNING, SAID TRUE POINT OF BEGINNING BEING SOUTH 41°24'54" WEST 439.18 FEET FROM THE BONNEVILLE POWER ADMINISTRATION SUBSTATION SITE MOST NORTHERLY CORNER AND HENDRICKSON DONATION LAND CLAIM CORNER; THENCE SOUTH 24°23'36" WEST 435.25 FEET ALONG THE WEST SIDE OF A WOVEN WIRE FENCE TO A 5/8" IRON ROD WITH A PLASTIC CAP; THENCE SOUTH 65°27'02" EAST 109.72 FEET ALONG A WOVEN WIRE FENCE TO A 5/8" IRON ROD WITH A PLASTIC CAP; THENCE SOUTH 19°56'22" EAST 68.47 FEET ALONG A WOVEN WIRE FENCE TO A LEADED BRASS SCREW SET IN CONCRETE; THENCE NORTH 65°32'35" WEST 29.68 FEET TO A LEADED BRASS SCREW SET IN CONCRETE; THENCE SOUTH 24°22'38" WEST 253.80 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE SOUTH 65°35'42" EAST 440.80 FEET TO A 5/8" IRON ROD WITH A PLASTIC CAP; THENCE SOUTH 24°22'01" WEST 40.01 FEET TO A 5/8" IRON ROD WITH A PLASTIC CAP; THENCE SOUTH 65°29'21" EAST 22.49 FEET TO A 5/8" IRON ROD WITH A PLASTIC CAP; THENCE SOUTH 24°22'50" WEST 214.71 FEET TO A 5/8" STEEL PIN WITH BEVEL GEAR TOP; THENCE SOUTH 09°14'16" EAST 56.06 FEET TO STEEL PIN WITH BEVEL GEAR TOP; THENCE SOUTH 65°35'49" EAST 483.24 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE SOUTH 23°38'23" WEST 602.58 FEET TO A 5/8" IRON ROD WITH A PLASTIC CAP; THENCE NORTH 65°18'33" WEST 25.00 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE NORTH 24°28'09" EAST 17.77 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE NORTH 65°37'47" WEST 491.32 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE SOUTH 24°24'00" WEST 332.70 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE NORTH 66°02'32" WEST 337.10 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE NORTH

21°38'52" EAST 53.65 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE NORTH 63°16'23" WEST 202.63 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE SOUTH 24°02'56" WEST 53.17 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE NORTH 65°57'05" WEST 30.63 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE SOUTH 23°57'32" WEST 8.74 FEET TO A LEADED BRASS SCREW; THENCE NORTH 66°02'28" WEST 3.23 FEET TO A POINT INSIDE BLDG. 36A OPPOSITE THE NORTHWESTERLY CORNER OF BLDG. 36; THENCE SOUTH 23°57'32" WEST 16.63 FEET TO A POINT NORTHWESTERLY OF THE SOUTHEASTERLY CORNER OF BLDG. 36A; THENCE NORTH 65°18'59" WEST 75.21 FEET TO A LEADED BRASS SCREW; THENCE SOUTH 24°35'26" WEST 190.46 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE NORTH 66°33'49" WEST 139.52 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP BY THE NORTHERLY GATEPOST; THENCE NORTH 25°43'26" EAST 8.01 FEET TO AN INSIDE FENCE CORNER AND A 5/8" IRON ROD WITH PLASTIC CAP; THENCE NORTH 66°06'29" WEST 151.08 FEET ALONG A WOVEN WIRE FENCE TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE SOUTH 24°50'40" WEST 74.95 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE SOUTH 24°50'40" WEST 211.30 FEET, MORE OR LESS, TO THE POINT OF INTERSECTION WITH THE CALCULATED JOHN H. MATHEWS DONATION LAND CLAIM LINE WHICH IS NORTH 65°03'32" WEST 1317.02 FEET FROM THE SOUTHEAST CORNER THEREOF; THENCE NORTH 65°03'32" WEST 868.86 FEET, MORE OR LESS, ALONG SAID DONATION LAND CLAIM TO A POINT SOUTH 65°03'32" EAST 1251.08 FEET FROM THE SOUTHWEST CORNER THEREOF; THENCE NORTH 10°35'57" EAST 254.68 FEET, MORE OR LESS, TO A 5/8" IRON ROD WITH PLASTIC CAP; THENCE NORTH 10°35'57" EAST 257.38 FEET TO A 5/8" IRON ROD WITH A PLASTIC CAP ADJACENT TO A WOVEN WIRE FENCE; THENCE NORTH 10°34'25" EAST 526.92 FEET ALONG A WOVEN WIRE FENCE TO A LEADED BRASS SCREW AT A CORNER FENCE POST AND ANGLE POINT OF THE WOVEN WIRE FENCE; THENCE NORTH 23°49'02" EAST 269.16 FEET ALONG A WOVEN WIRE FENCE TO A 5/8" IRON ROD WITH PLASTIC CAP AT A WOVEN WIRE FENCE CORNER; THENCE NORTH 24°39'37" EAST 461.19 FEET TO A U.S.C.E. MONUMENT MARKED "VI-8"; THENCE NORTH 64°22'38" EAST 360.64 FEET TO A U.S.C.E. MONUMENT MARKED "VI-7"; THENCE ALONG A 1175.77 FOOT RADIUS CURVE RIGHT 378.54 FEET WHOSE LONG CHORD BEARS NORTH 75°46'37" EAST 376.91 FEET TO A U.S.C.E. MONUMENT MARKED "VI-6"; THENCE NORTH 29°14'26" EAST 135.35 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP AT A POINT ON THE CURVE OF THE RIGHT OF WAY LINE OF CROWLEY MARITIME CORP. ACCESS ROAD; THENCE ON A 117.00 FOOT RADIUS CURVE TO THE LEFT ALONG SAID RIGHT OF WAY LINE 66.51 FEET, WHOSE LONG CHORD BEARS NORTH 59°03'39" EAST 65.62 FEET TO A 'PK' NAIL AND SHINER MARKING THE POINT OF REVERSE CURVE OF A 50.00 FOOT RADIUS CURVE TO THE RIGHT; THENCE ON SAID 50.00 FOOT RADIUS CURVE TO THE RIGHT ALONG SAID RIGHT OF WAY LINE 71.74 FEET, WHOSE LONG CHORD BEARS NORTH 87°15'17" EAST 65.74 FEET TO A "PK" NAIL AND SHINER MARKING THE BEGINNING OF CURVE ALONG SAID RIGHT OF WAY LINE; THENCE SOUTH 52°38'39" EAST 268.18 FEET TO A 5/8" IRON ROD WITH PLASTIC CAP TO A POINT OF TANGENCY OF A CURVE TO THE LEFT ON THE ACCESS ROAD TO THE HEREIN DESCRIBED PARCEL; THENCE NORTH 37°25'25" EAST 32.03 FEET ACROSS SAID RIGHT OF WAY TO THE POINT OF

TANGENCY ON THE NORTHERLY RIGHT OF WAY LINE OF SAID ROAD TO A 5/8" IRON ROD WITH A PLASTIC CAP; THENCE SOUTH 65°35'19" EAST 562.06 FEET TO THE TRUE POINT OF BEGINNING OF THE HEREIN DESCRIBED PARCEL.

PARCEL II:

AN UNDIVIDED 55% INTEREST IN THE FOLLOWING DESCRIBED PROPERTY:

(THE FOLLOWING COURSES ARE ON A GRID BEARING WASHINGTON STATE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983. A SCALE AND ELEVATION FACTOR OF 1.000049 HAS BEEN APPLIED TO THE MEASURED FIELD DISTANCES.)

A PORTION OF THE PATRICK MARKEYS DONATION LAND CLAIM IN SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN, IN CLARK COUNTY, WASHINGTON;

BEGINNING AT THE SECTION CORNER COMMON TO SECTIONS 17, 18, 19, AND 20; THENCE SOUTH 33°41'06" WEST 1907.59 FEET TO THE TRUE POINT OF BEGINNING, SAID POINT ALSO BEING THE NORTHEASTERLY CORNER OF THAT TRACT CONVEYED TO VANCOUVER SMELTING AND INGOT, INC., DESCRIBED AS A SANITARY SEWER TREATMENT PLANT IN SCHEDULE B-6 IN AUDITOR'S FILE NO. 8706250115, CLARK COUNTY RECORDS; THENCE SOUTH 24°08'30" WEST ALONG THE EAST LINE OF SAID SEWER PLANT PARCEL A DISTANCE OF 125.67 FEET TO THE SOUTH LINE THEREOF; THENCE NORTH 65°57'05" WEST ALONG THE SOUTH TINE OF SAID SEWER PLANT PARCEL A DISTANCE OF 137.25 FEET TO THE WEST LINE THEREOF; THENCE NORTH 24°04'55" EAST ALONG THE WEST LINE OF SAID SEWER PLANT PARCEL A DISTANCE OF 125.66 FEET TO THE NORTH LINE THEREOF; THENCE SOUTH 65°57'19" EAST ALONG THE NORTH LINE OF SAID SEWER PLANT PARCEL A DISTANCE OF 137.38 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL III:

A PARCEL OF PROPERTY IN THE JOHN MATHEWS DONATION LAND CLAIM AND THE WILLIAM HENDRICKSON DONATION LAND CLAIM IN THE SOUTHEAST QUARTER OF SECTION 13, TOWNSHIP 2 NORTH, RANGE 1 WEST AND THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN IN CLARK COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

(THE FOLLOWING COURSES ARE ON A GRID BEARING WASHINGTON STATE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983. A SCALE AND ELEVATION FACTOR OF 1.000049 HAS BEEN APPLIED TO THE MEASURED FIELD DISTANCES.)

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SECTION 12, TOWNSHIP 2 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, SAID

NORTHEAST CORNER ALSO BEING THE NORTHEAST CORNER OF THE WILLIAM HATTEN DONATION LAND CLAIM, THE NORTH LINE OF SAID HATTEN DONATION LAND CLAIM BEARING SOUTH 69°29'19" WEST; THENCE SOUTH 20°09'51" EAST 6616.90 FEET TO "A LINE" STATION 10 + 55.06, 75.00 FEET RIGHT, AS PER WSDH PLANS FOR SR 501, VANCOUVER LAKE TO PIONEER AVENUE IN RIDGEFIELD, APPROVED MAY 17, 1966; THENCE SOUTH 36°57'49" WEST PARALLEL WITH SAID "A LINE" AND A SOUTHWESTERLY EXTENSION THEREOF, 298.85 FEET TO THE CENTERLINE OF LOWER RIVER ROAD; THENCE SOUTH 36°57'49" WEST ALONG THE SOUTHEASTERLY LINE OF THAT TRACT CONVEYED TO TIDEWATER ENVIRONMENTAL SERVICES, INC. BY DEED RECORDED UNDER AUDITOR'S FILE NO. 9104290287 OF CLARK COUNTY RECORDS 100.87 FEET TO A 225.00 FOOT RADIUS CURVE TO THE RIGHT WITH A TANGENT BEARING OF SOUTH 81°48'57" WEST INTO SAID 225.00 FOOT RADIUS CURVE AT THIS POINT; THENCE ALONG SAID SOUTHEASTERLY LINE AND AROUND SAID 225.00 FOOT RADIUS CURVE TO THE RIGHT 40.00 FEET; THENCE ALONG SAID SOUTHEASTERLY LINE NORTH 88°00'00" WEST 302.26 FEET; THENCE ALONG SAID SOUTHEASTERLY LINE SOUTH 89°29'56" WEST 11.39 FEET TO A 285.00 FOOT RADIUS CURVE TO THE LEFT WITH A TANGENT BEARING OF SOUTH 89°20'25" WEST INTO SAID 285.00 FOOT RADIUS CURVE AT THIS POINT; THENCE ALONG SAID SOUTHEASTERLY LINE AND AROUND SAID 285.00 FOOT RADIUS CURVE TO THE LEFT 200.52 FEET; THENCE SOUTH 49°01'27" WEST ALONG SAID SOUTHEASTERLY LINE 488.75 FEET TO AN ANGLE POINT IN SAID TIDEWATER TRACT; THENCE NORTH 65°25'56" WEST ALONG THE SOUTHERLY LINE OF SAID TIDEWATER TRACT 645.61 FEET; THENCE SOUTH 25°51'49" WEST LEAVING SAID SOUTHERLY LINE 598.92 FEET TO THE TRUE POINT OF BEGINNING; THENCE SOUTH 25°51'49" WEST 376.06 FEET; THENCE NORTH 64°08'11" WEST 96.65 FEET; THENCE SOUTH 27°26'16" WEST 49.86 FEET; THENCE SOUTH 40°49'54" WEST 30.39 FEET; THENCE SOUTH 68°13'04" WEST 40.09 FEET; THENCE SOUTH 84°48'28" WEST 28.92 FEET; THENCE NORTH 88°59'32" WEST 29.49 FEET; THENCE NORTH 78°41'19" WEST 29.76 FEET; THENCE NORTH 72°34'38" WEST 28.67 FEET; THENCE SOUTH 23°44'46" WEST 93.21 FEET; THENCE NORTH 66°15'14" WEST 727.49 FEET TO THE SOUTHEASTERLY LINE OF SAID TIDEWATER TRACT; THENCE NORTH 23°14'58" EAST ALONG SAID SOUTHEASTERLY LINE 614.15 FEET TO A POINT WHICH BEARS NORTH 65°53'24" WEST FROM THE TRUE POINT OF BEGINNING; THENCE SOUTH 65°53'24" EAST 993.60 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL IV:

A PARCEL OF PROPERTY 40.00 FEET WIDE BEING 20.00 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE IN THE JOHN MATHEWS DONATION LAND CLAIM AND THE WILLIAM HENDRICKSON DONATION LAND CLAIM IN THE SOUTHEAST QUARTER OF SECTION 13 AND THE NORTHEAST QUARTER OF SECTION 24, TOWNSHIP 2 NORTH, RANGE 1 WEST AND THE SOUTH HALF OF SECTION 18 AND THE NORTHWEST QUARTER OF SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN IN CLARK COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

(THE FOLLOWING COURSES ARE ON A GRID BEARING WASHINGTON STATE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983. A SCALE AND ELEVATION FACTOR OF 1.000049 HAS BEEN APPLIED TO THE MEASURED FIELD DISTANCES.)

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SECTION 12, TOWNSHIP 2 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, SAID NORTHEAST CORNER ALSO BEING THE NORTHEAST CORNER OF THE WILLIAM HATTEN DONATION LAND CLAIM, THE NORTH LINE OF SAID HATTEN DONATION LAND CLAIM BEARING SOUTH 69°29'19" WEST; THENCE SOUTH 20°09'51" EAST 6616.90 FEET TO "A LINE" STATION 10 + 55.06, 75.00 FEET RIGHT, AS PER WSDH PLANS FOR SR 501, VANCOUVER LAKE TO PIONEER AVENUE IN RIDGEFIELD, APPROVED MAY 17, 1966; THENCE SOUTH 36°57'49" WEST PARALLEL WITH SAID "A LINE" AND A SOUTHWESTERLY EXTENSION THEREOF, 298.85 FEET TO THE CENTERLINE OF LOWER RIVER ROAD; THENCE SOUTH 36°57'49" WEST ALONG THE SOUTHEASTERLY LINE OF THAT TRACT CONVEYED TO TIDEWATER ENVIRONMENTAL SERVICES, INC. BY DEED RECORDED UNDER AUDITOR'S FILE NO. 9104290287 OF CLARK COUNTY RECORDS 100.87 FEET TO A 225.00 FOOT RADIUS CURVE TO THE RIGHT WITH A TANGENT BEARING OF SOUTH 81°48'57" WEST INTO SAID 225.00 FOOT RADIUS CURVE AT THIS POINT; THENCE ALONG SAID SOUTHEASTERLY LINE AND AROUND SAID 225.00 FOOT RADIUS CURVE TO THE RIGHT 40.00 FEET; THENCE ALONG SAID SOUTHEASTERLY LINE NORTH 88°00'00" WEST 302.26 FEET; THENCE ALONG SAID SOUTHEASTERLY LINE SOUTH 89°29'56" WEST 11.39 FEET TO A 285.00 FOOT RADIUS CURVE TO THE LEFT WITH A TANGENT BEARING OF SOUTH 89°20'25" WEST INTO SAID 285.00 FOOT RADIUS CURVE AT THIS POINT; THENCE ALONG SAID SOUTHEASTERLY LINE AND AROUND SAID 285.00 FOOT RADIUS CURVE TO THE LEFT 200.52 FEET; THENCE SOUTH 49°01'27" WEST ALONG SAID SOUTHEASTERLY LINE 488.75 FEET TO AN ANGLE POINT IN SAID TIDEWATER TRACT; THENCE NORTH 65°25'56" WEST ALONG THE SOUTHERLY LINE OF SAID TIDEWATER PARCEL 645.61 FEET; THENCE LEAVING SAID SOUTHERLY LINE SOUTH 25°51'49" WEST 974.98 FEET; THENCE NORTH 64°08'11" WEST 96.65 FEET; THENCE SOUTH 27°26'16" WEST 49.86 FEET; THENCE SOUTH 40°49'54" WEST 30.39 FEET; THENCE SOUTH 68°13'04" WEST 40.09 FEET; THENCE SOUTH 84°48'28" WEST 28.92 FEET; THENCE NORTH 88°59'32" WEST 29.49 FEET; THENCE NORTH 78°41'19" WEST 29.76 FEET; THENCE NORTH 72°34'38" WEST 28.67 FEET; THENCE SOUTH 23°44'46" WEST 93.21 FEET; THENCE NORTH 66°15'14" WEST 541.49 FEET TO A DRAINAGE PIPE AND THE TRUE POINT OF BEGINNING; THENCE SOUTH 23°35'14" WEST ALONG SAID PIPE 221.96 FEET TO THE NORTHEAST BANK OF THE COLUMBIA RIVER AND THE END OF THE ABOVE DESCRIBED CENTERLINE.

PARCEL V:

A PARCEL OF PROPERTY IN THE JOHN MATHEWS DONATION LAND CLAIM AND THE WILLIAM HENDRICKSON DONATION LAND CLAIM IN THE SOUTHEAST QUARTER OF SECTION 13, TOWNSHIP 2 NORTH, RANGE 1 WEST AND THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 2 NORTH, RANGE 1 EAST AND

THE NORTHWEST QUARTER OF SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN IN CLARK COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

(THE FOLLOWING COURSES ARE ON A GRID BEARING WASHINGTON STATE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983. A SCALE AND ELEVATION FACTOR OF 1.000049 HAS BEEN APPLIED TO THE MEASURED FIELD DISTANCES.)

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SECTION 12, TOWNSHIP 2 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, SAID NORTHEAST CORNER ALSO BEING THE NORTHEAST CORNER OF THE WILLIAM HATTEN DONATION LAND CLAIM, THE NORTH LINE OF SAID HATTEN DONATION LAND CLAIM BEARING SOUTH 69°29'19" WEST; THENCE SOUTH 20°09'51" EAST 6616.90 FEET TO "A LINE" STATION 10 + 55.06, 75.00 FEET RIGHT, AS PER WSDH PLANS FOR SR 501, VANCOUVER LAKE TO PIONEER AVENUE IN RIDGEFIELD, APPROVED MAY 17, 1966; THENCE SOUTH 36°57'49" WEST, PARALLEL WITH SAID "A LINE" AND A SOUTHWESTERLY EXTENSION THEREOF, 298.85 FEET TO THE CENTERLINE OF LOWER RIVER ROAD; THENCE SOUTH 36°57'49" WEST ALONG THE SOUTHEASTERLY LINE OF THAT TRACT CONVEYED TO TIDEWATER ENVIRONMENTAL SERVICES, INC. BY DEED RECORDED UNDER AUDITOR'S FILE NO. 9104290287 OF CLARK COUNTY RECORDS 100.87 FEET TO A 225.00 FOOT RADIUS CURVE TO THE RIGHT WITH A TANGENT BEARING OF SOUTH 81°48'57" WEST INTO SAID 225.00 FOOT RADIUS CURVE AT THIS POINT; THENCE ALONG SAID SOUTHEASTERLY LINE AND AROUND SAID 225.00 FOOT RADIUS CURVE TO THE RIGHT 40.00 FEET; THENCE ALONG SAID SOUTHEASTERLY LINE NORTH 88°00'00" WEST 302.26 FEET; THENCE ALONG SAID SOUTHEASTERLY LINE SOUTH 89°29'56" WEST 11.39 FEET TO A 285.00 FOOT RADIUS CURVE TO THE LEFT WITH A TANGENT BEARING OF SOUTH 89°20'25" WEST INTO SAID 285.00 FOOT RADIUS CURVE AT THIS POINT; THENCE ALONG SAID SOUTHEASTERLY LINE AND AROUND SAID 285.00 FOOT RADIUS CURVE TO THE LEFT 200.52 FEET; THENCE SOUTH 49°01'27" WEST ALONG SAID SOUTHEASTERLY LINE (LINE REFERRED TO AS LINE "B" FROM HEREON) 488.75 FEET TO AN ANGLE POINT IN SAID TIDEWATER TRACT; THENCE NORTH 65°25'56" WEST ALONG THE SOUTHERLY LINE OF SAID TIDEWATER TRACT 645.61 FEET; THENCE SOUTH 25°51'49" WEST LEAVING SAID SOUTHERLY LINE 834.08 FEET; THENCE SOUTH 68°51'19" EAST 239.65 FEET; THENCE SOUTH 64°16'05" EAST 52.04 FEET TO THE SOUTHWESTERLY EXTENSION OF SAID LINE "B" AND THE TRUE POINT OF BEGINNING; THENCE SOUTH 64°16'05" EAST 112.23 FEET; THENCE SOUTH 56°01'08" EAST 115.94 FEET; THENCE SOUTH 51°08'50" EAST 320.70 FEET; THENCE SOUTH 28°12'11" EAST 86.38 FEET; THENCE SOUTH 79°25'35" EAST 24.62 FEET TO THE WESTERLY LINE OF THAT TRACT CONVEYED TO VANCOUVER SMELTING AND INGOT, INC. (AS REFERRED TO IN SCHEDULE A) BY DEED RECORDED UNDER AUDITOR'S FILE NO. 8706250115 OF CLARK COUNTY RECORDS; THENCE SOUTH 10°34'25" WEST ALONG SAID WESTERLY LINE 234.86 FEET (HILL RECORD OF SURVEY, BOOK 22, PAGE 154 SOUTH 09°00'40" WEST); THENCE SOUTH 10°35'57" WEST ALONG SAID WESTERLY LINE 216.41 FEET (HILL RECORD OF SURVEY, BOOK 22, PAGE 154 SOUTH 09°00'40"

WEST); THENCE NORTH 26°15'16" WEST 72.91 FEET; THENCE NORTH 06°24'44" WEST 60.47 FEET; THENCE NORTH 14°30'34" EAST 218.85 FEET; THENCE NORTH 00°03'06" WEST 106.25 FEET; THENCE NORTH 28°12'11" WEST 61.91 FEET; THENCE NORTH 51°08'50" WEST 310.89 FEET; THENCE NORTH 56°01'08" WEST 111.36 FEET; THENCE NORTH 64°16'05" WEST 126.57 FEET TO THE SOUTHWESTERLY EXTENSION OF SAID LINE "B"; THENCE NORTH 49°01'27" EAST ALONG SAID SOUTHWESTERLY EXTENSION 43.55 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL VI:

AN EASEMENT FOR MAINTENANCE, REPAIR, REPLACEMENT, OPERATION AND REMOVAL OF A PIPELINE OVER THE FOLLOWING DESCRIBED PROPERTY:

A PARCEL OF PROPERTY IN THE JOHN MATHEWS DONATION LAND CLAIM AND THE WILLIAM HENDRICKSON DONATION LAND CLAIM IN THE SOUTHEAST QUARTER OF SECTION 13, TOWNSHIP 2 NORTH, RANGE 1 WEST AND THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 2 NORTH, RANGE 1 EAST AND THE NORTHWEST QUARTER OF SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN IN CLARK COUNTY, WASHINGTON DESCRIBED AS FOLLOWS:

(THE FOLLOWING COURSES ARE ON A GRID BEARING WASHINGTON STATE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983. A SCALE AND ELEVATION FACTOR OF 1.000049 HAS BEEN APPLIED TO THE MEASURED FIELD DISTANCES.)

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SECTION 12, TOWNSHIP 2 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, SAID NORTHEAST CORNER ALSO BEING THE NORTHEAST CORNER OF THE WILLIAM HATTEN DONATION LAND CLAIM, THE NORTH LINE OF SAID HATTEN DONATION LAND CLAIM BEARING SOUTH 69°29'19" WEST; THENCE SOUTH 20°09'51" EAST 6616.90 FEET TO "A LINE" STATION 10 + 55.06, 75.00 FEET RIGHT, AS PER WSDH PLANS FOR SR 501, VANCOUVER LAKE TO PIONEER AVENUE IN RIDGEFIELD, APPROVED MAY 17, 1966; THENCE SOUTH 36°57'49" WEST PARALLEL WITH SAID "A LINE" AND A SOUTHWESTERLY EXTENSION THEREOF, 298.85 FEET TO THE CENTERLINE OF LOWER RIVER ROAD; THENCE SOUTH 36°57'49" WEST ALONG THE SOUTHEASTERLY LINE OF THAT TRACT CONVEYED TO TIDEWATER ENVIRONMENTAL SERVICES, INC. BY DEED RECORDED UNDER AUDITOR'S FILE NO. 9104290287 OF CLARK COUNTY RECORDS 100.87 FEET TO A 225.00 FOOT RADIUS CURVE TO THE RIGHT WITH A TANGENT BEARING OF SOUTH 81°48'57" WEST INTO SAID 225.00 FOOT RADIUS CURVE AT THIS POINT; THENCE ALONG SAID SOUTHEASTERLY LINE AND AROUND SAID 225.00 FOOT RADIUS CURVE TO THE RIGHT 40.00 FEET; THENCE ALONG SAID SOUTHEASTERLY LINE NORTH 88°00'00" WEST 302.26 FEET; THENCE ALONG SAID SOUTHEASTERLY LINE SOUTH 89°29'56" WEST 11.39 FEET TO A 285.00 FOOT RADIUS CURVE TO THE LEFT WITH A TANGENT BEARING OF SOUTH 89°20'25" WEST INTO SAID 285.00 FOOT RADIUS CURVE AT THIS POINT; THENCE ALONG SAID SOUTHEASTERLY LINE AND

AROUND SAID 285.00 FOOT RADIUS CURVE TO THE LEFT 200.52 FEET; THENCE SOUTH 49°01'27" WEST ALONG SAID SOUTHEASTERLY LINE (LINE REFERRED TO AS LINE "B" FROM HEREON) 488.75 FEET TO AN ANGLE POINT IN SAID TIDEWATER TRACT; THENCE NORTH 65°25'56" WEST ALONG THE SOUTHERLY LINE OF SAID TIDEWATER TRACT 645.61 FEET; THENCE SOUTH 25°51'49" WEST LEAVING SAID SOUTHERLY LINE 834.08 FEET TO THE TRUE POINT OF BEGINNING; THENCE SOUTH 68°51'19" EAST 239.65 FEET; THENCE SOUTH 64°16'05" EAST 52.04 FEET TO THE SOUTHWESTERLY EXTENSION OF SAID LINE "B"; THENCE SOUTH 49°01'27" WEST ALONG SAID SOUTHWESTERLY EXTENSION 43.55 FEET; THENCE NORTH 64°16'05" WEST 33.22 FEET; THENCE NORTH 68°51'19" WEST 241.35 FEET TO A POINT WHICH BEARS SOUTH 25°51'49" WEST FROM THE TRUE POINT OF BEGINNING; THENCE NORTH 25°51'49" EAST 40.14 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL VII:

AN EASEMENT FOR INGRESS, EGRESS, AND UTILITIES OVER THE FOLLOWING DESCRIBED PROPERTY:

A PARCEL OF PROPERTY IN THE JOHN MATHEWS DONATION LAND CLAIM AND THE WILLIAM HENDRICKSON DONATION LAND CLAIM IN THE SOUTHEAST QUARTER OF SECTION 13, TOWNSHIP 2 NORTH, RANGE 1 WEST AND THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN IN CLARK COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

(THE FOLLOWING COURSES ARE ON A GRID BEARING WASHINGTON STATE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983. A SCALE AND ELEVATION FACTOR OF 1.000049 HAS BEEN APPLIED TO THE MEASURED FIELD DISTANCES.)

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SECTION 12, TOWNSHIP 2 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN SAID NORTHEAST CORNER ALSO BEING THE NORTHEAST CORNER OF THE WILLIAM HATTEN DONATION LAND CLAIM, THE NORTH LINE OF SAID HATTEN DONATION LAND CLAIM BEARING SOUTH 69°29'19" WEST; THENCE SOUTH 20°09'51" EAST 6616.90 FEET TO "A LINE" STATION 10 + 55.06, 75.00 FEET RIGHT, AS PER WSDH PLANS FOR SR 501, VANCOUVER LAKE TO PIONEER AVENUE IN RIDGEFIELD, APPROVED MAY 17, 1966; THENCE SOUTH 36°57'49" WEST PARALLEL WITH SAID "A LINE" AND A SOUTHWESTERLY EXTENSION THEREOF, 298.85 FEET TO THE CENTERLINE OF LOWER RIVER ROAD; THENCE SOUTH 36°57'49" WEST ALONG THE SOUTHEASTERLY LINE OF THAT TRACT CONVEYED TO TIDEWATER ENVIRONMENTAL SERVICES, INC. BY DEED RECORDED UNDER AUDITOR'S FILE NO. 9104290287 OF CLARK COUNTY RECORDS 100.87 FEET TO A 225.00 FOOT RADIUS CURVE TO THE RIGHT WITH A TANGENT BEARING OF SOUTH 81°48'57" WEST INTO SAID 225.00 FOOT RADIUS CURVE AT THIS POINT; THENCE ALONG SAID SOUTHEASTERLY LINE AND AROUND SAID 225.00 FOOT RADIUS CURVE TO THE RIGHT 40.00 FEET; THENCE ALONG SAID SOUTHEASTERLY LINE NORTH

88°00'00" WEST 302.26 FEET; THENCE ALONG SAID SOUTHEASTERLY LINE SOUTH 89°29'56" WEST 11.39 FEET TO A 285.00 FOOT RADIUS CURVE TO THE LEFT WITH A TANGENT BEARING OF SOUTH 89°20'25" WEST INTO SAID 285.00 FOOT RADIUS CURVE AT THIS POINT; THENCE ALONG SAID SOUTHEASTERLY LINE AND AROUND SAID 285.00 FOOT RADIUS CURVE TO THE LEFT 200.52 FEET TO THE TRUE POINT OF BEGINNING; THENCE SOUTH 49°01'27" WEST ALONG SAID SOUTHEASTERLY LINE 488.75 FEET TO AN ANGLE POINT IN SAID TIDEWATER TRACT; THENCE CONTINUING SOUTH 49°01'27" WEST ON AN EXTENSION OF SAID SOUTHEASTERLY LINE 740.34 FEET; THENCE NORTH 85°00'25" WEST 32.80 FEET TO A 450.00 FOOT RADIUS CURVE TO THE LEFT; THENCE AROUND SAID 450.00 FOOT RADIUS CURVE TO THE LEFT 109.66 FEET; THENCE SOUTH 81°01'50" WEST 106.38 FEET; THENCE SOUTH 86°42'18" WEST 159.83 FEET; THENCE SOUTH 25°51'49" WEST 68.71 FEET; THENCE NORTH 86"42'18" EAST 196.27 FEET; THENCE NORTH 81°01'50"EAST 109.36 FEET TO A 390.00 FOOT RADIUS CURVE TO THE RIGHT; THENCE AROUND SAID 390.00 FOOT RADIUS CURVE TO THE RIGHT 95.04 FEET; THENCE SOUTH 85°00'25" EAST 58.25 FEET; THENCE NORTH 49°01'27" EAST 1254.53 FEET; THENCE NORTH 49°32'43" EAST 497.36 FEET TO THE CENTERLINE OF LOWER RIVER ROAD AS SHOWN ON THAT RECORD OF SURVEY RECORDED IN BOOK 29 AT PAGE 161 OF CLARK COUNTY RECORDS; THENCE NORTH 53°02'11" WEST ALONG SAID CENTERLINE 61.47 FEET TO A POINT WHICH BEARS NORTH 49°32'43" EAST FROM THE TRUE POINT OF BEGINNING; THENCE SOUTH 49°32'43" WEST 484.51 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL VIII:

AN EASEMENT FOR INGRESS, EGRESS, AND UTILITIES OVER THE FOLLOWING DESCRIBED PROPERTY:

A 40.00 FOOT WIDE PARCEL OF PROPERTY LYING ON THE LEFT (SOUTHEAST SIDE) OF THE FOLLOWING DESCRIBED LINE IN THE JOHN MATHEWS DONATION LAND CLAIM AND THE WILLIAM HENDRICKSON DONATION LAND CLAIM IN THE SOUTHEAST QUARTER OF SECTION 13, TOWNSHIP 2 NORTH, RANGE 1 WEST AND THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN IN CLARK COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

(THE FOLLOWING COURSES ARE ON A GRID BEARING WASHINGTON STATE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983. A SCALE AND ELEVATION FACTOR OF 1.000049 HAS BEEN APPLIED TO THE MEASURED FIELD DISTANCES.)

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SECTION 12, TOWNSHIP 2 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, SAID NORTHEAST CORNER ALSO BEING THE NORTHEAST CORNER OF THE WILLIAM HATTEN DONATION LAND CLAIM, THE NORTH LINE OF SAID HATTEN DONATION LAND CLAIM BEARING SOUTH 69°29'19" WEST; THENCE SOUTH 20°09'51" EAST 6616.90 FEET TO "A LINE" STATION 10 + 55.06, 75.00 FEET RIGHT, AS PER WSDH

PLANS FOR SR 501, VANCOUVER LAKE TO PIONEER AVENUE IN RIDGEFIELD, APPROVED MAY 17, 1966; THENCE SOUTH 36°57'49" WEST PARALLEL WITH SAID "A LINE" AND A SOUTHWESTERLY EXTENSION THEREOF, 298.85 FEET TO THE CENTERLINE OF LOWER RIVER ROAD; THENCE SOUTH 36°57'49" WEST ALONG THE SOUTHEASTERLY LINE OF THAT TRACT CONVEYED TO TIDEWATER ENVIRONMENTAL SERVICES, INC. BY DEED RECORDED UNDER AUDITOR'S FILE NO. 9104290287 OF CLARK COUNTY RECORDS 100.87 FEET TO A 225.00 FOOT RADIUS CURVE TO THE RIGHT WITH A TANGENT BEARING OF SOUTH 81°48'57" WEST INTO SAID 225.00 FOOT RADIUS CURVE AT THIS POINT; THENCE ALONG SAID SOUTHEASTERLY LINE AND AROUND SAID 225.00 FOOT RADIUS CURVE TO THE RIGHT 40.00 FEET; THENCE ALONG SAID SOUTHEASTERLY LINE NORTH 88°00'00" WEST 302.26 FEET; THENCE ALONG SAID SOUTHEASTERLY LINE SOUTH 89°29'56" WEST 11.39 FEET TO A 285.00 FOOT RADIUS CURVE TO THE LEFT WITH A TANGENT BEARING OF SOUTH 89°20'25" WEST INTO SAID 285.00 FOOT RADIUS CURVE AT THIS POINT; THENCE ALONG SAID SOUTHEASTERLY LINE AND AROUND SAID 285.00 FOOT RADIUS CURVE TO THE LEFT 200.52 FEET; THENCE SOUTH 49°01'27" WEST ALONG SAID SOUTHEASTERLY LINE 488.75 FEET TO AN ANGLE POINT IN SAID TIDEWATER TRACT; THENCE NORTH 65°25'56" WEST ALONG THE SOUTHERLY LINE OF SAID TIDEWATER TRACT 645.61 FEET; THENCE SOUTH 25°51'49" WEST 974.98 FEET; THENCE NORTH 64°08'11" WEST 96.65 FEET TO THE TRUE POINT OF BEGINNING; THENCE SOUTH 27°26'16" WEST 49.86 FEET; THENCE SOUTH 40°49'54" WEST 30.39 FEET; THENCE SOUTH 68°13'04" WEST 40.09 FEET; THENCE SOUTH 84°48'28" WEST 28.92 FEET; THENCE NORTH 88°59'32" WEST 29.49 FEET; THENCE NORTH 78°41'19" WEST 29.76 FEET; THENCE NORTH 72°34'38" WEST 28.67 FEET TO THE END OF THE ABOVE DESCRIBED LINE.

PARCEL IX:

A NON-EXCLUSIVE EASEMENT FOR INGRESS AND EGRESS OVER THE FOLLOWING DESCRIBED PROPERTY:

A PARCEL OF PROPERTY IN THE JOHN MATTHEWS DONATION LAND CLAIM AND THE WILLIAM HENDRICKSON DONATION LAND CLAIM IN THE SOUTH HALF OF SECTION 18, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

(THE FOLLOWING COURSES ARE ON A GRID BEARING WASHINGTON STATE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983. A SCALE AND ELEVATION FACTOR OF 1.000049 HAS BEEN APPLIED TO THE MEASURED FIELD DISTANCES.)

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SECTION 12, TOWNSHIP 2 NORTH, RANGE 1 WEST OF THE WILLAMETTE MERIDIAN, SAID NORTHEAST CORNER ALSO BEING THE NORTHEAST CORNER OF THE WILLIAM HATTEN DONATION LAND CLAIM, THE NORTH LINE OF SAID HATTEN DONATION LAND CLAIM BEARING SOUTH 69°29'19" WEST; THENCE SOUTH 20°09'51" EAST 6616.90 FEET TO "A LINE" STATION 10 + 55.06, 75.00 FEET

RIGHT, AS PER WSDH PLANS FOR SR 501, VANCOUVER LAKE TO PIONEER AVENUE IN RIDGEFIELD, APPROVED MAY 17, 1966; THENCE SOUTH 36°57'49" WEST PARALLEL WITH SAID "A LINE" AND A SOUTHWESTERLY EXTENSION THEREOF, 298.85 FEET TO THE CENTERLINE OF LOWER RIVER ROAD, AND THE TRUE POINT OF BEGINNING; THENCE SOUTH 36°57'49" WEST ALONG THE SOUTHEASTERLY LINE OF THAT TRACT CONVEYED TO TIDEWATER ENVIRONMENTAL SERVICES, INC. BY DEED RECORDED UNDER AUDITOR'S FILE NO. 9104290287 OF CLARK COUNTY RECORDS 100.87 FEET; THENCE SOUTH 36°42'57" EAST 61.58 FEET TO THE NORTHWESTERLY LINE OF THAT TRACT CONVEYED TO VANCOUVER SMELTING AND INGOT, INC. (AS REFERRED TO IN SCHEDULE A) BY DEED RECORDED UNDER AUDITOR'S FILE NO. 8706250115 OF CLARK COUNTY RECORDS, SAID POINT BEING ON A 117.00 FOOT RADIUS CURVE TO THE LEFT WITH A TANGENT BEARING OF NORTH 75°20'42" EAST INTO SAID 117.00 FOOT RADIUS CURVE AT THIS POINT; THENCE ALONG SAID NORTHWESTERLY LINE AND AROUND SAID 117.00 FOOT RADIUS CURVE TO THE LEFT 66.51 FEET TO A 50.00 FOOT RADIUS CURVE TO THE RIGHT WITH A TANGENT BEARING OF NORTH 46°09'02" EAST INTO SAID 50.00 FOOT RADIUS CURVE AT THIS POINT (HILL RECORD OF SURVEY, BOOK 22, PAGE 154, DELTA 33°40'07", LENGTH 68.75 FEET, RADIUS 117.00 FEET); THENCE ALONG SAID NORTHWESTERLY LINE AND AROUND SAID 50.00 FOOT RADIUS CURVE TO THE RIGHT, 71.74 FEET (HILL RECORD OF SURVEY, BOOK 22, PAGE 154, DELTA 79°51'27", LENGTH 69.69 FEET, RADIUS 50.00 FEET); THENCE SOUTH 52°38'39" EAST ALONG THE NORTHERLY LINE OF SAID VANCOUVER SMELTING AND INGOT, INC. TRACT 15.64 FEET (HILL RECORD OF SURVEY, BOOK 22, PAGE 154, SOUTH 54°28'10" EAST); THENCE NORTH 36°57'49" EAST 15.48 FEET TO THE CENTERLINE OF LOWER RIVER ROAD; THENCE NORTH 53°02'11" WEST ALONG SAID CENTERLINE 150.00 FEET TO THE TRUE POINT OF BEGINNING.

EXCEPTING THEREFROM THE NORTHWESTERLY 48.0 FEET AS MEASURED AT RIGHT ANGLES TO SAID SOUTHEASTERLY LINE OF SAID TIDEWATER ENVIRONMENTAL SERVICES, INC., TRACT.

3-31-09 ALCOA WATER RIGHTS DEED (BERTH AREA)

A 200.00 FOOT WIDE STRIP OF LAND LOCATED IN SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. THE NORTHWESTERN SIDE-LINE OF SAID STRIP BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE ALONG THE SOUTHERN LINES OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9206090248 SOUTH 65°59'34" EAST, 861.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°54'21" EAST, 2,655.23 FEET TO **TRUE POINT OF BEGINNING** AT THE INTERSECTION OF THE ORDINARY HIGH WATER LINE OF THE COLUMBIA RIVER WITH THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1B;

THENCE ALONG THE ORDINARY HIGH WATER LINE THE FOLLOWING COURSES:

THENCE NORTH 89°29'12" WEST, 9.52 FEET;

THENCE NORTH 77°40'26" WEST, 16.60 FEET;

THENCE SOUTH 86°36'31" WEST, 77.49 FEET;

THENCE NORTH 78°50'38" WEST, 173.64 FEET;

THENCE NORTH 84°19'36" WEST, 254.87 FEET;

THENCE NORTH 76°30'55" WEST, 20.14 FEET;

THENCE NORTH 69°05'45" WEST, 310.36 FEET;

THENCE NORTH 73°25'50" WEST, 31.58 FEET;

THENCE NORTH 78°01'48" WEST, 41.07 FEET;

THENCE NORTH 75°14'34" WEST, 70.64 FEET;

THENCE NORTH 67°13'09" WEST, 106.03 FEET;

THENCE NORTH 85°08'56" WEST, 14.42 FEET;

THENCE NORTH 69°41'50" WEST, 102.24 FEET;

THENCE NORTH 62°47'21" WEST, 22.10 FEET;

THENCE NORTH 85°06'24" WEST, 12.19 FEET;

THENCE NORTH 78°40'23" WEST, 23.96 FEET;

THENCE NORTH 68°36'38" WEST, 11.78 FEET;

THENCE NORTH 54°35'29" WEST, 28.64 FEET;

THENCE NORTH 61°34'46" WEST, 105.07 FEET;

THENCE NORTH 70°03'25" WEST, 111.12 FEET;

THENCE NORTH 61°56'51" WEST, 18.49 FEET;

THENCE NORTH 66°35'10" WEST, 27.88 FEET;

THENCE NORTH 71°57'33" WEST, 28.64 FEET;

THENCE NORTH 61°44'43" WEST, 36.12 FEET;

THENCE NORTH 70°11'57" WEST, 27.01 FEET;

THENCE NORTH 75°26'06" WEST, 88.93 FEET;

THENCE NORTH 69°07'46" WEST, 82.68 FEET;

THENCE NORTH 85°00'29" WEST, 9.41 FEET;

THENCE NORTH 79°39'38" WEST, 24.20 FEET;

THENCE NORTH 71°31'12" WEST, 49.99 FEET;

THENCE NORTH 76°56'35" WEST, 34.63 FEET;

THENCE NORTH 79°53'56" WEST, 6.78 FEET;

THENCE NORTH 74°55'38" WEST, 53.64 FEET;

THENCE NORTH 73°16'30" WEST, 41.35 FEET;

THENCE NORTH 69°24'34" WEST, 52.13 FEET;

THENCE NORTH 62°17'46" WEST, 32.15 FEET;

THENCE NORTH 65°47'53" WEST, 33.52 FEET;

THENCE NORTH 63°32'11" WEST, 25.50 FEET;

THENCE NORTH 55°03'48" WEST, 52.98 FEET;

THENCE NORTH 34°13'21" WEST, 10.50 FEET;

THENCE NORTH 48°48'47" WEST, 8.46 FEET;

THENCE NORTH 67°23'10" WEST, 34.95 FEET;

THENCE NORTH 62°28'18" WEST, 21.35 FEET;

THENCE NORTH 60°53'29" WEST, 42.70 FEET;

THENCE NORTH 62°43'59" WEST, 61.76 FEET;

THENCE NORTH 47°54'15" WEST, 13.10 FEET;

THENCE NORTH 57°42'47" WEST, 34.21 FEET;

THENCE NORTH 45°30'34" WEST, 26.68 FEET;

THENCE NORTH 63°11'33" WEST, 91.74 FEET;

THENCE NORTH 63°52'03" WEST, 43.89 FEET;

THENCE NORTH 68°40'24" WEST, 45.31 FEET;

THENCE NORTH 63°18'56" WEST, 41.82 FEET;

THENCE NORTH 55°08'42" WEST, 40.63 FEET;

THENCE NORTH 65°23'25" WEST, 39.33 FEET;

THENCE NORTH 68°13'41" WEST, 36.75 FEET;

THENCE NORTH 59°46'47" WEST, 20.47 FEET;

THENCE NORTH 56°29'02" WEST, 23.33 FEET;

THENCE NORTH 73°15'43" WEST, 30.91 FEET;

THENCE NORTH 65°05'42" WEST, 34.79 FEET TO THE EASTERN LINE OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC AS DESCRIBED IN AUDITOR'S FILE 8706250115;

THE SOUTHEASTERN SIDE-LINE OF SAID STRIP IS TO BE EXTENDED AND/OR SHORTENED TO MEET AT ANGLE POINTS, TO COMMENCE AT THE SOUTHERLY EXTENSION OF THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT

OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1B AND TO TERMINATE AT THE SOUTHERLY EXTENSION OF THE EASTERN LINE OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC AS DESCRIBED IN AUDITOR'S FILE 8706250115.

SAID TRACT CONTAINS 588,867 SQUARE FEET / 13.52 ACRES, MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.

Exhibit "C"

2-7-11 DEED (PARCEL 1A)

REAL PROPERTY SITUATED IN THE CITY OF VANCOUVER, CLARK COUNTY, WASHINGTON, BEING A PORTION OF THE HENRY VAN ALMAN DONATION LAND CLAIM, LYING IN THE NORTH HALF OF SECTION 20, TOWNSHIP 2 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN, DESCRIBED AS FOLLOWS:

A PORTION OF LOT 3 AND LOT 4 OF THE PORT OF VANCOUVER BINDING SITE PLAN RECORDED IN BOOK 53 OF SURVEYS, AT PAGE 141, RECORDS OF SAID COUNTY, DESCRIBED AS FOLLOWS:

(THE FOLLOWING DESCRIPTION IS REFERENCED TO THE WASHINGTON COORDINATE SYSTEM OF 1983, SOUTH ZONE. DIVIDE THE FOLLOWING "GRID" DISTANCES BY A COMBINED SCALE FACTOR OF 1.000042242 TO DETERMINE "GROUND" DISTANCES.)

BEGINNING AT THE NORTHEAST CORNER OF SAID LOT 4, SAID CORNER BEING ON THE SOUTH RIGHT OF WAY LINE OF LOWER RIVER ROAD (SR 501) AS SHOWN ON SAID BINDING SITE PLAN; THENCE ALONG THE NORTH LINE OF SAID LOT 4 AND SAID SOUTH RIGHT OF WAY LINE NORTH 64° 04' 04" WEST 572.59 FEET TO THE NORTHWEST CORNER OF SAID LOT 4, SAID CORNER BEING THE MOST NORTHERLY NORTHEAST CORNER OF SAID LOT 3; THENCE ALONG THE NORTH LINE OF SAID LOT 3 AND SAID SOUTH RIGHT OF WAY LINE NORTH 64° 04' 04" WEST 673.53 FEET; THENCE LEAVING SAID NORTH AND SOUTH LINES SOUTH 30° 59' 21" WEST 717.83 FEET; THENCE SOUTH 58° 53' 18" EAST 1305.38 FEET TO AN ANGLE POINT ON THE EAST LINE OF SAID LOT 3; THENCE ALONG SAID EAST LINE NORTH 19° 56' 02" EAST 57.87 FEET; THENCE ALONG SAID EAST LINE AND THE EAST LINE OF SAID LOT 4 NORTH 27° 04' 10" EAST 775.48 FEET TO THE POINT OF BEGINNING.

CONTAINING 984,584 SQUARE FEET OR APPROXIMATELY 22.603 ACRES.

SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

EXHIBIT "D"

ALTERATIONS TO BE MADE BY LESSOR AND LESSEE

LESSOR'S INFRASTRUCTURE IMPROVEMENTS

- A connection to "The Trench" connecting the BNSF Fall Bridge Subdivision to the Port of Vancouver.
- One common arrival track estimated at 7684 feet between the two (2) innermost switches (identified as Track 4002).
- A connection to the Terminal 5 loop track facility.
- Two dedicated loop tracks for arrivals, each estimated at 7684 feet. These tracks will be identified as Tracks 4106 and 4107.
- A connection with cross-over switches capable of departing on any of two departure tracks listed below.
- Two departure tracks, each estimated at 7684 feet. These tracks are identified as Tracks 4841 and 4842.
- A connection from the departure tracks to the trench for departure.
- Two Bad Order tracks located off the loops tracks designated as Track 4109 and Track 4110. Track 4109 shall be approximately 200 feet and Track 4110 shall be 660 feet. Lessor will make additional space available for Bad Order repairs and processing.

At such time as Lessee has: (i) on a consistent basis, sustained a volume of [redacted] (ii) reasonably demonstrated that additional customer volume is likely to be achieved (e.g., through customer expressions of interest, letters of intent, memoranda of understanding or the like), and (iii) Lessee has requested in writing that Lessor proceed, then Lessor shall, within one hundred twenty (120) days, make the following available to Lessee:

- Two dedicated surge tracks, consisting of one loop track for arrivals and one departure track in the main yard (the permits for which shall be obtained by Lessee) with connection to the trench for departure.

LESSEE'S IMPROVEMENTS

Project Description

The Facility is designed to receive crude oil by rail from various sources in North America and pipe it to storage tanks where it will be held until it is loaded onto ships/vessels for transport to end users, which are expected primarily to be West Coast refineries. The Facility will include:

1. Administrative and Support Buildings. The Facility will include an approximately 3,400 square-foot office building for administrative functions and two additional buildings to house lockers, restrooms, and other employee support facilities, each consisting of approximately 3,400 square feet. These buildings will be located on the north side of the Terminal-5 Loop south of Old Lower River Road.

2. Rail Unloading Facility. The rail unloading facility will be located south of the administrative and support facilities and is designed to handle unit trains consisting of approximately [redacted] each up to 62 feet in length and powered by three locomotives for a total length of approximately [redacted] feet. At full build-out, approximately [redacted] trains, carrying up to a total of approximately [redacted] barrels of crude oil per day, will arrive via Class I railroad lines for staging on existing and planned tracks at the Port. Trains will arrive at Terminal 5 and travel in a clockwise direction to the unloading building on the north side of the Terminal 5 rail loop. The design will accommodate complete unit trains, eliminating the need to break trains into smaller segments during the unloading process.
   The rail cars will be unloaded in a building that will be approximately 1,850 feet by 91 feet in size, with a maximum height of approximately 50 feet. The building is designed to accommodate three parallel tracks. Each track will include 30 unloading stations for a total of 90 stations. Each station will accommodate one tank car.

Unloading will be accomplished with a closed-loop system that includes dry fit connectors and emergency-automatic shut-offs. Hoses will be connected to the valves on the cars using dry fit connectors, and the crude oil will gravity-drain from the cars to the collection pipe and then to pump vaults in the building, from which the crude oil will be pumped to the storage tanks.

Approximately thirty of the unloading stations may be equipped with steam fittings to heat heavier oils to facilitate oil transfer from the tank car. Pre-steaming stations may be included in advance of the unloading building to allow heating to occur prior to reaching the unloading stations. Steam will be provided from natural gas boilers.

Pump vaults will house a series of pumps that will push the crude oil to the storage tanks on Parcel 1A.

Pedestrian bridges will be located at select spots throughout the building to allow workers to pass over the unit trains during operations. Additional pedestrian bridges will allow access to the administrative and support buildings over the existing Terminal 5 rail loops and to the interior of the rail loop.

3. Piping. A combination of above-ground and below-ground steel pipes will convey crude oil from the rail unloading facility to the tanks and from the tanks to Berths 13 and 14.

4. Storage Area. The crude oil will be stored in up to six double-bottom, above-ground steel tanks located on Parcel 1A. These tanks will be approximately 48 feet in height and 240 feet in diameter, with a shell capacity of 380,000 barrels each. Each tank will have a fixed roof to keep precipitation from reaching the inside of the tank and an internal floating roof to control tank vapor emissions to the atmosphere. The double-bottomed tanks will include a leak detection system between the tank floors. Two of the proposed tanks may include steam heating coils in their bases to maintain temperatures for heavier crude oil grades. The tanks will be enclosed by a containment berm. The containment area will be designed with a capacity at least equal to 110 percent of the volume of the largest tank plus precipitation from a 24-hour, 100-year storm event. The entire tank containment area will be lined with an impervious membrane to prevent any spills from leaving the containment area via the ground. A sump will collect storm water from the containment area; the sump will be designed to prevent crude oil-contaminated water from being pumped to the storm water disposal system in the event of a spill.

5. Marine Loading. Crude oil will be pumped by pipe to existing port Berths 13 and 14. Piping, jib cranes and related equipment will be installed on the existing dock that serves Berths 13 and 14. The loading system will incorporate automatic shutoff valves with a maximum 30-second shutoff time. A return line will allow oil to return to the storage tanks in case of a shutdown of the ship loading system.

6. Rail. Up to two additional lines will be added to the Terminal 5 loop to accommodate the rail unloading facility. The additional lines will form two complete loops inside of the existing rail loops and will begin and end near the Gateway Avenue grade separation.

Project Schedule

The Facility is subject to the exclusive jurisdiction of the Washington Energy Facility Site Evaluation Council (EFSEC). Per its enabling statute, EFSEC is to make a recommendation to the Governor regarding approval of the proposed project within 12 months of receipt of an application. The Facility may also require permits from the U.S. Army Corps of Engineers. It is anticipated that the Facility will be constructed and fully operational within 9 to 12 months from the receipt of all required permits. A more detailed timeline will be developed as the commencement of construction approaches.

EXHIBIT "E"

GLOSSARY OF TERMS

"Additional Charges" is defined in Paragraph 5.

"Alterations" shall mean all changes, additions, improvements or repairs to, all alterations, reconstructions, renewals, betterments, replacements or removals of and all substitutions or replacements for any of the Premises, both interior and exterior, structural and non-structural, and ordinary and extraordinary. Alterations shall include, but are not limited to, the erection or removal of buildings, facilities or other improvements upon the Premises or the permanent surfacing of any outside areas.

"Baseline Assessment" is defined in Paragraph 2.D. Such site assessment will serve as the baseline environmental study of the environmental condition of the Premises on or about the Conditions Precedent Expiration Date.

"Berth" is defined in Paragraph 9.B.

"Barrels" means a volume equal to 42 U.S. gallons of 231 cubic inches each, at 60 degrees Fahrenheit under one atmosphere of pressure.

"bpd" means Barrels per day, corrected to net standard volume at 60 degrees Fahrenheit as provided for in the API Manual of Petroleum Measurement Standards and ASTM Standard 1250.

"Building Leasehold Award" shall mean that portion of the award in condemnation proceedings that represents the fair market value of Lessee's leasehold interest in the buildings, structures and docks (but not roads, rail lines, utility lines or other infrastructure other than docks) on the Premises for the remaining Term of the Lease. This definition does not include any leasehold advantage award and Lessee may be entitled to such leasehold advantage award if separately awarded.

"CAM" is defined in Paragraph 5.E.

"Common Areas" shall mean those portions of, and facilities within, the Port which are made available by Lessor from time to time for the non-exclusive use of Lessee in common with other tenants and occupants of the Port and their respective customers, agents and employees, including, without limitation, parking areas, driveway, walkways, common loading zones and landscaping.

"**Conditions Precedent**" means those conditions precedent set forth in Paragraph 2.D.

"**Conditions Precedent Expiration Date**" means the earlier of (a) the date on which Lessee provides written notice to Lessor, pursuant to the terms of Paragraph 2.E, that the Conditions Precedent have been satisfied or waived, and (b) the Conditions Precedent Outside Date.

"**Conditions Precedent Outside Date**" means the date that is [redacted] months after the Effective Date.

"**Consent Decree**" means that certain Washington Department of Ecology Consent Decree attached as Exhibit "M".

"**2013 Constant**" means that the Index shall be utilized to gauge the inflationary rate to be applied to determine the sum of money in then-current dollars that is equivalent to the applicable amount of dollars circa 2013.

"Construction Commencement Date" shall mean the date upon which vertical or significant civil construction begins, which shall occur not later than [redacted] months following the Conditions Precedent Expiration Date.

"Construction Period" means the period commencing on the Conditions Precedent Expiration Date and continuing until the Rent Commencement Date.

"Construction Period Fees" means the fees payable pursuant to Paragraph 1.D, to the extent payable during the Construction Period.

"Contingency Period" means the period from the Effective Date until the Conditions Precedent Expiration Date.

"Contingency Period Fees" means the fees payable pursuant to Paragraph 1.D, to the extent payable during the Contingency Period.

"Default" is defined in Paragraph 24.

"**DNR**" means the Washington Department of Natural Resources.

"Environmental Laws" shall mean any federal, state or local environmental health, safety or similar laws, statutes, rules, regulations or ordinances presently in effect or which may be promulgated in the future, as such laws, statutes, rules, regulations and/or ordinances may be supplemented or amended from time to time, including but not limited to laws regarding the proper and lawful use, transportation, storage, treatment, generation, sale and disposal of Hazardous Substances on or in any manner that affects the Premises or the surrounding properties.

"Exclusive Use" is defined in Paragraph 8.E.

"Existing Environmental Conditions" shall mean the presence of Hazardous Substances on, in, at, or under soil, sediment, surface water, groundwater, structures or other materials of the Premises documented in Exhibits "M" and "N" or other documents (including the Baseline Assessment) regarding the Premises on file with the Port or the Washington Department of Ecology prior to Lessee's occupancy.

"**Facility**" shall mean the facility within the Rail/Rack Area, the Support Areas, the Storage Area, and the Marine Terminal Area for the receipt, handling, storage, loading, unloading, blending, and transfer of Petroleum Products.

"Final Premises" is defined in Paragraph 1.B.

"**Force Majeure**" means an event or circumstance, (i) which event or circumstance is not within the reasonable control of, and not the result of the fault or negligence or imprudent practice of, Lessee, and (ii) which event or circumstance the Lessee, by the exercise of reasonable diligence, is unable to overcome, avoid or cause to be avoided, including, without limitation, acts of God; strike or lockout; sabotage; storm; freeze; snow; wind; flood; war, riot or insurrection; explosion; accident; embargo; blockage; inability to secure governmental authorization or permit; forced outages; and any restraint or restriction imposed by applicable law or any directive from a governmental authority. "Force Majeure" shall not include the Lessee's inability to make payments when due under this Lease.

"Hazardous Substances" shall mean any hazardous, toxic, dangerous or extremely hazardous substance, material or waste, including marine pollutants, marine toxics, petroleum, and air toxics, which is or becomes regulated by the United State Government, the State of Washington, or any local governmental authority. The term includes, without limitation, any substance containing contaminants regulated as specified above, but does not include Petroleum Products.

"**Index**" means the Consumer Price Index All Urban Consumers U.S. City Average (1982-84=100) published by the United States Department of Labor, Bureau of Labor Statistics; provided, however, that if such index is discontinued, the Parties shall follow any official consumer price index, whether so named or designated or not, issued by an authorized agency of the United States which supplants such index; otherwise, the Parties shall use any comparable general wholesale or retail price index for the United States reasonably selected by Lessor.

"Interest Rate" shall mean that rate of interest that is the lesser of (i) the maximum interest rate permitted under applicable usury laws; or (ii) twelve percent (12%) per annum.

"**Land Award**" means that portion of the award in condemnation proceedings that represents the fair market value of the Premises, excluding buildings and Lessee's trade fixtures and equipment, but including docks, roads, rail lines, utility lines and other infrastructure.

"Lease" shall mean this Lease Agreement, as amended and supplemented from time to time as permitted hereby.

"Leasehold Tax" shall mean any tax on the leasehold interest created by this Lease or on the Base Monthly Rent reserved under this Lease, including without limitation any leasehold excise taxes due and owing on taxable rent under RCW Chapter 82.29A, and any subsequent revision and amendments thereto. "Taxable rent" is defined by statute, and shall include contract rent which is the amount of consideration due as payment for a leasehold interest, including the total of cash payments made to Lessor, or to any other party for the benefit of Lessor according to the requirements of this Lease or agreement, including but not limited to any payments paid by a sublessee; expenditures for the protection of Lessor's interest when required by the terms of this Lease or agreement; and expenditures for improvements to the property to the extent that such improvements become the property of Lessor. Taxable rent may also be established by the DOR pursuant to RCW 82.29A.020.

"**Leasehold Tax Rate**" means the applicable rate of Leasehold Tax, currently the rate set forth in Paragraph 1.E.

"Lessee" is defined in the preamble of this Lease.

"Lessor" is defined in the preamble of this Lease.

"Lien" shall mean: (i) any interest in property, whether real, personal or mixed and whether tangible or intangible) securing an obligation owed to, or a claim by, a person other than the owner of such property, whether such interest is based on the common law, statute or contract, including any such interest arising from a mortgage, charge, pledge, security agreement, conditional sale, title retention agreement, trust receipt or deposit in trust, consignment or bailment given for security purposes, (ii) any encumbrance upon such property which does not secure such an obligation, or (iii) any other exception to or defect in the title to such property, including but not limited to encroachments, easements, restrictions, rights of entry, licenses and *profits a prendre*.

"Loaded Rail Car" shall mean a rail car that comes in or goes out of the Port with cargo/material.

"**MGA Agreement**" means the Cargo Commodity Payments Agreement and Minimum Annual Guaranty dated as of even date herewith by and between the Parties, the form of which is attached hereto as Exhibit "O".

"**Marine Terminal Area**" is defined in Paragraph 2.B.

"**MGA**" is defined in the MGA Agreement.

"**MGA Term**" is defined in the MGA Agreement.

"Nuisance" is defined as provided in RCW 7.48.120, or successor legislation. Presently, nuisance is defined as "unlawfully doing an act, or omitting to perform a duty, which act or omission either annoys, injures or endangers the comfort, repose, health or safety of others, offends decency, or unlawfully interferes with, obstructs or tends to obstruct, or render dangerous for passage, any lake or navigable river, bay, stream, canal or basin, or any public park, square, street or highway; or in any way renders other persons insecure in life, or in the use of property."

"**Operating Term**" is defined in Paragraph 1.C.

"**Parties**" shall mean, collectively, Lessor and Lessee.

"**Permitted Hazardous Substances**" shall mean Petroleum Products, and Hazardous Substances expressly permitted to be used, stored, or transported on the Premises in accordance with Paragraph 8.A of this Lease, but shall not include any such Petroleum Products or Hazardous Substance to the extent Released: (a) at the Premises or Pipeline Agreement areas, or (b) in conjunction with the Permitted Use.

"Person" shall mean any individual (natural person), partnership, corporation, trust, unincorporated association, syndicate, joint venture or other organization or any government or any department or agency thereof or any other entity.

"**Petroleum Products**" shall mean any mixture of hydrocarbons that exist in the liquid phase at atmospheric pressure, including any crude oils, diluents, topped crude oils, partially or incompletely refined crude oils, distillates, biofuels, condensates, intermediates, derivatives, blends, intermixes and finished products (including motor fuels, but excluding any chlorinated hydrocarbons or solvents). Non-exclusive examples of various petroleum products are attached hereto as Exhibit "H." This definition of Petroleum Products shall not be used to designate the Exclusive Use provided in Paragraph 8.E.

"Pipeline Agreement" is defined in Paragraph 2.A.

"Port" shall mean the Port of Vancouver, a municipal corporation organized and existing under the laws of the State of Washington.

"Port Commission" shall mean Commission of the Port of Vancouver.

"**Port Management Agreement**" means the Management Agreement No. 20-080008 dated as of October 1, 1984, between Lessor and the State of Washington, as amended by amendments dated February 24, 1989; on or about May 11, 1993, and most recently amended by Amendment to Port Management Agreement No. 20-080008 dated April 2, 2009, a copy of which is attached hereto as Exhibit P.

"Port's Rail System" is defined in Exhibit "J".

"Preliminary Premises" is defined in Paragraph 1.B.

"**Premises**" shall mean the Preliminary Premises until such time as replacement Exhibits "A", "B-1", "B-2" and "B-3" have been attached to this Lease and incorporated herein by a lease amendment executed by the Parties, as contemplated by Paragraph 2.D; upon such attachment and incorporation, the term "Premises" shall mean the Final Premises.

"Rail Facility for Unit Trains" shall mean a facility on Port property capable of unloading more than [redacted] bpd of crude oil from trains.

"Rail/Rack Area" is defined in Paragraph 1.B.

"Related Parties" shall mean, with respect to Lessor, its commissioners, officers, agents, representatives and employees and, with respect to Lessee, its officers, directors, employees, shareholders, agents and representatives.

"Release" shall be defined as provided in 42 U.S.C. § 9601 and RCW 70.105D.020, or successor legislation. In the event a conflict exists between the two definitions, the broader definition shall apply. For purposes of this Lease, the term Release shall also include an anticipated Release.

"Rent" is defined in Paragraph 4.C.

"**Rent Commencement Date**" shall mean the date on which the construction of the Facility has been completed, fully tested and commissioned, and is ready to receive product, which shall be not later than [redacted] months following the Conditions Precedent Expiration Date.

"**Restrictive Covenants**" means the Washington Department of Ecology mandated Restrictive Covenants attached as Exhibit "N".

"Storage Area" is defined in Paragraph 1.B.

"Term" shall mean the Term of this Lease, as described in Paragraph 1.C, including any extension thereof, unless sooner terminated pursuant to the terms and provisions of this Lease.

"Wharfage, Service and Facilities Fees" means, collectively, the amounts paid for wharfage, service and facilities pursuant to the MGA Agreement.

EXHIBIT "F"

RULES AND REGULATIONS

The following are initial rules and regulations applicable to Lessee's use of the Premises, which rules and regulations are subject to revision by Lessor from time to time as provided in the Lease.

1. All signage within Port of Vancouver shall be in compliance with the local sign ordinances and pre-approved by Lessor. All costs associated with any tenant signage, as well as directory advertisement, will be the responsibility of Lessee.

2. At occupancy date, Lessor shall provide Lessee with a key for the Premises. In the event at any time during the Lease term Lessee changes the locks on the entrance doors to the Premises and/or to any other doors within the Premises, if applicable, without Lessor's prior written approval, Lessee shall immediately provide Lessor with copies of all new keys and shall be responsible for any costs incurred by Lessor for rekeying the Premises on termination, if desired by Lessor.

3. Lessee understands and agrees that no right to store equipment, materials or inventory outside the Premises is being granted as part of this Lease. All equipment, materials and inventory, including, but not limited to, metal, pallets, boxes and items related to Lessee's business, are to be stored inside the Premises.

4. No overnight sleeping in vehicles parked inside or outside the Premises or anywhere within the Port is permitted.

5. Lessee understands and agrees that all shelving, materials, inventory and other product stored in a warehouse area of the Premises must be kept a minimum of three (3) feet away from all sides of the electrical panel installed in the warehouse area.

6. Lessee shall use drip pans, drop cloths, and all other appropriate protective methods and containers under any potential paint, oil, grease, or solvent sources within the Premises, consistent with stringent hazardous waste management practices, so as to minimize the leakage or deposit of such substances, to the maximum extent practicable, will dispose of all such wastes consistent with applicable laws and under permit if appropriate, and will be responsible for returning the Premises back to the same condition and finish existing at the time of first occupancy by Lessee. In particular, all grease/oil and/or any other spills areas must be cleaned thoroughly such that all traces of the waste are removed from the Premises and other contaminated areas are completely remediated.

7. Lessee understands and agrees that washing, steam cleaning or sandblasting of any vehicles, tools, product or equipment is not permitted anywhere within the Premises or Port.

8. Consistent with the Lease, all tenant improvements done within the Premises during the Lease term by Lessee shall first be approved in writing by Lessor prior to the commencement of any construction, and must be done in accordance with all applicable local, state and federal codes, regulations and laws, and must be done by a Washington licensed, bonded and insured contractor and in accordance with the Port's Standard Improvement Specifications. All subcontractors utilized in the Premises for any improvements must first, before commencing work, sign lien releases in favor of Lessor.

9. The Premises will be cleaned thoroughly on a periodic basis and maintained in a clean and presentable condition throughout the Lease term. At the end of the Lease term, a thorough cleaning will be performed and any damage repaired immediately.

10. Lessee is not authorized to do any type of automobile, truck or heavy equipment repair, including oil changes, or dismantling on the Premises or in the Port generally, with the exception of the repair of rail cars incident to the business conducted by Lessee on the Premises.

11. Lessee shall not leave or store disabled vehicles or equipment on the Premises or in the Port, with the exception of those rail cars which are, from time to time, being repaired as part of the business conducted by Lessee on the Premises.

12. Immediately prior to the turnover of the Premises to Lessor on termination of the Lease, Lessee shall walk through the Premises with a representative of Lessor in order to make determinations as to fixtures and any other alterations/additions/installations that have either been done by Lessee and/or for Lessee by Lessor, and that should be removed from the Premises by Lessee, prior to or at the date of Lease termination (except as otherwise expressly provided by the terms of the Lease). Lessee and Lessor shall also agree as to how the Premises must be repaired after such removal; provided, however, that failing agreement, the reasonable determination of Lessor shall be binding on Lessee.

13. No animals are to be kept within the Premises at any time throughout the Lease term, including but not limited to guard dogs.

14. Lessee shall maintain in compliance with all applicable local, state, and federal regulations including, but not limited to, building and fire codes with regard to all activities to be performed within the Premises and in the Port.

EXHIBIT "G"

GUARANTY

This Guaranty is from _____("Guarantor"), whose address is _____, to the PORT OF VANCOUVER, U.S.A., a municipal corporation ("Lessor"), whose address is 3103 NW Lower River Road, Vancouver, WA 98660.

RECITAL:

Lessor and _____, _____ ("Lessee"), previously executed that certain Lease dated _____ (the "Lease"). To induce Lessor to allow the assignment of the Lease, Guarantor has offered to guarantee payment of the obligations as hereinafter defined of Lessee to Lessor.

GUARANTOR AGREES:

1. Guaranty. Guarantor absolutely and unconditionally guarantees and promises to pay to Lessor or its order, on demand, in legal tender of the United States of America, the Obligations (as that term is defined below) of Lessee if Lessee defaults beyond the expiration of any applicable notice and cure periods in the payment of any such Obligations to Lessor, on the terms and conditions set forth in this Guaranty. Guarantor executes and delivers this Guaranty to Lessor in consideration of Lessor's agreement to enter in to the Lease with Lessee, which is of substantial value to Guarantor. Guarantor acknowledges that Lessor would not agree to enter into Lease without this Guaranty.

2. Definitions. The following words shall have the following meanings when used in this Guaranty:

2.1 "Obligations" means all obligations payable by Lessee to Lessor under and with respect to the Lease, whether incurred now or later, and whether direct, indirect, or contingent, for the payment of (a) all rent and additional rent, however described, (b) all common area charges, (c) all late charges, and (d) all collection costs and expenses relating to the Lease. Collection costs and expenses include but are not limited to all of Lessor's reasonable and actual attorney fees and legal expenses, whether or not suit is instituted, and reasonable and actual attorney fees and legal expenses for bankruptcy proceedings (including efforts to modify or vacate any automatic stay or injunction), appeals, and any post-judgment collection services

2.2 "Lease" means that certain commercial Lease dated on or about _____ of premises in Vancouver, Washington described as _____ located within the Port District in Clark County, State of Washington and as illustrated in Exhibits "A" and "B" of the Lease.

3. Nature of Guaranty. This Guaranty is a guaranty of payment and performance. Guarantor intends to and hereby does guarantee the prompt payment when due of all of the Obligations, and does guaranty the performance of all other terms set forth in the Lease.

4. Duration of Guaranty. This Guaranty will take effect when received by Lessor without the necessity of any acceptance by Lessor, or any notice to Guarantor or to Lessee, and will continue in full force until all of the Obligations shall have been fully and finally paid and satisfied. This Guaranty is "irrevocable". However, this Guaranty will terminate if Lessee is released from liability under the Lease.

5. Guarantor's Authorization to Lessor. Guarantor authorizes Lessor, without notice to Guarantor or demand on Guarantor and without affecting Guarantor's liability under this Guaranty, from time to time to do any one or more of the following: (a) to alter, compromise, renew, extend, accelerate, or otherwise change one or more times the time for payment or other terms of the Lease and the Obligations or any part of the Obligations, including increases and decreases of the rate of rent under the Lease, in the manner agreed to between Lessor and Lessee; (b) to determine how, when, and what application of payments and credits shall be made on the Obligations; and (c) to assign or transfer this Guaranty in whole or in part.

6. Guarantor's Representations and Warranties. Guarantor represents and warrants to Lessor as follows:

6.1 No representations or agreements of any kind have been made to Guarantor that would limit or qualify in any way the terms of this Guaranty.

6.2 Guarantor has full power and authority to execute and deliver this Guaranty, which is executed and delivered at Lessee's request.

6.3 All financial and credit information Guarantor has provided to Lessor is true and correct in all material respects, fairly presents the financial condition of Guarantor as of the dates thereof, and no material adverse change has occurred in the financial condition of Guarantor since the date of the financial statements.

6.4 Guarantor has established adequate means of obtaining from Lessee on a continuing basis information about Lessee 's financial condition and is not relying on Lessor to provide that information now or in the future. Guarantor shall keep adequately informed by those means of any facts, events, or circumstances that might in any way affect Guarantor's risks under this Guaranty, and, absent a request for information, Lessor shall have no obligation to disclose to Guarantor any information or documents acquired by Lessor in the course of its relationship with Lessee.

7. Guarantor's Waivers. Except as prohibited by applicable law, Guarantor makes the following waivers:

7.1 Guarantor waives any right to require Lessor to do any of the following: (a) to enforce any remedies, or resort for payment, or proceed directly or at once against any person, including Lessee, any other guarantor, or any other person liable to Lessor on account of the Obligations; (b) to enforce or resort to any remedies with respect to any security interest, lien, or encumbrance to, or to proceed directly against or exhaust any collateral held by, Lessor from Lessee, arty other guarantor, or any other person; or (c) to pursue any other remedy within Lessor's power.

7.2 Guarantor hereby expressly waives any and all of the following; (a) extensions of time for payment of rent under the Lease or of the obligations; (b) changes in the terms of the Lease or the obligations, including any increase or decrease in rent; or (c) abstention from taking advantage of or realizing upon any right or remedy under the Lease or the Obligations, or any security interest or other guaranty.

8. Guarantor's Understanding About Waivers. Guarantor warrants and agrees that each of the waivers set forth above is made with Guarantor's full knowledge of its significance and consequences and that, under the circumstances, the waivers are reasonable and not contrary to public policy or law. If any such waiver is determined to be contrary to any applicable law or public policy, the waiver shall be effective only to the extent permitted by law or public policy.

9. Subordination of Lessee's obligations to Guarantor. Guarantor agrees that all obligations of Lessee to Lessor, whether now existing or hereafter created, shall be prior to any claim Guarantor may now have or hereafter acquire against Lessee, whether or not Lessee becomes insolvent Guarantor hereby expressly subordinates any claim Guarantor may have against Lessee, upon any account whatsoever, to any claim Lessor may now or hereafter have against Lessee. In the event of insolvency and consequent liquidation of the assets of Lessee, through bankruptcy, by an assignment for the benefit of creditors, by voluntary liquidation, or otherwise, the assets of Lessee applicable to the payment of the claims of both Lessor and Guarantor shall be first applied to the Obligations of Lessee to Lessor.

10. Miscellaneous Provisions. The following miscellaneous provisions are part of this Guaranty:

10.1 Amendments. No alteration of or amendment to this Guaranty shall be affective unless given in writing and signed by the party or parties sought to be charged or bound by the alteration or amendment.

10.2 Applicable Law. This Guaranty has been delivered to Lessor and accepted by Lessor in the State of Washington. If there is a lawsuit Guarantor agrees upon Lessor's request to submit to the jurisdiction of any court sitting in Clark County, Washington. Any judgment against Guarantor in any such court may be enforced against Guarantor and its property in any country or jurisdiction where Guarantor and its property, or either of them, may be found. This Guaranty shall be governed by and construed in accordance with the laws of the State of Washington.

10.3 Attorneys' Fees; Expenses. In the event of any proceeding to enforce the provisions of this Guaranty, the unsuccessful party to such proceeding agrees to pay to the successful party its reasonable attorneys' fees and costs, whether incurred at trial or on appeal.

10.4 Notices. All notices required to be given by either party to the other under this Guaranty shall be in writing and shall be effective when actually delivered by an overnight courier service (such as Fed Ex) or seven days after being deposited in the United States mail, first class postage prepaid, addressed to the party to whom the notice is to be given at the address shown above or to any other addresses as either party may designate to the other in writing.

10.5 Interpretation. Without waiving any restrictions in the Lease on assignment and except as provided in Section 4 above, the words "Guarantor" and "Lessor" include the successors, assigns, and transferees of each of them. Caption headings in this Guaranty are for convenience only and are not to be used to interpret or define the provisions of this Guaranty. If a court of competent jurisdiction finds any provisions of this Guaranty to be invalid or unenforceable as to any person or circumstance, the finding shall not render that provision invalid or unenforceable as to any other persons or circumstances, and all provisions of this Guaranty in all other aspects shall remain valid and enforceable. If any one or more of Lessee or Guarantor are corporations or partnerships, it is not necessary for Lessor to inquire into the powers of Lessee or Guarantor or of the officers, directors, partners, or agents acting or purporting to act on their behalf, and any obligation made or created in reliance upon the professed exercise of these powers shall be guaranteed under this Guaranty.

10.6 Waiver. Lessor shall not be deemed to have waived any rights under this Guaranty unless the waiver is given in writing and signed by Lessor. No delay or omission on the part of Lessor in exercising any right shall operate as a waiver of the right or any other right. A waiver by Lessor of a provision of this Guaranty shall not prejudice or constitute a waiver of Lessor's right otherwise to demand strict compliance with that provision or any other provision of this Guaranty. No prior waiver by Lessor shall constitute a waiver of any of Lessor's rights or of any of Guarantor's obligations as to any future transactions.

11. Complete Agreement. This Guaranty is the final expression of Guarantor's agreement to guarantee Lessee's Obligations to Lessor and as a complete and exclusive statement of the terms of that agreement. No course of dealing, course of performance, or trade usage, and no parol evidence of any nature, shall be used to supplement any terms. There are no conditions to the full effectiveness of this Guaranty.

Dated: _____, 2013.

_____

_____

_____

_____

NOTARY BLOCKS ON NEXT PAGE

[Individual Certificate]

STATE OF WASHINGTON)
) ss.
County of Clark)

On this _____ day of _____, 2013, before me, the undersigned, a Notary Public in and for the state of Washington, duly commissioned and sworn, personally appeared _____, known to be the individual that executed the foregoing instrument, and acknowledged the instrument to be his free and voluntary act and deed for the uses and purposes therein mentioned, and on oath stated.

WITNESS my hand and official seal hereto affixed the day and year first above written.

_____

_____

NOTARY PUBLIC for the State of _____

My Commission Expires: _____

[Corporate Certificate]

STATE OF)
) ss.
County of _____)

On this day personally appeared before me _____ and _____, to me known to be the _____ and _____ respectively of Lessee that executed the foregoing instrument, and acknowledged said instrument to be the free and voluntary act and deed of said Lessee for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute the said instrument on behalf of said Lessee.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this ____ day of _____, 2013.

_____

Print Name Here:_____

NOTARY PUBLIC in and for the State of _____,

residing at _____

My Commission Expires:_____

Exhibit "G"

Tenant Environmental Questionnaire

SECTION 1- Tenant Information

Industry Name: Tesoro Savage Petroleum Terminal LLC

Contact: [redacted]

Telephone: [redacted]

E-mail: [redacted]

Website: www.savageservices.com, www.tsocorp.com

SECTION 2 - Site Information

Proposed Site Location: See attached

Acreage Required: Approximately 40 acres

Commodity/cargo type (Bulk/Break-Bulk/Other)**:** Bulk

Description of commodity/cargo (including quantities handled)**:** Petroleum Products. Up to approximately [redacted] barrels per day of Petroleum Products will be received at the facility by railcar, stored in storage tanks, and loaded into vessels. For purposes of this Tenant Environmental Questionnaire, "Petroleum Products" means any mixture of hydrocarbons that exist in the liquid phase at atmospheric pressure, including any crude oils, diluents, topped crude oils, partially or incompletely refined crude oils, distillates, biofuels, condensates, intermediates, derivatives, blends, intermixes and finished products (including motor fuels, but excluding any chlorinated hydrocarbons or solvents). Non-exclusive examples of various Petroleum Products are attached to this Tenant Environmental Questionnaire as Exhibit 1.

For avoidance of doubt, no changes to or variations in Petroleum Products handled at the facility will require amendment of or supplement to this Tenant Environmental Questionnaire.

SIC Code: 4000 – Railroad transportation, 4600 – Pipelines except natural gas, 4700 – Transportation services.

Industrial process description (attach additional sheet if necessary)**:** Pilot unit trains through the facility, unload Petroleum Products from railcars, transfer the Petroleum Products from railcar to storage tanks, transfer the Petroleum Products from storage tanks to waterborne vessels.

Modes of transportation required:

Rail 50% **Marine** 50% **Truck** 0%

How will commodity/cargo be transported *to* and *from* leasehold? (i.e., truck transport of cargo from leasehold to dock for export, etc.)**:**

Petroleum Products will be transported in by rail and out by marine vessel.

SECTION 3 – Hazardous Materials Management

List all Hazardous Materials used in the operation of this facility* (including: petroleum products, hazardous and non-hazardous materials, batteries, antifreeze, oil filters, etc.) , excluding Petroleum Products managed as a cargo/commodity. Attach additional sheet or list if necessary.
Include maximum amounts on site at any given time for each chemical managed. This list will establish a baseline of Hazardous Materials for your lease with the port:

Product Trade Name	Manufacturer	MSDS Date	Max. Amount On Site
Odorless Mineral Spirits	Sunnyside	4/25/2011	20 Gal.
Micro-Blaze Emergency Liquid Spill Control	Verde Environmental	1/1/2011	20 Gal.
WD-40	WD-40 Company	6/8/2012	5 Gal.
CTI-220	Corrosion Technology, Inc.	2/1/2011	110 Gal.
Simple Green All-Purpose Cleaner	Sunshine Makers, Inc.	9/1/2011	110 Gal.
PB Blaster	Truflex/Pang Rubber Products Company, Inc.	9/20/2010	5 Gal.
MOBIL Delvac Elite 15W-40	Exxon Mobil Corporation	10/12/2012	220 Gal.
Shell Caprinus XR 40	SOPUS Products	2/28/2010	275 Gal.
MOBIL Delvac Extended Life	Exxon Mobil Corporation	4/1/2011	275 Gal.
MOBIL Hydraulic AW 68	Exxon Mobil Corporation	10/12/2012	275 Gal.
MOBIL Grease CM - P	Exxon Mobil Corporation	8/15/2011	400 Lbs.
MOBIL Polyrex EM	Exxon Mobil Corporation	4/8/2013	120 Lbs.
MOBIL Grease XHP 462	Exxon Mobil Corporation	4/19/2011	120 Lbs.

***All Material Safety Data Sheets (MSDS) required at this facility under OSHA's Hazard Communication Standard (29 CFR 1910.1200) must be provided to the port at the time of assessment.**

Anticipated Future Status: Same as above.

List recurring and potential hazardous waste streams from this facility:
Antifreeze.

List recurring and potential non-hazardous waste streams from this facility:
Motor vehicle and small equipment motor oil.

SECTION 5 – Pollution Prevention: Operations

Describe impact of industrial operation on the following:

Stormwater/Surface Water: Stormwater from the un-loading and tank farm areas will be collected and dispersed in two ways. All stormwater in contact with roofs or structures will be collected in gutters and discharged to approved stormwater inlets within the port property. Stormwater that touches the ground in the loading and tank farm areas will be collected and treated before discharge.

Surface water will be protected primarily by the piping and closed loop system. The closed loop system features dry disconnect attachments that prevent any transfer of material until secure connections are made. A secondary containment system will use drip pans and unloading trenches.

Air Emissions: Minor source – emissions will come from the tanks, oxidizer, boilers, locomotives, and vessels. It is anticipated that the facility will be classified as a minor source as defined by EPA and Ecology regulations.

Soil: The primary containment in the tank farm will be provided by the piping and the tanks. The tanks have dual roofs to prevent mixing of rain water with any product (Hydrocarbons) and a floating roof to limit the off-gassing of the stored material. Secondary containment will be provided by a 50 – 60 ml HDPE liner and dual bottom tanks with interstitial monitoring systems.

The unloading area will have a solid surface. The primary source of containment will be provided by the piping and the closed loop system that features a dry disconnect and open-flow pipe system, which does not have any back pressure. The secondary containment system will consist of drip pans and unloading trenches.

Noise: The pumps at the un-loading and tank farm areas, the oxidizer, and the indexing of railcars will generate minimal noise.

Odor: There should be little to no odors emanating from the property due to the closed-loop unloading system, the floating roof in the tanks, and the oxidizer.

Industrial process location: **Outdoors:** 40% **Indoors:** 60%

If outdoors, what activities and materials are uncovered? Crude loading at dock 13 is uncovered.

Will vehicles/equipment be fueled on-site? (list location, type and amount of fuel used): None.

Will vehicles/equipment have maintenance activities performed on-site? (list location and type of vehicle maintenance activities): Yes. Routine maintenance on small pieces of equipment and bad ordered railcars could be done on site.

Describe any pollution control equipment, waste minimization processes, or environmental programs (e.g., LEED certification, Environmental Management System, Recycling, etc.):
Vapor emissions from the vessel loading are minimized by the use of a vapor recovery system. There are little to no emissions from the unloading and tank farm areas. To reduce electrical consumption, all lighting on site is comprised of LED fixtures. We will also work with Waste Management to establish a recycling program. The closed-loop unloading system prevents spills and emissions in the rail unloading area.

SECTION 5 – Pollution Prevention: Construction

Describe impact of industrial operation on the following:

Stormwater/Surface Water: Silt fence will be installed to control sediment flow out of construction areas. Any existing drain pipes will be protected by hay or straw bales and or sediment socks.

Air Emissions: Earth moving equipment, dozer, roller, grader, backhoe, skid steer, forklift, crane, and fuel trucks will emit low level emissions.

Soil: Washout area for concrete trucks will be established prior to beginning concrete work.

Noise: Construction equipment, concrete trucks, and setting forms for concrete will generate some noise during construction hours.

Odor: Diesel fumes and possible dust fumes.

Industrial process location: **Outdoors:** 100% **Indoors:** 0%

If outdoors, what activities and materials are uncovered? All earth movement, concrete forming, tank construction, and the installment of pipes, the rail unloading structure, pumps, and electrical systems will be uncovered.

Will vehicles/equipment be fueled on-site? (list location, type and amount of fuel used): All large equipment will be fueled on site at specific locations.

Will vehicles/equipment have maintenance activities performed on-site? (list location and type of vehicle maintenance activities): Possibility. Minor hose and cylinder repair, brakes, and other routine maintenance may be done on site. Large scale repairs will be done off site.

Describe any pollution control equipment, waste minimization processes, or environmental programs (e.g., LEED certification, Environmental Management System, Recycling, etc.):
Silt fencing for sediment, steel recycle bins and construction debris bins and/or dumpsters, water trucks if needed to keep dust down.

SECTION 6 – Environmental Documents

Name all known and/or potential environmental permits required to operate the facility (e.g., NPDES, SWCAA, etc.) EFSEC permit, USACE permit.

SECTION 7 – Miscellaneous Environmental

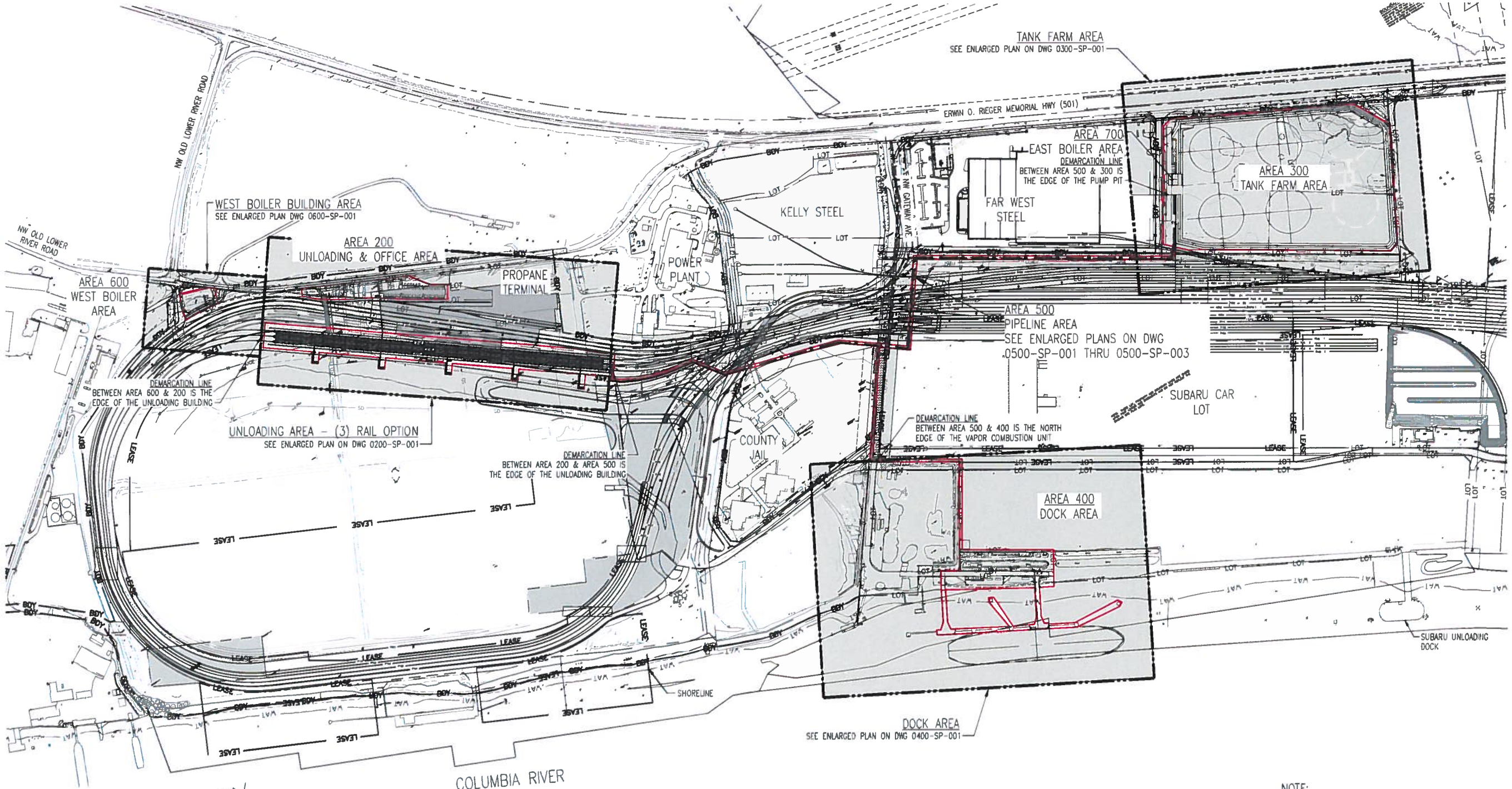
List locations/addresses of other facilities your company operates in the area (Portland/Vancouver) that are similar to the one located/proposing to locate to the Port of Vancouver:
Lessee has no other operations in the area. Tesoro is a joint owner of Lessee, and currently has operations in the port. Lessee intends to contract with Tesoro for dock and vessel loading operations.

List and explain any previous environmental violations issued to your company at any of its locations with similar operations:
None.

This questionnaire completed by: [redacted]

Date questionnaire was completed: 7/11/2013

***Upon completion, please send this form, along with copies of all attached supporting documentation, to the Port of Vancouver, Property Manager.**



PRELIMINARY
FOR INTERNAL DISCUSSION ONLY
DO NOT USE FOR CONSTRUCTION

PLAN
1"=250'

NOTE:
1. THERE ARE NO OPEN SPACES AND/OR RECREATION AREAS.

NO.	DATE	REVISION	BY	CK'D	APP
-	-	-	-	-	-

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SALT LAKE CITY, UTAH
(801)263-3419
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TESORO SAVAGE

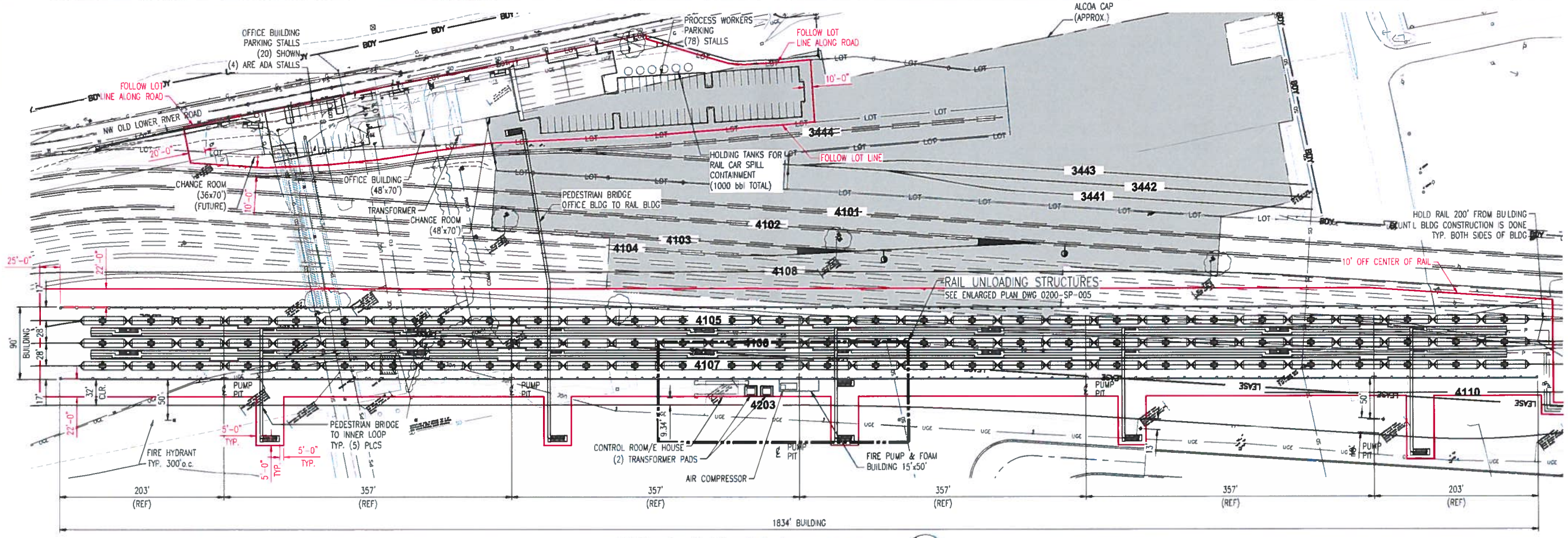
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CUSTOMER: TESORO SAVAGE PETROLEUM TERMINAL LLC

PROJECT: TESORO SAVAGE PETROLEUM TERMINAL LLC
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: OVERALL SITE PLAN
(3) RAIL LOOP OPTION

DESIGN:	START DATE: 05-06-13	SCALE:	1"=250'
DRAWN: JBH	PRINT DATE:	PROJECT MANAGER:	DC
CHECKED:	APPROVED:	SIZE:	24x36
DRAWING NUMBER		SHEET	REV.
0100-SP-001		1/1	M



UNLOADING AREA (3) RAIL OPTION – PLAN VIEW
1"=60'

PRELIMINARY
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DO NOT USE FOR CONSTRUCTION

NO.	DATE	REVISION	BY	CK'D	APP

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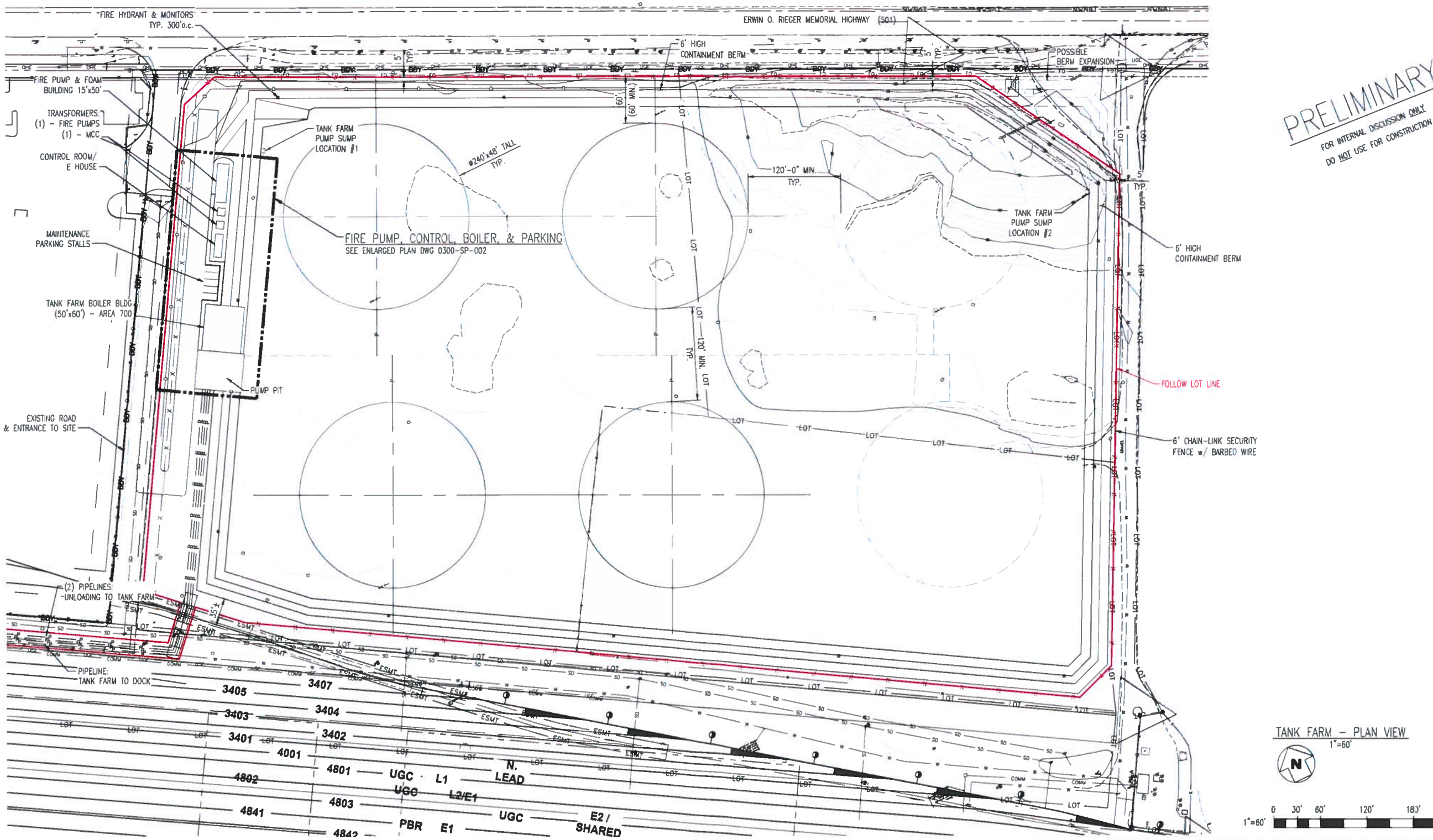
CUSTOMER: TESORO SAVAGE PETROLEUM TERMINAL LLC

PROJECT: TESORO SAVAGE PETROLEUM TERMINAL LLC
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: UNLOADING & BUILDING AREAS
ENLARGED PLAN VIEW

DESIGN:	START DATE: 05-06-13	SCALE:	AS SHOWN
DRAWN: JBH	PRINT DATE:	PROJECT MANAGER:	DC
CHECKED:	APPROVED:	SIZE:	24x36

DRAWING NUMBER: 0200-SP-001 | SHEET: 1/1 | REV.: M



PRELIMINARY

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TANK FARM – PLAN VIEW
1"=60'

N

1"=60' 0 30' 60' 120' 180' 240'

NO.	DATE	REVISION	BY	CK'D	APP
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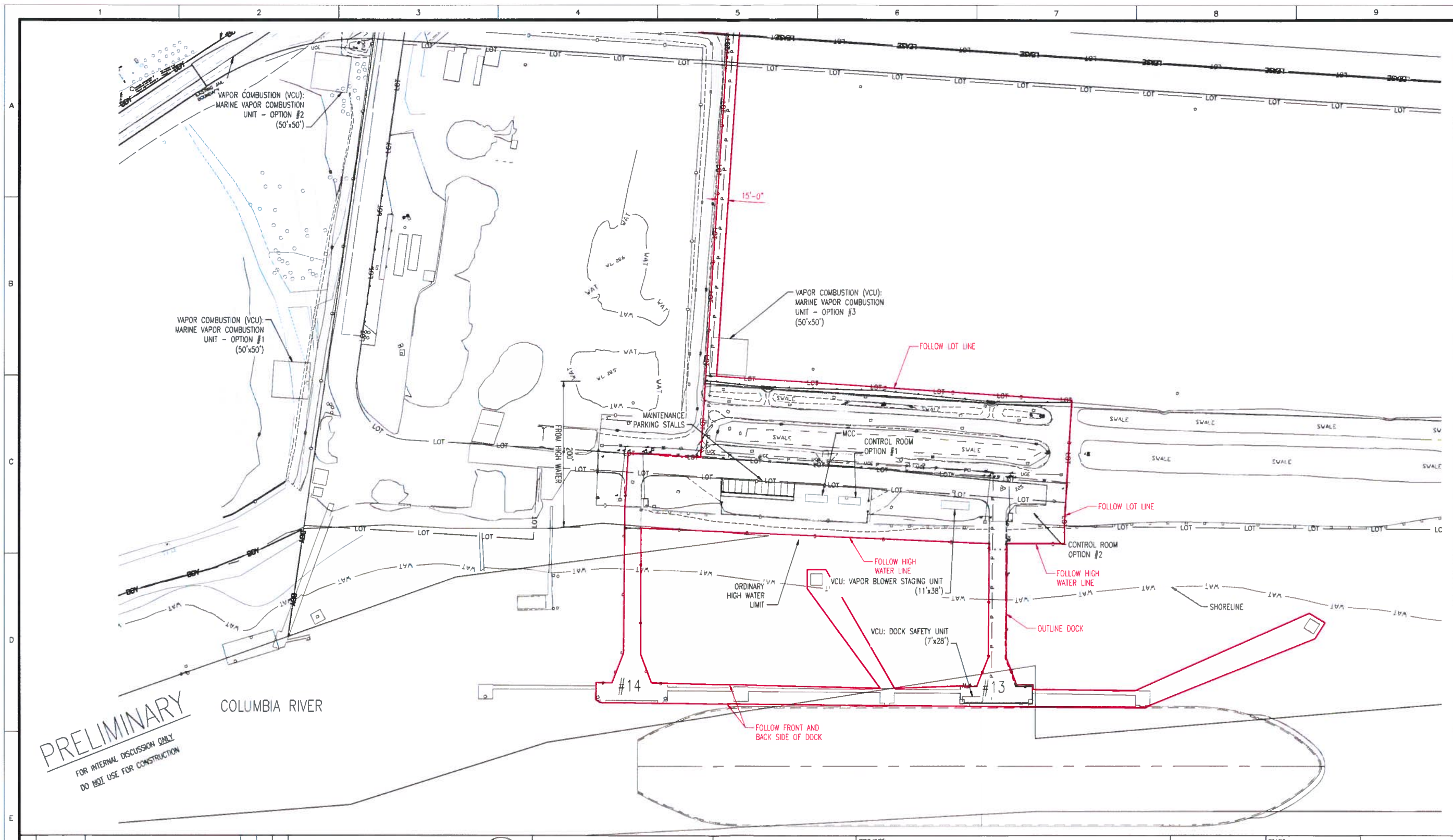
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CUSTOMER: TESORO SAVAGE PETROLEUM TERMINAL LLC

PROJECT: TESORO SAVAGE PETROLEUM TERMINAL LLC
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: TANK FARM
ENLARGED PLAN VIEW

DESIGN:		START DATE:	05-06-13	SCALE:	1"=60'
DRAWN:	JBH	PRINT DATE:	06-07-13	PROJECT MANAGER:	DC
CHECKED:		APPROVED:		SIZE:	24x36
DRAWING NUMBER				SHEET	REV.
0300-SP-001				1/1	M



PRELIMINARY

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DO NOT USE FOR CONSTRUCTION

1"=60' (0, 30', 60', 120', 180', 240')

DOCK AREA – PLAN VIEW
1"=60'

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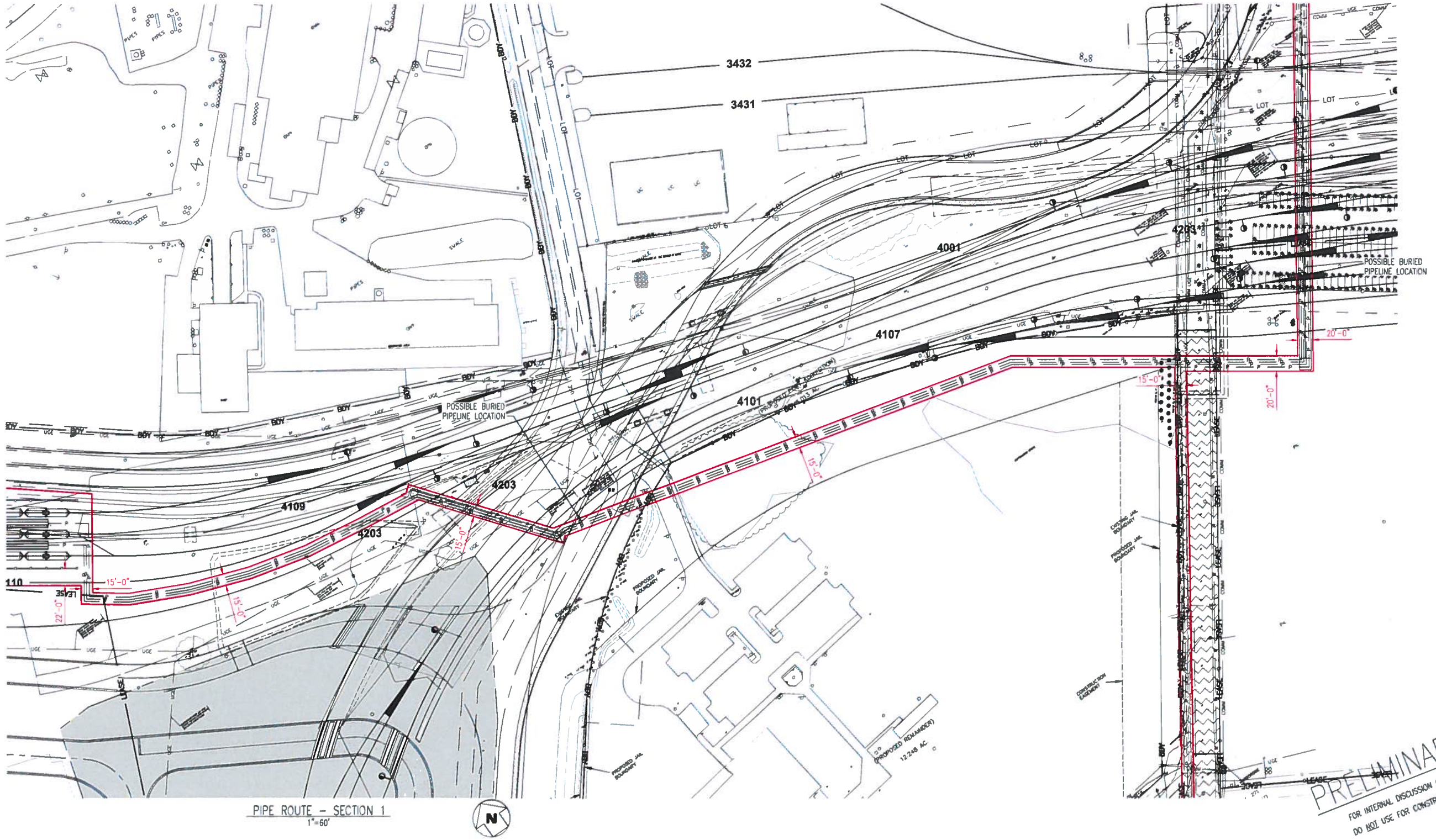
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CUSTOMER: TESORO SAVAGE PETROLEUM TERMINAL LLC

PROJECT: TESORO SAVAGE PETROLEUM TERMINAL LLC
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION:
DOCK
ENLARGED PLAN VIEW

DESIGN:		START DATE: 05-06-13	SCALE: 1"=60'
DRAWN: JBH		PRINT DATE:	PROJECT MANAGER: DC
CHECKED:		APPROVED:	SIZE: 24x36
DRAWING NUMBER			SHEET 1/1 REV. L
0400-SP-001			



PIPE ROUTE – SECTION 1
1"=60'

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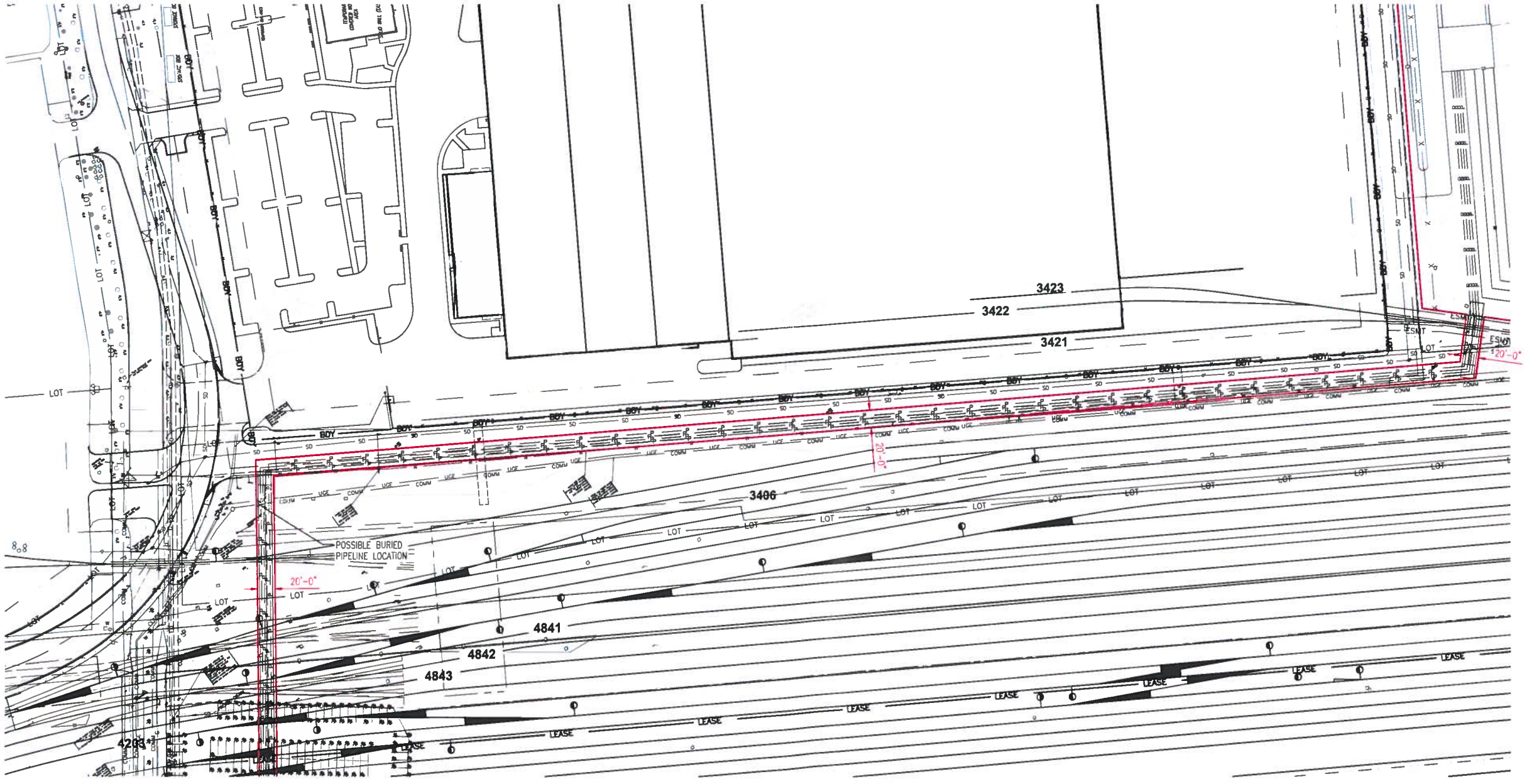
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CUSTOMER: TESORO SAVAGE PETROLEUM TERMINAL LLC

PROJECT: TESORO SAVAGE PETROLEUM TERMINAL LLC
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: SITE PLAN PIPELINE ROUTE
SECTION 1

DESIGN:	START DATE: 06-07-13	SCALE:	AS SHOWN
DRAWN: JBH	PRINT DATE:	PROJECT MANAGER:	DC
CHECKED:	APPROVED:	SIZE	24x36
DRAWING NUMBER		SHEET	REV.
0500-SP-001		1/1	M



PIPE ROUTE – SECTION 2
1"=60'

N

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DO NOT USE FOR CONSTRUCTION

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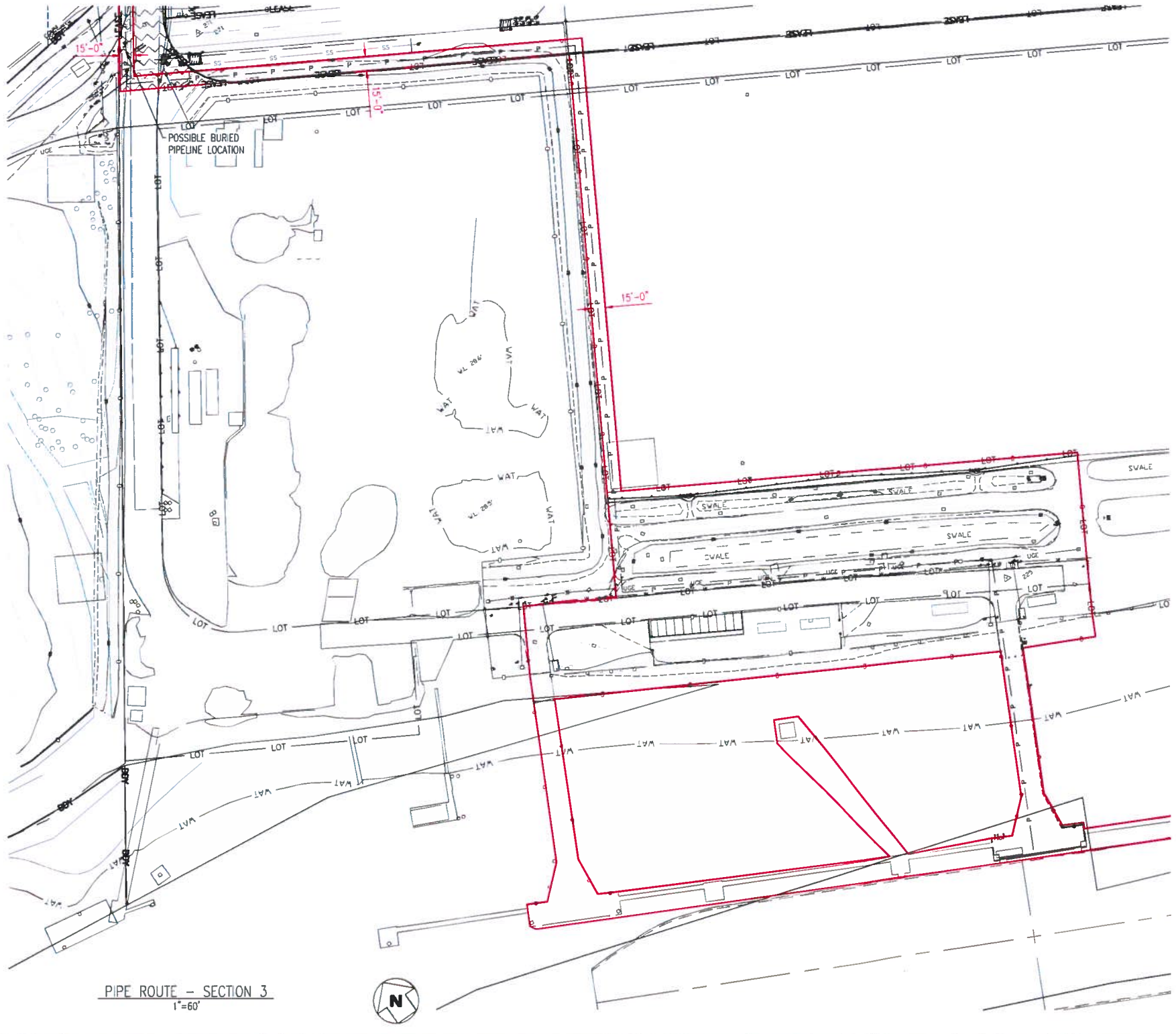
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CUSTOMER: TESORO SAVAGE PETROLEUM TERMINAL LLC

PROJECT: TESORO SAVAGE PETROLEUM TERMINAL LLC
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: SITE PLAN PIPELINE ROUTE
SECTION 2

DESIGN:	START DATE: 06-07-13	SCALE:	AS SHOWN
DRAWN: JBH	PRINT DATE:	PROJECT MANAGER:	DC
CHECKED:	APPROVED:	SIZE:	24x36
DRAWING NUMBER		SHEET	REV.
0500-SP-002		1/1	M



PIPE ROUTE – SECTION 3
1"=60'

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DO NOT USE FOR CONSTRUCTION

NO.	DATE	REVISION	BY	CK'D	APP
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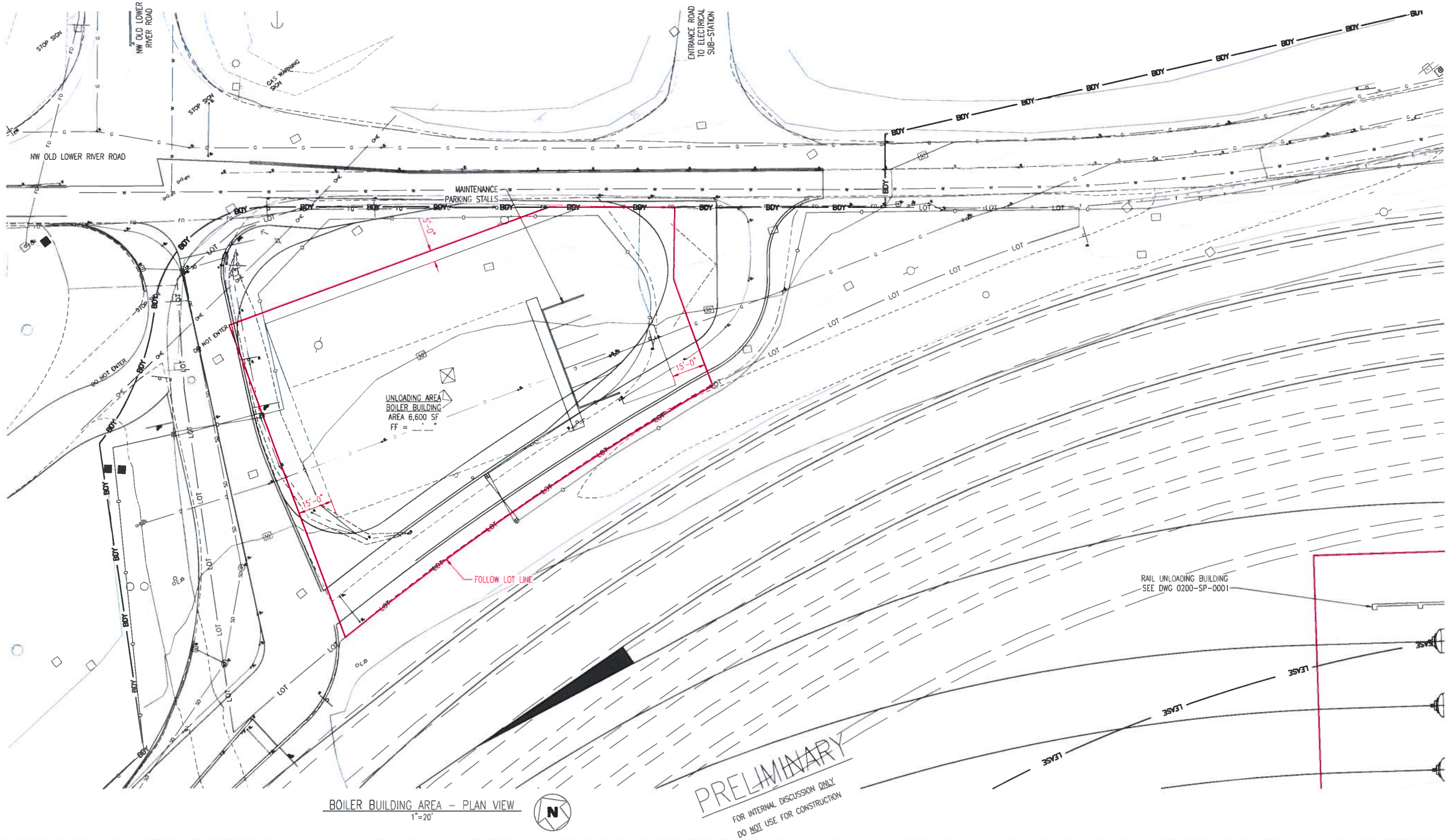
CUSTOMER: TESORO SAVAGE PETROLEUM TERMINAL LLC

PROJECT: TESORO SAVAGE PETROLEUM TERMINAL LLC
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: SITE PLAN PIPELINE ROUTE
SECTION 3

DESIGN:	START DATE: 06-07-13	SCALE:	AS SHOWN
DRAWN: JBH	PRINT DATE:	PROJECT MANAGER:	DC
CHECKED:	APPROVED:	SIZE:	24x36

DRAWING NUMBER	SHEET	REV.
0500-SP-003	1/1	M



BOILER BUILDING AREA – PLAN VIEW
1"=20'

NO.	DATE	REVISION	BY	CK'D	APP
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CUSTOMER: TESORO SAVAGE PETROLEUM TERMINAL LLC

PROJECT: TESORO SAVAGE PETROLEUM TERMINAL LLC
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: BOILER BUILDING – PLAN VIEW
ENLARGED PLAN VIEW

DESIGN:		START DATE: 05-06-13	SCALE: 1"=20'
DRAWN: JBH		PRINT DATE:	PROJECT MANAGER: DC
CHECKED:		APPROVED:	SIZE: 24x36

DRAWING NUMBER	SHEET	REV.
0600-SP-001	1/1	M

Whole Crude Entered			Hvy Sour	Hvy Sour	Hvy Sour	Light Sweet	Light Sweet	Light Sweet
	Cut Yield (Vol%)	LV%	100	100	100	100	100	100
	Cut Yield (Wgt%)	WT%	100	100	100	100	100	100
	API Gravity	API	19.5	20.6	20.39	36.2	42.27	40.2
	Specific Gravity (@60F)		0.9371	0.9303	0.9316	0.8438	0.8143	0.8241
	K-Factor						12.3	12.1
	K-Factor (UOP)			11.71				
	Viscosity K Factor			12.01				
	Sulfur	WT%	2.8	3.52	3.81	0.33	0.149	0.29
	Mercaptan Sulfur	ppm	37	4	55		3	
	Nitrogen	ppm	2513.9	2801.3	2582.7	841	515	750
	Hydrogen	WT%	11.9	11.5	12.1			13.6
	Reid Vapor Pressure	psi	2.77	7	6.75	5	9.78	6.2
	Paraffins (Normal)	LV%		16.99				
	Asphaltenes	WT%	5.14	6.1	7.63	0.52		
	Pour Point	deg F	-37	-44	-50	-12	-20	-10
	Neut or TAN No.	mgKOH/g	1.24	0.91	1	0.02	0.02	0.09
	Viscosity @ 60 F (15.5 C)	cSt	311.7	1657.6			3.1	
	Viscosity @100 F (38 C)	cSt					2.3	
	Viscosity @104 F (40 C)	cSt	62.5	297.4	103.5			3.1
	Viscosity @122 F (50 C)	cSt	40	170.9	75.3	4.1	2	2.6
	Viscosity @140 F (60 C)	cSt		105.1				
	Viscosity @212 F (100 C)	cSt	8.5	24.4	22.6			
	Conradson Carbon	WT%				2.1		
	Total H2S evolved	ppm					5	
	Iron	ppm	5.74	8.3	4.81		1.47	
	Vanadium	ppm	116.88	140	165.37	15.3	0.5	2
	Nickel	ppm	41.6	56	58.86	1.6	0.68	1

Whole Crude Balance								
	Cut Yield (Vol%)	LV%	100	100	100	100	100	100
	Cut Yield (Wgt%)	WT%	100	100	100	100	100	100
	API Gravity	API	19.58	21.07	20.89	36.16	43.07	41.89
	Specific Gravity (@60F)		0.9366	0.9275	0.9286	0.844	0.8105	0.8161
	K-Factor		11.56	11.81	11.72	12.12	12.24	12.29
	K-Factor (UOP)		11.35	11.66	11.67	11.93	11.93	11.93
	Viscosity K Factor		11.63	12.08	11.89	12.09	12.15	12.25
	Sulfur	WT%	2.609	3.408	3.713	0.332	0.15	0.298
	Nitrogen	ppm	2487.5	2776.7	2604.5	841.6	574.6	710.5
	Hydrogen	WT%	10.9		10.8			13.7
	Reid Vapor Pressure	psi	0.98	3.96	3.25	3.27	8.41	3.59
	Asphaltenes	WT%	5.14	6.11	7.64	0.52	0.11	0.05
	Neut or TAN No.	mgKOH/g	0.81	0.89	0.59	0.02	0.02	0.05
	Viscosity @ 60 F (15.5 C)	cSt	311.7	1657.6	262.7	11.9	3.1	5.2
	Viscosity @100 F (38 C)	cSt	70.6	339.8	111.5	5.6	2.3	3.2
	Viscosity @104 F (40 C)	cSt	63.3	297.4	103.5	5.3	2.2	3.1
	Viscosity @122 F (50 C)	cSt	40.1	170.9	75.3	4.1	2	2.6
	Viscosity @140 F (60 C)	cSt	27.1	105.1	56.6	3.2	1.8	2.2
	Viscosity @210 F (98 C)	cSt	8.7	25.2	23.1	1.6	1.3	1.4
	Viscosity @212 F (100 C)	cSt	8.5	24.4	22.6	1.6	1.3	1.3
	Viscosity @300 F (149 C)	cSt	3.5	7.9	10.3	0.9	0.9	0.9
	Conradson Carbon	WT%	7.79	9.84	10.7	2.12	0.84	1.18
	Iron	ppm	5.75	8.31	4.8		1.46	4.71
	Vanadium	ppm	117.09	147.27	165.56	15.29	0.42	2
	Nickel	ppm	42.76	56.92	58.92	1.62	0.7	1.1

EXHIBIT "I"

NEW PRODUCT APPROVAL PROCESS

In accordance with the terms of this Lease, the following information must be provided to the Port of Vancouver ("Port") by the Lessee for any new Hazardous Substances 30 days prior to being handled on Port property. Notification must also be provided for increases in maximum quantities of current Hazardous Substances previously provided to the Port. The Port retains the right to increase the pollution liability insurance coverage amount required to be carried by the Lessee upon its knowledge of change in Hazardous Substances handled at the Premises. The Port will respond to the Lessee's request in writing within 10 business days of receipt.

Tenant Name:

Request Date:

Leasehold Address:

Name of Material:

Manufacturer:

MSDS Attached:* _____ **Yes** _____ **No**
*Note: If MSDS is not attached, request cannot be processed.

Total amount to be handled on site:

Container Sizes:

Number of Containers (each size):

Description of Material Use:

Person Submitting Request:

Title:

EXHIBIT "J"

RAIL OPERATIONS

Section 1 – Description of Rail System:

1.1 Lessor's rail system is owned by Lessor, is operated as of the Effective Date by the Burlington Northern Santa Fe Railway Company ("BNSF") pursuant to the West Vancouver Freight Access and Industrial Track Agreement dated December 23, 2008 (the "ITA"), and includes the private system of railroad tracks, switches, signals and related improvements which provide railroad facilities and services within the Port of Vancouver and access to the BNSF mainline (collectively, the "Port's Rail System").

Section 2 - Description of Lessee's Rail Operations:

2.1 The Premises include two (2) rail tracks (Petroleum Load Tracks, as that term is commonly used in the rail industry) for the delivery and unloading of unit petroleum trains at the Premises, designated as Track Number 4106 (Petroleum Load #1) and Track Number 4107 (Petroleum Load #2) each such track being approximately 7,684 feet in length, and two (2) departure/arrival tracks, each estimated at 7,684 feet, and designated as Track Number 4841 and Track Number 4842.

2.2 BNSF, or Lessor's designated rail operator, shall deliver loaded unit petroleum trains to a designated transition point for further processing.

2.3 Lessee shall operate the loaded unit petroleum trains through the railcar unloading rack, transferring petroleum products to the Storage Area through the railcar unloading sequences, following Lessee's Rail Operating Safety and Maintenance Plan (which shall be mutually approved prior to operation of the Facility) onto the empty unit petroleum train track(s) as designated by Lessor or the designated rail operator. Lessee's designated rail operations personnel shall remain with the lead locomotive at all times through the entire unload sequencing, until the empty unit petroleum train is completely positioned at the empty unit petroleum train staging area, as designated by Lessor or the designated rail operator, where the empty unit petroleum train shall be safely secured by Lessee's designated rail operations personnel or transferred back to Lessor's designated rail operator for immediate inspection and departure.

2.4 During Lessee's unit petroleum train unloading sequences, it may be necessary for the Lessee to segregate, disconnect and set aside "Bad Order" railcars onto Lessee's bad order rail tracks designated as Track Number 4109 (Bad Order #1) and/or Track Number 4110 (Bad Order #2) in accordance with Lessee's Rail Operating Safety and Maintenance Plan.

Section 3 – Rail Maintenance:

3.1 Lessee shall at all times maintain or cause the rail track within the Premises and any other rail track used exclusively by Lessee to be maintained to industry standards and to be kept in good condition and shall make all necessary repairs and replacements to that end, all at Lessee's sole expense.

3.2 If the actions, negligence or willful misconduct of Lessee or Lessee's Related Parties cause damage to the rail system in excess of ordinary wear and tear, Lessee shall bear the entire financial responsibility for the repair.

Section 4 – Lessee's Use of Port's Rail System:

4.1 Lessee's use shall be subject to all reasonable, uniform and non-discriminatory rules and regulation imposed by Lessor from time to time on users of the Port's rail system, and to the terms and conditions of the ITA.

4.2 Lessee shall prepare, maintain and provide to Lessor for approval, which shall not be unreasonably withheld, a Rail Operating Safety and Maintenance Plan. This plan will also be subject to the approval of BNSF and any other designated rail operator.

EXHIBIT "K"

FORM OF PIPELINE EASEMENT AGREEMENT

AFTER RECORDING RETURN TO:
REAL ESTATE MANAGER
PORT OF VANCOUVER
3103 NW LOWER RIVER ROAD
VANCOUVER, WA 98660

Please print or type information

Document Title(s) or transactions contained herein: Pipeline Easement Agreement

Reference Number(s) of Documents assigned or released: _____

Additional reference numbers on page _____ of document(s)

Grantor(s) (Last name first, then first name and initials): **Port of Vancouver USA**

Additional names on page _____ of document(s)

Grantee(s) (Last name first, then first name and initials): **Tesoro Savage Petroleum Terminal, LLC**

Additional names on page _____ of document(s)

Legal Description (abbreviated: i.e., lot, block, plat or section, township, range)

_____

Additional legal on page _____ of document(s)

Assessor's Property Tax Parcel/Account Number(s) _____

The Auditor/Recorder will rely on the information provided on the form. The staff will not read the document to verify the accuracy of completeness of the indexing information provided herein.

PIPELINE EASEMENT AGREEMENT

This Pipeline Easement Agreement ("Easement Agreement") is made and effective this ___ day of _____, 2013, by and between the PORT OF VANCOUVER USA, a municipal corporation of the State of Washington ("Grantor"), and TESORO SAVAGE PETROLEUM TERMINAL LLC, a Delaware limited liability company ("Grantee").

RECITALS:

A. Grantor is the owner of the real property located in Clark County, Washington, which is depicted on Exhibit "A" ("Property").

B. Grantor and Grantee have entered into a Ground Lease dated August 1, 2013 on other real property owned by Grantor for the purposes of allowing Grantee to construct and operate a facility for the receipt, loading, unloading, and transfer of petroleum products ("Lease").

C. Grantee desires to locate and construct a petroleum product pipeline system across the Property.

D. Grantor is willing to convey to Grantee a non-exclusive easement across a portion of Grantor's Property for the pipeline, subject, however, to the conditions and limitations set forth in this Easement Agreement.

EASEMENT AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants and promises of the parties hereto, and other good and valuable consideration, the receipt of which is hereby acknowledged, it is mutually agreed upon by the parties as follows:

A. Grantor grants and conveys to Grantee, its successors and assigns, a nonexclusive easement (the "Easement"), to locate, survey a route, construct, maintain, protect, inspect, and operate up to [redacted] pipelines, each up to [redacted] inches in diameter, and related pipeline appurtenances, instrumentation and wiring (collectively, the "Pipeline"), in the approximate location illustrated on Exhibit "B" and incorporated herein by reference ("Easement Area"), [THE ACTUAL PERMANENT EASEMENT AREA LOCATION AND PIPELINE DESIGN/ENGINEERING TO BE APPROVED BY GRANTOR AND GRANTEE PRIOR TO EXECUTION OF EASEMENT], which shall be under, over, across and through a right-of-way no more than twenty (20) feet in width, being ten (10) feet on either side of the centerline of the Pipeline as determined by the final "as-built" survey.

B. This Easement Agreement is subject to the following terms and conditions:

1. Approval of Plans.

a. Initial Construction. Grantee shall not commence or undertake any Work (as that term is described below) or any disturbance of Grantor's Property without the prior written consent of Grantor. No later than seventy-five (75) days prior to the date upon which Grantee proposes to commence such construction of the Pipeline on Grantor's Property, Grantee shall give written notice to Grantor and submit to Grantor the proposed location of the permanent Easement Area, a set of detailed engineering plans, specifications and drawings (the "Plans") accurately depicting the work, project schedule and scope proposed by Grantee (the "Work"), including vertical elevations where necessary to show the relative location of all other improvements that are located in the vicinity of the Easement Area, and obtain Grantor's written approval, which approval shall not be unreasonably withheld, conditioned or delayed. It is Grantee's intent that Grantee's submittal to Grantor of the Plans and the description of the Work will be made concurrently with, and be included in, the process for the review and approval of Alterations and improvements to be made to the Premises, as more particularly set forth in the Lease. Grantor's approval of the Work shall not be construed as a determination by Grantor as to the adequacy of Grantee's Plans or imply compliance with any other legal requirements. Grantee shall also obtain Grantor's prior written consent to any changes in Plans or Work previously approved by Grantor, which consent shall not be unreasonably withheld, conditioned or delayed.

b. Post Initial Construction. After the construction of the Pipeline, Grantee shall not commence or undertake any Work that would entail any disturbance of Grantor's Property without the prior written consent of Grantor, which consent shall not be unreasonably withheld, conditioned or delayed. No later than twenty (20) days prior to the date upon which Grantee proposes to commence any further construction, alteration, structural maintenance/repair, replacement, or removal of the Pipeline on Grantor's Property, Grantee shall give written notice to Grantor and submit to Grantor a new set of Plans and Work, and obtain Grantor's written approval, which shall not be unreasonably withheld, conditioned or delayed. If Grantee's planned construction is extensive and Grantor must engage outside consultants to assist in its evaluation, Grantor will notify Grantee of the need for longer than twenty (20) days and Grantor will complete evaluation as soon as reasonably possible. Grantor's consent to the Work shall not be construed as a determination by Grantor as to the adequacy of Grantee's Plans or imply compliance with any other legal requirements. Grantee shall also obtain Grantor's prior written consent to any changes in Plans previously approved by Grantor, which consent shall not be unreasonably withheld, conditioned or delayed. Notwithstanding the forgoing, in the case of an emergency that demands immediate action to protect persons or property, Grantee may take remedial action that is necessary upon such notice to Grantor as is reasonable under the emergency circumstances.

2. Work Standards.

a. General. All Work to be performed by Grantee on Grantor's Property shall be in accordance with the Plans submitted to and approved by Grantor and shall be completed in a good and workmanlike manner, free of claims of liens. Grantee shall at all times conduct its activities on Grantor's Property so as to minimize interference with or obstructions of, and will not endanger, Grantor's or Grantor's tenants' or customers' operations or facilities. Grantee shall at all times comply with all laws, regulations, ordinances, rules, court orders, and restrictive covenants that are applicable to the conduct of the Work.

b. Utilities and/or Other Improvements. Grantee acknowledges that there may be existing utilities or other improvements ("Improvements") within the Easement Area and that damage to any existing Improvements may result in significant injury and damage to an existing Improvement owner's operations. Accordingly, Grantee shall exercise the utmost care and caution when working around the existing Improvements on Grantor's Property. Grantee shall not injure or damage, interfere with, or otherwise adversely affect the existing Improvements.

c. Insurance. Consistent with Grantee's requirement under Section 9.B below to provide insurance as provided in Paragraph 15 of the Lease, Grantee hereby agrees to obtain Builder's Risk insurance as more specifically required in Paragraph 15.A(1) of the Lease during performance of the Work.

d. As-Built Survey. Upon completion of the construction of the Pipeline, Grantee shall provide Grantor an as-built survey showing the location of the Pipeline, the Easement Area and all other improvements within the Easement Area, including a final as-built legal description of the Easement Area to be recorded upon completion of construction.

e. Roadway Crossing(s). Access Road Crossings. Where the Pipeline crosses access roads (as those roads are shown on Exhibit "B"), Grantee shall install the Pipeline in a method approved by Grantor under Section B.1.a. Grantee shall notify Grantor fourteen (14) days prior to the date on which Grantee plans to begin work at any access road crossings and Grantor and Grantee shall determine the following prior to commencement of any Work at the access road crossings: (i) what dates and at what times Grantee may perform its Work at the access road crossings and (ii) what other terms and conditions shall apply throughout construction of the Work, including the provision of road access during construction, and (iii) safety requirements (e.g. flaggers).

3. Restoration of Easement Area. Within ninety (90) days following the completion of its Work, or as otherwise conditioned in Grantor's approval of the Work and Plans, Grantee shall, as near as practicable, restore the surface and any disturbed Improvements within the Easement Area to its original condition, and shall replace any property corner monuments, survey references, or hubs which were disturbed or destroyed during construction. Damages to real or personal property caused by Grantee during the course of the Work shall be repaired by Grantee, or at Grantor's option, Grantee shall reimburse Grantor, or any affected tenants or customers, for the reasonable cost to complete such repairs.

4. Maintenance of Pipeline. Grantee shall, at its sole cost and expense, maintain and repair the Pipeline, including but not limited to the regular inspection, maintenance and repair of all pipeline connections, pipe, mains, flanges, bolts and wiring. Such maintenance activities shall not require the consent or approval of Grantor so long as they do not involve any disruption of the Easement Area. If Grantor believes that Grantee has failed to maintain and repair the Pipeline as required by this Easement Agreement, Grantor shall provide written notice to Grantee and such notice shall specify the manner in which Grantor believes that such maintenance and repair is deficient. Grantee shall thereafter have a reasonable time, given the nature of any need for maintenance or repair, in which to complete such maintenance and repair work (which period of time shall be agreed upon in writing by Grantor and Grantee). Notwithstanding the immediately preceding sentence, in the event that Grantor reasonably believes that an emergency exists and immediate maintenance and/or repairs are necessary, Grantor may undertake such

maintenance and/or repairs and invoice Grantee as provided in this Section B.4. If Grantee fails to complete the maintenance and/or repair work within the time agreed upon for doing so, and Grantor is required to undertake any maintenance or make any repairs to the Pipeline by reason of Grantee's failure to perform its obligations under this Easement Agreement, then Grantor may undertake such maintenance and/or repairs and thereafter submit an invoice to Grantee for the reasonable cost of such maintenance and/repairs plus a fifteen percent (15%) administrative fee, which cost shall become due within thirty (30) days after the date of such billing by Grantor. Grantee shall have the right to cut and keep clear trees, brush and other natural obstructions within the Easement Area that may endanger, hinder, or conflict with the construction, operation, inspection, protection, maintenance, and use of the Pipeline, as identified in the Work and approved by Grantor in accordance with the terms of Sections B.1.a. or B.1.b. above.

5. Access By Grantee. Grantee may use the access roads as shown on Exhibit "B" on Grantor's Property for ingress and egress to the Easement Area. Grantee shall exercise its right of ingress and egress only in such locations as may from time to time be reasonably designated by Grantor and in accordance with such reasonable rules and regulations as Grantor may from time to time specify.

6. Grantor's Use. Grantor retains the right to fully use and enjoy the Easement Area to the extent such use does not interfere with Grantee's rights under this Easement Agreement. Without limiting the generality of the foregoing, Grantor reserves the right to place other utilities in the Easement Area; provided, however, that Grantor agrees to coordinate the placement of any other utilities with Grantee and to require that such utilities are installed and/or insulated in such a manner as to prevent any damage to or corrosion of the Pipeline. Grantor's use shall not hinder, conflict, or interfere with the Pipeline or Grantee's rights under this Easement Agreement.

7. Grantor's Reservation. It is the intent of Grantor that this Easement Agreement shall not delay, deter, or prevent future industrial development of any of Grantor's property. Therefore, Grantor specifically reserves the right to relocate the Easement in the event Grantor determines, in its sole discretion, that there is need to do so. Such relocation shall be accomplished in such a manner that there is no interruption to the operation of Grantee's facility located at the Port of Vancouver, and that the Pipeline, after such relocation, functions in the same manner in connection with the operation of Grantee's facility as it did before the relocation. The Grantor, its executors, agents, assigns, and successors in interest agree and covenant to be solely responsible for any and all costs related to its relocation(s) of the Pipeline system required for any reason, including but not limited to all permits required in connection therewith.

8. Grantee's Rights Limited. In no way shall this grant of Easement be considered to give Grantee exclusive rights to the Property or Easement Area.

9. Lease Provisions Incorporated. Grantor and Grantee shall each have the same rights and obligations under this Easement Agreement with respect to Indemnification, Insurance, Environmental, Default, Effect of Default, and Health and Safety, as they each have as Lessor and Lessee respectively under the Lease. Therefore, Grantor and Grantee hereby incorporate in their entirety into this Easement Agreement the following provisions of the Lease: Paragraph 16, "Release and Indemnification Covenants"; Paragraph 15, "Insurance"; Paragraph 11, "Environmental"; Paragraph 24, "Default or Breach"; Paragraph 25, "Effect of Default"; Exhibit "L", "Health and Safety Guidelines".

10. Assignment. Grantee may not assign its rights under this Easement Agreement, either in whole or in part, except as provided in the Lease; if the Lease is assigned, then this Easement Agreement shall be assigned concurrently to the same assignee.

11. Default or Breach. In the event Grantee breaches or fails to perform or observe any of the terms and conditions set forth in this Easement Agreement, and fails to cure such breach or default within twenty (20) days after written notice thereof, or, if such breach or default cannot reasonably be cured within that twenty (20) days, then if Grantee fails to commence to cure within that twenty (20) day period, or, having commenced the cure, does not thereafter diligently prosecute the cure to completion, then Grantee shall be in Default as defined in Paragraph 24 of the Lease.

12. Termination. This Easement Agreement shall terminate upon a termination of the Lease, as provided by the terms of the Lease. Upon such termination, Grantee's obligation to remove the Pipeline and associated improvements and to restore the Easement Area shall be determined in the same manner as is used to determine Grantee's obligation for the removal of Alterations and improvements to the Premises, as set forth in Paragraphs 3.D and 28 of the Lease. Termination of the Lease and this Easement Agreement shall not release Grantee from any liability or obligation under this Easement Agreement.

13. Notices. Notices under this Easement Agreement must be delivered personally, by tracked express delivery service or by depositing the same in the U.S. mail, certified, return receipt requested, postage prepaid, or by reliable overnight courier service offering evidence of delivery, properly addressed and sent to the following addresses, or such other address(es) as each party may from time to time designate by written notice to the other:

To Grantor:	Port of Vancouver 3103 Northwest Lower River Rd. Vancouver, WA 98660 Attn: Real Estate Manager
To Grantee:	Tesoro Savage Petroleum Terminal LLC c/o Savage Services Corporation 6340 South 3000 East, Suite 600 Salt Lake City, Utah 84121 Attention: Group Leader, Oil and Gas Solutions
With a copy to	Savage Companies 6340 South 3000 East, Suite 600 Salt Lake City, Utah 84121 Attention: General Counsel
And to :	Tesoro Refining & Marketing Company LLC 19100 Ridgewood Parkway San Antonio, Texas 78259 Attention: Senior Director, Managing Attorney, Commercial

A notice shall be deemed given on the day such notice is personally delivered or on the third (3rd) business day following the postmark of a notice sent or mailed in accordance with the requirements of this Section 13.

14. Governing Laws. This Easement Agreement shall be governed by and construed in accordance with the laws of the state of Washington.

15. No Verbal or Written Modifications. This Easement Agreement and the attached exhibits, as written, cover and include all of the agreements and stipulations between the parties. No representations or statements, verbal or written, have been made modifying, adding to or changing the terms of this Easement Agreement.

IN WITNESS WHEREOF, the parties have executed this instrument this _____ day of _____, 20___.

GRANTOR:

PORT OF VANCOUVER

By:_____
Todd M. Coleman
CEO/Executive Director

Approved as to Form:

SCHWABE, WILLIAMSON & WYATT

_____
By: Alicia L. Lowe, Port Counsel

GRANTEE:

TESORO SAVAGE PETROLEUM TERMINAL LLC

By:_____
_____,
_____

Approved as to Form:

_____, Attorney

_____
By:_____

NOTARY BLOCKS ON FOLLOWING PAGE

Exhibit "K"

STATE OF WASHINGTON)
) ss.
County of Clark)

I certify that I know or have satisfactory evidence that Todd M. Coleman signed this instrument, on oath stated that he was authorized to execute the instrument and acknowledged it as the CEO/Executive Director of the Port of Vancouver to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this ____ day of _____, 20__.

_____

NOTARY PUBLIC for Washington
Residing in _____
My Commission Expires:_____

STATE OF _____)
) ss.
County of _____)

I certify that I know or have satisfactory evidence that _____ signed this instrument, on oath stated that he was authorized to execute the instrument and acknowledged it as the _____ of TESORO SAVAGE PETROLEUM TERMINAL LLC to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this ____ day of _____, 20__.

_____

NOTARY PUBLIC for _____
Residing in _____
My Commission Expires:_____

Exhibit "K"

EXHIBIT "A"

Grantor's Property

EXHIBIT "B"

Easement Area Illustration

EXHIBIT "L"

HEALTH AND SAFETY

[attached]



Port of Vancouver Tesoro Savage Petroleum Terminal Project

HSSE Execution, Construction and Commissioning Plan

SAVAGE HSSE Overview

Health, Safety, Security and Environmental (HSSE) Plan

Since January 1998, Savage has maintained a partner company relationship in the American Chemistry Council's (formerly the Chemical Manufacturers Association) Responsible Care® initiative. Savage's interpretations of and commitment to the Responsible Care® Codes of Management Practices are:

Employee Health and Safety: We will protect and promote the health and safety of individuals working at or visiting the Facility. Our employees have the necessary training and resources to perform their work in a safe and prudent manner. Employees attend communication meetings and are given opportunities to participate in developing, implementing, and reviewing health and safety programs. All employees and visitors to the Facility follow safe and environmentally responsible work practices.

Process Safety Management: Procedures are in place to ensure that work is performed safely, effectively and productively. Employees are hired using Savage's comprehensive "Hire Right!" program and trained on applicable work procedures. Each facility has written, process specific operating procedures defining the scope of work, the required personal protective equipment, and the potential hazards. Customer service profiles are maintained on each customer, documenting proprietary and specific service requirements. Equipment is maintained both preventatively and progressively, and documented accordingly. In the event of an occurrence, Root Cause Analysis is performed and corrective actions are implemented.

Community Awareness and Emergency Response: We are committed to emergency preparedness through proper planning, risk assessment and training. We effectively communicate with the community and emergency responders regarding our facilities in an effort to promote emergency preparedness. Where available and practicable, we maintain communication with the Local Emergency Planning Committee (LEPC) and local emergency responders to foster knowledge of our operations and potential hazards. Public concerns about our facilities are addressed on a case by case basis.

Security: We are committed to provide for and promote the general security of our employees, our customers and their products, our facilities and equipment, facility visitors and the general public. Security becomes the responsibility of each employee. It is our intent, where possible, to detect, deter and delay anyone or anything from obtaining unauthorized access to our facilities that would pose a security risk. Security vulnerable assessments are conducted at our facilities to determine security risks and weaknesses. A site specific security plan is developed from the vulnerability assessment. Employees are trained in their responsibilities with regards to the security plan. Security plans are kept confidential and are only shared where necessary.

Pollution Prevention: We are committed to achieving ongoing reductions in the amount of contaminants and pollutants released to the air, water and land. Controls are in place at

facilities to prevent releases of contaminants. We value the communities and physical environments in which we operate. Annual emergency response drills are held in an attempt to reduce or eliminate potential releases into the environment. Work practices are routinely evaluated, through monthly inspections and observations, to ensure proper measures are taken to protect and preserve the environment. Possible waste streams are identified, tracked, recorded and evaluated to ensure proper disposal.

Product Stewardship: We take full responsibility and accountability for the products we handle for our customers, those products we use in providing our services, any by-products that may be generated in the course of our business and our employees are trained to appropriately respond in each instance. We maintain close contact with customers and vendors regarding specific handling instructions. We understand our obligation to protect the health, safety and environment of our employees, our customers and the communities in which we reside. All business is conducted in compliance with government regulations.

Distribution: We take full responsibility for reducing the risk of harm posed by the distribution of the products within our care, custody and control. Employees are trained in proper handling procedures and emergency preparedness and attend safety meetings to develop and maintain the integrity of our distribution practices. We constantly seek creative solutions to improve distribution safety. Inspections and observations are conducted in an effort to preempt distribution failures.

In an effort to maintain an atmosphere of continuous improvement, annual reviews of the above seven codes are performed to ensure that standards are being met. Each at Savage is committed to delivering safe, quality, and environmentally responsible "***Best Value –Worry Free***" service.

Safety Program

Safety is of paramount importance to us. Drawing upon Savage's extensive operational experience, and applying the Savage Hazard Analysis & Prevention System at every stage, Savage designs facilities that are safe, environmentally sensitive, efficient and highly productive. We will implement a strong safe operations plan, which will include:

- Safe operating procedures designed specifically for the Facility and rail operating partners, the product to be handled, and the Facility's operating objectives;
- Safety and emergency procedures that are integrated with the Facility's and the Port's own procedures;
- Implementation of Savage's Lead Safety

VPP
Voluntary Protection Programs
An OSHA Cooperative Program

Specialists and Safety Specialists systems on site, together with ongoing safe operations training; and

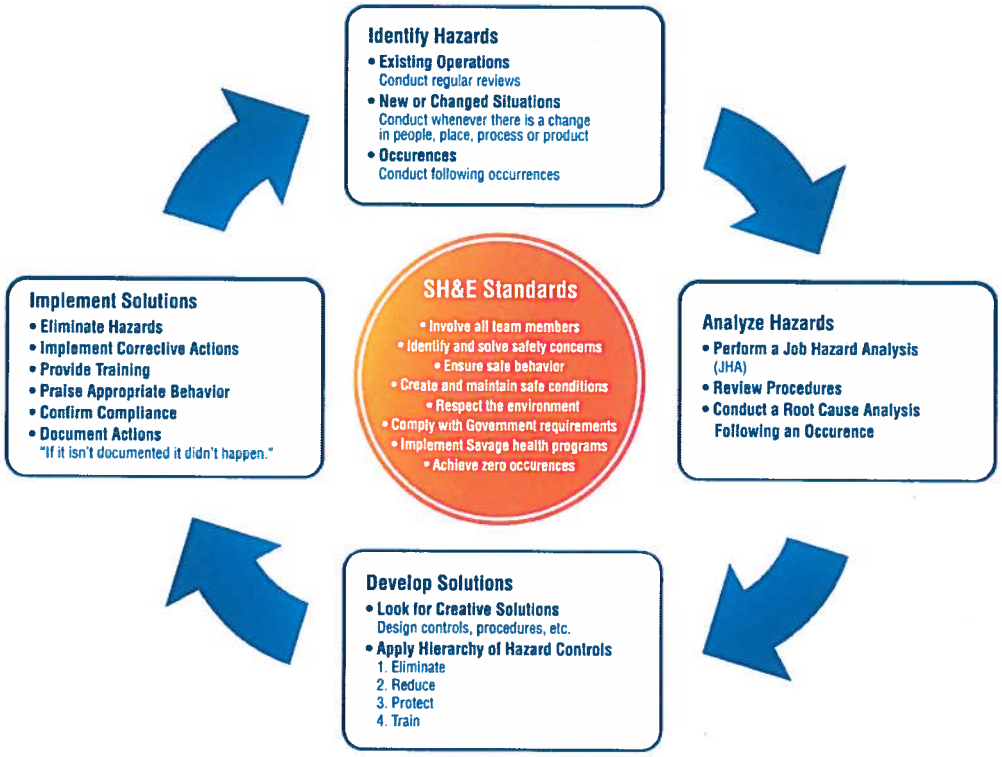
- Access to Savage's safe operations programs and industry training, including OSHA, FRA and HAZMAT training.

Safety Specialist Program:
The objectives of our Safety Specialist Program is to have the front line employees be active team members and actively involved in the safety program, instill Savage's safety standards and the Savage System into the hearts of our front line safety team, provide safety assistance with the manager at the operation level by implementing Savage's proprietary SHAPS program and S^7 operating system, create an environment where we have Safe Behaviors and Safe Conditions, and create a level of Zero Occurrences.

Savage trains operations managers and individual operators to be Lead Safety Specialists and Safety Specialists. Over 40 percent of our current work forces have been trained in these programs.

Savage Hazard Analysis and Prevention System (SHAPS)
SHAPS is Savage's proprietary system used to identify and mitigate hazards. A summary of our SHAPS model in visual form is included below.

SAVAGE Hazard Analysis & Prevention System (SHAPS)



Environment

We recognize and respect the beauty and uniqueness of the area in which the Port is located, and understand its part in the greater ecosystem. We bring to the Port the expertise and commitment of Savage to operate the Facility in an environmentally responsible manner.

Spill Prevention and Response

While we have active programs to test and improve our ability to effectively respond to a spill, our focus is on prevention.

Hydrogen Sulfide (H_2S)

Hydrogen Sulfide (H_2S) is ever present in many industrial processes as a by-product and also during the decomposition of organic matter containing sulfur. H_2S can be found in, but not limited to: refineries, drilling operations, blowouts, tank gauging, tank batteries and wells, recycled drilling mud, and water from sour crude wells. H_2S may also be found in most processes present at sulfur terminals. Savage has extensive experience with H_2S through our sulfur, refinery and crude oil transloading operations.

- All employees will be provided awareness training and testing through Savage's Hazard Analysis & Prevention System in order to be familiar with the potential hazards and proper safe work procedures to follow if exposed to this health hazard. The training will be provided prior to working in any job with potential exposure to H_2S operations;
- Savage will issue personal H_2S monitors to all employees.

Training Program

Savage employees are trained on safe work practices, processes, policies, rules, regulations and site specific operational items. The most important asset at all of our operations is our PEOPLE. We employ the highest quality people by way of Savage "Hire Right, Train Right, Treat Right" program. This program identifies the attributes that best fit the individual operation and incentivizes our people to ask the question; "How can we become better tomorrow than we are today?"

New and Existing Employees

All employees must complete all site specific hazard/customer specific training and site regulatory requirements training before receiving the following training: Employees must complete the New Hire Railroad Operations (RO) Training and pass the associated exams.

Employees in training must complete the following to the satisfaction of a qualified trainer:

- Baseline procedures,
- Site specific procedures,
- Job specific training,
- Pass the written exam(s),
- Pass proficiency exam(s)

Employees may complete the baseline training prior to completing the New Hire RO Training, in a non-production area or a safe location as long as the employee is under the direct and immediate supervision of a trained and qualified employee.

Employees must complete the Port specific training regarding On Track Safety (OTS) along with any additional Port required training.

NOTE:* Any employee **NOT having completed documentation of his/her training must be under the direct and immediate supervision of a trained and qualified employee while performing the new job or task.

HSSE Management

The Health, Safety, Security, and Environmental (HSSE) execution plan provides an overview of relevant HSSE topics and their application to the construction and commissioning of the Tesoro Savage Petroleum Terminal (the "Project"). Tesoro Savage Petroleum Terminal LLC, the Project owner, intends to contract with Savage to manage the construction and commissioning of the Facility.

The objectives of this HSSE Execution Plan are:

- To clearly state the Project HSSE objectives and expectations and provide a tool for the Project Team to use in achieving them;
- To detail the Project organization, responsibilities and methods of management control as they relate to HSSE; and
- To provide an overview of relevant HSSE topics and their application during the Project.

Savage Rules of Safety establish the minimum requirements for the safety procedures to be followed during the Project. Although embedded in each of these rules, it is important to emphasize that:

- Work will not be conducted without a pre-job risk assessment and a safety discussion appropriate for the level of risk.
- All persons must only undertake work for which they are trained and competent, medically fit and sufficiently rested and alert to carry out.
- Engineering controls, work practices and personal protection equipment will be used as per the risk assessment and minimum site requirements.
- Emergency response plans, including rescue plans, will be developed from a review of credible potential emergency scenarios, and will be established before commencement of work.
- Everyone has the right and obligation to stop work that is unsafe.

The Project Team will incorporate Savage Safety Rules through the use of policies for each of the elements.

Where contractor procedures are more rigorous than Savage procedures, the contractor procedure will take precedence and must be followed by the contractor.

Project Objective

The Tesoro Savage Petroleum Terminal (the "Facility") will include the capability to transload North American crude oil from railcar to storage and then to vessel for distribution to refineries on the North American west coast. The Facility will include rail car unloading stations, crude oil storage tanks, vessel loading infrastructure, and associated piping and equipment, and will be capable initially of handling up to two unit trains of crude oil per day, with the potential for near-term expansion to handle up to four unit trains per day. Benefits include:

- Economic benefits to Washington State
- Long-term supply chain benefit (North American vs. imported crudes)
- Reduce ANS dependency as ANS production declines
- Diversify the feedstock options (crude slate and intermediates)

General HSSE Requirements

The expectation is that all contractors will follow all of the Savage HSSE guidelines and procedures for the Project. This includes, but is not limited to:

- Contractors' HSSE Handbook
- Contractor Process Hazards Handbook
- Recycle program (including disposal of fabrication extras)
- Contractor Qualifications
- Savage Safety and Health Manual

Specific HSSE Requirements

Possible Chemical Exposure

- H_2S – MSDS
- Utility Water – MSDS
- Crude - MSDS
- Diesel - MSDS
- Crude Additive 1 - MSDS
- Crude Additive 2 - MSDS

Principles

The following principles will guide the collective Project Team in all Project activities:

- There is no task so important that the time cannot be taken to do it safely.
- People are our most important asset.
- Communication is the key to injury prevention.
- All injuries, property damage and environmental incidents are preventable.
- Everyone is expected to stop unsafe work.
- Near miss reports are a gift. Elimination of little things will prevent larger things from occurring.
- Addressing safety in the planning phase of a job saves time and prevents incidents
- Effective safety management and leadership are good business.

Project HSSE Policy

Everyone who works for Savage is responsible for getting HSSE right. Good HSSE performance and the health, safety and security of everyone who works for us are critical to the success of our business.

Our goal is simple - No accidents, No harm to people, and No damage to the environment.

We continue to drive down the environmental and health impact of our operations by pollution prevention, reducing waste, emissions and discharges, and using energy efficiently.

Culture

Savage has a well-established HSSE program and a history of best-in-class safety and environmental performance. Although nothing is being taken for granted, the Project Leadership Team expects to benefit from this tradition of safe work performance.

Workforce

The Project is located in Vancouver, WA. The area is home to a local contractor workforce. The duration of the Project and its timing in relation to other projects in the area should allow for a stable, well trained workforce. Each contractor will be responsible for screening its employees to determine their appropriateness for a role and for assuring their competency.

SAVAGE and Business Unit Alignment

The HSSE Execution Plan as outlined in this document was developed in alignment with Savage HSSE goals, expectations and standards as presented in the following:

- Savage Rules of Safety
- Group Defined Practice for Assessment, Prioritization & Management of Risk
- Reporting HSSE and Operational Issues
- Group Defined Practice for Incident Investigation
- Savage Control of Work Standard
- HSSE Review of Projects

Project HSSE Goals

We are convinced that, through a dedicated commitment to HSSE, a goal of ZERO incidents is achievable.

Project HSSE Targets

Output Metrics			Input Metrics	
Days Away From Work Cases	0		To be decided	
Recordable Injury Frequency Rate (RIF)	0.35		Joint Safety Observations Completed	
Loss of Primary Containment (LOPC)	0			
Environmental Reportable Incidents	0		Pre-Task Assessments Completed	

We are committed to completing this Project incident and injury free. Our commitment to safety is absolute and never ending. We care about the health, safety, and security of every worker, neighbor, and customer, and we will protect the environment in which we operate.

By following procedures and policies, performing risk assessments, upholding the responsibilities in Control of Work, and practicing and expecting safe work activities from others, we can make this Project incident and injury free.

HSSE Training Expectations

Training expectations include HSSE-related, project-specific training for the Project Team members and the construction contractors' supervisory personnel, as well as turnover and pre-commissioning training for the Construction Management and Commissioning personnel.

Orientation

All personnel are required to complete the Safety Orientation Training program before performing work on site.

- Training for individuals who are making deliveries, but not performing other work onsite, may be limited to the Driver's Site Safety Orientation video.
- Visitors will be escorted by a Project Team member or by suitably qualified contractor personnel at all times. The Visitor Orientation program is provided by the HSSE Team.
- The use of the Escort Policy must not be used to circumvent training requirements.
- Authorization for escort training and the authority to escort Project visitors is provided by the Project HSSE Manager.

Contractor Specific Safety Orientation

Prior to performing any work onsite, new contractor employees must receive all required contactor-specific safety training required for their role. In addition, the contractor-specific training must detail the Project specific risk assessment procedure.

Each contractor Safety Execution Plan must include a safety training matrix that identifies the training provided to each employee, by role, trade or other grouping.

Project Specific Safety Orientation

Completion of a Project Specific Safety Orientation is required for unescorted access to the Project site. The orientation will be facilitated by the Project HSSE Manager and the Project Manager, or their designees.

Specialized Training

Specialized HSSE Training (i.e. Safety Tech, HazOp, COW, etc.) may be required for certain roles within the Project Team. The Project HSSE Manager will coordinate this training as needs are identified.

Safety Committees

Safety committees are a recognized way to increase the effectiveness of the overall safety program. The Project recognizes the value of these committees and the empowerment they provide the contractors.

Petroleum Terminal Project Craft Safety Committee

The Project will maintain a cross functional safety team to provide a forum for addressing safety and health concerns related to field construction activities. The team will be comprised of hourly/craft employees with staff support. All contractors performing field construction activities on the Project must have representation on the Project Safety Team. Terms of Reference are included in Appendix 5.

Safety Meetings

Safety meetings differ from safety committees in their intent and format. The Project requires both safety committees and safety meetings.

Toolbox Talks

Daily toolbox talks are required for all groups prior performing field work. The talks should be specific to the work to be performed that day (Permits, PPE requirements, JSAs, PTAs, etc.). These should be led by a work crew member and be a *conversation about the topic, not a presentation*

Weekly All-Hands Safety Meetings

At the start of each work week, an all-hands meeting will be held. General safety information will be shared along with an update on the weeks planned scope. These informal meetings will be co-lead by the Construction Manager and HSSE Manager or their delegates.

Monthly Safety Meeting

Each contractor must have a monthly safety meeting with their onsite employees to provide a forum for an extended conversation about a project-specific training topic.

All-Hands Safety Meetings

The Project will present the content from the all-hands meetings. The content may be modified at the discretion of the Project HSSE Field Coordinator to ensure relevancy to the Project.

Communications

Effective communication is critical to the success of the Project. Communication occurs in many forms, including email, groups meetings, and individual face-to-face. When it comes to HSSE concerns, it is important that we communicate quickly and completely so that appropriate action can be taken to mitigate the concern.

Policies & Procedures

Relevant and Project policies & procedures will be available to all contractors through online access. Hard copies of the most relevant Health & Safety Procedures will be kept in the Permitting Trailer for easy reference.

Meetings

Meetings are effective for sharing consistent information with multiple people. They do not replace the need for individual face-to-face communication. Meeting participation should be broad enough to meet the objectives of the meeting, but attendance should also be consciously limited to only those who are required.

Radio Communication

The ability to effectively communicate has direct safety implications. Project radio traffic will occur on Savage's radio system. Radio channels on the radio system will be assigned and a chart will distributed.

Contractors may choose to operate on their own radio systems; however, select personnel for each contractor must also carry Savage radios. At a minimum, all Project safety personnel will be available on Savage radios.

HSSE Leadership

The Project Team will demonstrate HSSE leadership by incorporating HSSE elements into a variety of Project activities. This HSSE Execution Plan and its details must be supported by all team members.

Demonstration of HSSE Leadership

All team members will:

- Start each meeting with a relevant HSSE discussion topic.
- Share lessons learned to aid in raising HSSE awareness.
- Participate in all HSSE related training.
- Actively report, investigate and embed learning from safety opportunities and near misses.

Additionally, Project Leadership Team (PLT) members will:

- Review all new and outstanding HSSE issues and risks, their status and projected resolution date
- Actively engage workers in conversations about the risks of the work they are performing and to solicit ideas for minimizing these risks as well as ideas for improvements to the processes in place to control these risks.

HSSE Organization

The Project Leadership Team is committed to ensuring sufficient HSSE resources for the duration of the Project. Field roles will be filled by a combination of Savage and/or Savage trained contractor safety professionals. Staffing levels will be regularly reviewed and may be adjusted based on the quantity and risk of the work being performed. The Project HSSE Manager, in consultation with the Project Manager and the HSSE Manager, will determine the minimum HSSE staffing levels for each phase of the Project.

Project Safety Organization

The Project will include a dedicated HSSE Manager whose focus will be to lead the development and delivery of the HSSE Execution Plan requirements in a consistent and effective manner to achieve outstanding HSSE performance. The Construction Management Team (CMT) will include HSSE Manager who will work closely with the contractors to help them interpret the Project and safety requirements.

Each contractor will be required to develop a detailed Construction Execution Plan (CEP), with emphasis on safe execution of the work. The CEP must include safety staffing levels in addition to the other requirements outlined elsewhere in this document. The CEP will be reviewed and agreed during a pre-mobilization review with the contractor's leadership team and the PLT.

A contractor safety representative must be onsite at all times project work is being performed, regardless of the nature of work or crew size. Exceptions must be approved by the Project HSSE Manager.

HSSE Interface Requirements

The Project will maintain alignment with HSSE philosophy, performance expectations and culture. To ensure this, the Project will routinely interact with HSSE resources from the HSSE

team. The Team will aim for collaboration and transparency on design features and construction practices.

Savage's HSSE Team for the Project is interfacing and providing resources as follows:

- Coby Long, CSP is the Savage HSSE Director, and is considered a key stakeholder for HSSE related issues for this Project. The PLT will enroll him in relevant issues, successes, and staffing requests.
- Coby Long or approved designee is the Site Lift Authority. He will approve each critical lift plan as well as participate in the Day of Lift review

The Project HSSE Manager is the single point of contact for coordination of these resources.

HSSE Assurance Processes

The Project will use a variety of assurance processes to ensure good HSSE practices will be included in the design. These include;

- Ergonomics evaluation of the unloading rack work station duties using HITRA or other techniques.
- Evaluation of the personal exposures to hydrocarbons for the unloading work activities and determining PPE required.
- Fire Hazard Analysis of the process and the required fire protection systems.
- Hazard Operability (HazOp) studies of the final design.
- Constructability Review of safety issues.

These assurance processes will be identified in the Engineering Schedule to ensure they are completed at the appropriate time.

HSSE Roles and Responsibilities

It is expected that everyone on the Project, regardless of their role, be actively engaged in safety. Personal commitment to uphold the safety values of the Project will be sought from each individual on the Project team.

All Project Team Members

All Project Team Members must:

- Stop work that is unsafe
- Demonstrate HSSE commitment through their actions
- Actively participate in HSSE meetings and Risk Review meetings
- Share lessons learned
- Work in a manner which prevents accidents, eliminates harm to people and does not damage the environment.
- Participate actively in the Project's Risk Identification Meetings
- Understand the Environmental Policy and their role in its implementation.
- Be aware of the potential environmental aspects and impacts of the operation.

- Acquire training as outlined in this HSSE Management Plan.
- Align the Projects overall objectives with Savage's overall safety goals.
- Document field observations

Project Leadership Team

The Project Leadership Team must:

- Lead development of the site specific Project HSSE Execution Plan.
- Ensure that resources are in place to execute an effective HSSE program (i.e. HSSE organization, permitting, training, equipment, qualified personnel, finance and time).
- Develop and assign personnel performance objectives for implementing the HSSE Execution Plan.
- Ensure that Project contractors and suppliers are in alignment with the HSSE goals of the Project.
- Evaluate and select contractors who adhere to the high HSSE expectations of the Project.
- Engaging contractor leadership to ensure their full participation in the HSSE Management of their employees.

Commissioning Team

- Participate and encourage the successful implementation of the HSSE Execution Plan
- Ensure compliance with the Project HSSE Policies.
- Engage in conversations about hazard identification and mitigation.
- Participate in communication with stakeholders regarding Project activities as well as activities that may impact the Project.
- Lead preparation for and communication of the introduction of process hazards into the Project Brownfield site.

Construction Management Team

The Construction Management Team must:

- Schedule work in such a manner to minimize Simultaneous Operations (SIMOPS) risks.
- Document field observations,
- Ensure compliance with and Project HSSE Policies,
- Engage the workforce in conversations about the risk of the work being performed.
- Ensure that task performance remains consistent with the terms of the permit and risk assessments, and intervenes to stop work any time the conditions warrant.

HSSE Team

Project HSSE Team must:

- Listen to field workers concerns and suggestions, ensuring they are addressed appropriately.
- Ensures personal and process safety elements of the Project, from concept through design, construction & commissioning are given their due attention.
- Coordinate with the business unit on environmental permitting requirements.

- Maintain Project HSSE records and documentation.
- Compile Project HSSE scorecard data.
- Monitor and assign responsibility for completion of HSSE action items included in the Project Risk Register.
- Coordinate the input of data into Savage's system of record for tracking incidents.
- Maintain relevant environmental documentation and records.
- Conduct HSSE management and technical oversight for Project's contractors.
- Conduct Project Specific Safety Orientations.
- Daily validation of Brownfield and Non-Brownfield conditions and review of Brownfield and Non-Brownfield site safety conditions.
- Reinforce positive HSSE behaviors and actions of Project personnel.
- Provide HSSE assurance through field and recordkeeping audits.
- Participate in daily toolbox meetings.
- Review risk assessments to ensure they accurately recognize the tasks, hazards and controls.
- Verify implementation and execution of the HSSE Execution Plan, compliance with the Savage Rules of Safety and associated contractor HSSE plans and procedures

HSSE in the Execute Phase

The hazards of the Project are comprised of a combination of existing site hazards along with the hazards and safety risks created as a result of the work scope. The site hazards will vary depending on the exact *location* of the work while the Project hazards vary based on the *nature* of the work. When risk assessing the work, it is critical that both types of hazards are addressed and appropriate controls be put in place to minimize the likelihood on an incident.

Work on the Project has been broken into two categories; OSBL and ISBL. ISBL stands for Inside Battery limits and refers to work that will occur in a designated area in the immediate vicinity of the new Project being built (and outside of the existing perimeter fence). This includes extensive civil work. The vast majority of the ISBL work will occur within an area that has been defined as a "Brownfield" construction site. Although there are operating facilities surrounding the Project, the site itself is comprised of native soils and clean fills. The surrounding facilities are: Keyera, Clark County Public Utilities, Far West Steel, Subaru, BHP Billiton, Clark County Correctional Facility and Cal Portland.

OSBL stands for Outside Battery limits and refers to work that will occur outside the immediate area of the new Project (and inside of the existing perimeter fence). This includes much of the tie-in work that will occur throughout the Facility. This work is often within the battery limits of other operating facilities. It is especially important to discuss site hazards when risk assessing this work. All Port of Vancouver site work practices, policies & procedures must be adhered to for work.

Because of these differences, work rules and safety procedures may vary between OSBL and ISBL. The Control of Work process is one example where significant differences will exist. To

minimize confusion and drive consistency, separate teams will be utilized for execution of ISBL and OSBL work.

Brownfield Site Hazards

The following are recognized as the primary site hazards associated with the Project work location:

Proximity to operating facilities and live rail lines (Fire/Explosion/Spill/Toxic Release)

Project work is occurring directly east of operating facilities as named above. The hazard of operating facilities is a constant exposure. Constant awareness of the nearby facilities will be maintained, and communication plans will be in place to ensure the Project is notified in the event of an operational issue that could result in personnel exposures.

Traffic

The worker/vehicle interface is a recognized hazard. The Project logistics plan must address this exposure by identification of designated walk routes, cross walks and vehicle access points. Significant soils excavation and hauling will be required in this Project. An excavation and hauling safety plan will be developed in the Define Phase after contractor selection. Traffic flow and staging of materials will need to be coordinated to minimize impacts to the Project as well as activities (plot plan with lay down and traffic flow will be developed in Define). Any required closures will need to be coordinated with operations, maintenance and construction to minimize impacts to operations. Construction equipment cleanliness needs to be reviewed to minimize impacts to sewer systems and storm water. We will need to evaluate the need for a contained wash area to minimize mud tracking in the construction sites and on public roads.

Project Hazards

In addition to common construction hazards, the following are recognized as the primary hazards associated with the Project work scope:

Confined Space Entry

Confined space work may occur throughout the Project. Any work that requires personnel entry into drums, tanks, towers, vaults, and trenches deeper than 4 feet, must have a Confined Space Entry permit. Excavations may also require a Confined Space Entry Permit, based on configuration. The HSSE Manager will evaluate all excavations to determine if an entry permit is required. Contractors must ensure that the Attendants and Entrants are adequately trained. The Confined Space Entry Policy will be used for all Project confined spaces.

Each confined space will be equipped with a continuous gas monitor per the Continuous Monitoring policy. Exceptions will need to be approved in advance by the Project HSSE Lead. Also, as part of the Emergency Response and Rescue Plan, all confined space entries will be reported to the Shift Superintendent daily.

Cords & Hoses

Cords and hoses must be routed in a manner to minimize trip hazards and the potential for damage to the cords or hoses from passing equipment and vehicles. When overhead routing is not possible, controls must be in place to increase visibility and prevent damage. At no time must vehicles or equipment be permitted to pass over unprotected cords or hoses.

Elevated Work Platforms

Work from elevated work platforms is common in construction and can reduce the risks associated with building scaffolding or working from ladders for short duration work. At the same time, these tools introduce a variety of risks to the jobsite. Elevated work platforms may only be used for their intended purpose as specified by the manufacturer. They may not be rigged from or used as a crane. Workers must work with their feet on the floor of the basket and wear a full body harness and lanyard fixed to manufacturer provided and approved attachment points in both scissor and boom style lifts. An Elevated Risk Assessment or Risk Assessed Procedure is required for any transfers from work platforms at elevation.

Excavation/Ground Disturbance

The Project has significant scope around the excavation of a large volume of dirt. Extensive underground surveying will be conducted in the area to ensure it is safe to perform excavations in the area. Underground obstructions may exist within the Project boundaries so proper planning and execution of subsurface work is essential. For purposes of permitting any ground disturbance activities, the Project will follow the Excavations, Trenching, and Shoring and Pile-driving policy.

Falling/Dropped Objects

Falling objects pose a risk wherever work is performed at elevation. Control of objects at height via toe boards, netting, proper rigging and tool lanyards is our primary control measure. Secondary controls may include control of personnel working below elevated work. Flagging may only be used as the primary means of falling object protection when other controls have been determined to be infeasible. When flagging is used for falling object protection, the use of red "Entry Requires Special Permission" flagging is required. Each contractor's Safety Execution Plan must address how falling object protection will be achieved.

At a minimum, netting is required on all elevated platforms and scaffolding during construction.

Falls from Elevation

The Project will follow the Fall Protection Policy while working at heights. Contractors will be required to; provide their employees with approved fall protection equipment, ensure that employees are trained and, ensure that they follow this procedure. As part of the pre-task risk assessment, appropriate fall protection and restraint or arrest systems, including appropriate tie off points, must be defined. Fall Protection Policy includes scaffold and ladder specifications as it relates to fall protection and working at heights and must also be followed.

All elevated work, regardless of the height, must be performed from an appropriate ladder or work platform. At no time may work be performed while standing on piping, pumps, buckets, chairs, wooden boxes or other surfaces not designed as work platforms.

Flagging & Barricading

The Project will follow the Policy for flagging and barricading. Barricades and flagging must be removed by the group completing the work as soon as it is safe to do so. Each week, at a minimum, all flagging across the site must be removed and work zones re-established at the start of the next shift.

Hand/Portable Tools

Improper use of tools is a leading cause of injury. Tools may not be modified from their original design and may only be used for their intended purpose. All guards must remain in place while the tool is in use. If an acceptable tool is not commercially available and one needs to be modified or manufactured onsite, a risk assessment must be conducted and be approved by the HSSE Manager.

When equipped with a removable handle, the handle must remain in place unless it creates a physical obstruction. Prior to removal, the task must be documented on the Pre-Task Assessment (PTA) for the work and the PTA must be signed by a contractor safety representative. The handle must be replaced immediately following the task for which it was removed.

When using MAG drills, the power supply must be tagged where the extension cord is supplied power and the drill must be physically secured (chained or strapped) to prevent falling in the event of a power failure.

It is important to have the right tool for the job. The use of cheater bars or double wrenching is expressly prohibited.

Hot Work

The entire Project Non-Brownfield has been classified as a fabrication area. Hot work within the designated Non-Brownfield will not require a Safe Work Permit, continuous monitoring or a dedicated fire watch. However, work areas must still comply with the following;

- Work areas must be free of combustible materials,
- A fire extinguisher or water hose must be available at the work site,
- Sparks must be contained to the immediate work area, and
- Shielding must be adequate to prevent flash burns

Hot work that occurs outside the Non-Brownfield will be managed in accordance with the Safe Work Permits Policy.

Housekeeping

Everyone is responsible that their area is kept in a safe, clean condition at all times. This includes the removal and proper disposal of nails and other debris. Satisfactory working conditions and the safety of all depends upon your housekeeping habits. A deliberate roll back of each work areas must occur daily at the end of the shift. Tools and materials may remain staged, but all debris must be cleaned up and disposed of.

Knives

The improper use of utility and pocket knives is a common cause of injury on construction Projects. This is often the result of using the wrong tool for the task (i.e. stripping wire with razor knifes or knife cutting zip ties). Contractors must actively manage the use of knives and keep their use to a minimum. Wire strippers, side cutters, scissors and safety cutters are generally safer alternatives to knives. When physically possible, these safer options must be used.

When knives are determined to be the most appropriate tool for the task, they must be used with a cut resistant glove. At a minimum, a level 2 (ANSI/ISEA 105-2005) glove must be worn on the opposite hand.

Lifting (Crane)

The Project will follow the Lifting Policy for all lifts. The contractor will be required to fill out any Critical Lift Certificates needed, and provide the technical specifications of the lift. Savage HSSE will facilitate the required Elevated Risk Assessment. The Lift Authority will approve each critical lift prior to commencement as well as participate in the Elevated Risk Assessment.

As part of the Emergency Response and Rescue Plan, all critical lifts that should not be shut down in the case of an evacuation will be reported to the Shift Superintendent. This report must include the names of specific individuals authorized to remain behind to secure the load to a safe position in the event of an alarm.

Personnel under Loads

Personnel access must be restricted while lifting operations are underway. This may be achieved through the use of flagging or spotters. The only time personnel may be under a suspended load is while performing approved multi-lift rigging. At no other time may a person be positioned under a live load. Tag lines must be used to control the load to allow control while maximizing the distance between the handler and the load.

Lifting (Manual)

Improper manual handling of materials cause more injuries than any other work activity. Incorrect lifting is the number one cause of back injuries and also accounts for many hand and foot injuries. Each contractor's Safety Execution Plan must address manual material handling including weight limits for single person lifts.

Mobile Equipment Operations

Safe operation of heavy equipment requires supervision, adequate risk assessment/management, competent operators and proper maintenance of the equipment. Trucking and heavy equipment operations are one of the Projects greatest exposures and will require active oversight. Prior to the start of excavation activities, the contractor must provide a detailed Excavation Safety Plan that includes components to ensure oversight, adequate risk assessment/management, competent operators and proper maintenance of the equipment. At a minimum, yellow high visibility vests will be required for all ground personnel working in the vicinity of mobile equipment operations. Spotters are required for all vehicles and equipment backing. The only exceptions are passenger vehicles backing from designated parking spots.

Personnel Baskets

The use of a crane to hoist employees in a personnel basket is prohibited except when the use of conventional means is determined to pose a greater risk. All lifts using a personnel basket are considered critical lifts. No Personnel Basket lifts are anticipated on this Project.

Pile Driving

If the Project scope calls for the installation of piles will be done in compliance with the Excavations, Trenching, and Shoring and Pile-driving policy, the contractor must develop a Plan that specifically addresses the health & safety issues associated with the pile driving operations, including material handling methods, pile lifting, site logistics, SIMOPS, and PPE requirements.

Powered Work Platforms

All powered work platforms such as Scissors Lifts, JLG, or other must:

- Have a documented written inspection prior to being put into use on site.
- Have a daily pre-user (documented) inspection.
- Have all occupants in a fall protection harness and tied off at all times during lift operation.
- Only be operated by a trained/qualified operator.
  (In the event of an emergency situation anyone can operate ground controls to bring the platform to the ground to assist in exiting the area and or rescue)

Scaffold Requirements

All requirements outlined in the Scaffold Safety policy must be followed for Project scaffolding. In addition, within the Area, the following requirements apply:

- Swing gates must be used at all access points
- Fixed toe boards must be installed around each work platform.
- Netting must be installed to the top rail to provide falling object protection on all scaffold decks
- Green tags indicate a scaffold is complete and there are no identified hazards. Yellow tags must be used whenever hazards exist, such as head knockers, holes in deck, uneven decking, etc. The need for a harness will be determined by the competent

scaffold builder and contingent upon the nature of the hazard. Harness requirements must be noted on the yellow tag.

Slips, Trips & Falls

Slips, trips and falls associated with non-risk assessed activities remains a leading cause of injury within Savage. The construction site will be managed to minimize hazards associated with slips, trips and falls. Designated walk routes must be established and maintained in good condition. Hazardous ground conditions must be immediately corrected, flagged or barricaded. Employees will be prohibited from taking short-cuts through un-improved areas or areas of active construction.

Soil Disposal Plan

This Project may require large quantities of soil to be removed from project site and replaced with structural fill material. As much of this soil as possible will be re-used within the Facility while the balance will be transported offsite to an approved disposal facility. This activity would generate a significant amount of traffic, which must be managed by the selected hauling contractor. Trucking activity has the potential to cause community complaints if not properly managed. The contractor must provide a detailed Excavation, Transportation & Disposal Safety Plan that includes expectations related to onsite stockpile operations and management of issues likely to result in community complaints including truck routing, cleaning procedures and schedule. All soil disposal will be done in accordance to local, state and federal laws.

Safety Activities

A variety of proactive safety activities will occur through the duration of the Project that are intended to help deliver on our goal of no accidents, no harm to people, and no damage to the environment. Our objective is to identify and correct the little things before incidents occur.

Safety Observations

Documentation of field safety observations is expected of the Construction Management, Project Leadership and HSSE Teams. A schedule will be created that will pair Savage and contractor representatives for joint safety tours. The results of these observations will be reviewed and the data analyzed to identify trends or specific items needing attention. These results will be discussed with the Companies involved as well as shared with the Project Safety Team for Project-wide impact.

Compliance Assurance

A primary role of the HSSE Manager is compliance assurance. Their regular field presence and intimate knowledge of both the Project and site HSSE expectations allows for timely and constructive feedback to the workforce. As opportunities are identified, the HSSE Manager will provide coaching and guidance to help bridge any gaps between the Project's expectations and the performance observed.

The Project HSSE Manager will coordinate routine audits of key elements of the contractor's safety programs to assure they are being carried out as described. These audits will be both formal and informal and include reviews of both field activities and supporting documentation.

Investigations

All events requiring formal investigations, including injuries, incidents and near misses, will be entered into Savage's S7i System. All investigations will be coordinated by the Project HSSE Manager. The Project will use the classification system for determining the appropriate level of incident investigation based on the severity or potential severity of the event.

General Safety & Health

The following section outlines additional Project health and safety expectations not identified in the Site Hazards or Project Hazards sections above.

Complacency

Early success can often lead to complacency, where satisfaction is accompanied by a decrease in awareness of actual danger or deficiencies. A concerted effort to address complacency will continue for the duration of the Project. Variation of routine is important. This can include changing formats of meetings, safety stand-downs, etc.

Emergency Preparedness and Response

The Project will coordinate the Emergency Preparedness plans with the Port of Vancouver and Vancouver Fire Department. As such, all conditions of the EPP will apply to the Project.

Emergency preparedness drills will be conducted at the start of the Project to familiarize everyone with the appropriate parts of the emergency response plan.

Exceptions or deviation from Existing Safety Policies

Exceptions from established written Safety and Health procedures at the Project require a formal exception as will be outlined in the Safety Manual. Exception requests cannot be approved if it is in conflict with WISHA or other government laws or regulations. Exception requests related to the Project must be coordinated through the Project HSSE Manager. Recommendation for approval must include the relevant SME. The Project Manager is the approving Manager for all Project exception requests.

Hazard Communication & Access and Control of Exposures to Chemicals-

Contractors must have a written Hazard Communication Program and ensure that their employees and subcontractors have received the required training in accordance with WA DOSH requirements. Contractors will provide the Project HSSE Team with Material Safety Data Sheets (MSDSs) for review and approval for all new chemicals brought in to the. The Project HSSE Team will gain approval prior to the chemicals entering the site.

Contractors must ensure that all containers and properly labeled, secured, and that spill prevention measures are in place.

Industrial Hygiene Assurance and Monitoring

Health for the Project team will be managed by:

- Including health issues as a topic for HSSE review meetings
- Assuring that all Project team members follow site PPE requirements
- Providing training that reviews site specific health hazards (noise, toxic vapors, etc)
- Identifying, assessing, and mitigating health hazards as part of job task risk assessments
- Reviewing any new chemicals brought on site.
- Conducting Industrial Hygiene audits (Health Team)

Line of Fire

On nearly every job there is something which could hit, spray, pinch or crush. The first priority should be to eliminate these hazards. If this is not possible, we want people to focus on moving themselves out of the line of fire. Awareness training on "Line of Fire" recognition must be included in each contractor's Project specific safety training and covered in toolbox meetings.

Management of Change

Temporary and permanent changes to organization, personnel, systems, process, procedures, equipment, products, materials or substances cannot proceed unless a Management of Change (MOC) process is completed. This must include:

- a risk assessment conducted by all areas impacted by the change
- development of a work plan that clearly specifies the timescale for the change, and any control measures to be implemented regarding:
    - equipment, facilities and process
    - operations, maintenance, inspection procedures
    - training, personnel and communications
    - documentation
- authorization of the work plan by the responsible person(s) through completion

The Project will meet the requirements of major projects, including application of Management of Change from the Define Stage HAZOP through Execute and turnover to operations. All changes to equipment and facilities will follow the Project's Change Management Procedure. If the change is considered to impact safety, the existing Management of Change procedure must be used for the ISBL as well as the OSBL.

Personal Protective Equipment (PPE)

All Project employees must use approved safety equipment and maintain equipment in accordance with OSHA and Savage requirements. For contractor personnel, the PPE requirements for the Project will be reviewed at the new hire orientation. Personnel must be trained on the use of any required PPE before beginning work.

In addition to the requirements outlined in the procedures above, the Project has the following PPE requirements:

- High visibility vests will be worn by all personnel in the Brownfield and Non-Brownfield. Requirement to wear vests may be waived by the Project HSSE Manager as conditions warrant.
- Dust goggles are required under face shields when chipping or grinding concrete and are also required when working in dusty or dirty conditions.
- Face shields must be worn over safety glasses when using impact guns, grinders, or other particle producing tools or work.
- Workers full names must be visible on the front of their hard hats
- Fire Retardant Clothing (FRC) will not be required for the portion of the work until hydrocarbons are introduced.

Safety & Health Policies

Other Safety and Health Policies may be applicable to the Project. Prior to mobilization in the field, each contractor must perform a gap analysis to identify discrepancies between their policies and the policies or expectations. The gaps will be evaluated and the final decisions will be agreed and documented prior to commencing work in the field.

Simultaneous Operations

Because of the high density of work that will occur on the Project, management of Simultaneous Operations is an essential element of our safety program. Initial risk assessments often occur well before the day of work and various tasks in the same area may be risk assessed by different people. It is often hard to predict what other work may be occurring on the day work will be executed. For this reason, it is essential that a review of Simultaneous Operations occur as part of the Pre-Task Assessment (PTA) before each and every job task is started. Coordination and communication between adjacent crews is essential to the safe execution of the work. This coordination and communication is an essential element of the permit to work process.

Workers are expected to periodically review and update their PTA cards as needed throughout the day. Changes in hazards, including new SIMOPS, should be documented.

Smoking Policy

In accordance with the Smoking Policy, smoking is prohibited inside the fence line, and on Savage property except for specially marked areas located in the parking lots. The purpose of this policy is to control ignition sources within the Facility as well as reduce exposure of personnel to harmful second hand smoke. Smoking is permitted only is specially marked areas and smoking material must be left in vehicles or in the break facilities. Smokers are required to minimize the amount of time spent in smoking areas and are asked to keep the areas clean.

Transportation

As outlined in the Transportation and Traffic Safety Policy Savage standards and Federal security regulations require stringent processes for limiting the number of vehicles in the to

only those necessary for safe and efficient operations. If there is any means of transportation other than a personal vehicle that will allow you to do your job safely and effectively, you are expected to use it. This may include using a company vehicle, taking the shuttle, walking, or riding a bicycle.

Contractors bringing company vehicles inside the fence requires prior permission from the Senior Project Manager or Construction Manager. Drive-in access determinations will be based on an assessment of role, need and primary work location and controlled through the individual's Vancouver ID badge. The Security Superintendent has the authority to grant or deny the request for drive-in access.

Driving a vehicle on Savage property requires completion of the Safe Driving Training video. While driving on Savage property, all vehicle occupants must wear seat belts at all times. Additionally, the driver is not to use two-way radios or cell phones while driving. If the driver is to take a call or use a radio, he or she must pull over prior to doing so. Use of personal vehicles inside the fence is prohibited unless special permission is obtained from the Senior Project Manager.

If the Evacuation Alarm sounds, pull over the vehicle immediately, turn off the engine, and walk to the safest evacuation area. Do not to drive the vehicle until the All-Clear has sounded.

BNSF Track Operation

Contractors operating equipment near the BNSF Track should stay 150 feet from the nearest rail. Barricades should be put up off the BNSF right of way indicating where the contractors and their employees can work safely.

Prior to beginning work on live track the contractor-In-Charge must notify a BNSF representative of the need, and specifically the location where the work will be done. A job briefing must be conducted with the Railroad representative. Referenced in 49CFR214, Subpart C, which requires some form of On-Track Safety briefing prior to fouling any track.

If contractors have to work within the BNSF right of way contractor employees need to have the BNSF safety training.

- Rail Security Awareness Training
- Contractor Orientation Training

Contractors Working Around Live Tracks

Contractors must follow the following policy when working on or around live track:

- Green, Yellow/Red, and Red Flag Protection must be used on live tracks to warn train crews of men or equipment working on or around the track.

- Always be on alert to moving equipment. Contractor employees must always expect movement on any track, at any time, in either direction.
- Do not walk or step on the top of the rail or any other track components
- In passing around the ends of standing cars, engines, roadway machines or work equipment, leave a minimum of 25 feet between yourself and the end of the equipment. Do not go between equipment if opening is less than 50 feet.
- Before crossing over tracks, look in both directions.
- Do not sit on, lie under, cross over between cars.
- No tools or equipment are left close to any live track.
- All contractor employees must have and be wearing identification.
- All contractor employees must be wearing the proper Personal Protective Equipment.
- All Project employees will attend the Port of Vancouver's Rail Safety Training.

Contractor's equipment must be safe to operate if equipment is not safe to operate the equipment must be removed from the site.

Treatment of Injuries

Contractors must provide the means to provide first-aid and keep appropriate first aid supplies readily available. Savage employs a medical service PC365 to be used as well when dealing with non-critical injuries. Emergency Medical Technicians are also available around the clock to assist as needed through the Vancouver Fire Department, Station 1.
All injuries, regardless of the severity, must be reported to Savage per the guidelines outlined in the Incident Reporting section of this document.

Control of Work

The majority of the Project scope of work will be conducted within a defined and controlled area identified as the "Brownfield".

Brownfield Permit to Work

The majority of the Project scope of work will be conducted within a defined and controlled area identified as the "Brownfield". A risk assessment was conducted to identify the boundaries of the Brownfield. In general, this area contains no process hazards or non-construction energy sources. With the absence of these hazards, the risk profile of the work site changes, allowing the use of a specialized Permit to Work procedure more appropriately designed for managing construction risks. The Brownfield Permit to Work Procedure will be used as the basis for all ISBL work in the Petroleum Rail Project. It will be modified as needed to address the specific hazards and needs of the Project.

Non-Brownfield Work

Project work to be conducted outside of the defined boundaries of the Brownfield and within the fence line will be performed under the Port's standard Control of Work Policies.

The Project team will use the unit's existing Area Authority for permitting activities. The detailed permit issue process will be documented and communicated to the construction contractors prior to field activities commencing.

Energy Isolation

To maintain Brownfield condition, Lock Out Tag Out (LOTO) Policy requires that all hydrocarbon process piping to remain physically separated (air gapped) from the existing systems. It also requires that all other systems remain air gapped or, a detailed isolation strategy to be developed for the system.

The Project will follow the Electrical Safety Policy and Control of Hazardous Energy Procedure (LOTO). We will also adhere to the Blinding Policy. Energy isolation must be considered during the development of individual job packages, with consideration toward any source of electrical, hydraulic, mechanical, pneumatic, chemical, thermal, or any other energy connected to a source.

Connections to utilities (utility water, potable water, temporary electrical power, firewater, plant air & instrument air) can be made within the Brownfield for field checks and hydro testing without impacting the Brownfield status, provided approved procedures are in place to manage the energy source. These connections must be coordinated with the unit Operations Representatives. All other systems must remain isolated utilizing an air gap.

Operations will define isolation requirements for each system prior to turnover. Upon turnover, Operations will assume ownership of the master isolation and blind list.

Risk Assessments, ASAPs

All risk assessments will be developed by the contractor performing the work, with input from Savage. JSAs will be done as tasks are identified in the Execute Stage. Any Abnormal Safety Assessment Plan (ASAP) will be done using the Savage Vancouver ASAP procedure #150 (see references at the end of this document for location of current procedures).

Security

The Facility is a Maritime Transportation Security Act (MTSA) as well as a CFATS and DOT regulated facility. The Project will comply with all site security requirements.

Project Access

All workers will be issued a Savage ID badge for entry and access into the ISBL area, and are required to keep this badge on them at all times. In addition, a Project specific decal will be provided to individuals who have completed the Project specific orientation. This decal is required for unescorted access within the defined Project boundaries.

Transportation Workers Identification Credential (TWIC)

A valid TWIC card is required of all individuals entering the Facility. There are no exceptions to this requirement for Project workers. Individuals without a TWIC card require an approved escort. TWIC cards do not have to be carried on the workers person in the field. Access to the TWIC Zone must be done in accordance to the Port of Vancouver Facility Security Plan.

Project Escort Requirement

Individuals who have not received Project specific orientation must be accompanied by an individual who has had this training. This requirement is Project specific and in addition to the requirements outlined in the Escort Policy.

Traffic Control/Blockage of Roadways

If a roadway must be blocked or access restricted as a result of Project work, advanced planning and notification to stakeholders is required. The Project will follow the policy for Road Closures. All road closures and traffic control activities will be coordinated through the Project HSSE Lead or his delegate.

Tools & Materials

Any tools, materials or equipment being brought out of the Facility require an authorized Material Gate Pass. These passes may be obtained from the Project HSSE Lead. All items are subject to inspection prior to release.

Environmental Compliance

The Project is committed to socially and environmentally sound operations. We will undertake our activities in a manner that is environmentally responsible with the aspiration of "no harm to people and no damage to the environment."

Permitting Overview

Permitting will be handled by the Savage Environmental department and will include the appropriate EFSEC permitting as well as required Federal Permits

All permit conditions applicable to operation of the new equipment will be included in the training materials.

Soil

A detailed plan will be developed for the management of soil being excavated for this Project. Fill material will be segregated and managed separately from native soils. An environmental representative will be onsite as needed during excavation to help distinguish between these materials. Potholing will be conducted near the BNSF track, and at selected locations within the Brownfield area. Soils that are subject to Restricted Covenants must be separated from non-impacted soil, and disposed of according to the waste management plan.

Storm Water

A detailed plan will be developed for the management of storm water from the Project site. Prevention of contamination is crucial. Any hydrocarbon or chemical spills, regardless of the size, must be reported to the Project HSSE Lead. This includes fuel, engine and hydraulic leaks from equipment. Minimization of sediment entrainment is also a high priority. This is accomplished through the use of Best Management Practices (BMPs). Diversion of storm water from the site in a manner inconsistent with the plan is prohibited.

One of the specific BMPs required on the Project is the placement of secondary containment under all bulk chemicals and gasoline or diesel powered portable equipment in all areas that do not drain to the oily water sewer. Self-propelled mobile equipment is exempt from this requirement.

Recycling

A recycling center will be established within the Project site. It is important that any recyclable materials remain free from contaminants and be placed in designated containers. The recycling center will have containers for the collection of aerosol cans, aluminum cans, small metal, safety warehouse returns, plastic, glass and cardboard.

Portable Equipment

Notification to the Project HSSE Lead is required for temporary emission sources and any portable engines exceeding a prescribed limit that are used in the Project, to determine potential regulatory impacts.

Waste

The Project Management team will assure that all design and construction work for the Project considers the environmental compliance requirements of Federal, State, and local agency permits as well as all Savage Group Defined Practices.

Incident Management

All incidents are preventable. In order to achieve World Class HSSE performance, each incident that occurs must be reported, reviewed and the learnings shared. The process outlined in the Incident Investigation, Notification and Reporting Policy will be followed during the Project.

Any work-related safety incident, including first aid, must be reported immediately. The following notifications are required:

- Savage Shift Supervisor
- Project HSSE Lead, who will coordinate entry into S7i

A written incident report is required to be submitted by **the *end of the current shift*** for all injuries, including first aid incidents. Determination of OSHA record keeping requirements will be the responsibility of the Company incurring the injury.

Types of incidents where reporting is required include; workplace injuries and illnesses, vehicle accidents, spills, environmental releases, near hits, major incidents (MIAs) and high potential incidents (HIPOs).

A detailed investigation should be carried out for all serious or major incidents (injury, illness or damage) and any minor accident or near-miss that had a high potential of being a major one. Less serious incidents should be investigated with a degree of rigor appropriate to the potential for loss or injury. The principles employed are the same.

A Project team contact list and emergency contact information can be found in Appendix A of this plan.

Shared Learning

It is the intent of the Project to incorporate lessons learned from both internal and external sources. Specific effort will be made to capture lessons learned on our own project. Learning will be shared widely across the Project in a timely manner so they may be incorporated into pre-task planning, design and constructability and education and training materials.

HSSE Lessons Learned

The learning from safety performance reviews, audits, investigations, and verification activities must be documented and used in improving future performance.

- Learning will be systematically captured and subject to periodic formal review to identify system improvements for future activities.
- Contractors will be included in sharing of lessons learned and encouraged to share lessons from their activities.
- Specific effort must be made to solicit feedback from frontline employees on best practices observed along with ways to improve processes and reduce the risk associated with future work activities.

When a contractor's work has been completed, the Project Team will evaluate major contractors' HSSE initiatives and performance and provide feedback on effectiveness at the close of the contract.

The Project HSSE lead will document and implement the Project's safety lessons learned.

Monitoring Performance

HSSE performance metrics (leading and lagging) indicators are established and communicated throughout the Project organization. Project leadership regularly reviews the HSSE performance metrics to determine progress against objectives and targets and what management system changes are necessary.

Key Performance Indicators

Reporting will be consistent with requirements for the Vancouver reporting system already in place. The Project HSSE Lead will report this data on a weekly basis for incorporation with the overall statistics.

Inputs to be tracked and reported:

- Safety training provided for every employee working on the job site
- Observation audits / theme audits conducted and action items closed
- Joint field audits by Savage and contractors
- Incident investigations completed
- To be decided

Outputs to be reported:

- Hours Worked
- Major incidents and High Potential incidents
- Injuries/Illnesses
- Near Misses
- Environmental incidents

General Performance Monitoring of Contractors

HSSE performance and compliance must be measured and reviewed on a regular basis during execution.

- Regular performance reviews of each contractor should be established, with appropriate senior and line management attendance.
- Subcontractor performance and compliance should be visible and verified.
- Contractors are accountable for reporting of all incidents incurred by their subcontractors.
- Contractors delivering outstanding safety performance should be considered for positive recognition.
- Contractors that fail to deliver the required performance improvement, or experience further breaches of the safety boundary conditions, should be considered for reduced work share, suspension, or contract termination, depending on the severity of the breach.

HSSE Rewards and Recognition System

Working safely is a base expectation of everyone on the Project. Simply doing so will not be a basis for reward on the Project. Instead, the PLT is looking to recognize and reward individuals who go above and beyond this base expectation and become actively engaged in delivering an outstanding outcome.

The reward and recognition program for the Project will use a variety of methods to recognize individuals, including periodic giveaways at the discretion of PLT. Only individuals providing

direct support to the Project are eligible to receive Project Safety Rewards. In establishing reward criteria, the following guidelines must be used:

- Rewards should promote discretionary behaviors that are above and beyond base requirements.
- Preference is for individual recognition/employee participation. Although at times, team or small group recognition can also be appropriate.
- Specific action by the individual should be required for the individual to receive the reward.
- Rewards should be based on leading indicators, not results.

Safety Leadership Award

A "Safety Leader of the Week" program will be established to recognize the individual or crew that best demonstrated the Extraordinary Safety Leadership Behaviors. Individuals may be nominated by anyone using a simple nomination card available in the lunchroom and in the permit trailer.

Reporting Recognition

"Thank You" reward cards will be given to individuals who identify, address and report near misses, unsafe conditions or unsafe behaviors on Project Make a Difference cards. We will also reward individuals that recognize best practices, make H&S suggestions or share process safety or quality concerns. These reward cards can be redeemed for a variety of nominal gifts or collected towards higher valued items.

Great Catch Program

The quality of items submitted is more important than the quantity. To promote quality reports, a "Great Catch" program will be established. Special awards will be made to individuals who submit reports on items that were especially difficult to identify, provide high learning value or may have resulted in a significant impact if unidentified. Great Catch awards will be issued at the weekly all-hands meetings so the learning can be shared across the Project.

Milestone Recognition

Milestone recognition may include proactive measures of safety activities in addition to the traditional recognition of the results (i.e. hours worked without incident). In general, targets will not be promoted ahead of the milestone. In addition, associated recognition programs must be structured to ensure they do not discourage incident reporting.

Company Specific Recognition Programs

In addition to the general recognition program outlined above, each contractor, at its discretion, may operate company specific safety recognition programs. These programs are independent of Savage and should be managed exclusively by the contractor company. To comply with Savage Code of Conduct and IRS requirements, at no point may cash or cash equivalents (i.e. gift cards, gas cards, etc) be exchanged between Savage employees and contractors.

Commissioning

Commissioning consists of the period after System Turnover has been achieved, but before Start-Up. System Turnover is complete when; Pre-commissioning activities have been completed and documented, System turnover documentation (including Non-Destructive Examination (NDE) and other field Quality Control (QC) records) are delivered to the Quality Assurance Manager and Project Turnover Coordinator, "A & B" punch-list items have been completed, and the immediate respective work areas are left in an uncluttered clean condition with all combustible materials removed. Commissioning includes those activities connected with operating equipment or facilities to prepare them for a safe, reliable start-up. This can include steam blows, system purging, introduction of inert fluids and utilities, chemicals loading, trip and alarm testing and final checking of system tightness and cleanliness.

Operations and Maintenance Competency Assurance

The Project Team will interface with operations and maintenance to ensure that existing or new personnel are capable of performing the jobs and are adequately trained to do so. Operating and maintenance procedures and training requirements will be developed prior to commissioning.

Commissioning and Hand-over Requirements

During commissioning planning, environmental aspects and impacts of the commissioning activities should be evaluated.

Prior to the commencement of commissioning activities, training requirements for the commissioning team should be established and training completed. In addition, all work procedures should be evaluated for compliance with Savage HSSE expectations and any deficiencies corrected. A HITRA will be performed on the actual off-loading work activities to ensure that ergonomic and other safety exposures have been addressed. Personal exposure monitoring will also be conducted during the off-loading operation to document health exposures and the selection of proper PPE.

The Commissioning Team will incorporate HSSE into commissioning and handover planning, procedures and systems.

Pre-Startup Safety Review (PSSR)

Prior to start-up of a system, a pre-startup safety review of the system will be performed and documented, and all deficiencies will be corrected.

Pre-startup safety reviews (PSSR) are conducted to ensure construction of the Project is complete, and all training, procedures, documentation, and programs are in place and ready for safe startup and operation. All findings, recommendations and open actions from the PSSRs MUST be completed and closed out before equipment commissioning begins.

Process Safety Information

The Project Team will compile and supply the following process safety information to the Operating Team and the Document Control group:

- Safety Critical List of Equipment (Protective Devices Register)
- Process Flow Diagrams (PFDs)
- Piping and Instrumentation Diagrams (P&IDs)
- Electrical Area Classification Drawings
- Plot Plans
- Electrical One Line Drawings
- Shutdown and Interlock Drawings
- Cause and Effect Drawings (Alarm and Shutdown Drawings)
- Relief Valve Basis and calculations
- Process Equipment Data Sheets
- Other Data Sheets (Utilities, MSDSs, etc.)

Start-up, Operating & Maintenance, and Emergency Procedures

Practices and procedures must be documented to ensure operations are carried out under specified conditions and in a consistent manner. These instructions should be up to date, clear, concise and unambiguous.

The Commissioning Team will provide instructions for start-up, normal operation, planned and emergency shutdown and preparation for maintenance, as well as any other OSHA Process Safety Management (PSM) required operating procedures. The format and content will be consistent with Savage's PSM requirements and Vancouver operating and maintenance procedures.

Appendix 1: Emergency Contact List

Emergencies		**xxxx or xxx-xxxx**
Battalion Chief		**xxxx or Radio Channel xx**
Shift Super		**xxxx or Radio Channel xx**
Security		**xxxx or Radio Channel xx**

_____ Construction Team

_____	Construction Coordinator	xxx-xxx-xxxx
	Project Engineer	
_____	HSSE Field Coordinator	xxx-xxx-xxxx

_____ Construction Team

_____	Construction Coordinator	xxx-xxx-xxxx
	Project Engineer	
_____	HSSE Manager	xxx-xxx-xxxx

Project Leadership Team

Dave Corpron	Projects & Const Manager	801-944-6600
Boyd Draper	Sr. Project Manager	801-944-6600
Coby Long, CSP	Project HSSE Manager	801-944-6600
_____	Commissioning Manger	
_____	Tech Services Manager	
_____	QA/QC Lead	

List of contractors Below

_____		
	Sr. Project Manager	360-
	Asst. Project Manager	360
	Const Superintendent	360-
	Safety Manager	360-
_____		
	Project Manager	360-
	General Superintendent	360-
	Safety	360-
_____		
	Project Manager	360-
	General Superintendent	360-

	Safety Lead	360-
	Project Manager	360-
	Site Manager	360-
	Safety Manager	360-

Appendix 2: Project Site Map



Appendix 3: Brownfield Sign-In Expectations

The purpose of the sign-in / sign-out requirement is to provide the Project with documentation of who has permission to be onsite within the Tesoro Savage Petroleum Terminal Project Brownfield and to describe the requirements for controlling and recording access to the area.

These expectations apply to any person entering the Permit Trailer located _____.

NOTE: Project specific orientation is required for all individuals prior to entering the Brownfield area unescorted. Visitors without Project Specific Orientation must be escorted for the duration of their visit by an individual that has received the project specific orientation.

1. Sign in is required immediately upon arrival to the site. Once onsite, travel must be directly to the Project Permit Trailer to sign in prior to any work or site walks being performed.

2. Sign out is required at the end of the shift or when leaving the site for an extended period of time.

3. When the Project Permit Trailer is not staffed, individuals visiting the site that are not assigned to the project full-time must contact the HSSE Manager via radio to inform them that you will be entering their area. The HSSE Manager will provide an update of site conditions and/or restrictions.

4. Once signed in, short trips outside the Brownfield, including breaks and lunch, will not require sign out.

5. Work groups that are entering the area may be signed in by their Foreman or the Foreman's designee. Sign in will include foreman or designee's name and crew size. Example: Matrix, John Smith + 4.

6. There are no exceptions as to personnel required to sign in or out of the area.

Appendix 4: Incident Reporting Form

To be determined in conjunction with Tesoro Savage Petroleum Terminal LLC

Appendix 5: Safety Team Terms of Reference

I. Vision
A self-directed cross-functional safety team that is actively engaged in reducing the risks associated with field construction activities.

II. Objective
The objective of the Project Safety Team is to promote a proactive approach to safety and health on the Project and to improve the effectiveness of the Project's overall safety program.

To advise and consult Project leadership on safety and health issues related to the Project.

III. Scope
The team's scope includes health & safety concerns associated with field construction activities related to the Project that are performed onsite at the Vancouver. This includes both OSBL and ISBL work as defined in the Project HSSE Execution plan.

IV. Deliverables
a. Field Audit Reports will be used to document audit activities.
b. Minutes will be kept at each team meeting.
- Previous meeting minutes and audits will be reviewed at the team meeting to determine if any issues remain outstanding
- All reports, audits, evaluations and recommendations of the team will be made part of the minutes of the safety team meeting

c. An action item register will be maintained to ensure closure of issues identified
- A reasonable time will be established for Project management to respond in writing to all safety team recommendations

V. Safety Team Formation and Membership
a. The Team will be comprised of both craft and management representatives.
b. Team members will be volunteers Sub contractors with contract duration of ninety (90) days or longer will be represented on the Team.
c. Employee representatives must serve a continuous term of at least four (4) weeks on the team. At the end of the fourth week the employee representative must bring his/her replacement to the meeting to assume his/her duties.
d. Reasonable efforts must be made to ensure that team members are representative of the major subcontractors and/or major work activities in progress.

VI. Stakeholders
a. Project Workforce

Project employees will be given the opportunity to actively participate in safety team activities by:

- Volunteering to serve as a team member
- Participating in field auditing activities conducted by the team
- Completing Observation forms and turning them it in to any safety team member.
- Suggesting improvements to the safety program to their respective team representative for consideration.

b. Project Leadership Team

The PLT recognizes the value of these teams and the empowerment they provide the contractors. The PLT will support the efforts of the team and provide guidance when necessary to ensure the team is successful at meeting its objective.

VII. Safety Team Duties and Functions

a. The team will elect a Chairperson from within their ranks at their first meeting.
b. The team will develop a written agenda for conducting safety team meetings. The agenda will prescribe the order in which team business will be addressed during the meeting.
c. The team will hold regular meetings and perform job audits on a bi-weekly basis. The team will document site audits and transmit them to Project HSSE Lead with recommendations for changes.
d. The team will review all accidents and near misses and recommend corrective actions to prevent a reoccurrence.
e. The team will follow up on their recommendations to ensure corrective actions have been implemented.

VIII. Hazard Assessment and Control

Safety Team will:

a. Establish procedures for auditing field construction activities to locate and identify safety and health hazards.
b. Conduct field audits on a weekly basis.
c. Establish procedures for reviewing the Project HSSE Incident Log and informal reports of hazards from Project employees.
d. Make recommendations for improvement to Project Management, based on those reviews.

IX. Accident investigation

The safety Team will establish procedures for reviewing all safety related incidents including injury accidents or illnesses. At least one member of the Safety Team must participate in the investigation of near misses and/or incidents associated with field construction activities.

X. Safety and Health Training and Instruction

The following items must be discussed with all new safety team members:

a. Safety team purpose and operation
b. Methods of conducting safety team meetings
c. Safety team members must receive training in:
- Hazard identification in the workplace
- Principles regarding effective accident and incident investigation

XI. Delegation of Authority

The safety team has no fiscal or policy authority. For activities or initiatives requiring financial support, a request for funding will be submitted in writing to the Project HSSE Lead.

Recommendations for policy or procedure changes must be submitted in writing to the Project HSSE Lead for consideration.

Appendix 6: Gas Detection Overview

General Requirements
As outlined in the Hot Work Policy, within the Project Brownfield is exempt from the requirement for continuous LEL monitoring. In addition, the area is exempt from the use of personal H2S monitors. The Brownfield area maintains an electrical classification of General Purpose and there are no process hazards present within the Brownfield.

The most likely source of flammable or toxic gas within the Brownfield is an uncontrolled release from an existing operating unit. The potential for a release to reach dangerous levels within the Brownfield was assessed and determined to be very low, but plausible.

Controls in place to manage this risk include the formal communication plan in place between the Project and the Operations Shift Supervisor, existing LEL & H2S gas detection within the existing units & the area-wide alarm system.

The Project has no requirements or agreements to maintain general area or perimeter gas detection. Continuous gas monitoring remains required for all confined space work. There are no variances in place for confined space entry work within the Brownfield. Continuous monitoring is required for all confined space entries.

EXHIBIT "M"

CONSENT DECREE

[CD attached]

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STATE OF WASHINGTON
CLARK COUNTY SUPERIOR COURT

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Plaintiff, v. ALCOA INC., Defendant.	NO. 09-2-00247-2 ORDER ENTERING AMENDED CONSENT DECREE

Having reviewed the Joint Motion for Entry of the Amended Consent Decree, it is hereby ORDERED AND ADJUDGED that the Amended Consent Decree in this matter is entered and that the court shall retain jurisdiction over the Amended Consent Decree to enforce its terms.

DATED this 11 day of July 2011.

/s/ Barbara D. Johnson

Superior Court Judge/Commissioner

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STATE OF WASHINGTON
CLARK COUNTY SUPERIOR COURT

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Plaintiff, v. ALCOA INC., Defendant.	NO. 09-2-00247-2 JOINT MOTION FOR ENTRY OF AMENDED CONSENT DECREE

Plaintiff, State of Washington, Department of Ecology, and Defendant, Alcoa Inc., (collectively "the Parties"), bring this motion seeking entry of the attached Amended Consent Decree regarding remedial actions taken at the Alcoa Vancouver Site in Vancouver, Washington (Site). This amendment is necessary to implement a final remedy consisting of monitored natural attenuation with respect to releases of trichloroethylene (TCE) and vinyl chloride (VC) from the Site's East Landfill. Declaration of Carol Kraege (Kraege Decl.) ¶ 3. A draft Amended Consent Decree and Supplemental Cleanup Action Plan were subject to public notice and comment, pursuant to WAC 173-340-600. Kraege Decl. ¶ 5.

The Parties request that the court approve and enter the Amended Consent Decree, pursuant to Consent Decree Section XV (Amendment to Decree). The Parties also request that

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the court retain jurisdiction over this action until the work required by the Amended Consent Decree is completed and the Parties request a dismissal of this action.

ROBERT M. MCKENNA
Attorney General

JOHN A. LEVEL, WSBA # 20439
Assistant Attorney General
Attorneys for Plaintiff

Date: July 5, 2011

MARTEN LAW PLLC

LINDA R. LARSON, WSBA # 9171
Attorneys for Defendant Alcoa Inc.

Date: June 30, 2011

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STATE OF WASHINGTON
CLARK COUNTY SUPERIOR COURT

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Plaintiff, v. ALCOA INC., Defendant.	NO. 09-2-00247-2 DECLARATION OF CAROL KRAEGE RE: AMENDED CONSENT DECREE

I, CAROL KRAEGE, make the following declaration:

1. I am over the age of 18, competent to be a witness herein, and make this declaration in that capacity. I state the following based upon my personal knowledge.

2. I am employed by the Washington State Department of Ecology (Ecology) as a Supervisor with Ecology's Waste 2 Resources Program. I am the designated management lead for the Alcoa Vancouver Site, and I am therefore knowledgeable about matters relating to the Alcoa Vancouver Site. I previously submitted a declaration in support of the entry of the Consent Decree filed under Clark County Superior Court No. 09-2-00247-2, which I signed in January 2009.

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3. The Consent Decree filed under Clark County Superior Court No. 09-2-00247-2 did not cover releases of trichloroethylene (TCE) and vinyl chloride (VC) from the East Landfill that were above cleanup levels found in the Model Toxics Control Act (MTCA), Chapter 70.105D RCW. Ecology has developed a Supplemental Cleanup Action Plan (SCAP) to address releases of TCE and VC from the East Landfill at the Alcoa Vancouver Site. The chosen remedy under the SCAP for the releases of TCE and VC above MTCA cleanup levels from the East Landfill is monitored natural attenuation. The SCAP is Exhibit A to the Amended Consent Decree.

4. Ecology has determined that the actions to be taken pursuant to the Amended Consent Decree are necessary to protect public health and the environment and will lead to a more expeditious cleanup of hazardous substances at the Site in compliance with the cleanup standards established under RCW 70.105D.030(2)(e) and Chapter 173-340 WAC.

5. The draft SCAP and draft Amended Consent Decree were subject to public notice and comment. Ecology received comments during the public comment period, which Ecology reviewed, considered, and responded to.

6. Ecology has now issued the SCAP for the Site, and the parties have entered into the Amended Consent Decree. The final SCAP is an integral and enforceable part of the Amended Consent Decree.

I declare under penalty of perjury under the laws of the state of Washington that the foregoing is true and correct.

DATED this 30th day of June 2011, at Olympia, Washington.

CAROL KRAEGE

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STATE OF WASHINGTON
CLARK COUNTY SUPERIOR COURT

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Plaintiff, v. ALCOA INC., Defendant.	NO. 09-2-00247-2 AMENDED CONSENT DECREE

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EXHIBIT B Site Diagram
EXHIBIT C Restrictive Covenant
EXHIBIT D Public Participation Plan
EXHIBIT E Supplemental Cleanup Action Plan and Schedule

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I. INTRODUCTION

A. Pursuant to Section XV of the Consent Decree Re: Alcoa Vancouver Site in Vancouver, Washington (Site), entered by this Court on January 30, 2009 (the 2009 Decree), Plaintiff, State of Washington, Department of Ecology (Ecology), and Defendant Alcoa Inc. (Alcoa), hereby stipulate to amend the 2009 Consent Decree.

B. The mutual objective of Ecology and Alcoa under these amendments to the 2009 Decree is to provide for supplemental remedial action at a facility where there has been a release or threatened release of hazardous substances in order to implement a final remedy consisting of monitored natural attenuation with respect to releases of trichloroethylene (TCE) and vinyl chloride (VC) from the East Landfill. The amended provisions of the "Work to be Performed" and the Supplemental Cleanup Action Plan (SCAP), (attached hereto as Exhibit E) require Alcoa to implement the SCAP, develop a Compliance Monitoring Plan and to conduct five events of compliance monitoring (as defined in Section VI.E herein).

C. The 2009 Decree required Defendant to implement the Cleanup Action Plan (CAP) (attached hereto as Exhibit A) to address those contaminants of concern identified in the approved Remedial Investigation and Feasibility Study Report for the Site (as defined in Section IV.A herein). Ecology determined that the actions required by the CAP were necessary to protect human health and the environment. On December 31, 2009, Alcoa submitted a completion report to Ecology for the remediation required by the CAP. On March 17, 2010, Ecology approved Alcoa's completion report.

D. The Complaint in this action was filed with the Clark County Superior Court on January 13, 2009. An Answer has not been filed, and there has not been a trial on any issue of fact or law in this case. The Parties resolved the issues raised by Ecology's Complaint through the entry of the 2009 Consent Decree by this Court.

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E. The 2009 Consent Decree superseded the prior Agreed Order made between Ecology and Alcoa (No. DE 97 TC-I032), the prior Order made between Ecology and Columbia Marine Lines (No. DE 85-591), and the Enforcement Order Ecology issued to Alcoa (No. DE 5660). Work that had not been completed under the above listed Order, Agreed Order, and Enforcement Order was completed under the CAP to the 2009 Decree. Alcoa and Ecology entered into two prior consent decrees filed in Clark County Superior Court, under cause numbers 95-2-03268-4 and 92-2-00783-9 ("the Prior Consent Decrees"). On January 30, 2008, Alcoa and Ecology filed a stipulation with the Court documenting the closure of the 1992 and 1995 Consent Decrees and the survival of the Contribution Protection and Covenant Not to Sue under those Prior Consent Decrees prior to entry of this Decree. Any monitoring or operation and maintenance work not completed under the Prior Consent Decrees is addressed in the SCAP and in the amendments to Section XV (Work to be Performed).

F. This Amended Decree supersedes the prior Agreed Order made between Ecology and Alcoa (No. DE 03 TCPIS-5737). Any work not completed under Agreed Order No. DE 03 TCPIS-5737 is addressed in the SCAP to this Decree.

G. By signing this Amended Decree, the Parties agree to its entry and agree to be bound by its terms.

H. By entering into the 2009 Decree and its amendments, the Parties do not intend to discharge non-settling parties from any liability they may have with respect to matters alleged in the Complaint. The Parties retain the right to seek reimbursement, in whole or in part, from any liable persons for sums expended under the 2009 Decree and its amendments.

I. This Decree and its amendments shall not be construed as proof of liability or responsibility for any releases of hazardous substances or cost for remedial action nor an admission of any facts; provided, however, that Defendant shall not challenge the authority of

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the Attorney General and Ecology to enforce these amendments or the 2009 Decree to the extent that Alcoa has remaining obligations under the 2009 Decree.

J. The Court is fully advised of the reasons for entry of these amendments to the 2009 Decree, and good cause having been shown:

Now, therefore, it is HEREBY ORDERED, ADJUDGED, AND DECREED as follows:

II. JURISDICTION

A. This Court has jurisdiction over the subject matter and over the Parties pursuant to the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

B. Authority is conferred upon the Washington State Attorney General by RCW 70.105D.040(4)(a) to agree to a settlement with any potentially liable person (PLP) if, after public notice and any required hearing, Ecology finds the proposed settlement would lead to a more expeditious cleanup of hazardous substances. RCW 70.105D.040(4)(b) requires that such a settlement be entered as a consent decree issued by a court of competent jurisdiction.

C. Ecology has determined that a release or threatened release of hazardous substances has occurred at the Site that is the subject of this Amended Decree.

D. Ecology has given notice to Defendant of Ecology's determination that Defendant is a PLP for the Site, as required by RCW 70.105D.020(21) and WAC 173-340-500.

E. Ecology has determined that the actions to be taken pursuant to this Amended Decree are necessary to protect public health and the environment.

F. This Amended Decree has been subject to public notice and comment.

G. Ecology finds that this Amended Decree will lead to a more expeditious cleanup of hazardous substances at the Site in compliance with the cleanup standards established under RCW 70.105D.030(2)(e) and Chapter 173-340 WAC.

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H. Without admitting any of the allegations in Ecology's Complaint in this action, the 2009 Decree or its amendments , Defendant has agreed to undertake those actions specified in this Decree as amended and consents to the entry of this Amended Decree under MTCA.

III. PARTIES BOUND

This Decree shall apply to and be binding upon the Parties to it, their successors and assigns. The undersigned representative of each party hereby certifies that he or she is fully authorized to enter into these amendments and to execute and legally bind such party to comply with this Decree. Defendant agrees to undertake those actions required by the terms and conditions of this Decree. No change in ownership or corporate status shall alter Defendant's responsibilities under this Decree. Defendant shall provide a copy of this Decree to all agents and prime contractors retained to perform work required by this Decree, and shall ensure that all work undertaken by its agents, contractors, and subcontractors complies with this Decree.

IV. DEFINITIONS

Unless otherwise specified herein, all definitions in RCW 70.105D.020 and WAC 173-340-200 shall control the meanings of the terms in this Decree.

A. Site: The Site is referred to as the former Alcoa Vancouver Works and is generally located at 5701 Northwest Lower River Road, Vancouver, Washington. The Site is more particularly described in the Site Diagram (attached hereto as Exhibit B) and is defined by the extent of contamination caused by the release of hazardous substances at the Site. The Site constitutes a Facility under RCW 70.105D.020(5). The Site is comprised of the Submerged Lands Area and the Upland Area.

B. Parties: Refers to the State of Washington, Department of Ecology and Alcoa Inc. (formerly known as the Aluminum Company of America, Inc.).

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C. Defendant: Refers to Alcoa Inc. (formerly known as the Aluminum Company of America, Inc.).

D. Consent Decree or Decree: Refers to this Consent Decree as amended and each of the exhibits to this Decree. All exhibits are integral and enforceable parts of this Consent Decree. The terms "Consent Decree" or "Decree" shall include all exhibits to this Consent Decree as amended.

V. FINDINGS OF FACTS

Ecology makes the following findings of fact without any express or implied admissions of such facts by Defendant.

A. The Site is located at 5701 Northwest Lower River Road, Vancouver, Washington, approximately three miles northwest of downtown Vancouver, Washington. The Site is bounded by the Northwest Lower River Road to the north, the Columbia River to the south, lands owned by Clark County and the Port of Vancouver to the east, and lands owned by Russell Towboat and Moorage Company and Moorage 5 Properties (aka Tidewater) to the west.

B. The Site is listed on the Department of Ecology's Hazardous Sites List as "Alcoa Vancouver," Facility Site ID No. 21. The Site encompasses the following sites on the Hazardous Site List: "Alcoa Northeast Parcel" (FS ID 50815458), "Alcoa Vancouver NPL" (FS ID 25), "Alcoa Vancouver PCB" (FS ID 22), "Alcoa Vancouver Rod Mill" (FS ID 24), "Alcoa Vancouver TCE" (FS ID 23), and "Columbia Marine Lines" (FS ID 26).

C. At the Site, Alcoa owned and/or operated a primary aluminum smelter and fabrication facility for approximately 45 years. In 1987, Alcoa discontinued primary aluminum manufacturing operations and sold the smelter and underlying lands, and some other ancillary facilities and lands, to Vanalco, Inc. (Vanalco). Vanalco subsequently filed for bankruptcy, and its assets at the Site were purchased by Glencore Washington LLC (now

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known as Evergreen Aluminum LLC (Evergreen)) in April 2002. No manufacturing operations have taken place at the Site since December 2000. The Port of Vancouver is the current owner of the Site.

D. The Site includes three landfill areas east of the former aluminum smelter property, which were formerly owned by Alcoa. These landfill areas are known as the East Landfill, the North Landfill, and the North 2 Landfill. The North and North 2 Landfills were remediated in 2004. The southern boundary of the East Landfill is set back approximately 50 feet landward from the top of the bank of the Columbia River. Alcoa also owned the land generally located to the south and southwest of the East Landfill area, including the bank of the Columbia River (above the ordinary high water mark) and the land located alongside a Clark County Public Utilities (CPU) outfall line (hereinafter "South Bank" or "South Bank Area").

E. The entire eastern portion of the smelter complex was filled in the early 1940's with dredge sands from the Columbia River. The East Landfill was formed by the filling of a 15 to 20 foot deep drainage valley which emptied into the Columbia River.

F. Alcoa filled the valley with carbon bake oven furnace brick, scrap aluminum, alumina, steel wire, and miscellaneous volumes of solid and industrial wastes. These wastes contained volatile organic compounds primarily TCE, polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and petroleum hydrocarbons. Alcoa also filled two other smaller areas, the North and North 2 Landfills, with similar industrial waste.

G. The Site is situated on the flood plain of the nearby Columbia River. The Site hydrogeology has been characterized by numerous borings, including detailed characterization of the East, North and North 2 Landfills and the National Priorities List (aka NPL) Site. The groundwater system in the area can be divided into four general hydrogeologic units: the shallow zone, the intermediate zone, the deep zone, and the aquifer zone. The predominant groundwater flow direction beneath the Site is toward the Columbia River in the deeper

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hydrogeologic units. The shallow zone consists of dredged sand placed on the Site during the late 1940s and early 1950s. A discontinuous, perched water table is located in the shallow zone during the wetter months of the year. The direction of the movement of water in the saturated portions of the shallow zone beneath the Site varies with the time of year and the amount of precipitation. The intermediate zone consists of sandy silt with clay lenses. The deep zone consists of fine to medium sand while the aquifer zone consists of sandy gravel.

H. In late 1990, under an Ecology Agreed Order (No. DE 90–I053), Alcoa initiated a remedial investigation (RI) to determine the source of TCE found in water wells serving the Vanalco aluminum facility. Existing groundwater monitoring wells were sampled for TCE and a review of historical waste handling practices at the smelter were reviewed. The RI revealed two potential sources of the TCE contamination, the East Landfill and the North Landfill. Since that time, Alcoa has conducted numerous studies to characterize these landfills. During the investigations two other areas impacted with PCBs, PAHs, metals, and hydrocarbons were identified to the north of the East Landfill. These areas were identified as the North 2 Landfill and the Northeast Parcel. The requirements of Order No DE 90-I053 have been completed.

I. In 1992, Ecology and Alcoa entered into a Consent Decree (92-2-00783-9) to remediate an area formerly used to store spent potliner. This area of the Site was also formerly listed by the U.S. Environmental Protection Agency on the National Priorities List. This Consent Decree required the removal and off-site disposal of 47,500 cubic yards of spent potliner and reclaimed alumina insulation. The removal of the spent potliner and reclaimed alumina insulation was completed in 1992. The residual affected soils were capped with a RCRA double-lined cover. Ecology certified on May 3, 1994, that all of the terms of the construction portion of the Consent Decree and CAP had been completed. The operation and maintenance activities consisting of groundwater monitoring, institutional controls, and cover maintenance continue at the Site.

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J. In 1995, Ecology and Alcoa entered into a Consent Decree (95-2-03268-4) to address PCB contamination beneath the Rod Mill/Vanexco building. The Consent Decree required that the building and foundation (i.e., floor slabs) of the buildings serve as a cap and that any redevelopment plans for the area be reviewed and approved by Ecology. Five years of groundwater monitoring indicate that groundwater is not affected by residual PCB impacted soils after limited hot spot removal. In 1992, Alcoa had performed hot spot removal of PCB impacted soils at the Rod Mill/Vanexco building area. The area was then backfilled with clean material and the foundations were restored as a cap. Groundwater monitoring from 1996 through 2001 indicated that groundwater is not affected by residual PCB impacted soils. In 2001, Ecology approved the discontinuation of groundwater monitoring. A deed restriction was recorded that documents contamination beneath the Rod Mill building. The construction and groundwater monitoring portions of the Consent Decree have been completed. Current redevelopment plans require the removal of the Rod Mill/Vanexco building structure and portions of the foundations. Ecology has approved this modification provided that grading of surface materials above the foundation are sloped to provide drainage away from the area or that the foundation is replaced with an impervious layer and storm water control facilities are located above the impervious layer.

K. In 1997, Ecology and Alcoa entered into an Agreed Order (No. DE 97 TC-I032), which required the removal of contaminated soil and industrial solid waste on a parcel of former Alcoa property known as the Northeast Parcel. Site investigations included soil and groundwater sampling. Ecology concluded that groundwater was not impacted by the contaminated soils. The Northeast Parcel Site was remediated to facilitate the sale of the property to Clark County. The scope of the Northeast Parcel Site remediation included excavation and off-site disposal of approximately 3,900 cubic yards of PCB impacted soil and the excavation of approximately 17,000 cubic yards of PAH impacted soil, which contained

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concentrations above the MTCA Method A cleanup levels but below dangerous waste criteria. The Northeast Parcel PAH soils were placed in the East Landfill and covered with 12 inches of certified clean fill until the final closure of the East Landfill was completed under Ecology's direction. In 1997, Alcoa removed all of the waste and impacted soils in the Northeast Parcel that were above MTCA Method A soil cleanup levels for unrestricted land use. Alcoa has completed all requirements of the Agreed Order (No. DE 97 TC-I032). No groundwater monitoring or media institutional controls are required for this parcel.

L. Also in 1997, PCBs were discovered in three Columbia River sediment samples collected by the Clark County Public Utility (CPU) as part of the NPDES permitting requirements for a non-contact cooling water discharge installed approximately 300 feet west of the East Landfill. Alcoa initiated a soil and groundwater investigation of the entire bank/shore of the East Landfill. This work indicates that the East Landfill is not the primary source of the PCBs in the Columbia River sediments. During the investigation, an area of elevated PCBs in soil was discovered on the riverbank to the south and southwest of the East Landfill area, adjacent to the CPU outfall line (now known as the South Bank Area). This is thought to be the major source of the PCB contamination found in the Columbia River adjacent to the cooling water discharge.

M. PCBs found in soils in the South Bank Area adjacent to the East Landfill were below the MTCA Method A industrial cleanup level. However, the South Bank Area near the CPU's outfall included approximately 2,500 cubic yards of soil impacted with PCBs at concentrations above the MTCA Method A industrial cleanup level. This material was localized around the location of the CPU outfall to a depth of approximately 15 feet and was excavated in 2003 in accordance with Ecology Agreed Order No. DE 03 TCPIS-5737. Adjacent to and further down stream from the CPU outfall, sediments of the Columbia River are impacted with PCBs.

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N. The East Landfill area is a well-defined area that contains approximately 150,000 cubic yards of waste materials. An estimated 53,000 cubic yards of this material has concentrations of TCE, PAHs, and PCBs that exceed the MTCA Method A industrial cleanup levels. A portion of the PAH waste that exceeds MTCA Method A industrial cleanup levels would be considered dangerous waste under Washington State dangerous waste regulations if it were moved out of the landfill complex.

O. The North Landfill contained approximately 15,000 cubic yards of material that exceeded the MTCA Method A industrial cleanup levels for either PCBs or PAHs. Although this area was suspected to be the source of the TCE contamination in groundwater, only two of the six soil samples contained detectable concentrations of TCE and both detections were below the MTCA Method A industrial cleanup level of 0.03 ppm. Waste materials exceeding MTCA Method A industrial cleanup levels were excavated and consolidated in the East Landfill in 2004.

P. The North 2 Landfill is similar to the North Landfill in that the chemicals identified were predominantly PAHs and PCBs. An estimated 10,000 cubic yards of material exceeding MTCA Method A industrial cleanup levels for one or more of these chemicals was contained in the North 2 Landfill. Waste material exceeding MTCA Method A industrial cleanup levels were excavated and consolidated in the East Landfill in 2004.

Q. In 2003, Ecology and Alcoa entered into an Agreed Order (No. DE 03 TCPIS-5737) which required Alcoa to conduct source control and riverbank stabilization activities at the East Landfill. The Agreed Order mandated the consolidation of waste from the North and North 2 Landfills into the East Landfill, removal of PCB impacted soil hot spots and off-site soil disposal, capping the East Landfill with a RCRA double-lined cover, and construction of riverbank revetment. The construction work directed by this Order was completed in April of

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2004. Groundwater monitoring, institutional controls, and cap/cover maintenance continue at the East Landfill.

R. The current groundwater monitoring program includes 49 monitoring wells. These wells were located to monitor several areas including the East Landfill, North and North 2 Landfills, the former SPL Storage Area, the South Bank Area, and various facilities associated with the aluminum manufacturing operations. Nine of the 49 wells are screened in the shallow zone, 14 of the wells are screened in the intermediate zone, 14 are screened in the deep zone, and 12 are screened in the aquifer zone.

S. The current groundwater monitoring program was implemented in 2003. Groundwater has been monitored at the Site since the mid-1980s. Since the consolidation of waste and capping of the East Landfill in 2004, concentrations of TCE and TCE degradation products, fluoride, cyanide, and total petroleum hydrocarbons (TPH) have been in decline. Fluoride, cyanide, and TPH are below the applicable MTCA Method A groundwater cleanup levels. However, the concentrations for TCE and TCE degradation products remain above applicable MTCA Method A groundwater cleanup levels. For a more detailed description of the nature and extent of Site contaminants, refer to the 2008 Remedial Investigation/Feasibility Study, Alcoa/Evergreen Vancouver Site, Anchor Environmental, September 2008.

T. In 1985, the Department of Ecology issued an Order to Columbia Marine Lines (Ecology Order No. DE 85-591), which required Columbia Marine Lines to install and have operational a hydrocarbon recovery program, to submit a report defining the vertical and horizontal extent of impacted groundwater within the former disposal pits on the Alcoa property, and to submit a plan describing additional remedial measures that would be taken. At the time, Columbia Marine Lines leased and operated a marine repair facility on the Alcoa property west of the aluminum smelter (Crowley Parcel). In February of 1986, Columbia Marine Lines reached agreement with the State by entering into a Stipulation and Order

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(PCHB No. 85-180) with the Pollution Control Hearings Board (PCHB) of the State of Washington to carry out a modified work plan under Order No. DE 85-591. Columbia Marine Lines was subsequently purchased by Crowley Marine Services (Crowley). The hydrocarbon recovery system was completed in 1986 and operated until 1995 when levels of free hydrocarbon liquids floating on the groundwater indicated that the system had removed the maximum amount of free petroleum product that its design allowed. In 1996 and 1999, additional subsurface investigations were conducted to define the nature and extent of the diesel range hydrocarbon contamination in soils and groundwater at the Crowley Parcel. From November 2000 through February 2003, and from December 2004 through December 2005, a new dual phase extraction system was installed and operated at the Crowley Parcel. Further groundwater and soil samples were taken in 2007 to determine the effectiveness of the dual phase extraction system. No free hydrocarbon product was found in the groundwater at the Crowley Parcel, but the soil continued to show TPH values above MTCA Method A soil cleanup levels and the groundwater had dissolved TPH values above MTCA Method A groundwater cleanup levels. The groundwater remediation directed by Ecology Order No. DE 85-591 to remove free product was therefore complete. Additional soil remediation required by the 2009 Decree was completed in 2009.

U. In 2007, Ecology issued Enforcement Order No. DE 4931 to Evergreen, which required Evergreen to develop a list of contaminants for Evergreen's property, determine a sampling strategy, develop contaminant cleanup standards for their property, design a cleanup feasibility study, and complete an interim cleanup. Evergreen has completed the remedial actions required by this enforcement order.

V. In June of 2008, Ecology issued an Enforcement Order to Alcoa (Ecology Order No. DE 5660). This Enforcement Order required Alcoa to: 1) demolish ore handling facilities next to the dock, 2) remove existing above ground petroleum tank foundations and associated

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piping east of the dock, 3) remove existing underground petroleum storage tanks located in the river dike west of the dock, 4) conduct petroleum contamination soil sampling after removal of the underground storage tanks and pipelines and, if necessary, perform soil removal, 5) sample and remove any PCB contaminated soil along the riverbank and dike west of the dock with the potential to impact the sediment remediation, and 6) prepare and re-grade the Columbia River riverbank and dike as needed for geotechnical stability required for the sediment remediation. Alcoa has completed the remedial actions required by this enforcement order.

W. On December 31, 2009, Ecology received the final completion report for the cleanup directed by the 2009 Decree. The completion report documented Alcoa's completion of the following actions: the removal or capping of fluoride, PAH, and PCB-affected soils; the remediation of the PCB-affected river sediments and stabilization of the shoreline; the remediation of the TPH-affected soil at the Crowley Parcel as required by the CAP; and the filing of the appropriate deed restrictions on the Site. On March 17, 2010, Ecology approved the completion report.

VI. WORK TO BE PERFORMED

This Decree contains a supplemental work program designed to protect human health and the environment from the known release, or threatened release, of hazardous substances or contaminants at, on, or from the Site.

A. Work to be performed consists of those remedial actions defined in the attached SCAP (Exhibit E) developed by Ecology and based on an approved Remedial Investigation and Feasibility Study Report prepared by Defendant. The basic remediation tasks of the Work under the SCAP shall include the following:

1. Within 30 days of the effective date of the amendments to this Decree, Alcoa shall submit to Ecology a Compliance Monitoring Plan (CMP) pursuant to WAC 173-340-410 that includes a Sampling and Analysis Plan (SAP) as

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required by WAC 173-340-820. The CMP and SAP shall include data collection and evaluation procedures for monitoring transition zone groundwater (defined as the 0 to 5-inch interval of sediment located below the riverbed) using passive peepers. Alcoa shall perform five compliance monitoring events. Monitoring data shall be used to demonstrate that the cleanup action meets the cleanup standards established for transition zone groundwater adjacent to the East Landfill.

2. Schedule. After Ecology approval of the CMP and SAP, transition zone groundwater compliance monitoring shall begin within 60 days of the first hydrologic event described in the CMP.

3. Reporting. Within 30 days after receiving preliminary laboratory data for each compliance monitoring event, Alcoa shall submit a brief progress report presenting the preliminary validated laboratory data set and providing a summary of the monitoring activities including a detailed description of any deviations from the CMP, SAP or schedule. No additional progress reports shall be required. Following the fifth and final monitoring event, Alcoa shall submit a report describing the results of the transition zone groundwater compliance monitoring remedial activities. The report shall be submitted to Ecology 90 days after receiving validated laboratory data generated from the fifth compliance monitoring event.

B. The basic long-term O&M tasks of the Work shall include:

1. Defendant shall perform operation and maintenance of the East Landfill cap, the former SPL Storage Area, and the Vanexco/Rod Mill cap as required by the CAP; and

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2. Defendant shall monitor groundwater as required by the CAP and SCAP.

C. Defendant agrees not to perform any remedial actions outside the scope of this Decree unless Defendant receives approval from Ecology to do so as required by Section XV (Amendment of Decree). All work conducted by Defendant under this Decree shall be done in accordance with Chapter 173-340 WAC unless otherwise provided herein.

VII. DESIGNATED PROJECT COORDINATORS

The project coordinator for Ecology is:

Name: Paul Skyllingstad
Address: Industrial Section
Department of Ecology
P.O. Box 47706
Olympia, WA 98504-7706

The project coordinator for Alcoa is:

Name: Mark Stiffler
Address: Alcoa Inc.
201 Isabella Street
Pittsburgh, PA 15212-5858

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

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

VIII. PERFORMANCE

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

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

All remediation tasks performed pursuant to this Decree shall be under the direct supervision of a professional engineer or a qualified technician under the direct supervision of a professional engineer. Except for groundwater monitoring (hydrogeologic work), O&M tasks do not require direct supervision by a professional engineer or qualified technician. The professional engineer must be registered in the State of Washington, except as otherwise provided for by RCW 18.43.130.

Any documents submitted containing geologic, hydrologic, or engineering work shall be under the seal of an appropriately licensed professional as required by Chapter 18.220 RCW or RCW 18.43.130.

During implementation of remediation tasks and groundwater monitoring, Defendant shall notify Ecology in writing of the identity of any engineer(s), geologist(s), and prime contractor(s) it uses in carrying out the terms of this Decree, in advance of its involvement at the Site.

IX. ACCESS

Subject to the Defendant's health and safety procedures, Ecology or any Ecology authorized representative shall have full authority to enter and freely move about all property at the Site that Defendant either owns, controls, or has access rights to at all reasonable times for

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the purposes of, *inter alia*: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Decree; reviewing Defendant's progress in carrying out the terms of the amendments to this Decree; conducting such tests or collecting such samples as Ecology may deem necessary for purposes of this Decree; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Decree; and verifying the data submitted to Ecology by Defendant. Nothing in this Order is intended by Defendant to waive any right it might have under applicable law to limit disclosure of documents protected by the attorney work-product and/or attorney-client privilege. If Defendant withholds any requested records based on an assertion of privilege, it shall provide Ecology with a privilege log specifying the records withheld and the applicable privilege. No actual data collected on Site pursuant to this Decree shall be considered privileged. Defendant shall make all reasonable efforts to secure access rights for those properties within the Site not owned or controlled by Defendant where remedial activities or investigations will be performed pursuant to this Decree. Ecology or any Ecology authorized representative shall give reasonable notice before entering any Site property owned or controlled by Defendant unless an emergency prevents such notice. All parties who access the Site pursuant to this Section shall comply with any applicable Health and Safety Plan(s), any applicable health and safety procedures of the Defendant, and any access regulations under the United States Coast Guard Maritime Security (MARSEC) system. Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access.

X. SAMPLING, DATA SUBMITTAL, AND AVAILABILITY

For work required for the implementation of this Decree, Defendant shall make the results of all sampling, laboratory reports, and/or test results generated by it or on its behalf available to Ecology. Pursuant to WAC 173-340-840(5), all such sampling data shall be

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submitted to Ecology in both printed and electronic formats in accordance with Section XI (Progress Reports), Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

If requested by Ecology, Defendant shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by Defendant and required by the implementation of this Decree. Defendant shall notify Ecology seven (7) days in advance of collecting samples at the Site pursuant to this Order; provided, however, that Ecology may waive this notification requirement and accept samples where they were collected during construction projects or other circumstances where sampling was prudent or necessary but unplanned; and provided further, sampling conducted pursuant to the approved SCAP (Exhibit E) shall not require separate reporting as a result of this subsection. Ecology shall, upon request, allow Defendant and/or any of its authorized representatives to take split or duplicate samples of any samples collected by Ecology pursuant to the implementation of this Decree, provided that doing so does not interfere with Ecology's sampling. Without limitation on Ecology's rights under Section IX (Access), Ecology shall notify Defendant seven (7) days prior to any sample collection activity unless an emergency prevents such notice.

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

XI. PROGRESS REPORTS

A. Defendant has submitted to Ecology all written quarterly Progress Reports required by the 2009 Decree. Defendant shall submit additional Progress Reports as required by Section VI(A).

B. Defendant shall submit long-term monitoring reports in accordance with the schedule in the SCAP. Progress Reports and any other documents submitted pursuant to this

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Decree may be submitted electronically. However, Defendant agrees to also submit a hard copy of any Progress Report by certified mail, or equivalent shipping/mailing alternative, return receipt requested, if requested by Ecology's project coordinator.

XII. RETENTION OF RECORDS

During the pendency of this Decree, and for ten (10) years from the date this Decree is no longer in effect as provided in Section XXVIII (Duration of Decree), Defendant shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation of this Decree and shall insert a similar record retention requirement into all contracts issued by it after the effective date of the amendments to this Decree with project contractors and subcontractors. Upon request of Ecology, Defendant shall make all records available to Ecology and allow access for review within a reasonable time. Nothing in this Order is intended by Defendant to waive any right it might have under applicable law to limit disclosure of documents protected by the attorney work-product and/or attorney-client privilege. If Defendant withholds any requested records based on an assertion of privilege, it shall provide Ecology with a privilege log specifying the records withheld and the applicable privilege. No actual data collected on Site pursuant to this Decree shall be considered privileged.

XIII. TRANSFER OF INTEREST IN PROPERTY

Ecology and Alcoa acknowledge that any successor owner of the Site, who is liable solely due to that person's ownership in the Site, is entitled to the limitation on the state's ability to enforce MTCA described in RCW 70.105D.040(4)(e) upon entry of this Decree by the Court.

XIV. RESOLUTION OF DISPUTES

A. In the event a dispute arises as to an approval, disapproval, proposed change, or other decision or action by Ecology's project coordinator, or an itemized billing statement

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under Section XXIV (Remedial Action Costs), the Parties shall utilize the dispute resolution procedure set forth below.

1. Upon receipt of Ecology's project coordinator's written decision, or action, or the itemized billing statement, Defendant has fourteen (14) days within which to notify Ecology's project coordinator in writing of its objection to the decision or itemized statement.

2. The Parties' project coordinators shall then confer in an effort to resolve the dispute. If the project coordinators cannot resolve the dispute within fourteen (14) days after Ecology receives the notification of Defendant's objection, Ecology's project coordinator shall issue a written decision.

3. Defendant may then request Ecology's Industrial Section management review of the decision. Any such request shall be submitted in writing to the Industrial Section Manager at 300 Desmond Drive SE, Olympia, Washington within fourteen (14) days of receipt of Ecology's project coordinator's written decision.

4. Ecology's Industrial Section Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute within thirty (30) days of receiving the request for review.

5. If Defendant finds Ecology's Industrial Section Manager's decision unacceptable, Defendant may then request final management review of the decision. This request shall be submitted in writing to the Waste 2 Resources Program Manager at 300 Desmond Drive SE, Olympia, Washington within fourteen (14) days of receipt of the Industrial Section Manager's decision.

6. Ecology's Waste 2 Resources Program Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute within thirty (30) days of Defendant's request for review of the Industrial Section Manager's decision.

The Waste 2 Resources Program Manager's decision shall be Ecology's final decision on the disputed matter.

B. If Ecology's final written decision is unacceptable to Defendant, Defendant has the right to submit the dispute to the Court for resolution. The Parties agree that one judge should retain jurisdiction over this case and shall, as necessary, resolve any dispute arising under this Decree. In the event Defendant presents an issue to the Court for review, the Court shall review the action or decision of Ecology on the basis of whether such action or decision was arbitrary and capricious and render a decision based on such standard of review.

C. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used. Where any party utilizes the dispute resolution process in bad faith or for purposes of delay, the other party may seek sanctions.

D. Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Decree, unless (1) Ecology agrees in writing to a schedule extension, (2) Ecology agrees that such activities are dependent upon resolution of the disputed issue, or (3) the Court so orders. With regard to a dispute over an itemized billing statement, Defendant shall pay any amount not in dispute as required by Section XXIV (Remedial Action Costs). Any amount that is in dispute shall proceed through these dispute resolution procedures, and upon a final decision that Defendant owes all or any portion of the disputed amount, that Defendant shall pay that amount within 90 days of receipt of said decision. Failure to pay Ecology's costs within ninety (90) days of said final decision will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

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XV. AMENDMENT OF DECREE

The project coordinators may agree to minor changes to the work to be performed without formally amending this Decree. Minor changes will be documented in writing by Ecology.

Substantial changes to the work to be performed shall require formal amendment of this Decree. This Decree may only be formally amended by a written stipulation among the Parties that is entered by the Court, or by order of the Court. Such amendment shall become effective upon entry by the Court. Agreement to amend the Decree shall not be unreasonably withheld by any party.

A request for amendment of this Decree by Defendant shall be submitted in writing to Ecology for approval. Ecology shall indicate its approval or disapproval in writing within 20 business days after the written request for amendment is received. If the amendment to the Decree is a substantial change, Ecology will provide public notice and opportunity for comment. Reasons for the disapproval of a proposed amendment to the Decree shall be stated in writing and provided to Defendant. If Ecology does not agree to a proposed amendment, the disagreement may be addressed through the dispute resolution procedures described in Section XIV (Resolution of Disputes).

XVI. EXTENSION OF SCHEDULE

A. An extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion, generally at least twenty (20) days prior to expiration of the deadline for which the extension is requested, and good cause exists for granting the extension. All extensions shall be requested in writing. The request shall specify:

1. The deadline that is sought to be extended;
2. The length of the extension sought;
3. The reason(s) for the extension; and

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

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

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

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

3. A disputed issue has been submitted in good faith by Defendant for review pursuant to Section XIV (Resolution of Disputes) and Ecology agrees that the resolution of the disputed issue impacts the deadline sought to be extended; or

4. Endangerment as described in Section XVII (Endangerment).

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

C. Ecology shall give Defendant written notification of its response to any extension request within twenty (20) days of receipt of said request. A requested extension shall not be effective until approved by Ecology or, if required, by the Court. Unless the extension is a substantial change, it shall not be necessary to amend this Decree pursuant to Section XV (Amendment of Decree) when a schedule extension is granted.

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D. An extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. Ecology may grant schedule extensions exceeding ninety (90) days only as a result of:

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

2. Other circumstances deemed exceptional or extraordinary by Ecology; or

3. Endangerment as described in Section XVII (Endangerment).

XVII. ENDANGERMENT

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

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

If Ecology concurs with or orders a work stoppage pursuant to this Section, Defendant's obligations with respect to the ceased activities shall be suspended until Ecology determines the danger is abated, and the time for performance of such activities, as well as the time for any other work dependent upon such activities, shall be extended, in accordance with

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Section XVI (Extension of Schedule), for such period of time as Ecology determines is reasonable under the circumstances.

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

XVIII. COVENANT NOT TO SUE

A. Covenant Not to Sue: In consideration of Defendant's compliance with the terms and conditions of this Decree and its amendments, Ecology covenants not to institute legal or administrative actions against Defendant regarding the release or threatened release of hazardous substances covered by this Decree or its amendments.

This Decree and its amendments cover only the Site specifically identified in the Site Diagram (Exhibit B) and those hazardous substances that Ecology knows are located at the Site as of the dates of entry of this Decree and its amendments. This Decree and its amendments do not cover any other hazardous substance or area. Ecology retains all of its authority relative to any substance or area not covered by this Decree or its amendments.

This Covenant Not to Sue shall have no applicability whatsoever to:

1. Criminal liability;

2. Liability for damages to natural resources; and

3. Any Ecology action, including cost recovery, against PLPs not a party to this Decree.

B. Reopeners: Ecology specifically reserves the right to institute legal or administrative action against Defendant to require it to perform additional remedial actions at the Site and to pursue appropriate cost recovery, pursuant to RCW 70.105D.050 under the following circumstances:

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1. Upon Defendant's failure to meet the requirements of this Decree, as amended, including, but not limited to, failure of the remedial action to meet the cleanup standards identified in the CAP (Exhibit A) or SCAP (Exhibit E);

2. Upon Ecology's determination that remedial action beyond the terms of this Decree is necessary to abate an imminent and substantial endangerment to human health or the environment;

3. Upon the availability of new information regarding factors previously unknown to Ecology, including the nature or quantity of hazardous substances at the Site, and Ecology's determination, in light of this information, that further remedial action is necessary at the Site to protect human health or the environment; or

4. Upon Ecology's determination that additional remedial actions are necessary to achieve cleanup standards within the reasonable restoration time frame set forth in the CAP or SCAP.

If factors not known at the time of entry of the settlement agreement are discovered and present a previously unknown threat to human health or the environment, the Court shall amend this Covenant Not to Sue.

C. Except in the case of an emergency, prior to instituting legal or administrative action against Defendant pursuant to this Section, Ecology shall provide Defendant with fifteen (15) calendar days notice of such action. Defendant reserves the right to challenge such action.

D. Defendant reserves all rights and defenses with respect to any additional remedial actions that Ecology may seek to require at the Site, including but not limited to, reopening this Decree or seeking to amend or otherwise limit the Covenant Not to Sue.

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XIX. CONTRIBUTION PROTECTION

With regard to claims for contribution against Defendant, the Parties agree that Defendant is entitled to protection against claims for contribution for matters addressed in this Decree and its amendments as provided by RCW 70.105D.040(4)(d).

XX. LAND USE RESTRICTIONS

Defendant shall cause to be recorded a Restrictive Covenant affecting the portion of the Site owned or controlled by Defendant of similar form and substance as that Restrictive Covenant provided in Exhibit C attached hereto with the office of the Clark County Auditor within thirty (30) days of the completion of all of the remedial tasks listed in Section VI.A (Work to be Performed). The Restrictive Covenant shall appropriately restrict future uses of the Site. Defendant shall provide Ecology with a copy of its recorded Restrictive Covenant within thirty (30) days of the recording date.

XXI. FINANCIAL ASSURANCES

Pursuant to WAC 173-340-440(11), Defendant shall maintain sufficient and adequate financial assurance mechanisms to cover all costs associated with the operation and maintenance of the remedial action at the Site, including institutional controls, compliance monitoring, and corrective measures.

Within sixty (60) days of the effective date of the amendments to this Decree, Defendant shall submit to Ecology for review and approval an estimate of the costs that it will incur in carrying out the terms of the amendments to this Decree, including operation and maintenance, and compliance monitoring. Within sixty (60) days after Ecology approves the aforementioned cost estimate, Defendant shall provide proof of financial assurances sufficient to cover all such costs in a form acceptable to Ecology.

Defendant shall adjust its financial assurance coverage and provide Ecology's project coordinator with documentation of the updated financial assurance for:

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A. Inflation, annually, within thirty (30) days of the anniversary date of the entry of the amendments to this Decree; or if applicable, the modified anniversary date established in accordance with this Section, or if applicable, ninety (90) days after the close of Defendant's fiscal year if the financial test or corporate guarantee by Defendant is used; and

B. Changes in cost estimates, within thirty (30) days of issuance of Ecology's approval of a modification or revision to the SCAP that result in increases to the cost or expected duration of remedial actions required by Defendant. Any adjustments for inflation since the most recent preceding anniversary date shall be made concurrent with adjustments for changes in cost estimates. The issuance of Ecology's approval of a revised or modified SCAP will revise the anniversary date established under this Section to become the date of issuance of such revised or modified SCAP; and

C. Changes in cost estimates, within thirty (30) days of issuance of Ecology's written notification that all completion reports have been approved as provided in Section VI (D). Any adjustments for inflation since the most recent preceding anniversary date shall be made concurrent with adjustments for changes in cost estimates. The issuance of Ecology's written notification that all remediation tasks have been completed will revise the anniversary date established under this Section.

XXII. INDEMNIFICATION

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

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action to the extent arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in entering into or implementing this Decree.

XXIII. COMPLIANCE WITH APPLICABLE LAWS

A. All actions carried out by Defendant pursuant to this Decree shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in RCW 70.105D.090. The permits or other federal, state or local requirements that Ecology has determined are applicable and that are known at the time of entry of this Decree have been identified in the CAP (Exhibit A) and SCAP (Exhibit E).

B. Pursuant to RCW 70.105D.090(1), Defendant is exempt from the procedural requirements of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW and of any laws requiring or authorizing local government permits or approvals. However, Defendant shall comply with the substantive requirements of such permits or approvals. The exempt permits or approvals and the applicable substantive requirements of those permits or approvals, as they are known at the time of entry of this Decree, have been identified in the CAP (Exhibit A) and SCAP (Exhibit E).

Defendant has a continuing obligation to determine whether additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action required of it under this Decree. In the event either Ecology or Defendant determines that additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Decree, it shall promptly notify the other party of this determination. Ecology shall determine whether Ecology or Defendant shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, Defendant shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those

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agencies believe are applicable to the remedial action. Ecology shall make the final determination on the additional substantive requirements that must be met by Defendant and on how Defendant must meet those requirements. Ecology shall inform Defendant in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Decree. Defendant shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

C. Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D.090(1) would result in the loss of approval from a federal agency that is necessary for the State to administer any federal law, the exemption shall not apply and Defendant shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D.090(1), including any requirements to obtain permits.

XXIV. REMEDIAL ACTION COSTS

Defendant shall pay to Ecology costs incurred by Ecology pursuant to this Decree and consistent with WAC 173-340-550(2). These costs shall include work performed by Ecology or its contractors for, or on, the Site under Chapter 70.105D RCW, including remedial actions and Decree preparation, negotiation, oversight and administration. These costs shall include work performed both prior to and subsequent to the entry of this Decree. Ecology's costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2). Defendant shall pay the required amount within ninety (90) days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general statement of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Pursuant to WAC 173-340-550(4), failure to pay

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Ecology's costs within ninety (90) days of receipt of the itemized statement of costs will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

Pursuant to RCW 70.105D.055, Ecology has authority to recover unreimbursed remedial action costs by filing a lien against real property subject to the remedial actions.

XXV. IMPLEMENTATION OF REMEDIAL ACTION

If Ecology determines that Defendant has failed without good cause to implement the remedial action, in whole or in part, Ecology may, after notice to Defendant, perform any or all portions of the remedial action that remain incomplete. If Ecology performs all or portions of the remedial action because of Defendant's failure to comply with its obligations under this Decree, Defendant shall reimburse Ecology for the costs of doing such work in accordance with Section XXIV (Remedial Action Costs), provided that Defendant is not obligated under this Section to reimburse Ecology for costs incurred for work inconsistent with or beyond the scope of this Decree.

Except where necessary to abate an emergency situation, Defendant shall not perform any remedial actions at the Site outside those remedial actions required by this Decree, unless Ecology concurs, in writing, with such additional remedial actions pursuant to Section XV (Amendment of Decree). Defendant is expressly authorized to continue its respective demolition activities as long as those demolition activies do not interfere with the cleanup of the Site.

XXVI. PERIODIC REVIEW

As O&M tasks, including groundwater monitoring, continue at the Site, the Parties agree to review the progress of remedial action at the Site, and to review the data accumulated as a result of monitoring the Site as often as is necessary and appropriate under the circumstances. At least every five (5) years after the initiation of cleanup action at the Site the Parties shall meet to discuss the status of the Site and the need, if any, for further remedial

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action at the Site. At least ninety (90) days prior to each periodic review, Defendant shall submit a report to Ecology that documents whether human health and the environment are being protected based on the factors set forth in WAC 173-340-420(4). Ecology reserves the right to require further remedial action at the Site under appropriate circumstances. Defendant reserves its rights to respond to such Ecology action. Any determinations by Ecology under this Section shall be subject to the dispute resolution procedures in Section XIV (Resolution of Disputes). This provision shall remain in effect for the duration of this Decree.

XXVII. PUBLIC PARTICIPATION

A Public Participation Plan (Exhibit D) is required for this Site. Ecology shall review any existing Public Participation Plan to determine its continued appropriateness and whether it requires amendment, or if no plan exists, Ecology shall develop a Public Participation Plan alone or in conjunction with Defendant.

Ecology shall maintain the responsibility for public participation at the Site. However, Defendant shall cooperate with Ecology, and shall:

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

B. Notify Ecology's project coordinator prior to the preparation of all press releases and fact sheets, and before major meetings with the interested public and local governments. Likewise, Ecology shall notify Defendant prior to the issuance of all press releases and fact sheets, and before major meetings with the interested public and local governments. For all press releases, fact sheets, meetings, and other outreach efforts by Defendant that do not receive prior Ecology approval, Defendant shall clearly indicate to its

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audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by Ecology.

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

D. When requested by Ecology, arrange and/or continue information repositories at the following locations:

a. Fort Vancouver Regional Library
1007 E. Mill Plain Blvd.
Vancouver, WA 98663

b. Department of Ecology
Industrial Section
Headquarters Office
300 Desmond Drive SE
Lacey, WA 98504-7706

At a minimum, copies of all public notices, fact sheets, and press releases, all quality assured monitoring data; remedial actions plans and reports, supplemental remedial planning documents, and all other similar documents relating to performance of the remedial action required by this Decree shall be promptly placed in these repositories.

XXVIII. DURATION OF DECREE

The remedial program required pursuant to this Decree shall be maintained and continued until Defendant has received written notification from Ecology that the requirements of this Decree have been satisfactorily completed. This Decree shall remain in effect until dismissed by the Court. When dismissed, Section XVIII (Covenant Not to Sue), Section XXIV (Periodic Review), and Section XIX (Contribution Protection) shall survive.

XXIX. CLAIMS AGAINST THE STATE

Defendant hereby agrees that it will not seek to recover any costs accrued in implementing the remedial action required by this Decree from the Department of Ecology;

and further, that Defendant will make no claim against the State Toxics Control Account or any local Toxics Control Account for any costs incurred in implementing this Decree. Except as provided above, however, Defendant expressly reserves its right to seek to recover any costs incurred in implementing this Decree from any other PLP. This Section does not limit or address funding that may be provided under Chapter 173-322 WAC.

XXX. EFFECTIVE DATE

This Decree is effective upon the date it is entered by the Court.

XXXI. WITHDRAWAL OF CONSENT

If the Court withholds or withdraws its consent to this Decree, it shall be null and void at the option of any party and the accompanying Complaint shall be dismissed without costs and without prejudice. In such an event, no party shall be bound by the requirements of this Decree.

STATE OF WASHINGTON,
DEPARTMENT OF ECOLOGY

Laurie Hewitt for Laurie Davies

LAURIE DAVIES
Program Manager
Waste 2 Resources Program(360) 586-6770
(360) 407-6000

Date: 6/30/2011

ROBERT M. MCKENNA
Attorney General

JOHN A. LEVEL, WSBA # 20439
Assistant Attorney General

Date: 6/30/2011

ALCOA INC.

MARK STIFFLER
Director Asset Management
(412) 553-1658

Date: 6/23/11

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ENTERED this 11 day of July 2011.

/s/ Barbara D. Johnson

JUDGE
Clark County Superior Court

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FINAL
CLEANUP ACTION PLAN AND SCHEDULE

ALCOA INC
5701 NW Lower River Road
Vancouver Washington

December 2008

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1 INTRODUCTION

This Cleanup Action Plan (CAP) presents the selected cleanup action for the remediation of four areas of concern (AOCs) at the Alcoa Inc. (Alcoa)/Evergreen Aluminum LLC (Evergreen) Site (Site) in Vancouver, Washington. This CAP was developed by the Department of Ecology (Ecology) from information presented in the *Remedial Investigation/Feasibility Study for the Alcoa/Evergreen Vancouver Site* (RI/FS; Anchor 2008) and the *Final Focused Remedial Investigation and Feasibility Study for the Former Columbia Marine Lines Site* (SLR 2008) and prepared in accordance with the requirements of the Model Toxics Control Cleanup Act (MTCA; Ecology 2007a), Chapter 70.105D Revised Code of Washington (RCW), administered by Ecology under the MTCA Cleanup Regulation, Chapter 173-340 Washington Administrative Code (WAC).

A CAP is one of a series of documents used by Ecology in the cleanup process conducted under MTCA. This CAP will be made available to the public for review and comment. At the end of the public comment period, Ecology will closely consider concerns expressed regarding the planned remedial actions for the Site and issue a summary and response to any comments received. After consideration of public comments, this CAP will be implemented pursuant to a consent decree with Alcoa entered in Clark County Superior Court (with the Consent Decree).

The cleanup action alternatives chosen for the Site are protective of human health and the environment. Selected cleanup actions chosen for the Site include solutions that consider treatment technologies and source removal to the maximum extent practicable. Detailed descriptions of Ecology's selected cleanup actions are provided in Section 7. Forthcoming engineering designs and planning documents associated with the selected alternatives will provide for future monitoring of the Site in order to ensure the long-term effectiveness of all remedial actions in accordance with WACs 173-340-400 and 173-340-410.

1.1 Purpose and Scope

The primary state law that governs the cleanup of contaminated sites is MTCA. MTCA regulations define the process for the investigation and cleanup of contaminated sites. When contaminated sediments are involved, the cleanup standards and other procedures are also regulated by the Sediment Management Standards (SMS), Chapter 173-204 WAC. MTCA regulations specify criteria for the evaluation and conduct of a cleanup action, as well as soil and groundwater standards. SMS regulations dictate the standards for sediment cleanup. Under both, the cleanup must protect human health and the environment, meet state environmental standards and regulations in other laws that apply, and provide for monitoring to confirm compliance with Site cleanup standards. Specifically, Ecology has determined that Chapter 173-303 WAC (Dangerous Waste Regulations), Chapter 173-350 WAC (Solid Waste Handling Standards), RCW 90.48 (Water Pollution Control), and RCW 43.21C (State

Environmental Policy) are applicable at this Site. Additionally, Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Wells) is a relevant and appropriate regulation if new wells are required on Site.

The CAP outlines the steps and procedures for conducting an environmental cleanup of the AOCs at the Site consistent with MTCA and SMS requirements, with the exception of the East Landfill AOC. A separate CAP will be issued to address trichloroethylene (TCE)-bearing groundwater within the vicinity of the East Landfill. Consistent with the requirements of WAC 173-340-380, this document provides the following information:

- A description of the Site (Section 2)
- The nature and extent of Site contamination (Section 3)
- The cleanup standards for Site contaminants (Section 4)
- A summary of the evaluated cleanup action alternatives (Sections 5 and 6)
- A general description of Ecology's selected cleanup action (Section 7)
- A schedule for implementation of the cleanup action (Section 8)

Pursuant to WAC 173-340-710(9)(e), Alcoa has the continuing obligation to determine whether permits, approvals, or other substantive requirements are required to implement the remedy. In the event that Ecology or Alcoa becomes aware of additional permits, approvals, or substantive requirements that apply to the remedial action, it shall promptly notify the other party of this knowledge. Ecology shall make the final determination on the application of any additional substantive requirements at the Site.

1.2 Applicability

The cleanup standards and actions presented in this document have been developed through the remediation process conducted with Ecology oversight. The cleanup levels and actions are site-specific and should not be considered as setting precedent for other similar sites. Potentially Liable Persons (PLPs) cleaning up sites independently, without Ecology oversight, may not cite numerical values of cleanup levels specified in this document as justification for cleanup levels in other unrelated sites. PLPs that are cleaning up other sites under Ecology oversight must base cleanup levels and cleanup standards on site-specific regulatory considerations and not on numerical values contained in this CAP.

1.3 Declaration

In accordance with WAC 173-340-360(2)(a), the selected cleanup actions meet the threshold requirements; are protective of human health and the environment; comply with applicable state and federal laws; and provide for compliance monitoring. Furthermore, the selected remedies are consistent with the preference of the State of Washington as stated in RCW 70.105D.030(1)(b) for permanent cleanup solutions.

1.4 Administrative Record

The documents used to make the decisions discussed in this CAP are part of the administrative record for the Site. The entire administrative record for the Site is available for public review by appointment at Ecology's Industrial Section in Lacey, Washington. To review or obtain copies of the above documents, contact Mr. Paul Skyllingstad, Ecology's Site Manager at (360) 407-6949.

2 SITE BACKGROUND

This section describes background information relevant to the cleanup of the Site. Information presented in this section includes a discussion of historical, current, and future site use.

2.1 Site Description

The Site is located on NW Lower River Road on the northern shore of the Columbia River at River Mile 103.3 in Clark County. It is approximately 3 miles northwest of downtown Vancouver, Washington and approximately 3 miles due west of Interstate 5. The facility covers approximately 208 acres (of which Alcoa currently owns 97 acres and Evergreen owns 111 acres). It is bound on the north by NW Lower River Road, on the east by property owned by the Port of Vancouver, on the south by the Columbia River, and on the west by multiple industrial property owners. The current land uses in the general vicinity of the Site are mixed use industrial and agricultural. The Site and surrounding area are shown in Figure 1.

The Site layout and current property boundaries are shown in Figure 2. The Site boundary includes the Evergreen and Alcoa properties, as well as property currently owned by Clark County and Clark Public Utility District (PUD). The latter two properties were previously owned and remediated by Alcoa under Ecology Agreed Order DE 97 TCI032.

2.2 Site History

The Site was developed in the late 1930s, with the completion of Alcoa's aluminum smelter in 1940. The aluminum smelting operations at the Site began in 1940. During World War II, Alcoa filled the eastern end of the smelter site with dredge sands from the Columbia River. From 1940 to 1970, Alcoa added a number of fabrication operations to the facility. By 1970, the facility contained an aluminum smelter and a series of fabrication plants to form the aluminum metal into finished goods such as wire, rod, and extruded channel. Alcoa operated the entire facility for approximately 45 years, until 1986.

Thereafter, Alcoa began remediating and selling individual land parcels and operations associated with the Site. In 1987, ACPC, Inc. purchased the cable mill operations and leased the associated land from Alcoa. In 1987, Alcoa sold the aluminum smelter to Vanalco, Inc.; however, Alcoa retained the title to the extrusion section of the property known as the Vancouver Extrusion Company (Vanexco) and the cable mill operation, subject to the ACPC lease. Vanexco was operated by Alcoa until 1991 when it was closed. Additionally, in 1991, Alcoa sold a tract of land lying west of the aluminum smelter to Russell Towboat and Moorage Company; this tract of land is not part of the Site. In 1994, a parcel of property known as the North Parcel was sold to the Clark County PUD for construction of a

cogeneration plant. A cleanup was conducted in an area known as the Northeast Parcel and the property was sold to Clark County as a jail site in 1997. Vanalco owned and operated the aluminum smelter from 1987 until late 2000 when it ceased all manufacturing operations and entered bankruptcy. Glencore Washington LLC (now known as Evergreen) purchased the smelter assets from the bankruptcy estate in 2002. No manufacturing operations have taken place at the Site since December 2000.

Columbia Marine Lines (succeeded by Crowley Marine Services, Inc.) leased property and operated a marine repair facility on the Alcoa property west of the aluminum smelter (the Crowley Parcel) from approximately 1963 until 1984. Today, Evergreen owns the former aluminum smelter site and the stormwater lagoons, and owns the small sanitary sewer plant in common with Alcoa. Alcoa retains ownership of the remainder of the Site, including the river dock and loading area, the land east of the smelter (including the East Landfill, the former North and North 2 Landfill areas, and the South Bank Area), and the property to the west of the smelter (the Crowley Parcel).

2.3 Historical Site Use

The aluminum smelter, which included potlines, an aluminum casting facility, greenmill, carbon bakes, dock and raw materials handling system, laboratory, and miscellaneous support facilities, operated with only intermittent interruptions, from 1940 through 2000. The smelting operations required an extensive dry materials handling system for raw materials. Alumina ore was received by rail or ocean-going vessel. Other raw materials, including petroleum coke, coal tar pitch, anthracite coal, cryolite (sodium aluminum fluoride), and aluminum fluoride, were received by rail and truck.

The alumina was reduced to molten aluminum in the potlines. This reduction process involved the use of a carbon cathode and anode; both were manufactured on Site. Aluminum salts and electrolytes containing fluoride were introduced into the reduction process to increase the solubility of alumina. The molten aluminum was transferred to the casting facility where it was cast into a variety of products, including sow, billet, and sheet ingot. Many of these products required the aluminum to be alloyed with different metals, including copper, manganese, and magnesium.

Electricity is considered one of an aluminum smelter's raw materials. Bonneville Power Administration (BPA) owns a parcel of property on the northeastern side of the Site. BPA supplied power to transformer banks at the aluminum smelter, located on the north side of the aluminum smelter potrooms. The transformer banks contained large transformers and capacitors. These units fed electricity into rectifiers housed in adjacent buildings, and then on to the potlines. Prior to 1987, the original mercury-arc rectifiers used to provide power to the potlines were replaced with solid state rectifiers.

The aluminum smelter manufactured carbon anodes and cathodes, for the smelting operations at the Site. The carbon storage building housed the petroleum coke and coal tar pitch inventory. The greenmill mixed and heated the coke and pitch to form a paste, which was then pressed into the shape of an anode. The anodes were lowered into in-ground ring furnaces to bake and cure. The cathodes manufactured at the Site used either anthracite coal and pitch to form a paste, which was rammed into place to form the cathodic lining of the pot shell, or purchased cathode blocks and ram paste, which was used to form the potshell cathode lining. The pot shell is where the reduction of alumina to aluminum occurs.

The aluminum smelter had a complete maintenance department to support the operations. The maintenance department utilized land to the southeast of the carbon storage building as a scrap yard. Various materials were placed in this area prior to reuse or off-site recycling.

Several on-site landfills and material storage locations were operated on the eastern portion of the Site prior to the mid-1980s. Materials relating to Site operations, including alumina, bath, cryolite, aluminum fluoride, carbon, anodes, brick, concrete, plastic, wire, paper, drums, aluminum metal, pallets, conveyor belts, cable, metal piping, gravel, asphalt chunks; contaminated waste including miscellaneous small volumes containing trichloroethylene-bearing solvents, polychlorinated biphenyls, and polycyclic aromatic hydrocarbons; and miscellaneous maintenance activity debris, were deposited in the landfills. Spent potlining (SPL; cathodes) were stored in a separate location that was remediated under Consent Decree 92-2-00783-9 between Alcoa and Ecology. Waste materials were transported off site following the closure of the landfills in the 1980s.

During the 1950s, Alcoa added fabrication facilities, including the extrusion plant, rod mill, and cable plant, at the Site. These fabrication facilities used large quantities of hydraulic oils in numerous pieces of equipment used in the manufacturing processes. Both water-soluble and petroleum-based hydraulic oils were used. Several additional expansions of the facilities took place during the 1950s and 1960s.

From approximately 1963 to approximately 1985, Alcoa leased property to Columbia Marine Lines, which was succeeded by Crowley Marine Services, Inc. (Crowley). During this time, Crowley operated a marine repair facility on the Site in an area adjacent to the stormwater ponds. Crowley deposited wastewater, including barge slops, wash water from barge gas freeing operations, and tug bilge slops, were deposited into a series of three dewatering ponds on the property.

2.4 Future Site Use and Development

Alcoa and Evergreen intend to sell their properties to a buyer which will use the property in an industrial capacity. Current plans for the Site include the development of rail lines across

the properties and development of a car unloading and storage facility. In the future, a wide variety of industrial use activities may occur on the property.

To support the development, the former manufacturing, storage, and fabrication facilities were scheduled for demolition and final remedial actions have commenced as required by Ecology through Enforcement Order 4931 (Ecology 2007b). To date, Evergreen has completed demolition of the facilities on its property with the exception of the stormwater system. Evergreen has also excavated and disposed of over 51,000 tons of contaminated soil and waste at an off-site RCRA Subtitle D facility, and 7,200 tons of contaminated soil and waste at an off-site RCRA Subtitle C facility. Soils located on Evergreen property are now in compliance with the cleanup levels presented in Section 4.1.5. Alcoa is in the process of demolishing its remaining fabrication and storage facilities. Through a variety of consent decrees and orders, Alcoa has completed the remediation of several portions of the Site. Crowley has previously undertaken remedial actions pursuant to Order No. DE 85-591. This document provides the framework for the final remediation of the entire Site. The RI/FS documents provide a comprehensive discussion of the cleanup actions completed to date.

3 SITE CONDITIONS

The current site conditions and conceptual site model are based on a detailed review of the nature and extent of contamination on Site, the exposure pathways and receptors, and fate and transport processes of various Site contaminants in the environment. A comprehensive discussion of these key elements was presented in the RI/FS and is summarized in the remainder of this section.

3.1 Site Hydrogeology

Published reports were used to determine the regional geology, including U.S. Geological Survey reports and historical site investigation reports. The Site is located in the Portland Basin within the Columbia River floodplain. The Sandy River Mudstone and the Troutdale Formation are the oldest sediments in the Portland Basin. The Troutdale Formation overlies the Sandy River Mudstone.

The Troutdale Formation is overlain by sediments deposited during Pleistocene catastrophic flooding of the Columbia River (Trimble 1963). These flood deposits have been termed the Unconsolidated Sedimentary Aquifer (USA) (Swanson 1993). The USA is overlain by Quaternary Alluvium deposits consisting of very poorly consolidated silt and sand on the floodplains of the modern Columbia River (Madin 1990). In developed areas along the river shoreline, the Quaternary Alluvium is overlain by artificial fill consisting primarily of dredged river sand.

The Site geology has been determined by evaluating the findings of the investigations completed on Site and the findings from investigations completed on nearby properties. Early Site investigations by Robinson Noble and Hart Crowser (Robinson, Noble, & Carr 1982; Hart Crowser 1987a and 1987b) identified the presence of the following geologic units, from shallow to deep:

- Dredge Fill
- Quaternary Alluvium
- Troutdale Formation

Subsequent to Hart Crowser's work at the Site, regional investigations by the U.S. Geological Survey and recent investigations on nearby properties have determined that the unit previously identified as the Troutdale Formation is actually the USA. The four hydrogeologic units identified by Hart Crowser continue to be used in current Site investigations and are defined below.

- **Shallow Zone**: Dredge fill sand thickness ranges from about 7 to 25 feet depending upon the location. The Shallow Zone tends to be deeper (more than 20 feet) on the

east side of the Site because of extensive filling activities that took place historically in that area. Groundwater is present in this zone seasonally. Groundwater in this zone may be locally perched on the finer grained materials in the underlying Intermediate Zone. Many monitoring wells screened in this zone are dry in late summer and fall.

- **Intermediate Zone**: This unit extends from an average of about 15 to 35 feet below ground surface (bgs). The top of this zone is the original ground surface present before dredge fill was placed in the 1940s. In certain locations, such as the East Landfill, this unit extends downward to as deep as 60 feet bgs. The Intermediate Zone is Quaternary Alluvium comprised of silt, fine sand, and clay, with lower hydraulic conductivity than the overlying Shallow Zone.
- **Deep Zone:** This unit extends from an average of about 35 to 95 feet bgs. However, in the southern part of the site, the Deep Zone extends as deep as 125 feet bgs. The Deep Zone is comprised of Quaternary Alluvium fine to medium sand.
- **Aquifer Zone:** The top of the Aquifer Zone is about 95 feet bgs in the northern portion of the site down to about 125 feet bgs in the southern site area near the river shoreline. The base of the Aquifer Zone has not been reached by Site borings. This unit was previously identified as the Troutdale Formation, but has subsequently been redefined by the U.S. Geological Survey as the USA. The Troutdale Formation lies below the USA. The identification of the Aquifer Zone as the USA is based primarily on the extremely high hydraulic conductivity of regional wells screened in this unit and the composition of the gravel. The coarse-grained flood deposits of the USA are the most permeable aquifer in the Portland Basin (Swanson 1993). Due to the high hydraulic conductivity of the USA, no regional supply wells extend down into the underlying Troutdale Formation. For consistency with previous nomenclature of historical Alcoa reports, the USA will continue to be referred to as the Aquifer Zone in Site documentation.

3.2 Previous Areas of Potential Concern

The RI identified ten source areas at the Site for potential remedial action to ensure protection of human health and the environment. For seven of these areas, Ecology determined that source removal was appropriate and the maximum practicable remedial action to address waste materials and impacted soil in accordance with WAC 173-340-360(3)(d). Two other areas not included on the list, the Vanexco/Rod Mill Building (Rod Mill) and concrete and the SPL Storage Area, were remediated under previous Consent Decrees between Alcoa and Ecology (95-2-03268-4 and 92-2-00783-9, respectively). The Vanexco/Rod Mill Building was a PCB soil and concrete cleanup and the SPL Storage Area was cyanide and fluoride source removal and soil cleanup.

The Rod Mill Consent Decree required the long-term maintenance of a cap initially designated as the building floor (constructed of asphalt and/or concrete) and the roof was to

be maintained to prevent ponding of precipitation. To facilitate the current sale of the property, the Rod Mill building will be demolished. The new surface (either sand or asphalt) above the asphalt/concrete floor will be regraded to promote positive drainage away from the cap (i.e., the floor) in accordance with the Rod Mill Consent Decree. Ecology determined that this action is consistent with the Consent Decree. Groundwater monitoring down-gradient of the Rod Mill was performed for 5 years and was completed in 2001. During this period PCBs were not detected in any of the samples. Ecology approved termination of the monitoring program in 2003. Groundwater monitoring continues at the SPL Storage Area and meets the requirements of that Consent Decree. No further action is required for these two former source areas.

From 2007 through 2008, Evergreen remediated five of the initial Site AOCs through source removal activities under Ecology Enforcement Order 4931(Ecology 2007b). These AOCs include the Transformer/Rectifier Yards, Carbon Plant and Storage Buildings, Plant Emission Control Systems, Fluoride-Bearing Raw Material Handling Facilities, and the Scrap Metal Recycling Area. The cleanup actions in these areas included the removal of contaminants of concern (COC) impacted soil, waste, and raw materials. No additional remedial actions are required in these areas as the sources have been removed from the Site to the maximum extent practicable and the actions are protective of groundwater. However, final compliance reporting is still pending. Industrial cleanup levels were used in the removals. The following bullets summarize the work completed to date.

- Approximately 10,100 tons of PCB-impacted soil and foundation material were removed from the Transformer/Rectifier Yards and disposed of at an appropriate off-site landfill. During the course of the remedial activities, soil impacted by mineral oil was also identified. Materials above the Site cleanup level of 4,000 mg/kg TPH were excavated and disposed at an appropriate off-site facility. Post excavation surface sampling was conducted to verify that the required cleanup levels were achieved. No further action is required to remove PCB-impacted soils in this area as all material with concentrations greater than MTCA Method A Unrestricted Use cleanup levels were removed.
- The Carbon Plant and Storage Buildings, including foundations to 3 feet bgs, were demolished and approximately 17,350 tons of PAH, fluoride, and lead impacted soil and waste were excavated and disposed of appropriately at an off-site landfill. Composite samples were collected to verify that the post excavation surface met the required cleanup levels on a point-by-point basis. No further action is required to remove PAH-impacted soils in this area.
- The Plant Emission Control System area housed a historical emission control system and settling ponds. Approximately 2,860 tons of waste and soil impacted with fluoride, PAHs, PCBs, and TPH were excavated in this area. Excavated materials were disposed of at an appropriate off-site landfill and soil samples from the excavation were collected and analyzed for fluoride, PCBs, TPH, and PAHs. PAHs were detected above the Site cleanup level from two samples collected at 12 and 14

feet bgs. These PAHs were considered to be of low risk given the depth at which they were detected and the overall mass removal. Groundwater wells down-gradient of the Plant Emission Control System do not show contamination. On January 31, 2008, Evergreen received approval from Ecology to backfill the excavations. No further action is required to remove PAH-impacted soils in this area. Cleanup levels for all other COCs were met.

- The Fluoride-Bearing Raw Material Handling Facilities consists of raw material unloading facilities, storage facilities, and conveying equipment areas. An approximate 1.8-acre-area in this area was excavated and 9,100 tons of fluoride-impacted soil was transported to an appropriate off-site landfill for disposal. All verification soil samples collected and analyzed for fluoride met the Site-specific cleanup and remediation levels. Groundwater monitoring data collected prior to the source removal activities demonstrated that the source was localized, not mobile, and no impacts to groundwater occurred. No further action is required in this area.
- Approximately 1,400 tons of material containing cyanide, fluoride, TPH, PCBs, and metals over a 0.16-acre-area from the Scrap Metal Recycling Area were excavated and disposed of at an appropriate off-site landfill. Verification soil samples were collected and confirmed compliance with Site-specific remediation and cleanup levels. Additionally, down-gradient monitoring wells indicate that the groundwater is not impacted by this source area at the perimeter of the Site. No further action is required within this area.

3.3 Supplemental Remedial Actions

During the course of the demolition of the smelter facilities, three additional areas containing soil and waste above Site cleanup levels were identified. The following bullets summarize the remedial work completed to date.

- The Ingot Plant was located at the southwest corner of the potlines. During the demolition of the building that housed the former casthouse hydraulic systems in the Ingot Plant, elevated PCBs in floor brick, soil, and concrete rubble were identified. As part of the Ingot Plant remediation, 3,951 tons of brick, concrete, and soil containing total PCBs concentrations greater than 50 mg/kg were shipped offsite for disposal at an off-site RCRA Subtitle C facility, and 10,507 tons of PCB-impacted brick, concrete, and soil were shipped to an off-site RCRA Subtitle D facility. Remaining low-level soil contamination containing less than 10 mg/kg total PCBs in the westernmost portion of the former Ingot Plant footprint will be capped in-place with a 12-inch, soil barrier.
- In 1996, Vanalco filled a low-lying area of the perimeter dike in the SW corner of the facility with bake oven brick and other debris. During facility demolition activities, this area was sampled and confirmed to contain PAHs (TEF adjusted) above the site cleanup level of 18 mg/kg. Approximately 1,476 tons of brick, debris, and sand were

removed and residual soils were confirmed to contain less than 18 mg/kg residual PAHs (TEF adjusted). No further action is required in this area.

- The West Loading Dock of the potlines was historically used as a laydown and storage yard for equipment and materials to support ongoing potroom and Ingot Plant operations. During facility demolition activities, the West Dock was used as the primary staging and load-out area for salvageable materials such as steel and aluminum, as well as, a staging area for temporary storage of contaminated soil, brick, and concrete from ongoing remediation efforts. During the final stages of facility decommissioning, the asphalt surfaces where contaminated materials had been staged was removed. Following asphalt removal, visual inspection of the area indicated that portions of the West Loading Dock area had been used for the placement of some Ingot Plant-related debris, brick, and fluoride-bearing materials (reacted ore) prior to the placement of the asphalt surfacing. Approximately 1.3 acres of soil to a depth of 6 to 12 inches was excavated to remove visible evidence of residual materials. Upon removal, final verification samples were collected to confirm that Site soil cleanup levels had been achieved. A total of 325 tons of debris and soil containing PCBs greater than 50 mg/kg was shipped to an off-site RCRA Subtitle C facility, and 5,400 tons of PCB- and fluoride-impacted soil was shipped to an off-site RCRA Subtitle D facility. No further action is required in this area.

3.4 Site Areas of Concern

Based upon the above discussions, there are five remaining AOCs at the Site. As previously stated, one of these AOCs (TCE-bearing groundwater at the East Landfill) will be addressed in a separate CAP. The remaining areas require remedial action for the protection of human health and the environment at the Site. These AOCs include:

- PCB-Impacted Sediment. The PCB-Impacted Sediment AOC is located near the shore on the eastern side of the facility. It extends from the East Landfill to west of the dock. This AOC also addresses industrial waste located along the riverbank as described below.
- Crowley Parcel. The Crowley Parcel AOC covers several acres of land located on the western side of the property near the stormwater retention ponds.
- Dike Underground Storage Tanks (UST). The Dike USTs AOC is located in the north side of the dike directly south of the former potline building.
- Soluble Oil Area. This AOC is located east of the ACPC facility.

3.4.1 PCB-Impacted Sediments

The nature and extent of PCB-impacted sediment was characterized in a two-phase field program. Phase 1 sediment sampling was conducted in November and December 1999 by Windward Environmental (Windward 2000) to characterize the nature and extent of PCBs in sediments upstream, downstream, and in the immediate vicinity of the Clark County Public

Utility (CPU) outfall. A total of 34 stations were sampled and analyzed for total PCBs, total organic carbon, percent solids, and apparent grain size. Samples were collected from a series of transects. Two transects were positioned upstream of the CPU outfall to assess baseline sediment concentrations, two transects were positioned immediately upstream of the CPU outfall, and three transects were positioned downstream of the CPU outfall. PCB concentrations upstream of the CPU outfall were at or near the detection limit, whereas PCB concentrations immediately downstream of the CPU outfall were greater than 0.35 mg/kg. The highest concentrations of PCBs were located closest to the CPU outfall pipeline between the shoreline and the river shipping channel. Total PCB concentrations up to 28 mg/kg were detected immediately adjacent to the CPU outfall.

Phase 2 of the sediment sampling program was implemented to further refine the nature and extent of PCBs in surface and subsurface sediments adjacent to the CPU outfall. Phase 2 sediment sampling was conducted during two separate events. During the first event on August 15, 2000, 30 surface sediment samples were collected from 12 transect lines extending from the shoreline toward the Columbia River shipping channel. The transects were located on either side of the CPU outfall, beginning 700 feet upstream and continuing approximately 800 feet downstream of the outfall. A second sampling event was conducted from November 12 to 18, 2000, to collect additional surface sediment samples and subsurface samples. Surface sediment samples were collected from 26 additional stations downstream of the stations sampled during the first event and along transects located 900 to 2,500 feet downstream of the CPU outfall. Subsurface sediment samples were collected from 24 subtidal and three intertidal stations. One to two cores were collected from each of the 14 transects located 200 to 700 feet downstream of the CPU outfall.

The Phase 1 and 2 sampling data revealed that the highest PCBs concentrations in surface sediments at the Site, up to 25 mg/kg, were located immediately adjacent to the CPU outfall. Elevated surface sediment PCB concentrations (to 9.2 mg/kg) were detected near the shoreline at transects up to 1,200 feet downstream of the CPU outfall. Sediment samples collected from transects further downstream had much lower PCB concentrations that were similar to PCB concentrations 300 to 700 feet upstream of the CPU outfall. In areas removed from the CPU outfall, PCB concentrations in subsurface sediments were generally much lower than the corresponding concentrations in surface sediments. However, subsurface PCB concentrations in a sediment core collected immediately adjacent to the CPU outfall were as high as 300 mg/kg. PCB concentrations in subsurface sediments from areas outside the immediate vicinity of the CPU outfall were less than 0.50 mg/kg; most were less than 0.10 mg/kg. These results are consistent with the conceptual site model of PCB releases associated with the 1997 CPU outfall construction, and specifically from the mixing of impacted riverbank soils with nearshore sediment during this construction event.

The conceptual site model of PCB releases to sediments adjacent to and downstream of the CPU outfall predicts that localized migration of the PCBs occurred in the vicinity of the CPU

outfall beginning with the construction event due to nearshore hydrodynamic processes in the Columbia River. The sediment RI data also reveal that the only source of contaminant releases to sediments at the Site is related to the 1997 excavation around the CPU outfall pipe. This source is now controlled.

As part of a river-wide characterization effort, the U.S. Army Corps of Engineers conducted sampling in June 2001 of the Federal channel and adjacent bed of the Columbia River. This study further confirmed the limits of PCB-impacted sediment defined by the 1999 and 2000 investigations. A total of 25 samples (24 surface grab samples and one core) were collected from the north side of the federal navigation channel and the adjacent nearshore area at Columbia River RM 103. In the six grab samples collected nearest to shore, PCB Aroclor 1248 was detected at concentrations above the Site-specific cleanup level for total PCBs. The results of the USACE study were consistent with previous characterization work performed by Windward.

The riverbank adjacent to the PCB-impacted sediments is comprised of brick, concrete, and some industrial fill. The industrial fill includes furnace slag and tar-like material from the anode production process. Waste profiling on the slag demonstrates that the material is non-hazardous, solid waste. The tar-like material contains PAHs in excess of 1 percent and therefore, classifies as a persistent, Washington state dangerous waste. In addition, SPL was located in an isolated area of the upper riverbank. These materials were placed during historical plant operations and have remained stable on the bank for several decades.

3.4.2 Crowley Parcel

The Crowley Parcel is located approximately 200 feet inland from the northern bank of the Columbia River to the west of the former Alcoa smelter facility shown on Figure 3. Prior to 1976, Pacific Inland Navigation operated the area as a barge maintenance and cleaning facility. In 1976, Crowley Marine Lines (a predecessor in business to Crowley Marine Services, Inc.) acquired the operations. From 1964 to 1983, water and waste materials from the barge maintenance and cleaning operation were deposited by Crowley into a series of three excavated pits (Ecology 1985). These excavation pits, termed the barge waste disposal area, were approximately 300 to 400 feet north of the Columbia River (GeoEngineers 1983). Historical aerial photographs indicate that the southern pit operated from 1964 to approximately 1966-1968, the western pit operated from 1966-1668 to 1969-1971, and the eastern pit operated from 1969-1971 to 1983 (SLR 2007; GeoEngineers 1985; GeoEngineers 1983). Each pit was backfilled soon after closure. Prior to backfilling the eastern pit, in January 1984, all liquids were removed (GeoEngineers 1985).

Over the course of operations, over 2 million gallons of waste materials were deposited in the barge waste disposal area (Crowley Marine Lines 1984). These waste materials consisted of barge slops, bilge slops, and water from gas freeing operations. Because the waste materials contained dilute petroleum hydrocarbon fuel products, the constituents of potential concern

(COPCs) for the Crowley Parcel included polycyclic aromatic hydrocarbons, total petroleum hydrocarbons gasoline fraction (TPH-G), total petroleum hydrocarbons (TPH-oil), total petroleum hydrocarbons diesel fraction (TPH-D), and BTEX (benzene, toluene, ethylbenzene, and xylene) (SECOR 1996). Contamination from the barge waste disposal area impacted the soil and groundwater in the vicinity of the former pits.

In 1983, the first of three hydrogeologic studies was conducted to obtain an evaluation of subsurface soil and groundwater conditions. In August 1984, Columbia Marine Lines informed Ecology of the closure and past uses of the former barge waste disposal area. Monitoring wells MW-1 through MW-21 were installed in the vicinity of the former barge waste disposal area in 1985 by Crowley Environmental Services Corp (GeoEngineers 1986).

Subsequently, in 1985, the second hydrogeologic investigation was conducted to further define the extent and characteristics of the contamination in the vicinity of the former barge waste disposal area. Free hydrocarbons or light non-aqueous phase liquid (LNAPL) petroleum hydrocarbons were observed on the water surface of the wells near the disposal site.

In April 1985, as part of the second hydrogeologic investigation, GeoEngineers recommended installation of a floating hydrocarbon recovery system. This system was installed in July 1985 and consisted of a hydrocarbon recovery well, trench, submersible pump, and wick-type hydrocarbon recovery unit. As needed, free hydrocarbons were also collected from the water surfaces of the monitoring wells using a vacuum truck.

In response to the notification of the past practices at the barge waste disposal area, Ecology issued an Agreed Order (No. DE 85-591) in August 1985. The Agreed Order stipulated that an effective hydrocarbon recovery system be installed and the horizontal and vertical extent of the contamination be determined. Additionally, under the Agreed Order, an oil-water separator was installed in the hydrocarbon recovery system and a third phase of the hydrogeologic study was completed.

With the addition of the hydrocarbon recovery system, the amount of LNAPL in each of the monitoring wells decreased over time. The hydrocarbon recovery system was operated until 1995 when observations indicated that it could not recover additional free hydrocarbons.

Beginning in 1996, on behalf of Crowley Marine Services Inc. (Crowley), SECOR International Incorporated (SECOR) conducted site investigations to support development of a cleanup action plan. This work included aquifer testing and groundwater quality testing to evaluate potential groundwater cleanup alternatives. SECOR recommended in situ cleanup using enhanced natural bioremediation (SECOR 1996).

SECOR subsequently conducted additional subsurface investigation at the site in 1999. The work scope included GeoProbe™ soil borings to collect soil samples, installation of temporary well points for groundwater and hydrologic monitoring, and laboratory testing. The work provided additional definition of the nature and extent of diesel in soil and groundwater (SECOR 1999).

In February 2000, SECOR conducted pilot tests of a dual phase vacuum extraction and bioventing system, an in situ bioremediation technique. Testing indicated that this method increased oxygen in the soil and expedited the in-situ biodegradation of petroleum hydrocarbons by indigenous microorganisms. Additionally, the pilot test provided important parameters for designing a full scale system.

During the summer of 2000, SECOR evaluated in situ bioventing and the excavation and treatment of impacted soils as remedial actions for the site. Based on encouraging pilot test results, the dual phase extraction process was chosen to be implemented. The dual phase extraction system was operated from November 2000 through February 2003 and from December 2004 through December 2005. Approximately 80 pounds of liquid phase hydrocarbons and 4,000 pounds of vapor phase hydrocarbons were extracted by this system. Based on measured biorespiration rates, the estimated mass of hydrocarbons removed by in-situ biodegradation was approximately 11,000 pounds (1,400 gallons) (SLR 2008).

Subsequently, focused groundwater and soil sampling were conducted until 2007. The most recent round of sampling was conducted in August 2007 by SLR International Corporation. Groundwater samples were collected from monitoring and extraction wells and sampled for TPH, BTEX, semi-volatile organic compounds (SVOCs), PAHs, and volatile organic compounds (VOCs). Soil samples were collected from a series of Geoprobe borings and also sampled for TPH, BTEX, PAHs, VOCs, and SVOCs.

With the exception of 1-methylnaphthalene, SVOCs and non-petroleum VOCs did not exceed screening levels (MTCA Method A or Method B cleanup levels) in soil or groundwater samples, which indicates that they contribute a small percentage of the overall threat to human health and the environment (WAC 173-340-703). Based on the investigation results, TPH (combined TPH-G, TPH-D, and TPH-O concentrations) was selected as an indicator hazardous substance for soil and for groundwater (SLR 2008).

3.4.3 Dike Underground Storage Tanks

In 1987, the four underground storage tanks (UST) on the dike, 1-34C, 2-34C, 3-34C, and 4-34C, were emptied, decontaminated, and abandoned in place. As part of the process to abandon a UST in place, Ecology recommends filling the UST with a solid inert material such as gravel, sand slurry, weak cement slurry, or foam. Each of the Dike USTs were filled with gravel upon closure. On behalf of Alcoa, Sweet-Edwards/EMCON, Inc (SE/E) performed investigation and pilot testing services of the four diesel USTs located near the

river dike. SE/E installed five monitoring wells, detected diesel light non-aqueous phase liquid (LNAPL) in the wells, and conducted pilot testing of free product recovery in the wells (Sweet-Edwards/EMCON 1989a).

Three wells at the dike USTs were sampled in May 2007. One of the wells, T3-3, was also sampled in September 2007. The concentration of TPH-Dx observed in September was reduced from the May sampling event from 9,900 µg/L to 2,600 µg/L; however, both values exceed the 500 µg/L MTCA cleanup level for TPH-Dx in groundwater. The TPH-Dx that was quantified during the May sampling event displayed matrix interferences that may have elevated the measured TPH concentrations. These interferences were not in the groundwater samples in September, likely explaining the reduced concentration in TPH-Dx from May to September. The May sampling event showed that BTEX was not present in any of the wells near the dike USTs.

3.4.4 Soluble Oil Area

PCB-impacted water soluble oil was deposited in an equalization pond bordered on the north and south adjacent to spurs of the Burlington Northern Santa Fe (BNSF) railways, on the east by a berm, and on the west by a fence. During the 1988 SE/E investigation, samples of soil, groundwater, and sludge material (found on the surface and at depth in the soil) were collected. Composite soil samples indicated PCB concentrations ranged from 1.9 ppm to 107 ppm whereas the sludge material contained PCB concentrations up to 1,600 mg/kg (Sweet-Edwards/EMCON 1988). This investigation also determined that PCB concentrations in the native soils, located at approximately 8.5 feet bgs, were negligible (Sweet-Edwards/EMCON 1988).

In 1989, a supplemental soil and groundwater investigation was conducted in order to further define the horizontal and vertical extent of the PCB-impacted soil and provide background data for developing remedial alternatives (Sweet Edwards/EMCON 1989b). In general, in all media, PCB concentrations were found to diminish with depth and distance from the source.

In July 1989, Alcoa initially proposed to excavate all material with PCB concentrations greater than 25 ppm in accordance with 40 CFR 761.61(a)4(B) for low occupancy areas. This level was proposed by Alcoa because cleanup levels were not promulgated under MTCA at the time. After further discussions with Ecology and EPA, Alcoa chose to reduce the cleanup level to 15 ppm and remediate the area as a voluntary cleanup. By removing materials with PCB concentrations greater than 15 ppm, recognizing that residual PCB materials lacked mobility, and placing a clean cover over the excavated area, Alcoa constructed a remedy in compliance with Federal requirements for PCB cleanups. Ecology did not agree with the 15 mg/kg cleanup level.

On June 1, 1990, pre-excavation sampling was conducted to characterize the materials for disposal (Chemical Processors 1990a). Under direct supervision from Alcoa, Chemical

Processors began remediating the area by excavating sludge material and incrementally excavating impacted soil from 0 to 4 feet bgs, 4 to 8 feet bgs, and 8 to 10 feet bgs.

By October 19, 1990, all material with PCB concentrations greater than 15 mg/kg had been excavated. The excavation depth varied by location from 4 feet to at least 10 feet. A total of approximately 4,750 cubic cards of impacted soil had been excavated and was transported to an appropriate offsite landfill for disposal (Chemical Processors 1990b). Confirmation samples were collected and indicated that the in situ soils were less than 15 mg/kg PCB and the excavation was backfilled with on-site borrow material. According to the remediation plan, the excavations were backfilled with soil with PCB concentrations less than 15 mg/kg and the entire area was capped with a minimum 2-foot clean soil cap. Down-gradient groundwater monitoring data confirm that no impacts to groundwater occurred. Alcoa will remove PCB impacted soils greater than the site Industrial cleanup level.

4 CLEANUP REQUIREMENTS

This section describes the cleanup requirements that must be met by the remediation of the Site. Consistent with MTCA and SMS requirements, this section addresses four types of requirements: Cleanup Levels, Points of Compliance, Remediation Levels, and Applicable Local, State, and Federal Laws.

4.1 Cleanup and Remediation Levels

MTCA regulations provide three methods for determining cleanup standards for a contaminated Site. The standards provide a uniform, state-wide approach to cleanup that can be applied on a site-by-site basis. The two primary components of the standards, cleanup levels and points of compliance (POC), must be established for each site. Cleanup levels are established at the level where a particular hazardous substance does not threaten human health or the environment. POCs designate the location on the site where the cleanup levels must be met.

Cleanup levels for all Site media were developed following procedures described in the MTCA regulations. The development of sediment cleanup levels under MTCA is established in Chapter 173-340-760 WAC through reference to the SMS (Chapter 173-204 WAC). The sections below describe the methodology used to develop cleanup levels based on SMS, MTCA Method A and Method C procedures, applicable or relevant and appropriate requirements (ARARs), and risk-based calculations.

4.1.1 SMS Freshwater Procedures

Section V of the SMS provides guidance for the development of sediment cleanup standards. Although numerical values are provided for cleanups located within the marine waters of Puget Sound, Section 173-204-520(d) WAC states that criteria, methods, and procedures necessary in the development of freshwater sediment cleanup screening levels and minimum cleanup level criteria shall be determined on a case-by-case basis. The final cleanup level for the Site will be based on protection of human health, benthic aquatic organisms, and wildlife.

4.1.2 MTCA Procedures

The MTCA Cleanup Regulations (Sections 173-340-720, -730, and -740 WAC) establish procedures to develop cleanup levels for groundwater, surface water, and soil. MTCA Method A procedure is applicable to sites with relatively few hazardous substances. Cleanup levels based on this method for soil and groundwater are derived through selection of the most stringent concentration presented in the following sources:

- Concentrations listed in WAC Tables 173-720-1, -740-1, and -745-1.
- Concentrations established under ARARs
- Concentrations protective of the environment and surface water beneficial uses.

If these sources do not provide an appropriate value, then the cleanup level is based on the natural background concentration or the practical quantitation limit, whichever is higher. For qualifying sites, Method C procedures can be used to develop cleanup levels for specific media and COCs.

MTCA Method C procedures employ a risk-based evaluation of potential human health and environmental exposures to Site COCs. As defined in the MTCA regulation, for a given chemical detected in soil, groundwater, and/or surface water media, Method C cleanup levels must be at least as stringent as established state or federal standards or other laws (i.e., ARARs identified in Section 4.3) developed for human health and environmental protection. Not all chemicals have state or federal standards. If a state or federal standard was available, that ARAR was evaluated to ensure that it was protective under MTCA. If the ARAR was not protective, the cleanup level was adjusted to a lower value to ensure its protectiveness. MTCA Method C risk-based calculations and any deviations from ARAR values are discussed below.

The Method C procedure also requires that a cleanup level for one media must also be protective of the beneficial uses of other affected media. For example, since Site groundwater eventually discharges into the Columbia River, Site-specific groundwater cleanup levels also considered surface water protection requirements. The procedures for developing cleanup levels for groundwater, surface water, and soil are outlined in the MTCA Cleanup Regulations, Sections 173-340-720, -730, and -740 WAC, respectively. Included in these sections are the specific rules for evaluating cross-media protectiveness. Where relevant to the Site, cross-media protectiveness of cleanup levels is discussed below and incorporates the results of the fate and transport studies presented in previous sections of this report.

4.1.3 Sediment Cleanup and Remedial Action Levels

The SMS, Chapter 173-204 WAC, govern the identification and cleanup of contaminated sediment sites. Under the SMS, the primary endpoint for sediment quality evaluations is protection of human health and the environment, specifically the benthic community and wildlife, from adverse effects associated with COCs. While SMS cleanup levels have been promulgated for sediments in the marine environment, freshwater sediment quality criteria are currently determined on a case-by-case basis (Chapter 173-204-340 WAC). Numeric freshwater sediment quality values (SQVs) for a range of chemicals are still under development by Ecology, though interim guidelines have been released based on probable or apparent effects thresholds (AETs) calculated using the available regional database of synoptic chemistry and toxicity test information. Cleanup standards derived for the Site must consider protection of benthic organisms, as well as the protection of human health and ecological receptors.

Sediment cleanup levels for the Site with respect to benthic organisms were developed using information from several sources, including site-specific studies and other information available from Ecology and EPA. The current interim Ecology (2003) freshwater SQVs for PCBs consider the potential for localized toxicity to benthic invertebrate organisms and include updates of existing freshwater AETs and evaluations of other SQV measures that may provide improved reliability. Ecology is currently considering potential freshwater toxicity-based SQVs ranging from 62 µg/kg dry weight (lowest AET) to 354 µg/kg dry weight (second lowest AET) as identified in Table 4-1.

Table 4-1
Relevant Site-Specific Cleanup Levels

Parameter	Sediment PCB Concentration (µg/kg)	Basis
Natural Background Level	< 5	Lake Chelan TMDL and other regional studies
Human Health Protection (Target HCR = 10^{-6})	5	18 gms/day shellfish consumption; 50% diet fraction
Practical Quantitation Level	10 to 20	Ecology's Manchester Lab and other lab PQLs
Area Background Level	33	MTCAStat Upper 90 percentile: 10 upstream samples (Section 2.4)
Human Health Protection (Target HCR = 10^{-5})	49	18 gms/day shellfish consumption; 50% diet fraction
Lowest Technically Achievable Concentration	90	BPJ; Dredge & backfill; 8% generated residuals; complete mixing [(a)]
BPJ Site-Specific Human Health Protection (Target HCR = 10^{-5})	97	18 gms/day shellfish consumption; 25% diet fraction [(b)]
Benthos and Fish Risk Threshold	62 to 354	AETs; Michelsen (2003)
Proposed Remedial Action Level	320	Targets ~98% of existing mass for removal[(c)]
Wildlife Risk Threshold	320	Site-specific Gobas model
Other Implemented Freshwater Cleanup Levels	500 to 5,000	Average range from similar sites nation-wide
ARARs	Site Specific	SMS (Chapter 173-204-340 WAC)

Notes:
(a) This 'lowest technically achievable concentration' is based on the anticipated post-dredging residuals concentrations after a sand backfill is placed to restore pre-construction grades.
(b) Consistent with WAC 173-340-708(10)(b), modification of the default diet fraction is justified based on the limited availability of potentially harvestable shellfish at the Site given local sediment habitat and hydrologic conditions. Engineering or institutional controls are not required to control exposure.
(c) The actual dredge plan, which includes additional overdredge allowances, will target 99% of the existing mass.
HCR = Human Cancer Risk
BPJ = Best Professional Judgment
AET = Apparent Effects Threshold
TMDL = total maximum daily load
PQL = practical quantitation limit
ARAR = applicable or relevant and appropriate requirement

In addition to the evaluation of benthic effects, cleanup levels at the Site must protect against other adverse effects to human health and the environment, including food chain effects, associated with the potential bioaccumulation of PCBs. With respect to wildlife and human health, potential risks due to PCB uptake and bioaccumulation were considered during the development of the Site specific sediment cleanup levels. The Gobas and Zhang 1994 food

web model was used to establish wildlife risk thresholds and estimation of the existing baseline human health risks associated with upper-bound consumption of Asian clams and other organisms from the Site area was determined.

The anticipated sediment remedial action at the Site involves mass removal to the maximum extent with modern, conventional dredging equipment capable of operating safely and effectively under the potentially difficult conditions at the Site (i.e., relatively steep riverbed slopes, dense sediments, and potentially adverse weather conditions). A mechanical dredge with a closed-bucket will be used to the extent practicable to remove the sediment. This method will reduce the volume of water which potentially could require treatment by removing the sediment close to its in situ water content. This design is permanent to the fullest extent. Although this method may also minimize the potential for resuspension, even with careful control of operations, dredging residuals will persist from sources including sloughing.

Estimates for dredging residuals were based on Patmont and Palermo 2007, which combined environmental dredging case study information with site-specific sampling data to obtain bounding-level predictions of generated residual concentrations and thicknesses for environmental dredging projects. In particular, the process by which dredging residuals were estimated for this project was performed step-wise to represent two scenarios: 1) dredging without subsequent residuals management; and 2) dredging with the subsequent placement of a residual sand layer within the dredge footprint. Site-wide average of generated residuals is expected to be less than 1.5 inches.

The results of the residuals analysis provide an evaluation of the lowest technically achievable cleanup levels for a dredging remedy with and without residuals management. Based on a best professional judgment (BPJ) assessment of the anticipated post-dredge Site conditions, it is recommended that a residuals management backfill layer be implemented as a necessary component to the remedial action. Furthermore, based on the analysis of predicted post-dredge, surface-weighted average concentrations (SWAC) ranges, a technically feasible, Site-specific cleanup level of 97 µg/kg will be adopted for the project. A 97-µg/kg cleanup level is protective of benthic organisms and wildlife (i.e., it is lower than cleanup levels adopted at other sites with similar conditions and receptors) and satisfies the Site-specific risk reduction goal for protection of human health.

As noted in Table 4-1, cleanup levels protective of benthic organisms and wildlife range from 62 µg/kg to 354 µg/kg; generally above the 97 µg/kg cleanup level. Although selection of a Remedial Action Level (RAL) up to 354 µg/kg would provide an action level for which a dredging remedy is both technically achievable and protective, targeting lower dredging RALs, such as 97 µg/kg, would significantly increase the volume of sediment to be removed and thus extending the duration of the project beyond the allotted environmental window and increasing the potential for down-stream migration of suspended material. Thus, targeting a

lower RAL (and a larger associated dredge volume) would result in low incremental environmental benefit relative to overall risk reduction. A Site-specific RAL set at 320 µg/kg dry weight would target approximately 99 percent of the PCB mass (i.e., upon completion of a dredge plan design that includes overdredge allowances) and would immediately reduce risks to human health and the environment. For areas with concentrations below the RAL and above the cleanup level, enhanced natural recovery (i.e., placement of a minimum 6-inch sand layer) will be used. Table 4-2 summarizes the sediment PCB cleanup level and RAL specific to this Site.

Table 4-2
Site-Specific Sediment Cleanup Level and RAL

Parameter	Sediment PCB Concentration (µg/kg)	Protection Basis/Remedial Action
Site-specific Cleanup Level	97	Human health and wildlife
Remedial Action Level	320	Dredge Sediment above RAL

4.1.4 Groundwater Cleanup Levels

Future Site uses will continue to be industrial and there are no plans to extract water from the shallow water-bearing layers, and existing water supply regulations effectively preclude this potential Site exposure pathway within portions of the Site. However, consistent with MTCA procedures for determining potable water sources, potential drinking water uses were considered in the initial development of groundwater cleanup levels. Because the Site has few groundwater contaminants, Method A was used to develop cleanup levels for the Site COCs.

Final cleanup levels were selected as the most stringent of the Method A WAC 173-720-1 Table values and ARARs. The primary ARARs for groundwater in this case include the federal Drinking Water Standards and Health Advisories (EPA 2002) and the State Primary Drinking Water Regulations (Chapter 246-290 WAC). Because of the proximity to the Columbia River, the National Recommended Water Quality Criteria (EPA 2006), which establishes criteria for protection of surface water resources is also an ARAR.

The groundwater cleanup levels for each COC and the basis for selection are listed in Table 4-3.

Table 4-3
Groundwater Cleanup Levels

Chemical of Potential Concern	Groundwater Cleanup Level	Protection Basis
Fluoride (dissolved)	4 mg/L	State Drinking Water MCL
TPH Diesel Range	500 µg/L	MTCA Method A Standard Value
TPH Mineral Oil	500 µg/L	MTCA Method A Standard Value

While most of the fluoride-bearing groundwater at the Site is covered by the 1992 Consent Decree for the SPL Storage Area, a few minor exceedances (less than two times the cleanup level) were observed in Shallow Zone wells SP-4-S and T3-3. These two wells are located where cleanup activities have been completed and the sources have been removed to the maximum extent practicable. In the alternatives evaluation of the 1992 CAP for the SPL Storage Area, Ecology determined that treatment of low level fluoride-bearing groundwater was impracticable, particularly when present in the seasonal Shallow Zone. Therefore, it is appropriate to establish a fluoride groundwater remediation level (REL) that is protective of surface water resources and above which, remedial action addressing fluoride-bearing groundwater is needed.

Concentrations of fluoride in surface water up-gradient of the Site were monitored between 1992 and 2002 and ranged from 0.08 mg/L to 0.48 mg/L, averaging 0.24 mg/L. This data was collected as part of the requirements of the 1992 Consent Decree. As part of this investigation, a surface water sample was collected and a fluoride concentration of 0.127 mg/L was reported. The fate of fluoride along the pathway in which groundwater interacts with surface water is controlled by the presence of other ions (such as calcium) for fluoride to react with and form (precipitate) the mineral fluorapatite. The rate at which Site groundwater flows from the Intermediate Zone to the Columbia River is approximately 10 to 30 feet/year and is even less for the Shallow Zone. Based on this data, a mathematical simulation of the chemical reaction that occurs as fluorapatites precipitate can be performed to calculate a surface water concentration for a range of fluoride concentrations. Using a theoretical, upperbound groundwater concentration of 2,500 mg/L (fluoride), the calculated fluoride concentration in surface water is 0.25 mg/L, which is within the range of concentration observed up-gradient from the Site. Therefore, a fluoride groundwater REL of 2,500 mg/L will be established.

Table 4-4
Groundwater Remediation Levels

Chemical of Potential Concern	Groundwater Remediation Level	Protection Basis/Remedial Action
Fluoride	2,500 mg/L	Surface Water – Evaluate need for treatment or alternate remedial action

4.1.5 Soil Cleanup and Remediation Levels

The current and future Site use plans include industrial storage and light, medium, and heavy industrial operations, and meet the requirement of a "traditional industrial use" under the MTCA regulations (Section 173-340-745 WAC). Thus, industrial use is the appropriate basis for development of Site-specific soil cleanup levels under MTCA Method C. Soil cleanup levels for the Alcoa/Evergreen Site were developed for fluoride, PAHs, TPH, and PCBs by considering the following potential exposure/risk pathways:

- Human health protection from direct soil contact pathway exposure
- Human health protection from soil-to-groundwater pathway exposure
- Human health protection from soil-to-air pathway exposure
- Terrestrial ecological protection

4.1.5.1 Direct Soil Contact Pathway Exposure

Future development plans at the Site include grading of the existing Site with a minimum of 12 inches of clean fill and asphalt pavement; therefore, direct contact exposures to soil will be minimized. The primary potential pathway for direct contact would occur during earthwork operations and other activities required for Site development. Accordingly, cleanup levels were initially derived using WAC Equations 173-340-745-1, -745-2, and -745-3 for non-carcinogenic, carcinogenic, and petroleum COCs, respectively. On a Site-wide basis, no modifications were made to the standard parameters for these equations.

However, because the Toxic Substances Control Act (TSCA) regulation for PCBs lists more restrictive cleanup levels than those derived under Method C, the initial PCB cleanup level was adjusted downward from 66 mg/kg to 10 mg/kg. This value is also consistent with the Method A concentration for Industrial Use scenarios. Specific to the Crowley Parcel AOC, the MTCATPH11 spreadsheet was used to calculate a direct contact cleanup level for TPH. Petroleum fractionation data from eight samples was used to develop a range of potential TPH cleanup levels under a Method C industrial site use scenario. The median of the eight cleanup level values was computed as 30,949 mg/kg.

4.1.5.2 Soil-to-Groundwater Pathway Exposure

Cleanup levels based on Method C direct contact must also be adjusted as necessary to ensure groundwater resources are protected. However, when empirical data exists that indicates that current groundwater impacts are not occurring and sufficient time has elapsed for migration from source areas to the point of measurement to reinforce that demonstration, then cleanup levels derived for direct contact do not require adjustment. Furthermore, current Site conditions must be representative of future development scenarios, as is the case at this Site (i.e., impervious areas will be maintained and potentially expanded) and Site will be restricted to industrial use.

For PAHs, source control work is planned to remove the remaining on-Site material that is now subject to infiltration. The RI/FS discusses the groundwater collected during several years of monitoring, which demonstrates that Site groundwater is currently in compliance with Method A cleanup levels. Therefore, the PAH cleanup level was not adjusted downward for protection of groundwater resources.

For fluoride contaminated areas outside of the former SPL Storage Area, source removal of residual fluoride-bearing waste at the Site has been completed in accordance with Enforcement Order DE 4931 (between Ecology and Evergreen; Ecology 2007b). Upon removal of the residual waste and affected soil, it is expected that groundwater will attenuate to below the fluoride cleanup level. Data generated from Site-specific laboratory leaching tests and evaluated in the MTCA Equation 173-340-747-1 (below; the standard 3-phase partitioning model) indicate that a concentration of approximately 9,100 mg/kg fluoride in soil would be protective of groundwater resources (less than the standard cleanup value derived by Method C). Therefore, a soil REL of 9,000 mg/kg will be established and implemented during source control activities outside of the SPL area.

For PCBs, soil concentrations established under Method A are conservative and are protective of groundwater resources. Because the PCB cleanup level was adjusted downward for compliance with TSCA, it also meets the requirements of Method A. Therefore, no further adjustment of the PCB cleanup level is required.

At the Crowley Parcel AOC, the TPH cleanup level for leaching to groundwater was calculated by using Ecology's MTCATPH11 spreadsheet, assuming a potable groundwater receptor (i.e., 500 µg/L groundwater cleanup level). Each of the eight fractionated samples was evaluated separately after using the data adjustments discussed above for the direct contact evaluation. The leaching to groundwater evaluation was conducted for the unsaturated zone and the default soil parameter values were applied.

Soil cleanup levels were not calculated for the saturated zone because of difficulties demonstrating compliance with soil cleanup levels in the saturated zone. When evaluating results for soil samples in the saturated zone, it is difficult to know whether the concentrations observed reside in the water phase or on the soil phase. An empirical demonstration will be used to demonstrate that soil in the saturated zone is protective of groundwater [per WAC 173-340-747(9)]. After the groundwater concentrations decrease to below the groundwater cleanup level, the soil in the saturated zone must be protective of groundwater. Using this approach, the median TPH cleanup level for the eight fractionated samples is 5,070 mg/kg.

4.1.5.3 Soil-to-Air Pathway Exposure

For COCs that readily evaporate (such as diesel and solvents), the inhalation of vapors arising from impacted soil must be considered. Under Method C, the vapor pathway must be

evaluated whenever a volatile substance is expected on Site. On this Site, diesel and residual range organics are present; however, the pathway is considered incomplete whenever the TPH concentration is less than 10,000 mg/kg for diesel range constituents. For residual range TPH, the pathway is considered incomplete when the existing concentrations are approximate to the cleanup level derived for protection of groundwater resources. TPH cleanup levels for this Site have been set under such conditions and are therefore protective of the soil-to-air pathway.

4.1.5.4 Terrestrial Ecological Protection

As previously stated, the Site will be redeveloped for industrial uses and impacted soil will be covered with a minimum of 12 inches of clean fill or other improvements such as buildings, paved roads, pavement, or other physical barriers that will prevent plants or wildlife from being exposed to the soil. Based on future Site conditions and using the exposure analysis procedure under WAC 173-340-7492 (2)(a)(ii), a simplified terrestrial ecological evaluation was not required. Regardless, a simplified terrestrial ecological evaluation was performed for the Site with respect to TPH. MTCA Table 749-2 states that a TPH cleanup level of 15,000 mg/kg that is protective of terrestrial ecological resources based on industrial/commercial site uses. Therefore, cleanup levels were not further adjusted for protection of terrestrial ecological resources, although all exposed areas (i.e., where institutional controls would not be placed or a remedial action conducted) meet the criteria in WAC Table 173-340-749-2.

Tables 4-5 and 4-6 summarize the soil cleanup and remediation levels specific to this Site.

Table 4-5
Soil Cleanup Levels

Chemical of Potential Concern	Soil Cleanup Level	Protection Basis
Fluoride	210,000 mg/kg	Direct Contact
PAHs[1]	18 mg/kg	Direct Contact
PCBs[2]	10 mg/kg	Direct Contact and Groundwater
TPH Diesel Range	2,000 mg/kg	Direct Contact and Groundwater
TPH Mineral Oil	4,000 mg/kg	Direct Contact and Groundwater
Crowley Parcel AOC TPH[3]	5,070 mg/kg	Groundwater

[1] Cleanup level developed for potentially carcinogenic PAHs based on the approved MTCA TEF procedure
[2] A cleanup level of 1 mg/kg will be adopted for areas designated for Unrestricted Use
[3] An independent TPH cleanup level was established for the Crowley Parcel AOC. TPH cleanup level is for combined TPH-G, TPH-D, and TPH-O concentrations.

Table 4-6
Soil Remediation Level

Chemical of Potential Concern	Soil Remediation Level	Protection Basis/Remedial Action
Fluoride	9,000 mg/kg	Groundwater – Excavate Soils above REL

4.2 Points of Compliance

This section establishes the point at which cleanup levels for various media must be met (i.e., the point of measurement).

4.2.1 Sediment Point of Compliance

Surface sediments within the biologically active surface water habitat zone are typically represented by samples collected across the top 10 cm (0 to 0.3 feet) below the mudline. A site-specific evaluation of the depth of the biologic zone has not been completed for this Site; however, based on observations during the remedial investigation it is likely that the zone is 10 cm or less. Therefore, use of a default 0 to 10 cm point of compliance for the sediment cleanup standard should provide an additional level of protectiveness at the Site.

4.2.2 Groundwater Point of Compliance

As defined in the MTCA regulations, the conservative default standard POC for groundwater extends from the uppermost level of the saturated zone to the lowest depth that could be potentially affected by Site releases. However, Site specific conditional points of compliance for groundwater cleanup levels may also be considered as it is anticipated that it is not practicable to meet the some or all groundwater cleanup levels throughout the Site within a reasonable timeframe.

For fluoride, it is appropriate to demonstrate compliance with groundwater cleanup levels at Conditional POC wells located along the shoreline, down-gradient from the respective source areas in accordance with WAC 173-340-720(8)(c). For TPH, the standard POC will be used to demonstrate compliance for those portions of the Site.

4.2.3 Soil Point of Compliance

For protection of groundwater, the POC is throughout the Site. The POC for direct contact with soils extends from the ground surface to the reasonable estimated depth of potential future soil excavations (e.g., to accommodate deep foundations or similar facilities), which can extend to 15 feet bgs or deeper [see WAC 173-340-740(6)(d)]. The POC for soil at the Site extends throughout the soil column from the ground surface to 15 feet bgs, except where deeper excavations are impracticable due to the presence of groundwater.

4.3 Applicable Local, State, and Federal Laws (ARARs)

Many environmental laws may apply to a cleanup action. In addition to meeting MTCA cleanup standard requirements as described above, a cleanup action must meet cleanup standard requirements and environmental standards set in applicable laws. The cleanup action must also comply with elements of other applicable environmental reviews and permitting requirements. Though a cleanup action performed under formal MTCA authorities (e.g., a Consent Decree) would be exempt from the procedural requirements of

certain state and local environmental laws, the action must nevertheless comply with the substantive requirements of such laws (RCW70.105D.090; WAC173-340-710). Potentially applicable federal, state, and local laws that may impact the implementation of remedial actions at the Alcoa Vancouver Site are listed below.

4.3.1 Federal Requirements

- Clean Water Act (33 USC Section 1251 et seq.)
  - Discharges of Pollutants into Navigable Waters
  - National Pollutant Discharge Elimination System
- Toxic Substances Control Act (TSCA) [15 USC s/s 2601 et seq. (1976)]
- Memorandum of Agreement between EPA and Corps [Mitigation under Clean Water Act Section 404(b)(1)]
- Resource Conservation and Recovery Act
- Federal Clean Air Act (42 USC 7401 et seq.)
- Endangered Species Act [16 USC 1536 (a) – (d); 50 CFR Part 402]
- U.S. Fish and Wildlife Mitigation Policy (46 FR 7644)
- Fish and Wildlife Coordination Act (16 USC 661 et seq.)
- Protection of Wetlands, Executive Order 11990 (40 CFR Part 6, Appendix A)
- National Historic Preservation Act (36 CFR 800)
- National Environmental Policy Act Review

4.3.2 Washington State and Local Requirements

- Washington MTCA (Chapter 70.105D RCW)
- Washington SMS (Chapter 173-204 WAC)
- State Environmental Policy Act (SEPA) (RCW 43.21C; WAC 197-11)
- Washington Water Pollution Control Act (Chapter 90.48 RCW; Chapter 173-201A WAC)
- Washington Shoreline Management Act (Chapter 90.58 RCW; Chapter 173-14 WAC)
- Washington State Clean Air Act (RCW 70.94; WAC 173-400, 403)
- Washington Hydraulics Code (Chapter 75.20 RCW; Chapter 220-110 WAC)
- Washington Solid Waste Management — Reduction and Recycling Act (Chapter 70.95 RCW; Chapter 173-350 WAC)
- Washington Hazardous Waste Management Act (Chapter 70.105 RCW; Chapter 173-303 WAC)
- Washington Department of Fisheries Habitat Management Policy (POL 410)

- Compensatory Mitigation Policy for Aquatic Resources (Chapters 75.20 and 90.48 RCW)
- Water Resources Act (Chapter 90.54 RCW)
- State Aquatic Lands Management Laws Washington State Constitution Articles XV, XVII, XXVII (RCW 79.90 through 79.96; WAC 332-30)
- Growth Management Act (Chapters 36.70A; 36.70.A.150; and 36.70.A.200 RCW)
- State Historic Preservation Act (Chapter 27, 34, 44, and 53 RCW)
- Minimum Standards for Construction and Maintenance of Wells (Chapter 173-160 WAC)

5 DESCRIPTION OF FEASIBILITY STUDY ALTERNATIVES

This section includes a summary of the remedial alternatives that were considered in the Alcoa and Crowley RI/FS documents. The section is introduced with a discussion of the remedial action objectives that pertain to the Site.

5.1 Remedial Action Objectives

This section defines the remedial action objectives (RAO) for each of the Site AOCs identified in Section 3.4. The general RAOs for the Site as they pertain to the various COCs include:

1. Protection of human health and the environment from direct contact with COC-impacted media (i.e., soil, waste, raw materials, sediment, and groundwater)
2. Protection of groundwater resources from direct contact with COC-impacted media (i.e., soil, waste, and raw materials)
3. Protection of human health and the environment from potential exposure due to ingestion of surface water affected by COC-bearing groundwater discharging from the Site into the Columbia River
4. Protection of human health and the environment from potential exposure due to ingestion of Site groundwater
5. Reduction of on-site volume or mass of impacted media containing Site COCs

The remainder of this section describes the RAOs applicable to the Site AOCs and summarizes the activities required to demonstrate achievement of the objectives. The presumptive remedies for the Dike USTs and Soluble Oil Area AOCs were developed in accordance with MTCA 173-340-360(3)(d) to achieve the applicable RAOs and were designed to remove source materials to the maximum extent practicable. Selection for these remedies is based on the expectation that soil cleanup levels defined in Section 4.1.5 would be achieved at a standard POC thus warranting no further action in accordance with WAC 173-340-350(8)(a). Upon completion of source removal within these AOCs, it is anticipated that subsequent groundwater monitoring would indicate compliance with cleanup levels defined in Section 4.1.4.

5.1.1 PCB-Impacted Sediment

Sediments of the Columbia River adjacent to the Site are impacted with PCBs at levels that pose a potential threat to human health and the environment. The planned remedial action at the Site to address affected sediment includes a design that is permanent, provides mass removal to the maximum extent practicable, and addresses public concerns. To further evaluate the benefit of the removal alternative, an additional remedial alternative was

developed that considers in situ containment of sediments above the RAL. The alternatives are compared and contrasted against the MTCA and SMS threshold criteria in Section 6.1. Both alternatives are designed to protect human health, benthic aquatic organisms, and wildlife. Specifically, the preferred remedy will achieve the Site-specific sediment cleanup level as measured on a surface weighted average concentration (SWAC)-basis upon implementation.

5.1.2 Crowley Parcel

The soil and groundwater at the Crowley Parcel have been impacted by PAHs, TPH-G, TPH-oil, TPH-D, and BTEX. Although historic remediation actions have occurred, residual contamination is present in both the soil and groundwater. The alternatives were developed to determine the most permanent solution for the AOC that provides a source control benefit to the maximum extent practicable. The four cleanup action alternatives involve reducing or removing the source of contamination. By removing the source of contamination, the impact on groundwater will be reduced. These alternatives are protective of human health and the environment and meet the Site RAOs.

5.1.3 Dike USTs

The Dike USTs were abandoned in place in 1987; however, residual product has been subsequently detected in extraction well T3-3, and soil sampling in the vicinity of the tanks has detected diesel. Sampling of UST well T3-3 also found TPH in excess of MTCA Method A cleanup levels for groundwater. The presumptive remedy for this AOC will include removing the tanks, free product (if encountered), and soils exceeding cleanup levels protective of groundwater. No further remedial action would be required to meet the general Site RAOs upon completion of the source removal activities.

5.1.4 Soluble Oil Area

Historical documents indicate that soil and sludge with PCB concentrations above 15 mg/kg were removed from the Soluble Oil Area in 1990; however, impacted soils above the Site cleanup levels may persist. Although the pathway to groundwater was demonstrated as incomplete based on monitoring data, impacted materials with PCB concentrations greater than 10 mg/kg will be removed from this area as a presumptive remedy to prevent direct contact with PCB-impacted material above Site cleanup levels. These actions are also protective of groundwater; therefore, no further remediation beyond source removal is required to meet the general Site RAOs.

5.2 Sediment Cleanup Alternatives

The sediment cleanup alternatives considered in the Alcoa/Evergreen RI/FS were active remedial measures. Specifically, two remedial alternatives were developed to address sediment contamination. These include:

- Alternative S-1: Sediment Removal with Enhanced Natural Recovery (ENR)
- Alternative S-2: In Situ Containment of Sediment with Enhanced Natural Recovery

The remainder of this section describes the two sediment remedial alternatives that were considered in the RI/FS. Table 5-1 provides a summary of the general response actions (GRA; e.g., removal, containment, treatment, etc.) used in each alternative.

Table 5-1
Summary of PCB-Impacted Sediment AOC Remedial Alternative Components

Remedial Alternative	Institutional Controls	MNR	ENR	Containment	Removal & Disposal	Treatment	Reuse & Recycling
S-1	No	No	Yes	No	Yes	No	Yes
S-2	Yes	No	Yes	Yes	No	No	No

Notes:
1. A typical 'No Action' alternative was not considered for this AOC as an active remedial measure was pre-selected.
MNR: Monitored Natural Recovery
ENR: Enhanced Natural Recovery

5.2.1 Alternative S-1: Sediment Removal with ENR

Alternative S-1 includes dredging, dewatering, and disposing of PCB-impacted sediments; placing clean sand to manage residuals, restore natural grades, and enhance natural recovery; excavating industrial wastes located on the riverbank; and, placing shoreline protection materials. Specifically, the alternative would remove approximately 56,000 cy of sediments above the 320 µg/kg RAL and the placement of approximately 60,000 cy of sand. It is anticipated that a portion of the work could be completed during seasonal low river stages from the shore. BMPs such as silt fencing and sand berms would be used as necessary to prevent erosion into the Columbia River and to keep work areas reasonably dry.

During the acceptable in-water, environmental work window (November 1 through February 28), dredging and backfill activities would commence. Turbidity monitoring would occur throughout construction and BMPs would be employed to prevent excessive sediment resuspension and other environmental impacts. Dredging of the sediment subject to TSCA disposal regulations (i.e., greater than 50 mg/kg PCBs) would occur first followed by the remaining areas designated for off-site disposal. Material subject to TSCA disposal requirements would be transferred on site and dewatered prior to being loaded into lined trucks prior to shipment to a fully permitted, off-site disposal facility. The fluid from dewatering would either be treated on-site prior to discharge to the Columbia River, or it would be transported to an off-site regulated facility for disposal.

Dredge sediment designated for off-site disposal as solid waste may be handled in two ways. Sediment treated as solid waste may be transferred and dewatered on-site using the equipment used to process the TSCA material (after appropriate decontamination procedures are employed) prior to transfer by truck to an upland facility. Alternatively, the material may be transferred by barge, without prior dewatering other than the initial decanting of accumulated free water within the barge, directly to a transfer facility upstream of the Site on the Columbia River.

The next segments to be removed would target the sediment to be disposed of on site in the North and North 2 Landfills (i.e., sediment less than 10 mg/kg PCBs). This material would be transferred on site and placed within the North and North 2 Landfills footprint where it would be allowed to passively dewater prior to final compaction and covering with a 1-foot sand layer. Finally, sediment retained for beneficial use (i.e., sediment less than 1 mg/kg PCBs) would be dredged last, transferred on site, and stockpiled. The stockpile would be located away from the shoreline and covered to prevent transport of the material back to the affected area prior to final placement as on-site fill.

Upon completion of the dredging and sand placement work, confirmation sampling would be performed to ensure compliance with the 97 µg/kg PCB cleanup level. The results would then be evaluated on a SWAC basis. In the event compliance is not demonstrated, an additional layer (minimum 6 inches) of ENR material would be placed and samples re-collected. No additional dredging or sand placement would be performed.

5.2.2 Alternative S-2: In Situ Containment of Sediment with ENR

In this remedial alternative, an isolation cap composed of a sand layer beneath an armoring layer would be placed over the affected sediments that are above the RAL (320 µg/kg) at the Site. Capping forms a surface barrier to physically isolate the affected sediments from the aquatic environment. The cap would be designed to effectively contain and isolate the affected sediments from the overlying water column and benthic habitat and prevent contaminant migration through the cap into the surrounding water body. The armor layer would consist of sufficient thickness and grain size to resist long-term erosive forces from mechanical scour, wave action, or burrowing organisms. For sediments above the cleanup level, but below the RAL, an ENR layer consisting of a minimum 6 inches of sand would be placed.

Pending remedial design, the isolation cap would consist of two layers: approximately 1 foot of sand and 2 feet of quarry spall armoring. The 1-foot sand layer (comprised of minimum 6 inches with an allowable overplacement for construction of 6 inches) would be used for the chemical isolation layer to effectively isolate the underlying affected sediments. For this evaluation, it is assumed that imported sand would be required for the capping material. The 2-foot fine gravel/quarry spall armoring layer (comprised of minimum 12 inches of material with an allowable overplacement for construction of 12 inches), would be included at the top

of the cap to prevent erosion from wind and vessel-generated wave action, as well as the potential for future propeller wash effects.

For the ENR layer, it is anticipated a total of 1 foot of material may be placed, as the ENR layer design would include a 6-inch overplacement allowance. In addition to local upland sources, ENR material could potentially be obtained from a clean sediment source, such as from regular maintenance dredging operations on the Columbia River, which occurs annually along various reaches of the river. Regardless of the selected sand source, regular QA/QC testing would be performed to ensure compliance with established cleanup levels.

All material placement would commence downslope where applicable. All cleanup areas of the Site would be monitored during construction to document compliance with turbidity standards and other permit requirements. Upon completion of the construction, bathymetric surveys would be performed to confirm that the minimum placement thicknesses are achieved and, if necessary, surveys would be verified via core collection. Long-term monitoring and maintenance of the cap would be performed. No dredging or PCB mass removal would occur under this alternative.

5.3 Crowley Parcel Cleanup Alternatives

Four remedial alternatives were developed for consideration at the Crowley Parcel AOC.

- Alternative CP-1: Excavation and Off-Site Disposal
- Alternative CP-2: Excavation and On-Site Treatment
- Alternative CP-3: Bioventing
- Alternative CP-4: In situ Chemical Oxidation

The remainder of this section discusses each of these alternatives and Table 5-2 provides a summary of the different components used in each alternative.

Table 5-2
Summary of Crowley Parcel AOC Remedial Alternative Components

Remedial Alternative	Institutional Controls	Natural Attenuation	Containment	Removal & Disposal	Treatment
CP-1	Yes	Yes	No	Yes	No
CP-2	Yes	Yes	No	Removal Only	Yes
CP-3	Yes	Yes	No	No	Yes
CP-4	Yes	Yes	No	No	Yes

Note: A typical 'No Action' alternative was not considered for this AOC as an active remedial measure was pre-selected.

5.3.1 Alternative CP-1: Excavation and Off-Site Disposal

Alternative CP-1 complies with MTCA standards through the removal of all materials with TPH concentrations above 5,070 mg/kg, the TPH soil cleanup level established for the Crowley Parcel (discussed in Section 4.1.5). Under this alternative, approximately 12,500 cubic yards of relatively clean soil ranging from the ground surface to 6 to 10 feet bgs would be removed. Then, approximately 4,200 cubic yards of impacted soil would be excavated. Samples collected from the excavation sidewalls would determine the lateral extent of the excavations and excavation will continue until sidewall samples are below the cleanup level. Vertically, the excavation would continue to the extent of contamination – which is anticipated be to approximately 1 foot below the low seasonal groundwater table (approximately 15 to 17 feet bgs) – as feasible depending on feasibility related to the ability to dewater the excavation and maintain safe excavation practices.

During excavation, groundwater would be pumped from the excavation pits and treated on-site via an existing oil/water separator, bag filters, and activated carbon. After treatment, groundwater would be stored in a temporary storage tank for laboratory testing of TPH concentrations. If the TPH levels are determined to be below the groundwater cleanup level, the water would be injected into the extraction/injection trench previously used for the bioventing system, which would be re-registered with Ecology as an injection point. Depending on the season, groundwater is encountered at the site at approximately 14 to 17 feet bgs and preliminary calculations indicate that up to 250,000 gallons of groundwater could be extracted and require treatment.

Stockpiled soil would be tested for TPH. Soil with TPH concentrations less than the established cleanup level would be used to backfill the excavation. Any material containing TPH concentrations above the established cleanup level would be transported off-site for disposal. Excavations would be capped by re-grading of the Site or another source of clean backfill.

Following excavation and source removal, the area would be remediated through monitored natural attenuation. New wells would be installed to replace those which were removed during the excavation activities. Groundwater monitoring would occur during the monitored natural attenuation period, which is anticipated to take approximately 6 years. Institutional controls would be placed on the property to restrict its future use to industrial purposes.

5.3.2 Alternative CP-2: Excavation and On-Site Treatment

Alternative CP-2 consists of excavation and on-site bioremediation of impacted soils. As described in Alternative CP-1, all materials with TPH concentrations above the TPH cleanup level for the Crowley Parcel would be excavated. The horizontal extent of the excavation would be determined from sidewall samples, whereas vertical excavation would continue to the extent of contamination – which is anticipated be to approximately 1 foot below the low seasonal groundwater table (approximately 15 to 17 feet bgs) – as feasible depending on

feasibility related to the ability to dewater the excavation and maintain safe excavation practices. As previously mentioned, approximately 4,200 cubic yards of impacted materials will be excavated from 6 to 10 feet bgs. The clean soil above the impacted soil would be removed and stockpiled for placement into the excavations and use in constructing the bioremediation cell.

Groundwater would be pumped from the excavation pits and treated on-site via an existing oil/water separator, bag filters, and activated carbon. After treatment, groundwater will be stored in a temporary storage tank for laboratory testing of TPH concentrations. If the TPH level is determined to be below the groundwater cleanup level, the water would be injected into the extraction/injection trench previously used for the bioventing system which would be re-registered with Ecology as an injection point. Depending on the season, groundwater is located approximately 14 to 17 feet bgs, and preliminary calculations indicate that up to 250,000 gallons of groundwater could be extracted and require treatment..

Stockpiled "clean" soil will be tested for TPH. Soil with TPH concentrations less than the established cleanup level will be used to backfill the excavation. Any material containing TPH concentrations above the established cleanup level will be segregated for bioremediation. If necessary, excavations will be filled by re-grading of the Site or another source of clean backfill to construct the bioremediation cell.

Excavated soil would be separated and placed in 2 to 3 foot thick lifts in a 1 to 2 acre bioremediation treatment cell. The cell would be graded to slope towards the center of the cell, and silt fencing would be installed around the perimeter of each cell to minimize stormwater flow out of the cells. Nutrients and water would be added to the cell and mixed on a regular basis. Bioremediation progress would be monitored through the collection of quarterly samples.

Following excavation and bioremediation, the area would be remediated through monitored natural attenuation. Final cover will be established using one foot of clean soil. New wells would be installed to replace those which were removed during the excavation activities. Groundwater monitoring would occur during the monitored natural attenuation period, which is anticipated to take approximately 6 years. Institutional controls would be placed on the property to restrict its future use to industrial purposes.

5.3.3 Alternative CP-3: Bioventing

Alternative CP-3 is an in situ treatment method that consists of treating the soil impacted with TPH concentrations above 5,070 mg/kg through bioventing and treating groundwater in the impacted areas using dual phase extraction methods. Bioventing stimulates biodegradation through oxygenation of the subsurface and soil vapor extraction is used to remove volatile organic compounds. Groundwater extracted would be treated with bag filters and liquid-phase carbon units prior to reinjection into the extraction trench at the Site.

A hollow stem auger drill rig would install approximately 40 2-inch wells for the bioventing system. Each of the wells would be connected to a vacuum blower system. When soil vapors are extracted they would be treated by vapor-phase carbon units, prior to discharge to the atmosphere. On a monthly basis liquid and vapor effluents would be sampled, spent carbon would be replaced, flow rates would be monitored and equipment would be maintained, repaired, and replaced, as necessary.

Quarterly or semi-annually, soil samples would be collected in the area treated by the bioventing system using a Geoprobe. If the TPH concentrations in the soil samples were below the established cleanup levels, the system would be shut down. Approximately 30 months of operation would be anticipated for the bioventing process.

Following the bioventing process, the area would be remediated through monitored natural attenuation. New wells would be installed to replace those which were removed during the excavation activities. Groundwater monitoring would occur during the monitored natural attenuation period, which is anticipated to take approximately 12 years. Institutional controls would be placed on the property to restrict its future use to industrial purposes.

5.3.4 Alternative CP-4: In Situ Chemical Oxidation

Alternative CP-4 is an in situ soil and groundwater treatment method which consists of injection of oxidizing chemicals into the subsurface of the impacted area using an adapted Geoprobe rig. The oxidizing chemicals would break down organic materials into carbon dioxide and water through chemical reactions. An initial injection of Fenton's Reagent, a strong oxidizing chemical, would be conducted at approximately 80 injection points. The number and spatial distribution of the injection points would be developed by approximating the radius of influence of each injection and assuming a 10% overlap for injection points.

After approximately 3 months, Geoprobe borings would be drilled and conformational soil samples would be collected. Additional injection and sampling events would be conducted until TPH soil cleanup levels are met. For cost purposes, it is assumed that a total of three injection and sampling events would be conducted to meet TPH soil cleanup levels.

Following chemical oxidation treatment, the area would be remediated through monitored natural attenuation. New wells would be installed to replace those which were removed during the excavation activities. Groundwater monitoring would occur during the monitored natural attenuation period, which is anticipated to take approximately 12 years after the in situ treatment event. Institutional controls would be placed on the property to restrict its future use to industrial purposes.

6 EVALUATION OF REMEDIAL ALTERNATIVES

The FS documents evaluated a range of remedial alternatives and provided a comparative evaluation of those alternatives against MTCA remedy selection criteria. As part of its cleanup decision for the Site, Ecology reserves the right to consider other information, including issues raised during public comment, and/or to conduct its own evaluation of alternatives to assist in making its cleanup decision.

6.1 Minimum Requirements for Cleanup Actions

WAC 173-340-360(2) defines the minimum requirements that all remedial alternatives must achieve in order to be considered as a potential final cleanup action at a site. In this WAC section, MTCA identifies specific criteria against which alternatives are to be evaluated, and categorizes them as either "threshold" or "other" criteria. All cleanup actions must meet the requirements of the threshold criteria. The other MTCA criteria are considered when selecting from among the alternatives that fulfill the threshold requirements. This section provides an overview of these regulatory criteria. The consistency of each alternative with these criteria is then discussed in the subsequent sections.

6.1.1 Threshold Requirements

The threshold MTCA requirements for a selected cleanup action are as follows:

- Protect human health and the environment
- Comply with cleanup standards
- Comply with applicable state and federal laws
- Provide for compliance monitoring

Together, the site-specific cleanup levels and POCs are referred to as cleanup standards. The overall protectiveness that a cleanup alternative provides depends on its ability to meet cleanup standards for Site COCs. All alternatives are expected to ultimately achieve compliance with cleanup standards and ARARs, although the estimated time required to accomplish such compliance may vary among the alternatives.

Of the proposed alternatives (for each AOC), No Action alternatives generally do not meet threshold requirements because they do not include monitoring to verify compliance with cleanup levels. The remaining alternatives all achieve the threshold requirements, as these alternatives protect human health and the environment, would result in compliance with cleanup levels, and provide for appropriate protection and compliance monitoring. More detailed assessments of restoration timeframes and other relevant MTCA considerations are provided below.

6.1.2 Other MTCA/SMS Requirements

Other requirements for evaluating remedial alternatives for the selection of a cleanup action include:

- Use of permanent solutions to the maximum extent practicable [Procedure in WAC 173-340-360(3)]. MTCA specifies that when selecting a cleanup action, preference shall be given to actions that are "permanent solutions to the maximum extent practicable." The regulations specify the manner in which this analysis of permanence is to be conducted. Specifically, the regulations require that the costs and benefits of each of the project alternatives be balanced using a "disproportionate cost analysis." The criteria for conducting this analysis are described in Section 6.1.2.1 below.
- Provide for a reasonable restoration timeframe [Procedure in WAC 173-340-360(4)]. MTCA places a preference on those alternatives that, while equivalent in other respects, can be implemented in a shorter period of time. MTCA includes a summary of factors that can be considered in evaluating whether a cleanup action provides for a reasonable restoration timeframe. SMS regulations place a specific preference on remedies that can be completed and meet standards within a 10- year restoration time-frame for in-water work. The criteria for conducting this analysis are described in Section 6.1.2.2 below.
- Consider public concerns. Ecology has considered public comments submitted during the recent Agreed Order and Enforcement Order processes in making its preliminary selection of a cleanup alternative for the Site and Ecology will consider comment on this document before finalizing the remedy.
- The degree to which recycling, reuse, and waste minimization are employed. This is a requirement specific to SMS that is not included explicitly in MTCA.
- Environmental impact. SMS requires that sufficient information shall be provided to fulfill the requirements of chapter 43.21CRCW, the State Environmental Policy Act.

6.1.2.1 Disproportionate Cost Analysis

The primary test to determine if a remedial alternative uses permanent solution to the maximum extent practicable is the disproportionate cost analysis (DCA). Essentially this analysis ranks the costs and environmental benefits of each of the remedial alternatives against seven criteria to determine the most practicable 'permanent' alternative against which to evaluate and compare the other alternatives. The analysis compares the relative benefits of each alternative against those provided by the most permanent alternative using the seven criteria. The majority of these benefits are environmentally based while others are related but non-environmental, such as "implementability." The comparison of costs and benefits may be quantitative, but is more often qualitative, or subjective. Costs are disproportionate to benefits if the incremental costs of the more permanent alternative exceed the incremental degree of benefits achieved by the other lower-cost alternative [WAC 173-340-360(e)(i)].

Where two or more alternatives are equal in benefits, Ecology shall select the less costly alternative [WAC 173-340-360(e)(ii)(c))]. The DCA criteria include:

- Protectiveness
- Permanence
- Effectiveness over the long term
- Management of short-term risks
- Technical and administrative implementability
- Consideration of public concerns
- Cost

General descriptions of each of the seven MTCA criteria used in the DCA are described below consistent with WAC 173-340-360(f).

Protectiveness

Overall protectiveness is a parameter that considers many factors. First, it considers the extent to which human health and the environment are protected and the degree to which overall risks at a site are reduced. It also considers the time required to reduce risk at the facility and attain cleanup standards. Both on-site and off-site risks resulting from implementing the alternative are considered. Finally, it measures the improvement of the overall environmental quality at the site

Permanence

The permanence of remedies under MTCA is measured by the relative reduction in toxicity, mobility or volume of hazardous substances, including both the original contaminated media, and to a lesser degree the residuals generated by the cleanup action as this is included in short term risk management. Under MTCA regulations treatment actions that destroy contaminants (thereby reducing toxicity, mobility, and volume) are considered more permanent than containment actions (which only reduce the mobility).

Long-Term Effectiveness

Long-term effectiveness is a parameter that expresses the degree of certainty that the alternative will be successful in maintaining compliance with cleanup standards over the long-term performance of the remedy. The MTCA regulations contain a specific preference ranking for different types of technologies that is considered as part of the comparative analysis. MTCA ranks the following types of cleanup action components in descending order of relative long-term effectiveness:

- Reuse and recycling (and waste minimization under SMS)
- Destruction or detoxification
- Immobilization or solidification
- On-site or off-site disposal in an engineered, lined and monitored facility

- On-site isolation or containment with attendant engineering controls
- Institutional controls and monitoring

The regulations recognize that in most cases the cleanup alternatives will combine multiple technologies to accomplish remedial objectives. The preference ranking must be considered along with other site-specific factors in the ranking of long-term effectiveness.

Short-Term Risk Management

Short-term risk management is a parameter that measures the relative magnitude and complexity of actions required to maintain protection of human health and the environment during implementation of the cleanup action. Cleanup actions carry short-term risks such as potential mobilization of contaminants during construction, or safety risks typical to large construction projects. Generally, the majority of short-term risks can be managed through the use of best practices during project design and construction, and other risks are inherent to project alternatives. As stated above, because the risk is short-lived its overall environmental risk to human health and the environment is limited.

Implementability

Implementability is an overall measurement expressing the relative difficulty and uncertainty of implementing the project. It includes technical factors such as the availability of mature technologies and experienced contractors to accomplish the cleanup work. It also includes administrative factors associated with permitting and completing the cleanup. Evaluating an alternative's technical and administrative implementability includes consideration of the following:

- Potential for landowner cooperation
- Whether the alternative is technically possible
- Availability of necessary facilities, services, and materials
- Administrative and regulatory requirements
- Scheduling
- Size and complexity of the alternative
- Monitoring requirements
- Access for construction and monitoring
- Integration of existing operations with the remedial action

Consideration of Public Concerns

The public involvement process under MTCA is used to identify public concerns regarding alternatives. The extent to which an alternative addresses those concerns is considered as part of the remedy selection process. This includes concerns raised by individuals, community groups, local governments, tribes, federal and state agencies, and other organizations that may have an interest in or knowledge of the site.

Remedy Costs

The analysis of costs under MTCA includes all costs associated with implementing the alternative, including design, construction, long-term monitoring and institutional controls (WAC 173-340-360(3)(f)(iii)). Costs are intended to be comparable among different project alternatives to assist in the overall analysis of relative costs and benefits of different alternatives. Costs are evaluated against remedy benefits in order to assess cost-effectiveness and remedy practicability.

6.1.2.2 Restoration Timeframe

MTCA also provides specific guidelines for determining a reasonable restoration timeframe. The following factors are to be considered:

- Potential risks posed by the site to human health and the environment
- Practicability of achieving a shorter restoration timeframe
- Current use of the site, surrounding areas, and associated resources that are, or may be, affected by releases from the site
- Potential future use of the site, surrounding areas, and associated resources that are, or may be, affected by releases from the site
- Availability of alternative water supplies
- Likely effectiveness and reliability of institutional controls
- Ability to control and monitor migration of hazardous substances from the site
- Toxicity of the hazardous substances at the site
- Natural processes that reduce concentrations of hazardous substances and have been documented to occur at the site or under similar site conditions

6.2 Evaluation of Sediment Cleanup Alternatives

As previously discussed, two alternatives were developed for the remediation of the Sediment AOC, including sediment removal with ENR and in situ containment with ENR. In the remainder of this section each of these alternatives is evaluated in terms of the MTCA criteria described in Section 6.1.

6.2.1 Protectiveness

For this Site, both sediment alternatives are expected to provide similar restoration timeframes on a Site-wide basis, as the dredging and backfill alternative is expected to meet the cleanup standard immediately upon construction of the remedy. Typically, dredging alternatives experience a slight lag in cleanup level compliance in comparison to isolation cap remedies as dredging residuals often persist for a short time after the initial remedial action. However, because this project incorporates a sand backfill component to restore pre-construction habitat grades, it is expected that dredging residuals would be managed through attenuation. Both alternatives also include ENR components within identical footprints;

therefore, the restoration timeframe would be consistent within those areas. Both alternatives equally satisfy the criteria for a reasonable restoration timeframe and are expected to achieve cleanup levels within months of the start of the remedial action.

6.2.2 Permanence

As discussed in Section 6.1.2.1, the permanence of a cleanup action is measured by the degree to which it permanently reduces the toxicity, mobility, or volume of hazardous substances. Upon dredging, the sediment would be removed from the affected area and contained upland through a combination of disposal process options. Although, the capping alternative does not reduce the mass of materials within the deposit, it does reduce the toxicity and reasonably prevent mobility. The toxicity and volume of PCBs addressed by the capping alternative would be reduced over the long term by natural attenuation, although the degradation rate would likely be reduced under anaerobic conditions. Therefore, the dredging alternative provides a higher degree of permanence in comparison to the capping alternative.

6.2.3 Effectiveness over the Long Term

Both alternatives are effective in managing long-term risk. However, the dredging alternative relies upon higher ranking, preferred MTCA cleanup action measures, as discussed in Section 6.1.2.1, such as beneficial use and off-site disposal, in comparison to the capping alternative, which is composed of in situ isolation and long-term monitoring. In addition, the capping alternative is subject to unknown future conditions such as changes in hydraulic conditions (i.e., dam flow) and Site uses (e.g., potential shoreline development to provide deep water berths). Therefore, the dredging alternative provides a preferred longer-term benefit.

6.2.4 Management of Short-Term Risks

Management of short-term risks (a.k.a. short-term effectiveness) is the degree to which human health and the environment are affected in the short-term. The dredging alternative is likely to have greater short-term risk associated with water quality impacts; however, due to the coarse nature of the target sediment, increased turbidity is expected to be minimal. The upland transfer of sediment for final disposal may also have a potential short-term impact through the potential for spills. BMPs, such as control of dredging rate and spill guards for conveyor systems, are typically employed to address and minimize short-term impact concerns associated with dredging. Therefore, capping alternative provides a slightly greater short-term risk management as the affected sediment is minimally disturbed.

6.2.5 Technical and Administrative Implementability

Both alternatives are technically feasible and satisfy the implementability criteria to a high degree; however placement of cap materials in deep water presents a slightly greater challenge to the contractor.

6.2.6 Consideration of Public Concerns

Public concerns will be addressed during the forthcoming public notice period.

6.2.7 Cost

In general, the capping alternative is a lower cost solution to achieve the goals of the remedial action. However, the dredging costs are not substantially greater when future Site development is considered. That is, the dredging alternative would not restrict potential long-term development options such as berth construction. Under the capping scenario, future redevelopment may require cap removal or placement of additional armoring to ensure stability, thus incurring future capital costs. Therefore, selection of the capping alternative would likely only provide a short-term cost benefit. Ultimately, costs are a minor consideration because the decision has been made to remove the PCB-impacted sediment to the maximum extent practicable.

6.2.8 Provision for a Reasonable Restoration Timeframe

Both alternatives equally satisfy the SMS criteria for a reasonable restoration timeframe and are expected to achieve cleanup levels within months of the start of the remedial action.

6.2.9 Evaluation Summary

Both sediment alternatives provide relatively equal environmental benefits. Typically, Ecology would select the lower cost alternative in cases where the DCA determines equal benefits. However, Alternative S-1 (Sediment Removal with ENR) was selected as the preferred remedy to address the PCB-impacted sediment because it provides the greatest overall environmental benefit in terms of permanence, long-term risk reduction to human health and ecological receptors, maximum mass removal, reasonable restoration timeframe, and appropriate management of short-term impacts. The remedy also meets the intent of other MTCA goals in taking advantage of beneficial use opportunities.

6.3 Evaluation of Crowley Parcel Cleanup Alternatives

As previously described, four cleanup alternatives were developed for consideration for the remediation of the Crowley Parcel AOC. These alternatives include excavation and off-site disposal of impacted soil, excavation and on-site treatment of impacted soil, bioventing, and in situ chemical oxidation. The remainder of this section evaluates each of these alternatives in terms of the MTCA criteria described in Section 6.1.

6.3.1 Protectiveness

All alternatives are anticipated to provide a reasonable restoration timeframe. After each of the primary remedial actions (i.e., excavation, on-site treatment, bioventing, or in situ treatment) is conducted, monitored natural attenuation is expected to occur. The monitored natural attenuation time frame for Alternative CP-1 and Alternative CP-2 is expected to be approximately half of that required for Alternative CP-3 and Alternative CP-4. Of the alternatives, Alternative CP-1 is anticipated to provide the shortest restoration time frame because materials could be excavated within several months whereas on-site treatment could last up to 2 years, bioventing is estimated to require approximately 30 months of operation, and in situ treatment could require up to approximately a year of active remediation activities. Overall, Alternative CP-1 and Alternative CP-2 are anticipated to provide the shortest timeframes.

6.3.2 Permanence

All alternatives are considered permanent under MTCA regulations because there is a reduction in the toxicity, mobility, or volume of the contaminants. In the cases of Alternatives CP-1 and CP-2, the impacted soils are physically removed and any groundwater that is encountered is treated prior to reinjection. For Alternative CP-3, volatile organic compounds are removed from the impacted soil via vapor extraction and impacted groundwater is extracted through the dual phase extraction methods. In this case, the groundwater is treated prior to reinjection. Alternative CP-4 also removes the contaminants through chemical reactions which breakdown the contaminants into less hazardous by-products.

6.3.3 Effectiveness over the Long Term

Alternative CP-1 and Alternative CP-2 are considered to be the most effective over the long term because of the physical removal of the contaminants and impacted soil. The effectiveness of Alternative CP-3 and Alternative CP-4 is potentially limited by subsurface heterogeneities.

6.3.4 Management of Short-Term Risks

For Alternative CP-1, short term risks are associated with the transfer of the impacted materials for final disposal. For Alternative CP-2, there may be short term risks associated with the transfer of impacted materials from the excavation to the bioremediation cell and with containing the impacted material within the treatment cells. Short term risks are also associated with the handling of strong oxidizing agents as required for Alternative 4.

6.3.5 Technical and Administrative Implementability

All of the alternatives proposed for the Crowley Parcel are considered technically feasible and implementable. According to the Crowley RI/FS, the alternatives are ranked in the following order, from easiest to most difficult to implement: Alternative CP-4 (In situ Chemical Oxidation), Alternative CP-3 (Bioventing), Alternative CP-1 (Excavation and Off-site Disposal), and Alternative CP-2 (Excavation and On-site Treatment).

Alternative CP-1 and Alternative CP-2 are ranked as the most difficult to implement due to the excavation of impacted soil. Of these two alternatives, Alternative CP-2 is ranked as more difficult to implement because of the on-site treatment actions. Although Alternative CP-4 is considered the easiest to implement because materials (soil or groundwater) are not removed from the subsurface, special considerations would be required for handling the strong oxidizing agents.

6.3.6 Consideration of Public Concerns

Public concerns will be addressed during the forthcoming public notice period.

6.3.7 Cost

The approximate cost for each of the remedial alternatives is shown in the Table 6-1.

Table 6-1
Approximate Costs for Crowley Parcel Remedial Alternatives

Remedial Alternative	Approximate Cost	Monitoring Included in Costs
Alternative CP-1: Excavation and Off-site Disposal	$970,000	1 year of quarterly monitoring 1 year of semi-annual monitoring 3 years of annual monitoring 1 final year of quarterly monitoring
Alternative CP-2: Excavation and On-site Treatment	$740,000	1 year of quarterly monitoring 1 year of semi-annual monitoring 3 years of annual monitoring 1 final year of quarterly monitoring
Alternative CP-3: Bioventing	$1,200,000	1 year of quarterly monitoring 1 year of semi-annual monitoring 9 years of annual monitoring 1 final year of quarterly monitoring
Alternative CP-4: In situ Chemical Oxidation	$2,000,000	1 year of quarterly monitoring 1 year of semi-annual monitoring 9 years of annual monitoring 1 final year of quarterly monitoring

Alternative CP-2 is considerably less expensive than Alternative CP-3 or Alternative CP-4, yet it is more effective. Similarly, Alternative CP-2 offers the same effectiveness as Alternative 1 yet is less expensive. Therefore, Alternative CP-2, Excavation and On-Site Treatment, is among the most effective remedial alternatives and the least expensive.

7 SELECTED CLEANUP ACTIONS

7.1 PCB-Impacted Sediment

Alternative S-1 – Sediment Removal with ENR was selected as the preferred remedy to address the PCB-impacted sediment because it provides the greatest overall environmental benefit in terms of permanence, long-term risk reduction to human health and ecological receptors, maximum mass removal, reasonable restoration timeframe, and appropriate management of short-term impacts. The remedy also meets the intent of other MTCA goals in taking advantage of beneficial use opportunities.

The alternative includes a combination of dredging to the maximum extent practicable using the 320 µg/kg RAL established in Section 4.1, the placement of clean sand to manage dredge residuals, and the placement of an ENR sand layer over the areas that exceed the 97 µg/kg cleanup level but are below the RAL. Construction of the in-water work will undermine the adjacent bank. Prior to dredging, industrial waste (i.e., slag, tar-like material, and SPL identified in Section 3.4.1) will be removed from the surface of the riverbank and disposed of at an appropriate off-site facility. As necessary, other deleterious materials, such as debris, brick, and concrete will be removed and either disposed of off site at a construction debris landfill or, as appropriate, stockpiled on site for crushing and beneficial use. The stability of the remaining bank will be evaluated and oversteepened areas regraded and erosion protection placed. Existing vegetation will be preserved to the greatest extent possible; however, armoring to protect against wave action is required and will be installed to protect exposed areas.

During the acceptable environmental work window (November 1 through February 28), dredging and sand placement activities would commence. Dredging of the sediment subject to TSCA Subtitle C disposal regulations (i.e., greater than 50 mg/kg PCBs) would occur first followed by the remaining areas designated for off-site disposal. Material subject to TSCA Subtitle C disposal requirements would be transferred on site and dewatered prior to being loaded into lined trucks prior to shipment an approved off-site disposal facility. The effluent from dewatering TSCA Subtitle C sediment would either be treated on site and discharged back into the Columbia River or it would be transported to an off-site, regulated facility for disposal. Dredge sediment designated for off-site disposal as TSCA Subtitle D would be transferred by barge, without prior dewatering other than the initial decanting of accumulated free water within the barge, directly to a transfer facility upstream of the Site on the Columbia River. Any decanted water from Subtitle D sediments would be collected and treated prior to discharge into the Columbia River.

The next segments to be removed would target the sediment to be disposed of on Site in the North and North 2 Landfills (i.e., sediment less than 10 mg/kg PCBs). This material would be transferred on site and placed within the North and North 2 Landfills footprint where it

would be allowed to passively dewater prior to final compaction and covering. Finally, sediment retained for beneficial use (i.e., sediment less than 1 mg/kg PCBs) would be dredged last, transferred on Site, and stockpiled. The stockpile would be located away from the shoreline to prevent transport of the material back to the affected area prior to final placement as on-site fill. All free barge water generated during the dredging of sediments less than 10 mg/kg PCBs would be collected and pumped directly upland for infiltration to groundwater or disposal at the local sanitary sewer. After all sediment to be disposed of in the North and North 2 Landfills is placed, the area would be covered with a one-foot lift of clean sand.

Upon confirmation that the minimum required dredge elevations are achieved, clean sand would be placed to restore all dredged areas to natural grades. Placement of the 6-inch minimum ENR layer would be sequenced with this work. Confirmation samples would be taken after placement of the clean sand to evaluate compliance with the cleanup level on a SWAC basis. During the confirmation sampling event, additional samples would be collected from the upstream reach of the Columbia River to characterize material that may potentially migrate to the Site in subsequent years. In the event the SWAC exceeds the cleanup level, an additional ENR material layer (minimum 6 inches) would be placed and the area resampled. As discussed in Section 4.1.3, initiation of supplemental dredging would not effectively reduce residual contamination; therefore, additional dredging is not practicable and would not be required. In addition, the selected remedial alternative technology targets the removal of affected sediment to the greatest extent practicable and the technology is ineffective at further reducing the remaining mass. No additional long-term monitoring would be required as Site sediment would no longer pose a risk to human health or the environment. In the unlikely event the cleanup level is not met on a SWAC basis after the additional ENR material is placed, no further dredging, backfill, or monitoring will be required.

Plans describing the cleanup action including an engineering design report, construction specifications and drawings, and a Project Control Plan (PCP) will be developed. These documents will present the engineering criteria, assumptions, and calculations used to design the remedial action, the general means and methods the remedial contractor will use to implement the action, and a schedule for completing the project. The PCP will establish quality control and performance/compliance metrics in accordance with WAC 173-340-410 and will include:

- A HASP pursuant to WAC 173-340-810(2) addressing all applicable federal or state worker safety requirements.
- A Sampling and Analysis Plan (SAP) that specifies procedures to ensure that sample collection, handling, and analysis will result in data of sufficient quality to evaluate the effectiveness of remedial actions at the Site. The SAP will be prepared by the implementers of the remedial action and will include the elements defined in WAC 173-340-820. The SAP will define the locations of confirmation sampling points

used to confirm that the cleanup action has attained cleanup standards and other performance standards.

- A Water Quality Monitoring Plan (WQMP) will be prepared to define the monitoring to confirm that human health and the environment are adequately protected during the construction period of the cleanup action as defined by the permit conditions.
- Data analysis and evaluation procedures used to demonstrate and confirm compliance with, and justification for these procedures.
- A Construction Quality Assurance Plan (CQAP), which will specify procedures for ensuring quality control during construction.
- Other information as required by Ecology.

7.2 Crowley Parcel

Alternative CP-2 - Excavation and On-Site Treatment is the proposed cleanup action. This alternative is consistent with MTCA requirements for the development of cleanup alternatives and was chosen as the preferred remedial action because of its permanence and long term effectiveness. Additionally, Alternative CP-2 meets the intent of other MTCA goals for reasonable restoration timeframe, management of short-term risks, and implementability. A work plan for the cleanup of the Crowley Parcel via excavation and on-site treatment will be developed and submitted to Ecology for approval before initiation of the proposed cleanup actions. The activities to be described in the work plan are discussed below.

Four areas of the Crowley Parcel contain soil with TPH concentrations greater than the Crowley Parcel soil cleanup level of 5,070 mg/kg. Each of these areas would be excavated to remove the TPH impacted soil. Excavation activities are expected to occur in October 2008 when the groundwater table is seasonably low. Applicable City of Vancouver permits will be obtained prior to conducting the work. Prior to excavation, monitoring wells in the vicinity of the excavations would be protected, the area would be chipped and grubbed, and silt fencing and other erosion control BMPs would be implemented. Any monitoring wells contained within the limits of the excavation would be decommissioned and removed. Additionally, the Crowley Parcel would be regraded to maximize the area of land with an elevation of approximately 31 feet using the NGVD 1929, which is above the 30 feet NGVD 1929 flood level established by the City of Vancouver.

The TPH contaminated soil in each of the excavation areas is covered by clean overburden soil. It is estimated that approximately 12,500 cubic yards of clean overburden material would be removed and stockpiled on-site. The clean material would be sampled and analyzed for TPH-G, TPH-D, and TPH-O. The number of samples collected would depend on the volume of stockpiled soil. The TPH impacted soil would also be removed from each of the excavations and stockpiled on polyethylene liner at a location distinct from the clean overburden storage area. It is anticipated that approximately 4,200 cubic yards of impacted

soil would be excavated. The side slopes of each of the excavations would vary from 1:1 to 1:3 and the excavations are expected to extend vertically to approximately 1 foot below the low seasonal groundwater table at approximately 14 to 17 feet bgs, depending on season and surface topography. On the horizontal scale, excavation would continue until conformational soil samples indicated the soil was below the soil TPH cleanup levels.

At each of the excavations, if groundwater is not present, the clean overburden would be backfilled into the excavation area. During the excavation activities, the depth of groundwater on-site is anticipated to be approximately 13 to 14 bgs. Any groundwater encountered in the excavations would be removed; treated on-site with an oil-water separator, bag filters, and activated carbon; and pumped into a temporary storage tank. Samples would be collected and analyzed for TPH-G, TPH-D, and TPH-O. If the TPH concentrations are below the groundwater cleanup level, the water would be re-injected into the subsurface under Ecology-approved injection well permit #12092 or at another approved injection point. It is anticipated that approximately 250,000 gallons of extracted groundwater would require treatment. If free product is encountered, additional measures would be taken to properly dispose of the free product.

Impacted soil would be treated in an approximately 1-acre bioremediation treatment cell. The cell would be constructed to have a sloped base with a 6-mil polyethylene liner covered by a minimum of 6 inches of clean overburden soil. Berms of at least 32 feet NGVD 1929 would surround the cell and a drainage sump would be located in the center. TPH-impacted soil would be placed in the cell with a thickness of 2 to 3 feet and graded with an inward slope. Water collected in the sump would be treated by the groundwater treatment system and re-injected. Soil in the treatment cell would be turned and mixed monthly and nutrients and water may be added to enhance the bioremediation process. On a quarterly basis, soil samples would be collected from the treatment cell and analyzed for TPH concentrations. As portions of the treatment cell are bioremediated, confirmation samples will be collected. Cell divisions will be designated as complete as confirmation samples demonstrate that TPH concentrations are below the soil cleanup levels. Following remediation of all impacted soil, the bioremediation cell would be decommissioned and the land would be regraded. At least one foot of clean soil would be backfilled on top of the bioremediated soil.

A Remedial Action Work Plan describing the engineering criteria, assumptions, and calculations used to design the remedial action, the general means and methods the remedial contractor will use to implement the action, and a proposed schedule for completing the project is required prior to the start of the remediation. A sampling and analysis plan (SAP) will also be prepared to establish quality control and performance/compliance metrics in accordance with WAC 173-340-410 and will include:

- An AOC-specific HASP pursuant to WAC 173-340-810(2). The plan will address all applicable federal or state worker safety requirements.

- A SAP that specifies procedures to ensure that sample collection, handling, and analysis will result in data of sufficient quality to evaluate the effectiveness of remedial actions at the Site. The SAP will be prepared by the implementers of the remedial action and will include the elements defined in WAC 173-340-820.
- Data analysis and evaluation procedures used to demonstrate and confirm compliance with, and justification for these procedures.
- Procedures for ensuring quality control during construction.
- Other information as required by Ecology.

The sampling and analysis plan (SAP) will address the types of compliance monitoring, as appropriate, to be conducted including:

- Protection Monitoring: This type of monitoring is used to confirm that human health and the environment are adequately protected during the construction period of the cleanup action as defined by the site-specific HASP and permit conditions.
- Performance Monitoring: Performance monitoring is used to confirm that the cleanup action has attained cleanup standards and other performance standards.
- Confirmation Monitoring: Used to confirm the long-term effectiveness of the cleanup action once performance standards have been attained.

7.3 Dike USTs and Soluble Oil Area

The presumptive remedy for the Dike USTs and Soluble Oil Area consists of removal and off-site disposal of the COC-impacted soil, waste, and raw materials. The contaminated material will be removed until the remaining soil meets the Site soil cleanup levels.

The presumptive remedy for the Dike USTs will include removal of the tanks, free product, and impacted soils exceeding the Site cleanup levels. Materials removed from the Site will be disposed of at an appropriate off-site landfill. Removal of the source materials is protective of groundwater and meets the general Site RAOs.

Impacted materials with PCB concentrations greater than 10 mg/kg will be removed from the Soluble Oil Area and disposed of at an off-site location. This presumptive remedy will prevent direct contact with PCB-impacted material above Site cleanup levels. After removal, an appropriate cap will be placed over the area in accordance with MTCA regulations. These actions are protective of groundwater; therefore, no further remediation beyond source removal is required for this area to meet the general Site RAOs.

Selection of these remedies is based on the expectation that soil cleanup levels defined in Section 4.1.5 will be achieved at a standard point of compliance, thus warranting no further action in accordance with WAC 173-340-350(8)(a). Upon completion of source removal activities within these AOCs, it is anticipated that subsequent groundwater samples collected

from excavations would indicate compliance with cleanup levels defined in Section 4.1.4 and no further action would be required.

A Remedial Action Work Plan describing the engineering criteria and assumptions used to design the remedial action, the means and methods the remedial contractor will use to implement the action, and a schedule for completing the project shall be submitted prior to the start of construction. A Project Control Plan (PCP) will also be prepared to establish quality control and performance/compliance metrics in accordance with WAC 173-340-410 and will include:

- A HASP pursuant to WAC 173-340-810(2) addressing all applicable federal or state worker safety requirements.
- A SAP that specifies procedures to ensure that sample collection, handling, and analysis will result in data of sufficient quality to evaluate the effectiveness of remedial actions at the Site. The SAP will be prepared by the implementers of the remedial action and will include the elements defined in WAC 173-340-820. The SAP will define the locations of confirmation sampling points used to confirm that the cleanup action has attained cleanup standards and other performance standards.
- Data analysis and evaluation procedures used to demonstrate and confirm compliance with, and justification for these procedures.
- Other information as required by Ecology.

7.4 Institutional Controls

In conjunction with compliance monitoring, institutional controls will be applied to limit or prohibit activities that could interfere with the integrity of the cleanup action or result in exposure to hazardous substances. The institutional controls to be applied at the Site include the filing of a restrictive covenant (WAC 173-340-440) that describes the condition of the property, declares that a cleanup was completed at the Site, restricts the disturbance of upland caps, prohibits the modification of the caps without the prior written approval of Ecology, and limits the Site to industrial uses. The restrictive covenant will also control and limit extraction of groundwater from the Site within the Crowley Parcel AOC and the fluoride-bearing groundwater surrounding the SPL Storage Area not covered by previously recorded restrictive covenants. The restrictive covenant will be subject to Ecology's approval before being recorded. Alcoa shall record the restrictive covenant for its property in accordance with the Consent Decree. In addition, the restrictive covenant will require owners of the property to notify all lessees or property purchasers of the restrictions on the use of the properties. Finally, the restrictive covenant will require the owners of the property to make provisions for continued monitoring and operation and maintenance of the remedial action prior to conveying title, easement, lease, or other interest in the Site.

7.5 Groundwater Monitoring and Cap Maintenance

Alcoa shall conduct groundwater monitoring at the Site. This monitoring shall incorporate the groundwater monitoring requirements from Alcoa's July 2001 Groundwater Monitoring Plan for the Former Vancouver Operations and Alcoa's June 2006 Groundwater Monitoring and East Landfill Cap Maintenance Plan. In addition to those monitoring requirements, Alcoa shall monitor one additional well cluster, EVGR-02.

Alcoa's July 2001 Groundwater Monitoring Plan, which Ecology approved in 2001, was designed to consolidate the existing system and decommission 75 wells previously required by Consent Decree 92-2-00783-9 between Alcoa and Ecology. Twenty-one new wells were added to the existing network reducing the groundwater monitoring network to 41 wells. In August of 2003, Alcoa submitted a monitoring well decommissioning and installation work plan to complete the installation and decommissioning work. Ecology approved the decommissioning and installation plan and a new monitoring network was established for the Site in 2003.

In June 2006, Alcoa submitted a Groundwater Monitoring and East Landfill Cap Maintenance Plan to fulfill the requirements of Agreed Order No. DE 03 TCPIS-5737. The 2006 monitoring plan was consistent with the July 2001 plan and incorporated and fulfilled the monitoring requirements of Consent Decree 92-2-00783-9. In 2007, Evergreen Aluminum installed two groundwater monitoring well clusters (EVGR-01, EVGR-02). One monitoring well cluster, EVGR-02, was added to the site-wide groundwater monitoring plan in 2008.

Alcoa shall perform cap maintenance activities at the former SPL Storage Area (NPL Site), as required by Consent Decree 92-2-00783-9. The SPL Storage Area cap maintenance activities will continue until groundwater cleanup levels are met at this area of the Site. The SPL Storage Area cap maintenance activities and schedule will follow the schedule and maintenance plan found in Section 3 and Table 3-1 of the 2006 Groundwater Monitoring and East Landfill Cap Maintenance Plan for the East Landfill. The 2006 maintenance plan elements are consistent with Consent Decree 92-2-00783-9 and fulfill the requirements of that Decree.

The 2006 site-wide Groundwater Monitoring and East Landfill Maintenance Plan, with the addition of the Evergreen monitoring well cluster (EVGR-02) and SPL Storage Area cap maintenance activities, are the site-wide groundwater compliance monitoring and landfill maintenance plans for the Site. Table 7-1 is the groundwater monitoring well list and monitoring schedule for the entire Site.

Table 7-1
Groundwater Monitoring Well List and Monitoring Schedule

Well Identification	Zone	Analytical Frequency			
		CN/FL	TOX/TOC	PAHs/PCBs	VOCs
SPL Storage Area					
EVGR-02	S	Annual	-	-	-
EVGR-02	I	Annual	-	-	-
EVGR-02	D	Annual	-	-	-
EVGR-02	A	Annual	-	-	-
MW-52	S	Annual	-	-	-
MW-8	I	Annual	-	-	-
MW-8	D	Annual	-	-	-
MW-8	A	Annual	-	-	-
MW-30	S	Annual	-	-	-
MW-30	I	Annual	-	-	-
MW-30	D	Annual	-	-	-
MW-49	S	Annual	Quarterly	-	-
MW-18	I	Annual	Quarterly	-	-
MW-49	D	Annual	Quarterly	-	-
MW-18	A	Annual	Quarterly	-	-
MW-50	S	Annual	Quarterly	-	-
MW-19	I	Annual	Quarterly	-	-
MW-50	D	Annual	Quarterly	-	-
MW-50	A	Annual	Quarterly	-	-
MW-51	S	Annual	Quarterly	-	-
MW-51	I	Annual	Quarterly	-	-
MW-51	D	Annual	Quarterly	-	-
MW-51	A	Annual	Quarterly	-	-
North and North 2 Landfill Area					
MW-47	I	-	-	Annual	Quarterly
MW-47	D	-	-	Annual	Quarterly
MW-47	A	-	-	Annual	Quarterly
MW-48	I	-	-	Annual	Quarterly
MW-48	D	-	-	Annual	Quarterly
MW-48	A	-	-	Annual	Quarterly
East Landfill Area					
MW-35	S	-	-	Annual	Quarterly
MW-35	I	-	-	Annual	Quarterly
MW-35	D	-	-	Annual	Quarterly
MW-35	A	-	-	Annual	Quarterly
MW-41	S	-	-	Annual	Quarterly
MW-41	I	-	-	Annual	Quarterly
MW-41	D	-	-	Annual	Quarterly
MW-46	I	-	-	Annual	Quarterly
MW-46	D	-	-	Annual	Quarterly
MW-46	A	-	-	Annual	Quarterly
MW-94-1	I	-	-	Annual	Quarterly
MW-94-1	D	-	-	Annual	Quarterly

Well Identification	Zone	Analytical Frequency			
		CN/FL	TOX/TOC	PAHs/PCBs	VOCs
MW-94-1	A	-	-	Annual	Quarterly
MW-94-2	I	-	-	Annual	Quarterly
MW-94-2	D	-	-	Annual	Quarterly
MW-94-2	A	-	-	Annual	Quarterly
TOTALS	**45**	**23**	**12**	**22**	**22**

Footnotes:
"Annual" event scheduled for second month of fourth quarter each year
"Quarterly" event scheduled for second month of each quarter each year
CN/FL = cyanide and fluoride
TOX/TOC = total organic halides/total organic carbon
PAHs/PCBs = polycyclic aromatic hydrocarbons/polychlorinated biphenyls
VOCs = volatile organic compounds
S = Shallow; D = Deep; I = Intermediate; A = Aquifer

8 IMPLEMENTATION OF CLEANUP ACTION

This chapter describes the manner in which the cleanup actions will be implemented. It provides a description of how work will be coordinated between the different AOCs and a schedule for the implementation of cleanup actions.

8.1 Coordination with Other Work

Coordination will be necessary to execute the various cleanup actions on the Site in an efficient manner. Source removal activities at the Dike USTs and Soluble Oil AOCs are anticipated to begin in September 2008 per the requirements of Enforcement Order 5660 (Ecology 2008). In-water cleanup actions will be conducted during the acceptable environmental work window from November 1, 2008 through February 28, 2009. Prior to in-water cleanup actions being conducted, upland preparations along the riverbank will be conducted per Enforcement Order 5660 (Ecology 2008). The Crowley Parcel is located on the western portion of the Site away from all other AOCs and is expected to occur between October 2008 and December 2010.

8.2 Permits

Chapter 70.105D RCW exempts remedial actions conducted under a consent decree, order, or agreed order from the procedural requirements of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW and of any laws requiring or authorizing local government permits or approvals. However, Ecology must determine compliance with the substantive provisions of such permits or approvals. In addition, any permits required under federal law to perform the cleanup must be obtained.

8.3 Schedule

An outline of the tentative schedule for implementation of the remedial action activities is given below in Table 8-1.

Table 8-1
Tentative Schedule for Implementation of Cleanup Actions

Action	Timeframe
Crowley Parcel Work Plan Submitted	August 2008
RI/FS, CAP, CD, & SEPA Public Comment	September/October 2008
In-Water WQMP Submitted	September 2008
In-Water Plans and Specs Submitted	September 2008
Mobilization for In-Water Work	Late September 2008
Dike USTs Remediation Begins	Fall 2008
Soluble Oil Area Remediation Begins	Fall 2008

Action	Timeframe
Response to Public Comments Issued	Late October 2008
Riverbank Preparation Commences	November 2008
In-Water Cleanup Actions Performed	December 1, 2008 - February 28, 2008
Final Consent Decree	January 2009
Crowley Parcel Work Commences	January/February 2009
In-water Completion Report Submitted	Summer 2009
Crowley Parcel Remediation Complete	December 2010
Crowley Parcel Completion Report Submitted	Spring 2011

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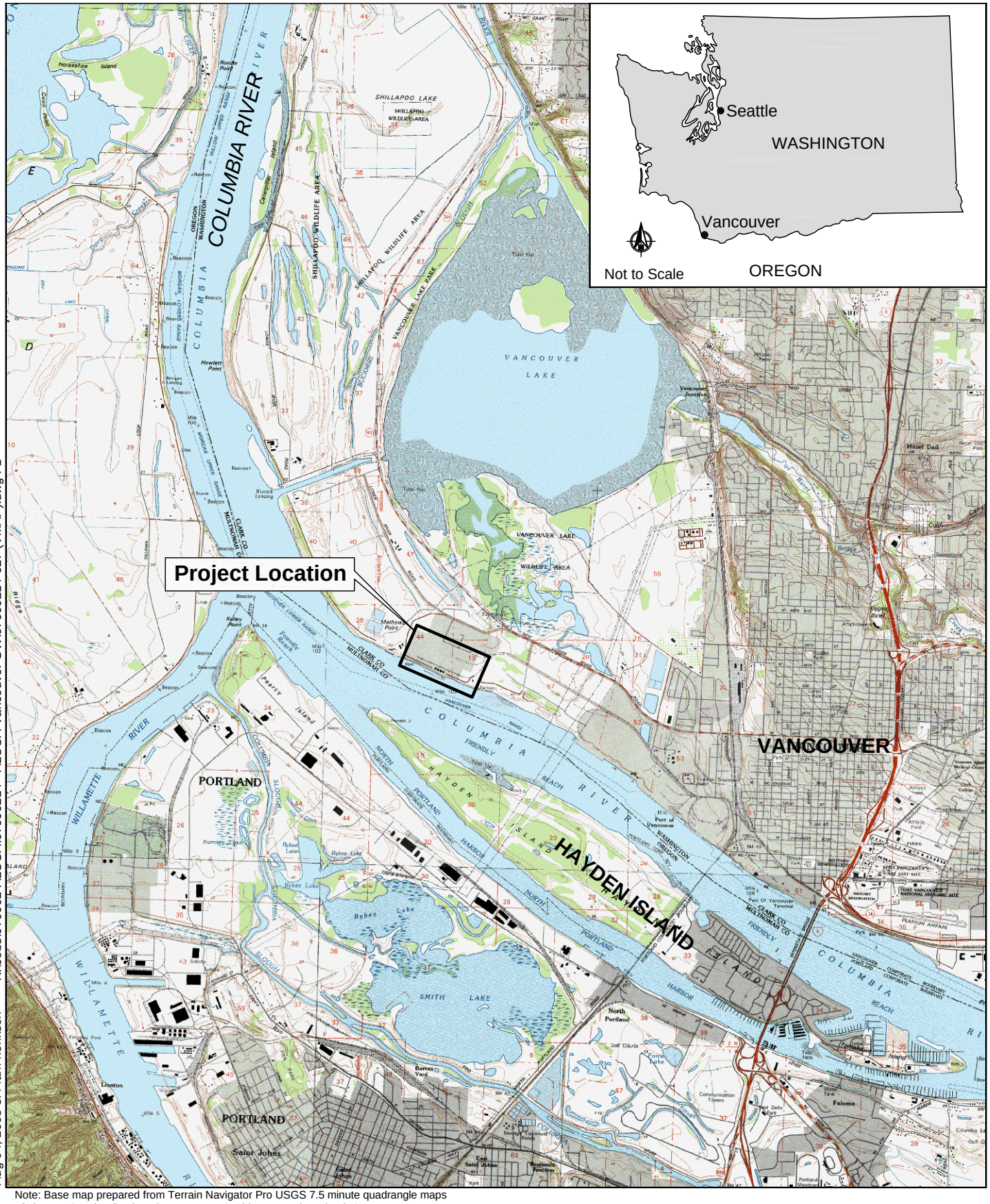
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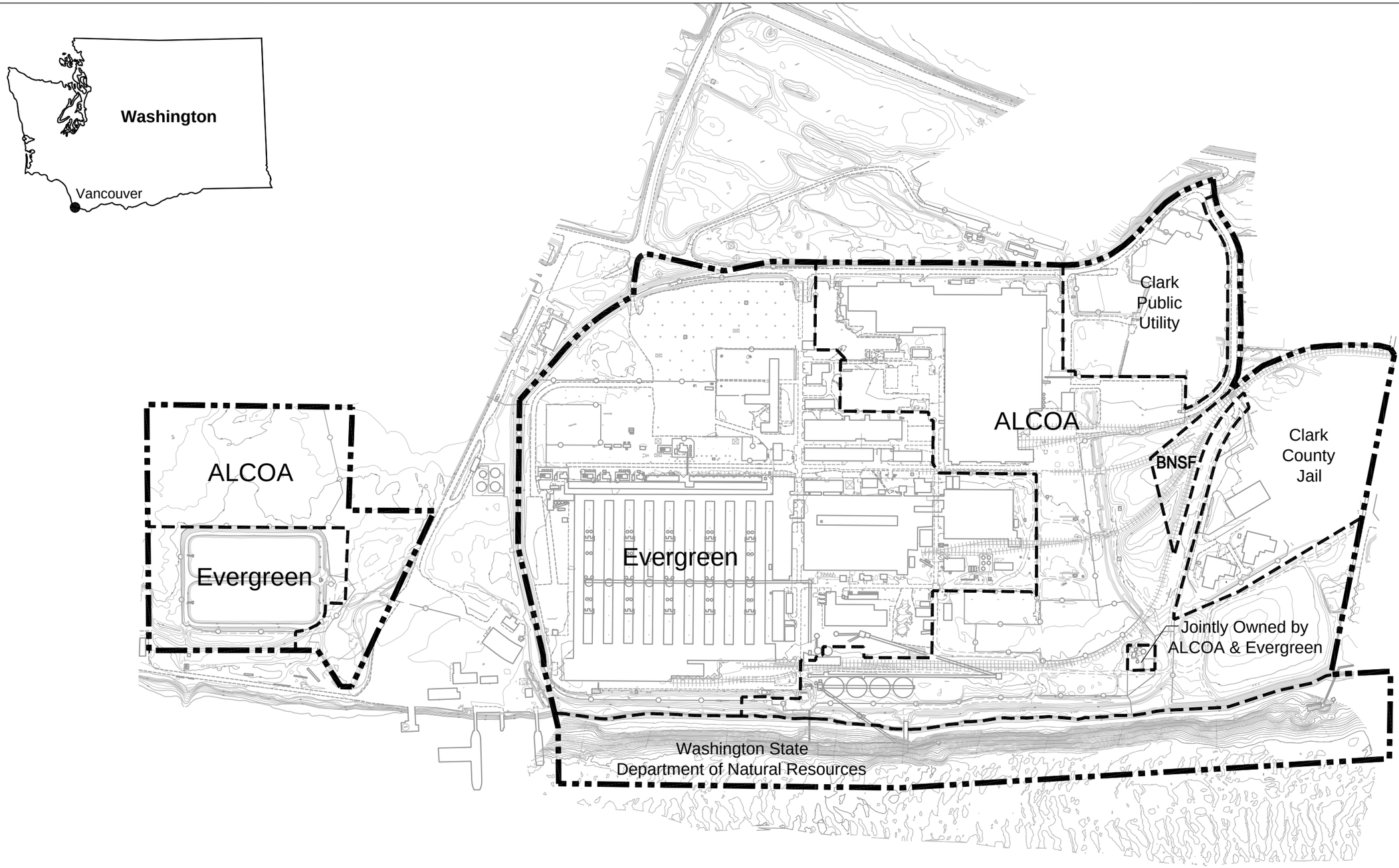
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Note: Base map prepared from Terrain Navigator Pro USGS 7.5 minute quadrangle maps of Linnton, Sauvie Island, and Vancouver, Washington, and Portland, Oregon.

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Scale in Miles

Figure 1
Vicinity Map
ALCOA/Evergreen Site CAP
Vancouver, Washington



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Scale in Feet

Site Boundary

Property Boundary

Figure 2
Site Boundaries and Property Ownership
ALCOA/Evergreen Site CAP
Vancouver, Washington

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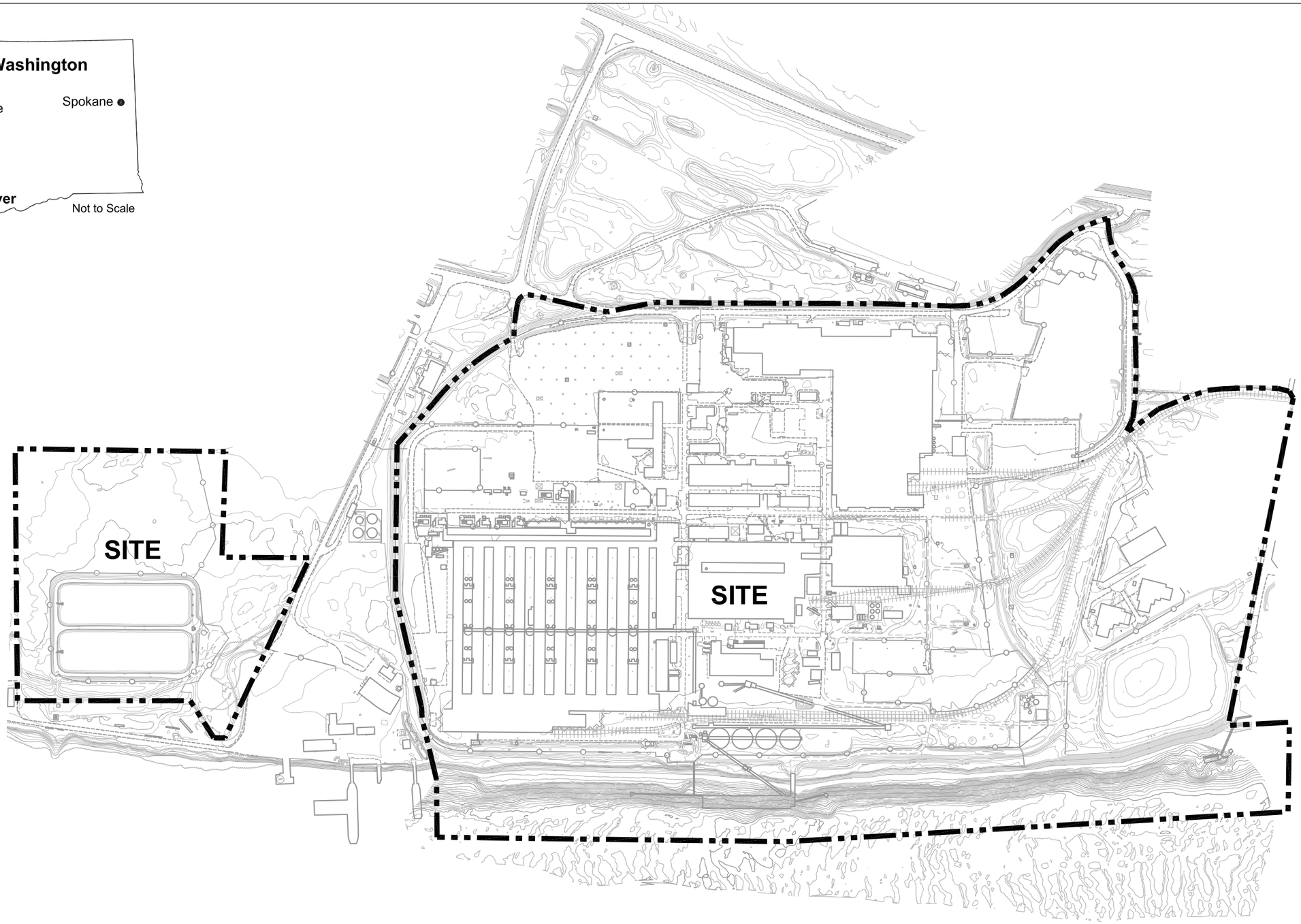


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1	Sludge Pond	7	Carbon Plant	13	Carbon Storage	19	Soluble Oil Area
2	Stormwater Lagoons	8	Carbon Plant Emission Control System	14	Scrap Metal Recycling Area	20	North and North 2 Landfills
3	Crowley Site	9	Alumina and Raw Material Handling	15	SPL Storage Area	21	Northeast Parcel (Clark County Jail)
4	Transformer/Rectifier Yards	10	Dock	16	Bonneville Power Station	22	East Landfill
5	Potlines	11	Vanexco/Rod Mill Facilities	17	Clark County Public Utility	23	South Bank Area
6	Dike UST	12	ACPC Facilities	18	Hydraulic Oil Lagoons	24	CPU Outfall

Figure 3
Historical Site Layout
ALCOA/Evergreen Site CAP
Vancouver, Washington





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Scale in Feet

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Exhibit B
Site Diagram
ALCOA/Evergreen Site
Vancouver, Washington

Exhibit D

PUBLIC PARTICIPATION PLAN

Public Participation Activities

The public participation plan for the Alcoa/Evergreen Vancouver Aluminum Smelter Site includes the following activities:

A. A 31-day public comment period will be held for the Remedial Investigation/ Feasibility Study, Cleanup Action Plan, and Consent Decree, beginning September 11, 2008 and ending October 13, 2008.

B. A public hearing on the Consent Decree and associated documents will be held on September 30, 2008 at 7:00 P.M. at Clark College Campus, Foster Auditorium, 1933 Fort Vancouver Way, Vancouver, WA.

C. Notification to the potentially affected vicinity, which includes: the mill site. A focus sheet will be mailed to interested parties on September 11, 2008.

D. Advertising of the public comment period with a legal notice in the Columbian newspaper on September 11, 2008.

E. The public will be provided copies of the signed Consent Decree and Draft Cleanup Action Plan for review. Detailed information concerning the project is located at the Department of Ecology Industrial Section. Extra copies of the fact sheet, Consent Decree, and Cleanup Action Plan are available at the following locations:

Department of Ecology
Industrial Section
300 Desmond Drive
Lacey, WA
(360) 407-6949

Fort Vancouver Regional Library
1007 East Mill Plain Blvd.
Vancouver, WA

F. Public notice announcements will be placed in the Ecology Site Register.

G. A public notice announcement will be placed on the Ecology Internet Site.

H. A Ecology news release will be issued on September 11 informing the public of the public hearing and document review.

FINAL SUPPLEMENTAL CLEANUP ACTION PLAN AND SCHEDULE

EAST LANDFILL AREA OF CONCERN
ALCOA/EVERGREEN VANCOUVER SITE

5701 NW Lower River Road
Vancouver, Washington

June 2011

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Appendices

Appendix A East Landfill Groundwater Monitoring Summary Tables

Acronyms and Abbreviations

µg/L	micrograms per liter
Alcoa	Alcoa, Inc.
AOC	area of concern
ARAR	applicable and relevant or appropriate requirement
bgs	below ground surface
CD	Consent Decree
CFR	Code of Federal Regulations
cm	centimeter
CMP	Compliance Monitoring Plan
cy	cubic yard
DCA	disproportionate cost analysis
Ecology	Washington State Department of Ecology
GC/MS	gas chromatography/mass spectrometry
IAWP	Interim Action Work Plan
MCL	maximum contaminant level
mg/kg	milligram per kilogram
MTCA	Model Toxics Control Act
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyls
PLP	potentially liable persons
POC	point of compliance
PQL	Practical Quantification Limit
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
RI	Remedial Investigation
SCAP	Supplemental Cleanup Action Plan
SEPA	State Environmental Policy Act
Site	Alcoa Inc./Evergreen Aluminum LLC Site
TCE	trichloroethylene
TZ	transition zone
TZW	transition zone water
USC	U.S. Code
UCL	Upper Confidence Limit
WAC	Washington Administrative Code

1 INTRODUCTION

This Supplemental Cleanup Action Plan (SCAP) presents the cleanup action that will constitute the final remedy to address releases of trichloroethylene (TCE) or other contaminants above applicable cleanup levels from the East Landfill at the Alcoa Inc. (Alcoa)/Evergreen Aluminum LLC Site (Site) in Vancouver, Washington. The East Landfill groundwater is the last exposure pathway of concern that requires final action at the Site. Other East Landfill exposure pathways (e.g., direct contact with contaminated materials) were addressed by previous remedial actions completed in 2003/2004 per Agreed Order DE03 TCPIS-5737 between Alcoa and the Washington State Department of Ecology (Ecology).

The 2008 Cleanup Action Plan (Site-wide CAP; Ecology 2008) addressed the following four areas of concern (AOC): polychlorinated biphenyl (PCB) impacted sediments, the Crowley parcel, dike underground storage tanks, and the former soluble oil lagoon area. To date, all cleanup actions required by the Site-wide CAP have been certified complete by Ecology.

This SCAP was developed by Ecology from information presented in the *Remedial Investigation/Feasibility Study for the Alcoa/Evergreen Vancouver Site* (RI/FS; Anchor Environmental 2008), the 2008 Site-wide *Final Cleanup Action Plan and Schedule* (Ecology 2008), and the *Transition Zone Water Investigation Summary Report East Landfill Area of Concern* (TZW Report; Anchor QEA 2010). It was prepared in accordance with the requirements of the Model Toxics Control Act (MTCA), Chapter 70.105D Revised Code of Washington (RCW), administered by Ecology under the MTCA Cleanup Regulation, Chapter 173-340 Washington Administrative Code (WAC).

The SCAP was available to the public for review and comment from October 5, 2010 to December 6, 2010. At the end of the public comment period, Ecology carefully considered concerns expressed regarding the planned remedial action for the East Landfill groundwater and issued a summary and response to the comments received. The SCAP was revised in response to public comment. The final SCAP will be implemented pursuant to an amendment to Consent Decree (CD) No. 09-2-00247-2 between Ecology and Alcoa entered in Clark County Superior Court.

The final cleanup action chosen for the East Landfill AOC consists of the landfill cover to minimize the movement of contaminants from the landfill, institutional controls to control how the land and groundwater are used, and ongoing monitoring of the groundwater to ensure the landfill cover continues to function as designed. This remedy is protective of human health and the environment. Ecology considered a variety of remedies and concluded that the selected remedy provides treatment and source removal to the maximum extent practicable. A detailed description of Ecology's selected cleanup action is provided in Section 4.

1.1 Purpose and Scope

MTCA is the primary state law that governs the cleanup of contaminated sites. MTCA regulations define the process for the investigation and cleanup of contaminated sites. MTCA regulations specify criteria for the evaluation and conduct of a cleanup action, as well as soil and groundwater standards. The cleanup action must protect human health and the environment, meet state environmental standards and regulations in other laws that apply, and provide for monitoring to confirm compliance with Site cleanup standards. Specifically, Ecology has determined that WAC 173-303 (Dangerous Waste Regulations), WAC 173-350 (Solid Waste Handling Standards), RCW 90.48 (Water Pollution Control), and RCW 43.21C (State Environmental Policy) are applicable to the East Landfill AOC. Additionally, WAC 173-160 (Minimum Standards for Construction and Maintenance of Wells) is a relevant and appropriate regulation if new wells are required at the East Landfill AOC.

This SCAP outlines the steps and procedures for conducting the environmental cleanup of the East Landfill AOC consistent with MTCA. Consistent with the requirements of WAC 173-340-380, this document provides the following information:

- A general description of the proposed cleanup action developed in accordance with WAC 173-340-350 through -390, including any required institutional controls (Section 4)
- A summary of the types, levels, and amounts of hazardous substances remaining on a site and the measures that will be used to prevent migration and contact with those substances (Section 4)
- A preliminary determination by Ecology that the proposed cleanup action will comply with WAC 173-340-360 describing how cleanup actions are selected (Section 1.3)
- A summary for the rationale for selecting the proposed alternative and a brief summary of other cleanup action alternatives evaluated (Section 5)
- Cleanup standards for each chemical of concern and affected medium (Section 3)
- The schedule for implementation of the cleanup action plan (Section 6)
- Applicable state and federal laws (Section 3)

Pursuant to WAC 173-340-710(9) (e), Alcoa has the continuing obligation to determine whether permits, approvals, or other substantive requirements are required to implement the remedy. In the event that Ecology or Alcoa become aware of additional permits, approvals, or substantive requirements that apply to the remedial action, each party shall promptly notify the other parties of this knowledge. Ecology shall make the final determination on the application of any additional substantive requirements at the Site.

1.2 Applicability

The cleanup levels and actions presented in this document are site-specific and should not be considered as setting precedent for other similar sites. Potentially Liable Persons (PLPs)

cleaning up sites independently, without Ecology oversight, may not cite numerical values of cleanup levels specified in this document as justification for cleanup levels in other unrelated sites. PLPs that are cleaning up other sites under Ecology oversight must base cleanup levels and cleanup standards on site-specific regulatory considerations and not on numerical values contained in this SCAP.

1.3 Declaration

In accordance with WAC 173-340-360(2) (a), the selected cleanup actions meet the threshold requirements, are protective of human health and the environment, comply with applicable state and federal laws, and provide for compliance monitoring. Furthermore, the selected remedy is consistent with the preference of the State of Washington as stated in RCW 70.105D.030 (1) (b) for permanent cleanup solutions.

The selected remedy for surface water and groundwater complies with cleanup standards for TCE and vinyl chloride, provides for adequate compliance monitoring and complies with state and federal laws governing cleanup activities. Groundwater at or near the East Landfill AOC is affected by the contaminants originating from the East Landfill. Water treatment technologies using groundwater pump and treat systems and reactive barriers were examined and were not practical for this Site. Groundwater natural attenuation, monitoring, source control (capping), and institutional controls are the chosen remediation strategies for the Site.

1.4 Administrative Record

The documents used to make the decisions discussed in this SCAP are part of the administrative record for the Site. The entire administrative record for the Site is available for public review by appointment at Ecology's Industrial Section in Lacey, Washington. To review or obtain copies of the above documents, contact Mr. Paul Skyllingstad, Ecology's Site Manager at (360) 407-6949.

2 SITE BACKGROUND

This section of the SCAP describes background information and Site conditions relevant to the cleanup of the East Landfill AOC. A detailed description of the Alcoa historical Site use, history, and prior cleanup actions are found in Sections 2.2 to 2.4 of the Site-wide CAP (Ecology 2008).

2.1 Site Location and Ownership

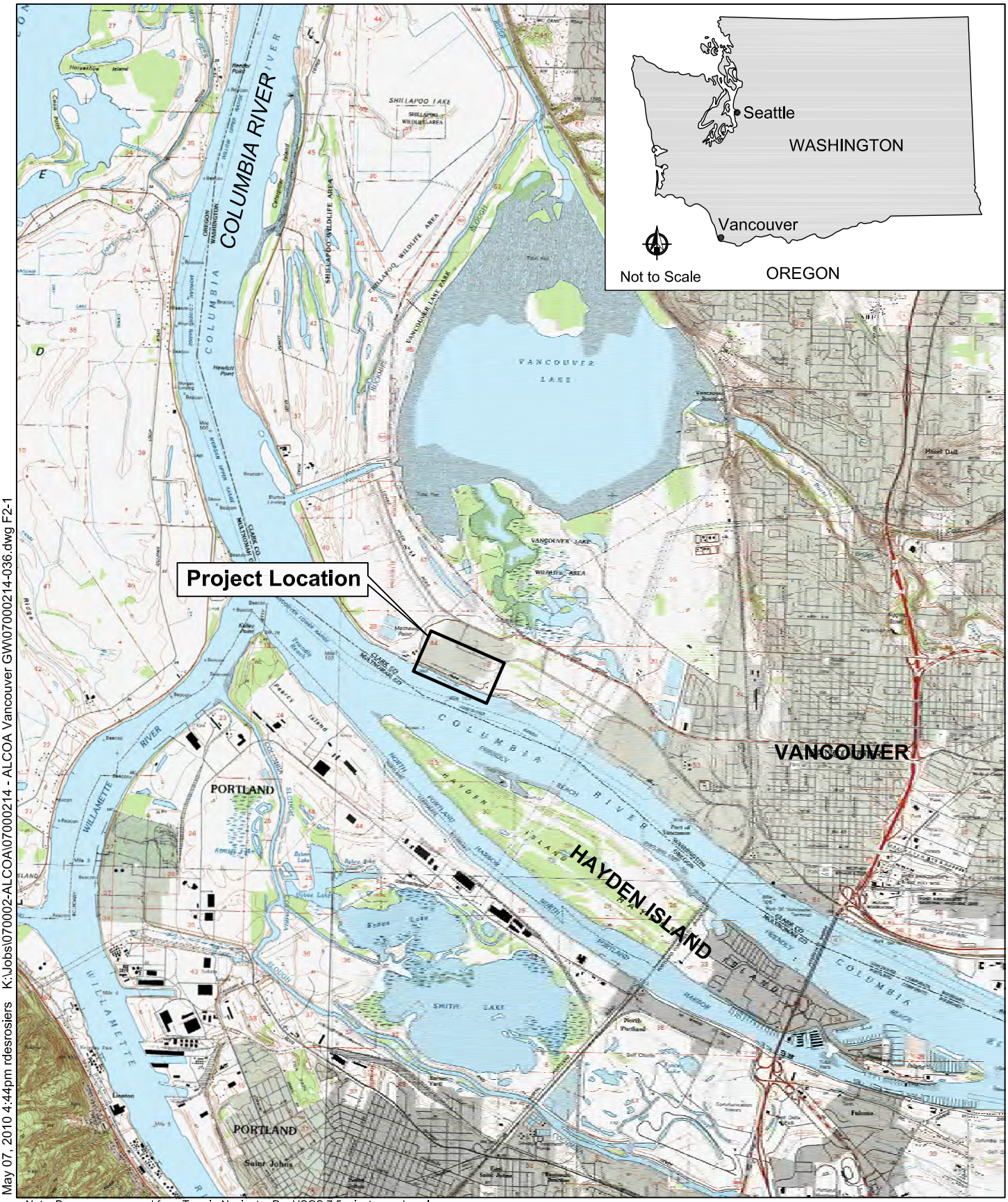
The Site is located on NW Lower River Road on the northern shore of the Columbia River at River Mile 103.3 in Clark County. It is approximately 3 miles northwest of downtown Vancouver, Washington, and approximately 3 miles west of Interstate 5. The operating facilities, which were demolished in 2008 and 2009, covered approximately 208 acres of industrial property. The Site is now owned by the Port of Vancouver, is used as a bulk material handling facility, and is bordered on the north by NW Lower River Road, on the east by the existing Port of Vancouver terminal, on the south by the Columbia River, and on the west by multiple industrial property owners. The current land uses in the general vicinity of the property are mixed use industrial and agricultural. The project location and surrounding area are shown in Figure 2-1.

The East Landfill is located in the southeast corner of the Site and consists of approximately 5 acres of land adjacent to the Columbia River. Figure 2-2 illustrates the location of the East Landfill AOC in relation to the Site.

2.2 Site Hydrogeology

The 2008 RI/FS (Anchor 2008) and TZW Report (Anchor QEA 2010) provide a detailed description of the hydrogeology of the Site, including the East Landfill area. Four upland hydrogeological zones were identified for the Site: the Shallow, Intermediate, Deep, and Aquifer.[1]

[1]This unit was previously identified as the Troutdale Formation but has subsequently been redefined by the U.S. Geological Survey as the Unconsolidated Sedimentary Aquifer. The Troutdale Formation lies below the Unconsolidated Sedimentary Aquifer (Swanson et al. 1993).



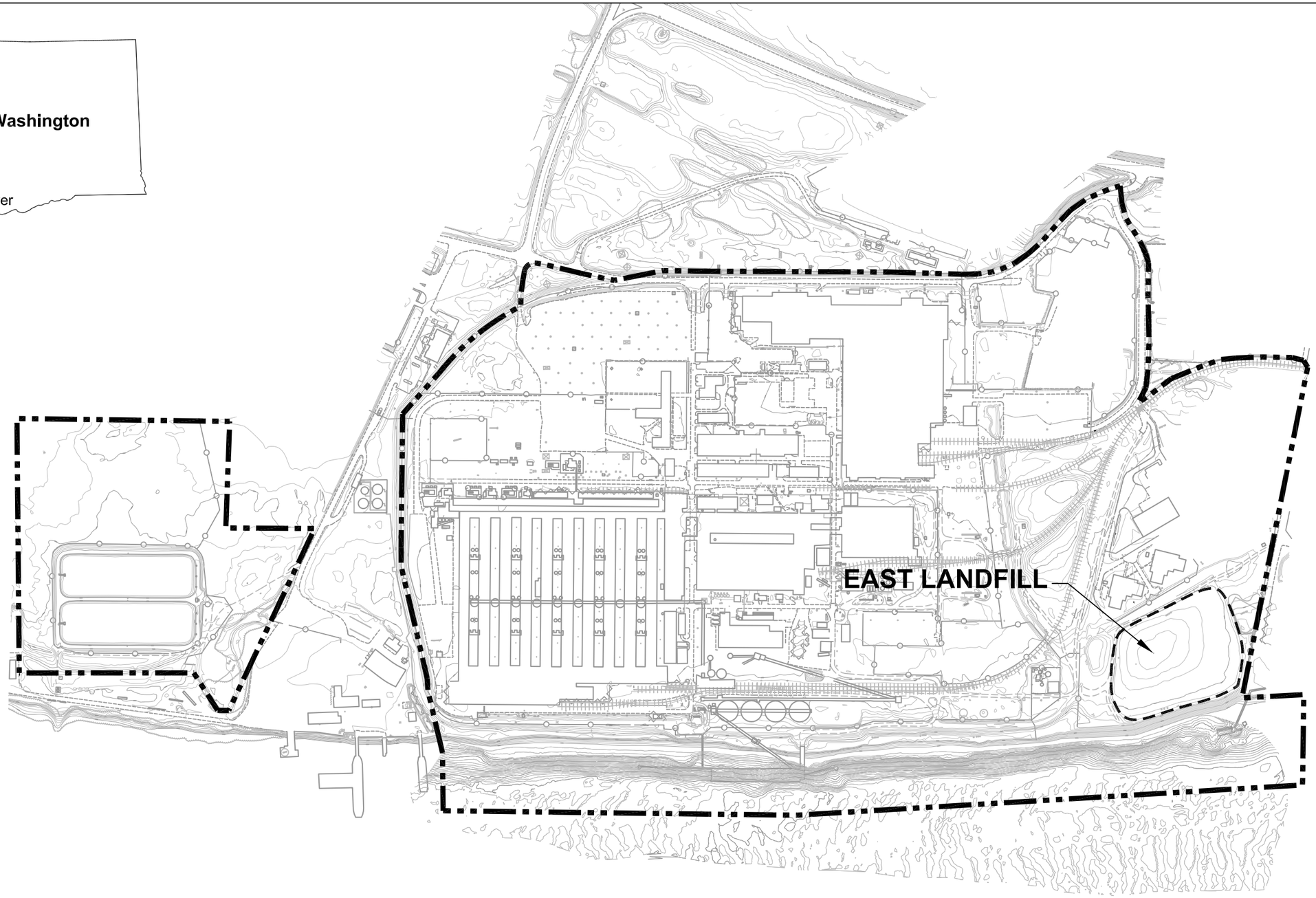
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Note: Base map prepared from Terrain Navigator Pro USGS 7.5 minute quadrangle maps of Linnton, Sauvie Island, and Vancouver, Washington, and Portland, Oregon.

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Scale in Miles

Figure 2-1
Vicinity Map
East Landfill AOC SCAP
Vancouver, Washington





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Scale in Feet

Site Boundary

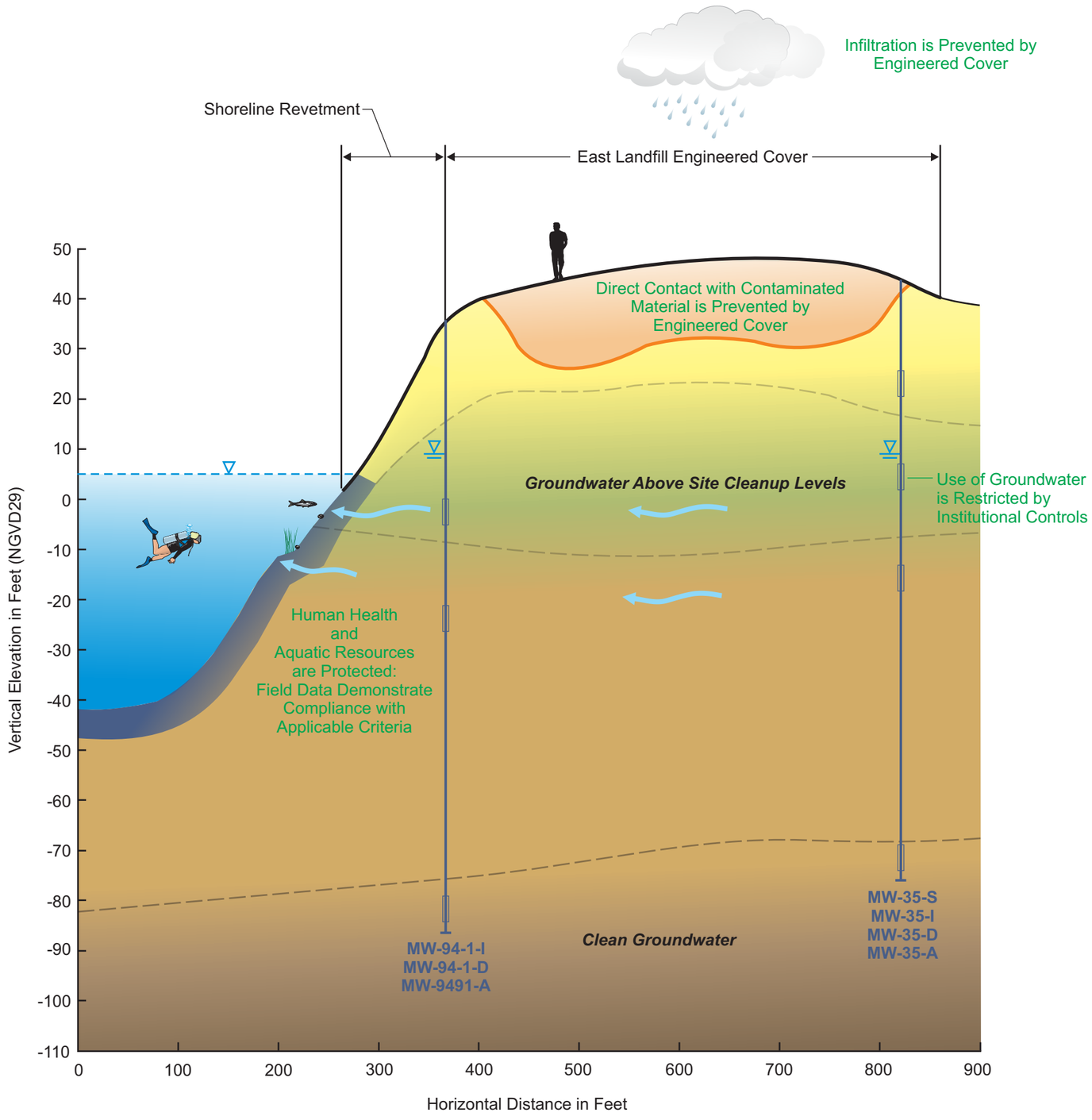
East Landfill

Figure 2-2
Location of East Landfill at the Site
East Landfill AOC SCAP
Vancouver, Washington

The Shallow Zone consists primarily of fill and is the uppermost zone in the upland portion of the Site. The Shallow Zone is recharged primarily by infiltration of precipitation. The closed East Landfill waste material is within the Shallow Zone, as shown on the Site model on Figure 2-3. The engineered cap placed over the East Landfill waste material prevents infiltration of precipitation into the waste. Groundwater levels in monitoring wells screened in the Shallow Zone fluctuate widely from the wet season to the dry season and several of the area Shallow Zone monitoring wells dry up during late summer and fall. The Shallow Zone is not hydraulically influenced by Columbia River fluctuations. Groundwater in the Shallow Zone migrates downward into the underlying Intermediate Zone.

The Intermediate, Deep, and Aquifer Zones are alluvial sands, silts, and clays that were discussed in the 2008 RI/FS based on their hydrogeologic properties. These zones are shown on the Site model on Figure 2-3. All three zones are directly connected to the Columbia River. There are three well clusters located immediately adjacent to the East Landfill that are screened within each of the three water-bearing zones (refer to Figure 2-4). Groundwater in the Intermediate, Deep, and Aquifer Zones is recharged primarily by lateral inflow from upland off-site recharge zones, to a lesser degree by downward infiltration of groundwater from shallower zones, and to a minor extent by Columbia River water during high river tides and seasonal flooding. All three zones discharge on a net daily basis directly to the river in the vicinity of the East Landfill.

The subsurface profiles also show the River Alluvium that underlies the Columbia River riverbed. Groundwater discharges from the Intermediate, Deep, and Aquifer Zones into the river through the River Alluvium. The zone of sediment porewater located just below the mudline that is influenced both by groundwater discharging from the uplands and by river water that infiltrates into the sediments is defined as the Transition Zone (TZ). River water periodically infiltrates into the transition zone water (TZW) under the hydraulic influences caused by river tidal fluctuations and by advection induced by river currents near the mudline. TZW is generally defined as the zone where groundwater and surface water are intermixed. The depth of mixing in the TZ is not constant and fluctuates depending upon many factors, including sediment permeability, river stage, and groundwater levels.



MW-35-S — Monitoring Well Designation
— Screened Interval
— Bottom of Well

Geologic Unit Descriptions

- Shallow Fill - Fill material consisting of sand with wood; seasonally dry
- Intermediate Zone - Silt and sandy silt; uppermost persistent groundwater-bearing unit
- Deep Zone - Fine to medium-grained sand
- Aquifer Zone - Sandy gravel, medium sand to cobble-sized gravel
- River Alluvium - Active channel sediments consisting of sand, silt, and clay
- Average River Stage of the Columbia River (in feet, NGVD)
- Average Groundwater Level (observed in 2008)
- Approximate Boundary of Landfill Waste

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Figure 2-3
East Landfill Exposure Pathways and Site Controls
East Landfill Groundwater AOC CAP
Vancouver, Washington

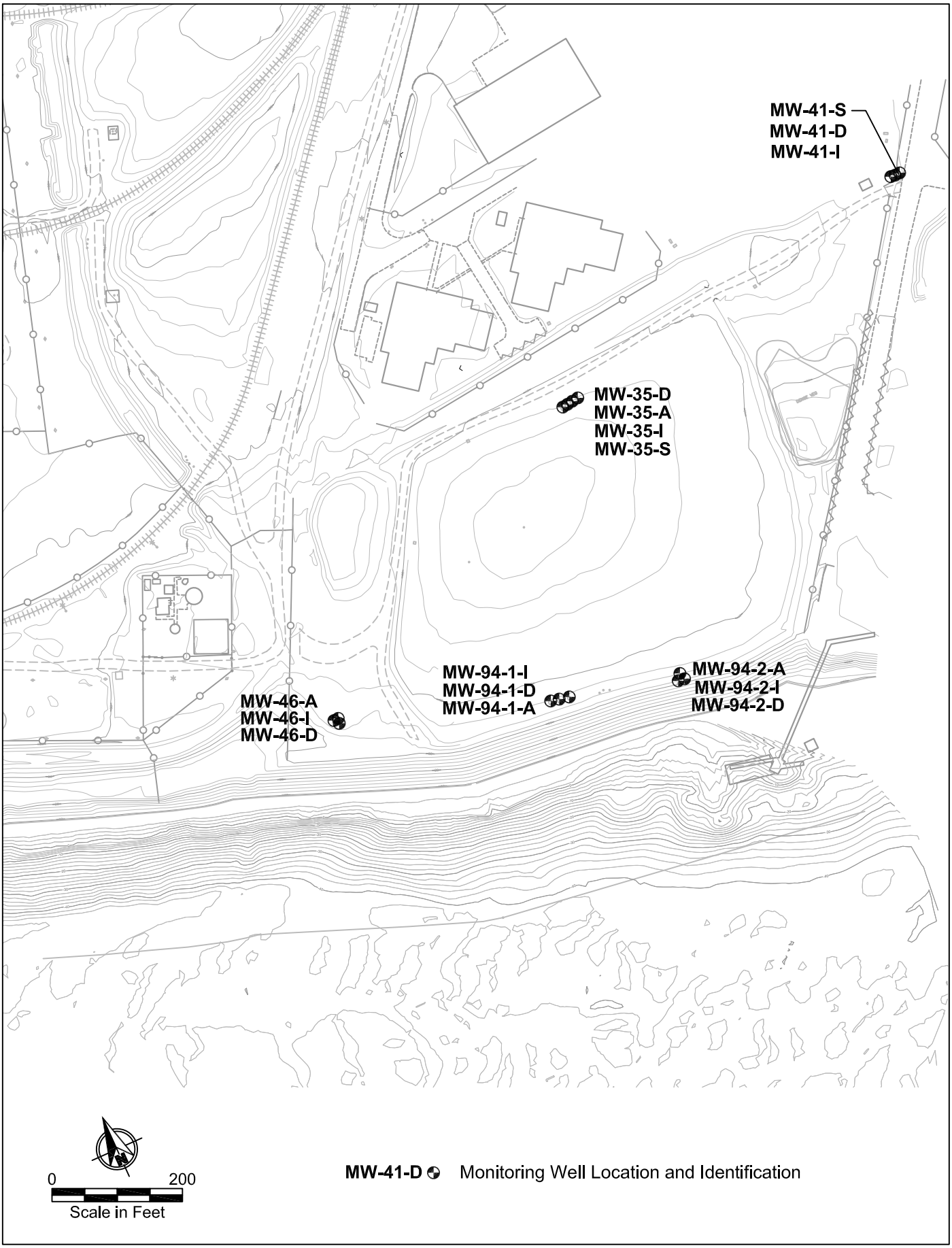


Figure 2-4
East Landfill Groundwater Monitoring Network
East Landfill AOC SCAP
Vancouver, Washington

2.3 Nature and Extent of Contamination

During the 1940s, the area now beneath the East Landfill was filled with dredge sands from the Columbia River. During early plant operations, the East Landfill was filled with miscellaneous industrial solid waste, construction debris, steel wire, cable, metal piping, alumina, scrap aluminum, and carbon bake oven furnace brick. Investigations of the East Landfill indicated that these materials were located in the top 15 to 20 feet of the soil and had a total volume of approximately 150,000 cubic yards (cy).

In 1990, Ecology issued an Agreed Order (DE90-I053) requiring Alcoa to conduct a focused Remedial Investigation (RI) with the purpose of determining the sources of TCE in Site groundwater. Hart Crowser prepared a RI work plan (Hart Crowser 1990), which served as the scope of work required by the 1990 Agreed Order. The goal of the RI was to assess the nature and extent of TCE in soil and groundwater based on laboratory analysis of soil from test pits and groundwater samples from wells. Accordingly, Hart Crowser conducted three field investigations on behalf of Alcoa from 1991 to 1993. These investigations characterized the horizontal and vertical extent of TCE-impacted media through the installation of additional monitoring wells, excavation of test pits, advancement of borings, and collection of groundwater and soil samples.

Soil samples collected from the East Landfill indicated the presence of lead, cyanide, fluoride, PCBs, TCE (and its degradation products), and polycyclic aromatic hydrocarbons (PAHs). Groundwater samples also identified TCE (and its degradation products) and PAHs. At the time, concentrations of TCE and PAHs exceeded MTCA Method A industrial site soil cleanup levels and the MTCA Method A groundwater cleanup levels within the footprint of the landfill. The RI concluded that the East Landfill contained approximately 150,000 cy of waste materials and that an estimated 57,000 cy of this material likely exceeded the then-current MTCA industrial site soil cleanup levels for TCE (0.03 milligrams per kilogram [mg/kg]), PAHs (20 mg/kg), and PCBs (10 mg/kg) (Ecology 2003).

In 2003, Ecology issued a second Agreed Order (DE03 TCPIS-5737) and an Interim Action Work Plan (IAWP) pertaining to the East Landfill requiring Alcoa to take remedial action to consolidate and isolate waste and contaminated soil beneath an engineered cap. The 2003 Agreed Order also required Alcoa to armor the shoreline adjacent to the East Landfill to ensure the long-term stability of the riverbank and engineered cap. Work commenced on the project in late 2003 and was completed in 2004. The results of groundwater monitoring of TCE and other volatile organic compounds since the completion of source control measures at the East Landfill demonstrate the following:

- The East Landfill waste is no longer a significant source of contamination to groundwater.
- The concentrations and mass of TCE in groundwater are reduced. Residual TCE is degrading into vinyl chloride and ultimately to non-toxic chemicals.

TCE concentration in groundwater in the Intermediate Zone has dropped an estimated 88% since 2001, and several wells that previously contained TCE above the cleanup levels are now in compliance with MTCA Method A groundwater cleanup levels. Since 2008, one well interval (MW-94-1-I) exceeded the TCE Method A cleanup level. In the MW-94-1 well cluster, from 1994 to 2010, concentrations of TCE dropped from 4,200 micrograms per liter (µg/L) to below 500 µg/L in the Intermediate Zone and from 2,400 µg/L to below 5 µg/L in the Deep Zone. The monitoring data for vinyl chloride demonstrate a general downward trend in concentration; however, as vinyl chloride is a degradation product of TCE, some short-term increases in vinyl chloride concentrations occurred during the monitoring time period. Vinyl chloride levels decreased from 660 µg/L to levels below 100 µg/L in two monitoring wells that border the Site adjacent to the Columbia River. Vinyl chloride concentrations are expected to fluctuate throughout the degradation process.

To characterize groundwater as it flows from the East Landfill toward the riverbed, Alcoa initiated a TZW investigation in December of 2008. TZW is defined as the sediment porewater just below the mudline that is influenced both by groundwater discharging from the uplands and by river water that infiltrates into the sediments. The field investigation was initiated in December 2008 and was completed in January 2009.

The study consisted of a series of field measurements to characterize the groundwater discharge zone adjacent to the East Landfill and to subsequently measure concentrations of TCE and its degradation products in porewater and surface water. The goal of the study was to collect data to determine if various surface water criteria are exceeded at points along the groundwater to surface water pathway. The results indicated that sediment porewater concentrations were below chronic surface water criteria for protection of aquatic organisms, but further monitoring is necessary to determine if surface water concentrations at the ground water/surface water interface are below the most restrictive surface water criteria protective of human health. Details of the study are presented in the TZW Report (Anchor QEA 2010).

The 2008-2009 TWZ investigation included the following activities:

- Collection of real time water levels in groundwater and the Columbia River.
- Determination of groundwater discharge rates adjacent to the East Landfill.
- Collection of discrete groundwater samples using Trident probes in the sediments at discharge zones along the East Landfill Columbia River boundary.
- Collection of groundwater using passive samplers called peepers at three discharge zones.
- Collection of sediment samples at the discharge zone locations.
- Collection of surface water samples in the Columbia River.

The water and sediment samples were analyzed for TCE and vinyl chloride. A Trident probe sampler was used to determine temperature and conductivity at 33 stations across the Site.

Additional Trident probe samplers were used at ten sample stations to collect samples at 14 inches below the mudline in areas of groundwater discharge. Three passive peeper samplers were also placed in areas of groundwater discharge for a period of 30 days.

The Trident probe samples provided an indication of groundwater conditions at 14 inches below the mudline at the time of the sample event. The samples showed levels of TCE and vinyl chloride ranging from non-detect to 110 µg/L and from 0.07 to 400 µg/L, respectively. Peeper samples were collected at 0 to 5 inches and 5 to 10 inches below the mudline. The peeper samples showed that TCE levels in groundwater over 30-day equilibrium conditions were non-detect and vinyl chloride levels ranged from non-detect to 0.26 µg/L at 0 to 5 inches below the mudline and from non-detect to 12 µg/L at 5 to10 inches below the mudline. Surface water sampling showed no TCE in the water column at 0 to 6 inches above the mudline. Vinyl chloride levels in the surface water samples were also not detected except for one sample collected above a discharge area. This sample showed vinyl chloride at 0.046 µg/L, which is above the surface water cleanup level.

2.4 East Landfill AOC Conceptual Site Model

The current Site conditions and conceptual site model are based on a detailed review of the nature and extent of contamination on the Site, the exposure pathways and receptors, and fate and transport processes of various Site contaminants in the environment. Figure 2-3 graphically depicts the various exposure pathways and the controls implemented, as required, to protect human health and the environment.

Exposure through direct contact with contaminated soil and waste has been controlled through the construction of the engineered cap. Exposure to the remaining TCE and vinyl chloride in groundwater beneath the landfill is significantly limited. Per the 2003 Agreed Order, deed restrictions prohibit extraction of groundwater and require long-term maintenance of the engineered cap. In addition, WAC 173-160-171 (Minimum Standards for Construction and Maintenance of Wells) prohibits installation of a drinking water well within 1,000 feet of an established landfill. Therefore, the potential direct exposure to affected Site groundwater is limited to personnel performing long-term compliance monitoring. These personnel are professionals trained in hazardous substance awareness and are provided with supplemental guidance prior to entering the Site in the form of a Site-specific Health and Safety Plan.

In terms of overall risk to human health and the environment from the other remaining exposure pathway (i.e., groundwater to surface water), the following observations can be made:

- All observed concentrations of TCE in the TZW are below the surface water chronic criterion (200 µg/L) derived for protection of aquatic organisms present in the biologically active zone (0 to 4 inches below the mudline).

- All of the observed concentrations of TCE in surface water are below the most restrictive recommended surface water criterion (2.5 μg/L) for protection of human health with respect to direct ingestion of water and aquatic organisms.[2]
- All observed concentrations of vinyl chloride in the TZW are below the surface water chronic criterion (960 μg/L) derived for the protection of aquatic organisms present in the biologically active zone (0 to 4 inches below the mudline).
- Fifteen of sixteen observed concentrations of vinyl chloride in surface water (0 to 6 inches above the mudline) are below the Clean Water Act Section 304(a) surface water standard (0.025 μg/L) for protection of human health with respect to direct ingestion of water and aquatic organisms[2]. One sample exceeded this criterion. The concentration of vinyl chloride in this sample was 0.046 μg/L. The 95th percentile upper confidence limit (UCL) for this data set is 0.017 μg/L.

[2] These criteria are based on drinking 2 liters per day of water and consuming 54 grams per day of fish.

3 CLEANUP REQUIREMENTS

This section of the SCAP describes the cleanup requirements that must be met by the remediation of the East Landfill AOC. Consistent with MTCA requirements, this section designates cleanup standards for Site contaminants for the respective affected media and identifies all Applicable or Relevant and Appropriate Requirements (ARARs) including local, state, and federal laws.

3.1 Remedial Action Objectives

The general remedial action objectives (RAOs) for the East Landfill AOC include:

1. Protection of human health and the environment by preventing direct contact with contaminants of concern in impacted media (i.e., soil, waste, raw materials, sediment, and groundwater).
2. Protection of groundwater resources by reducing or controlling migration of contaminant-bearing water from landfill waste and impacted soil to underlying groundwater.
3. Protection of human health and the environment from potential exposure due to ingestion of Site groundwater.
4. Ensuring quality of current and future beneficial uses of surface water resources through groundwater monitoring.

As discussed in Section 2.4, exposure to contaminants at the East Landfill AOC are controlled or prevented by the engineered cap described in the 2003 Interim Action Work Plan required by Agreed Order No. DE 03 TCPIS-5737 (Ecology 2003). Effectiveness of the engineered cap has been demonstrated through post-cleanup monitoring and supplemental investigations. The RAOs listed above include the long-term goals for protection of human health and the environment. As discussed in Section 4, long-term monitoring and maintenance and institutional controls are necessary to ensure these goals continue to be met in the future.

3.2 Cleanup Standards and MTCA Procedures

MTCA regulations provide three methods for determining cleanup standards for a contaminated site. The standards provide a uniform, state-wide approach to cleanup that can be applied on a site-by-site basis. The two primary components of the standards—cleanup levels and points of compliance (POC)—must be established for each site. Cleanup levels are established at a level where a particular hazardous substance does not threaten human health or the environment. POCs designate the location on the site where the cleanup levels must be met.

Cleanup levels for all Site media were developed following procedures described in the MTCA regulations. The sections below describe the methodology used to develop cleanup levels based on MTCA Method A procedures and ARARs.

The MTCA Cleanup Regulations (Sections 173-340-720, -730, and -740 WAC) establish procedures to develop cleanup levels for groundwater and soil. The MTCA Method A procedure is applicable to sites with relatively few hazardous substances. For this Site, cleanup levels based on this method for groundwater were derived through selection of the most stringent concentration presented in the following sources:

- Concentrations listed in WAC Tables 173-720-1, -740-1, and -745-1.
- Concentrations established under ARARs.
- Concentrations protective of the environment and surface water beneficial uses.

3.3 Applicable or Relevant and Appropriate Requirements

Many environmental laws may apply to a cleanup action. In addition to meeting MTCA cleanup standards as described above, a cleanup action must meet cleanup standards and environmental standards set in applicable laws. The cleanup action must also comply with elements of other applicable environmental reviews and permitting requirements. Although a cleanup action performed under formal MTCA authorities (e.g., a consent decree) would be exempt from the procedural requirements of certain state and local environmental laws, the action must nevertheless comply with the substantive requirements of such laws (RCW70.105D.090; WAC173-340-710). Potentially applicable federal, state, and local laws that may impact the implementation of final remedial actions at the East Landfill AOC are listed below.

3.3.1 Federal Requirements

Potential federal requirements are specified in several statutes, codified in the U.S. Code (USC), and regulations promulgated in the Code of Federal Regulations (CFR).

- Clean Water Act (33 USC Section 1251 et seq.; including the National Toxics Rule and National Pollutant Discharge Elimination System requirements)
- Safe Drinking Water Act (including Drinking Water Standards and Health Advisories)
- Resource Conservation and Recovery Act (RCRA)
- Federal Clean Air Act (42 USC 7401 et seq.)
- Protection of Wetlands, Executive Order 11990 (Appendix A of 40 CFR Part 6)
- National Historic Preservation Act (36 CFR 800)
- National Environmental Policy Act Review

3.3.2 Washington State and Local Requirements

MTCA (Chapter 70.105D RCW) authorized Ecology to adopt cleanup standards for remedial actions at sites where hazardous substances are present. The processes for identifying, investigating, and cleaning up these sites are defined and cleanup standards are set for groundwater, soil, surface water, and air in Chapter 173-340 WAC. In addition to MTCA, other potential state requirements are specified in several statutes, codified in the RCW, or are regulations promulgated in the WAC.

- State Environmental Policy Act (SEPA) (RCW 43.21C; WAC 197-11)
- Washington State Water Pollution Control Act (Chapter 90.48 RCW; Chapters 173-200 and 173-201A WAC)
- Washington State Shoreline Management Act (Chapter 90.58 RCW; Chapter 173-14 WAC)
- Washington State Clean Air Act (RCW 70.94; WAC 173-400, -403)
- Washington State Solid Waste Management – Reduction and Recycling Act (Chapter 70.95 RCW; Chapter 173-350 WAC)
- Washington State Hazardous Waste Management Act (Chapter 70.105 RCW; Chapter 173-303 WAC)
- Water Resources Act of 1971 (Chapter 90.54 RCW)
- State Historic Preservation Act (Chapters 27, 34, 44, and 53 RCW)
- Minimum Standards for Construction and Maintenance of Wells (Chapter 173-160 WAC)

3.4 Soil Cleanup Levels and Point of Compliance

The current and future Site use plans include industrial storage and light, medium, and heavy industrial operations, and meet the requirement of a "traditional industrial use" under the MTCA regulations (WAC 173-340-745). Thus, industrial use is the appropriate basis for development of Site-specific soil cleanup levels under MTCA. The MTCA Method A Soil Cleanup Level for Industrial Properties for TCE, 0.03 mg/kg, is based on protection of groundwater for drinking water use, using the procedures described in WAC 173-340-747(4). Establishing a cleanup level based on protection of groundwater is also protective of the soil-to-vapor pathway for volatile organic compounds (such as TCE). Direct contact with hazardous substances is prevented by the engineered cap and institutional controls, which isolate and contain the affected media. This physical barrier also prevents plants or wildlife from being exposed to contamination.

The POC for direct contact with soils extends from the ground surface to the reasonable estimated depth of potential future soil excavations (e.g., to accommodate deep foundations or similar facilities), which can extend to 15 feet below ground surface (bgs) or deeper (*see* WAC 173-340-740(6)(d)). As set forth in WAC 173-340-740(6)(f), for MTCA cleanup actions that involve containment of hazardous substances (such as the East Landfill), soil cleanup levels will

typically not be met at the standard POC in soils shallower than 15 feet bgs. In these cases, a cleanup action consisting of engineered covers, such as the East Landfill engineered cap, may be determined to comply with cleanup standards, provided that:

- The selected remedy is permanent to the maximum extent practicable using the procedures in WAC 173-340-360;
- The cleanup action is protective of human health and the environment;
- The cleanup action is demonstrated to be protective of terrestrial ecological receptors under WAC 173-340-7490 through -7494;
- Institutional controls are put in place under WAC 173-340-440 that prohibit or limit activities that could interfere with the long-term integrity of the containment system;
- Compliance monitoring under WAC 173-340-410 and periodic reviews under WAC 173-340-430 are designed to ensure the long-term integrity of the containment system; and
- The types, levels, and amount of hazardous substances remaining on-site and the measures that will be used to prevent migration and contact with those substances are specified in the cleanup action plan.

Ecology has determined that the final cleanup action (described in Section 4) meets the requirements of WAC 173-340-740(6)(f); therefore, the East Landfill AOC is in compliance with the soil cleanup standards required by this SCAP.

3.5 Groundwater Cleanup Levels and Point of Compliance

Future Site uses will continue to be industrial and there are no plans to extract water from the shallow water-bearing layers. Additionally, existing water supply regulations effectively preclude this potential exposure pathway and previous groundwater pumping studies indicate insufficient yield (less than 0.5 gallons per minute) is available to efficiently recover impacted shallow groundwater (Hart Crowser 1994). However, consistent with MTCA procedures for determining potable water sources, potential drinking water uses were considered in the development of groundwater cleanup levels. Because the East Landfill AOC has few groundwater contaminants, Method A was used to develop site-specific cleanup levels.

Final cleanup levels were selected as the most stringent of the Method A WAC 173-720-1 table values and ARARs. The primary ARARs for groundwater in this case include the Federal Drinking Water Standards and Health Advisories (EPA 2002) and the State Primary Drinking Water Regulations (WAC 246-290). Because of the proximity of the Site to the Columbia River, the National Recommended Water Quality Criteria (EPA 2006), which establishes criteria for protection of surface water resources, is also an ARAR. For TCE and vinyl chloride, the human health surface water criteria were determined to be the most stringent. Surface water data collected were evaluated using standard MTCA compliance methods and appear to be below the

most restrictive recommended criteria based on conditions greater than the reasonable maximum exposure at the Site. Table 3-1 lists the screening levels relevant to the East Landfill AOC.

Table 3-1
Relevant Screening Levels and Criteria

Chemical of Potential Concern	Relevant Screening Level or Criterion	Protection Basis
TCE	1 µg/L	Practical Quantification Limit
	5 µg/L	MTCA Method A Standard Value and Federal/State Drinking Water MCL*
	2.5 µg/L	Protection of human health with respect to direct ingestion of water and aquatic organisms Clean Water Act Section 304a
	2.7 µg/L	Protection of human health with respect to direct ingestion of water and aquatic organisms 40 CFR 131.36
	30 µg/L	Protection of human health with respect to direct ingestion of aquatic organisms only
	200 µg/L	Surface water criteria for protection of aquatic organisms
Vinyl Chloride	0.02 µg/L	Practical Quantification Limit
	2 µg/L	Federal Drinking Water MCL
	0.2 µg/L	MTCA Method A Standard Value and State Drinking Water MCL
	0.025 µg/L	Protection of human health with respect to direct ingestion of water and aquatic organisms Clean Water Act Section 304a
	2.0 µg/L	Protection of human health with respect to direct ingestion of water and aquatic organisms 40 CFR 131.36
	2.4 µg/L	Protection of human health with respect to direct ingestion of aquatic organisms only
	930 µg/L	Surface water criteria for protection of aquatic organisms

* MCL = maximum contaminant level

As defined in the MTCA regulations, the standard point of compliance for groundwater extends from the uppermost level of the saturated zone to the lowest depth that could be potentially affected by Site releases (WAC 173-340-720(8)). However, site-specific conditional POCs for groundwater cleanup levels may also be considered. For the East Landfill AOC, an engineered cap and institutional controls have been implemented to prevent exposure to groundwater beneath the landfill. Therefore, it is appropriate to demonstrate compliance with groundwater cleanup levels based on drinking water maximum contaminant levels (MCLs) at conditional POC wells located along the shoreline, down gradient from the respective source areas in accordance with WAC 173-340-720(8)(c). Table 3-2 lists the cleanup levels and point of compliance for groundwater.

Table 3-2
Groundwater Cleanup Levels and Points of Compliance

Chemical of Concern	Groundwater Cleanup Level	Protection Basis	Point of Compliance
TCE	5 µg/L	Human Health: MTCA Method A Standard Value and State MCL	Shoreline Monitoring Wells
TCE	200 µg/L	Aquatic Resources	Biologically Active Zone in the Sediment at the Groundwater/Surface Water Interface
Vinyl Chloride	0.2 µg/L	Human Health: MTCA Method A Standard Value and State MCL	Shoreline Monitoring Wells
Vinyl Chloride	930 µg/L	Aquatic Resources	Biologically Active Zone in the Sediment at the Groundwater/Surface Water Interface

3.6 Surface Water Cleanup Levels and Point of Compliance

In accordance with WAC 173-340-730, surface water cleanup levels must be at least as stringent as the criteria established under WAC 173-201A, Section 304 of the Federal Clean Water Act, and the National Toxics Rule (40 CFR Part 131). In addition, for surface water resources that may potentially be used as a drinking water source, criteria set forth in WAC 173-340-720 of MTCA must also be considered. For TCE and vinyl chloride, Section 304 of the Federal Clean Water Act Water Quality Criteria is the most stringent surface water criteria.

In the MTCA regulations, the point of compliance for surface water cleanup levels is the point or points at which hazardous substances are released to surface waters of the state [WAC 173-340-730(6)]. At this Site, the POC will be measured in the water column as close as technically possible to the groundwater/ surface water interface in the Columbia River without disturbing the sediment. Table 3-3 lists the cleanup levels and point of compliance for surface water.

Table 3-3
Surface Water Cleanup Levels and Points of Compliance

Chemical of Concern	Surface Water Cleanup Level	Protection Basis	Point of Compliance
TCE	2.5 µg/L	Human Health: MTCA Method A Standard Value and CWA Section 304a	At the groundwater/surface water interface in the river
Vinyl Chloride	0.025 µg/L	Human Health: MTCA Method A Standard Value and CWA Section 304a	At the groundwater/surface water interface in the river

4 PROPOSED FINAL CLEANUP ACTION

This section presents the proposed final cleanup action for the East Landfill AOC, discusses consistency with future Site uses, and outlines the long-term requirements for monitoring and institutional controls.

4.1 East Landfill AOC Final Cleanup Action

The final cleanup action for the East Landfill AOC consists of source control through contaminant isolation (i.e., completed in 2004 as an interim action), natural attenuation of residually contaminated media (i.e., groundwater), and long-term groundwater monitoring until cleanup standards are achieved.

Source control activities were completed in 2004 under the direction of Ecology by the 2003 Agreed Order and IAWP. The source control activities included the engineered cap and shoreline stabilization, which prevents contact with hazardous substances contained within the landfill and is selected as a primary component of the final remediation action for the East Landfill. Per the IAWP, approximately 150,000 cy of waste were consolidated within the East Landfill. Approximately half of that material contains concentrations of TCE, PAHs, or PCBs above MTCA Method A cleanup levels for industrial properties.

The interim action source control was designed to be consistent with the final cleanup for the Site (Ecology 2003). Per the requirements of WAC 173-340-430, an interim action may constitute the cleanup action for a site if it is subsequently shown to comply with WAC 173-340-350 through -390. Section 5 summarizes the studies that document compliance with these sections of the MTCA regulation.

Since construction of the engineered cap, exposure to contaminated media by direct contact has been eliminated and concentrations of TCE in groundwater have been significantly reduced and continue to decline. Institutional controls, as discussed in Section 4.4, are a requirement of the final cleanup action to ensure the long-term integrity of the landfill cap. The presence of TCE degradation products (e.g., vinyl chloride) in groundwater demonstrates that natural attenuation is an ongoing process. Natural attenuation will be monitored over the restoration timeframe necessary to meet groundwater cleanup standards at the Site.

The projected restoration timeframe for TCE in all groundwater to be below the 5 µg/L cleanup level is approximately 35 years (Anchor 2008). Once monitoring demonstrates that concentrations of TCE and vinyl chloride have reached cleanup levels (*see* Table 3-2), the groundwater restriction will be lifted, and the respective section in the title notice will be modified. No additional remedial action shall be required for the East Landfill AOC when monitoring demonstrates that the engineered cap is functioning as designed (subject to the reopeners in Section XVIII (B) of the Consent Decree (Covenant Not to Sue)). Groundwater

compliance monitoring will be performed in accordance with Section 4.3. Performance of the cap will be evaluated using the results from down gradient monitoring well clusters (i.e., MW 94-1, MW 94-2).

Preliminary TZW and surface water column sampling performed adjacent to the East Landfill produced observed concentrations of TCE in the adjacent TZW and surface water below the TZW groundwater and surface water cleanup level established for the Site. For vinyl chloride, 15 of 16 surface water samples and all TZW groundwater samples collected to date were below cleanup levels established for the Site. TZW and surface water monitoring will be used to demonstrate compliance with the groundwater and surface water cleanup levels at the applicable POC. If this compliance monitoring demonstrates that cleanup levels for groundwater and surface water have been achieved, further monitoring will not be necessary. If this monitoring demonstrates that cleanup levels have not been achieved, compliance monitoring will continue until these levels are met.

Because of the risk to divers collecting samples in the river, it is preferable to establish a conditional POC for long-term monitoring at the shoreline wells. After successful completion of TZW compliance monitoring described in Section 4.3, Ecology may approve a conditional POC in the shoreline wells based on the observed correlation between TCE and vinyl chloride levels at the shoreline wells and the groundwater/surface water interface. If a correlation between the shoreline wells and the groundwater/ surface water interface cannot be demonstrated, additional TZW monitoring may be required. The frequency and type of compliance monitoring will be determined after the additional TZW monitoring has been completed.

The source control and monitored natural attenuation alternative was chosen because it achieves the RAOs, is permanent to the maximum extent practicable, and provides for a reasonable restoration timeframe as determined under WAC 173-340-360. It is consistent with the expectations set forth in MTCA for the development of cleanup alternatives. Overall, this alternative addresses potential risks to human health and the environment, reduces the restoration timeframe to the extent practicable, provides for use of natural processes to reduce concentrations and toxicity of contaminants of concern, and provides for monitoring prior to final compliance with cleanup levels throughout the Site.

Additional details of the rationale for selection of this alternative are provided in Section 5.

4.2 Consistency with Site Use

Ecology understands that the Port of Vancouver plans to use the East Landfill area for light cargo storage (e.g., light-wheeled vehicles). In order to support this site use, the upper layer of the engineered cap shall be expanded and modified to maximize the working area and to resist regular vehicle traffic and other erosive forces associated with the proposed development. Plans describing the grading modifications shall be submitted to Ecology for approval prior to

modification of the landfill cap. The plans shall also indicate what other improvements (e.g., fencing and drainage) are necessary and how the geosynthetic liner within the engineered cap will be protected during construction.

4.3 Monitoring

The Site-wide CAP (Ecology 2008) sets forth the long-term monitoring and maintenance for all Site AOCs and incorporates the groundwater monitoring requirements from Alcoa's July 2001 *Groundwater Monitoring Plan for the Former Vancouver Operations* (IT Corporation 2001) and Alcoa's June 2006 *Groundwater Monitoring and East Landfill Maintenance Plan* (Anchor 2006). These two plans ensure performance and compliance with WAC 173-340-410 at the East Landfill AOC.

Groundwater compliance monitoring shall be based upon cleanup standards identified in Table 3-2 to determine when long-term cleanup goals are met. Compliance with groundwater standards based on MCLs will be evaluated at each of the wells noted in Table 4-1, which is a subset of the plan established in the 2008 Site-wide CAP.

Table 4-1
East Landfill Groundwater Monitoring Well List and Schedule

Well Identification	Zone	Analytical Frequency	
		PAHs/PCBs	Volatile Organic Compounds
MW-35	S	Annual	Quarterly
MW-35	I	Annual	Quarterly
MW-35	D	Annual	Quarterly
MW-35	A	Annual	Quarterly
MW-41	S	Annual	Quarterly
MW-41	I	Annual	Quarterly
MW-41	D	Annual	Quarterly
MW-46	I	Annual	Quarterly
MW-46	D	Annual	Quarterly
MW-46	A	Annual	Quarterly
MW-94-1	I	Annual	Quarterly
MW-94-1	D	Annual	Quarterly
MW-94-1	A	Annual	Quarterly
MW-94-2	I	Annual	Quarterly
MW-94-2	D	Annual	Quarterly
MW-94-2	A	Annual	Quarterly

Footnotes:
"Annual" event scheduled for second month of fourth quarter each year.
"Quarterly" event scheduled for second month of each quarter each year.
PAHs/PCBs = polycyclic aromatic hydrocarbons/polychlorinated biphenyls
S = Shallow; D = Deep; I = Intermediate; A = Aquifer

To demonstrate compliance with groundwater in the TZ and surface water cleanup standards that are protective of both human health and aquatic resources, Alcoa shall prepare and submit a Compliance Monitoring Plan (CMP) for Ecology's approval. The CMP shall include the means and methods for collecting both surface water samples at the groundwater/surface water interface and TZW samples within the biologically active zone (0 to 5 inches below the mudline) for five events targeted at low, median, and high Columbia River stages. Alcoa will be required to conduct the TZW monitoring using passive peeper samplers. Peeper samplers will be positioned within the biologically active zone in the sediment and as close as technically possible to the groundwater/surface water interface in the river above the mudline without disturbing the sediment, such that sufficient water can be collected from the peeper apparatus that is representative of the two intervals of interest (i.e., 0 to 5 inches below the mudline and 0 to 6 inches above the mudline). At the end of the five compliance monitoring events, Alcoa shall submit a final report for Ecology's review and approval.

4.4 Institutional Controls

In conjunction with compliance and performance monitoring, institutional controls are required to limit or prohibit activities that could interfere with the integrity of the cleanup action or result in exposure to hazardous substances. In March 2009, Alcoa filed a restrictive covenant that includes the East Landfill AOC and describes the condition of the property, declares that a cleanup was completed at the Site, restricts the disturbance of the engineered landfill caps, prohibits the modification of the caps without prior written approval by Ecology, and controls the extraction of groundwater from the Site. Ecology reviewed and approved the restrictive covenant prior to recording it. The restrictive covenant requires owners of the Site to notify all lessees or property purchasers of the use restrictions. The restrictive covenant also requires the owner to make provisions for continued monitoring and operation and maintenance of the remedial action prior to conveying title, easement, lease, or other interest in the Site.

5 RATIONALE FOR SELECTING CLEANUP ACTION

This section provides Ecology's rationale for selecting the final cleanup action for the East Landfill AOC. It is based on review and consideration of a series of remedial investigations and characterizations, feasibility studies, interim cleanup actions, and groundwater monitoring. The selected cleanup action meets the minimum threshold requirements set forth in WAC 173-340-360(2) and is permanent to the maximum extent practicable. This section also includes a summary of the other remedial alternatives that were considered for cleanup of the East Landfill AOC. This section is introduced with a general summary of the MTCA requirements for selection of cleanup actions.

5.1 Minimum Requirements for Cleanup Actions

WAC 173-340-360(2) defines the minimum requirements that all remedial alternatives must achieve in order to for selection as a final cleanup action at a site. In this WAC section, MTCA identifies specific criteria against which alternatives are to be evaluated, and categorizes them as either "threshold" or "other" criteria. All cleanup actions must meet the requirements of the threshold criteria. The other MTCA criteria are considered when selecting from among the alternatives that fulfill the threshold requirements. This section provides an overview of these regulatory criteria. The consistency of each alternative with these criteria is then discussed in the subsequent sections.

5.1.1 Threshold Requirements

The MTCA threshold requirements for a selected cleanup action are as follows:

- Protect human health and the environment
- Comply with cleanup standards
- Comply with applicable state and federal laws
- Provide for compliance monitoring

5.1.2 Other MTCA Requirements

Other requirements for evaluating remedial alternatives for the selection of a cleanup action include:

- Use of permanent solutions to the maximum extent practicable (WAC 173-340-360(3)). MTCA specifies that when selecting a cleanup action, preference shall be given to actions that are "permanent solutions to the maximum extent practicable." The regulations specify the manner in which this analysis of permanence is to be conducted. Specifically, the regulations require that the costs and benefits of each of the project alternatives be balanced using a "disproportionate cost analysis."

- Provide for a reasonable restoration timeframe (WAC 173-340-360(4)). MTCA places a preference on those alternatives that, while equivalent in other respects, can be implemented in a shorter period of time. MTCA includes a summary of factors that can be considered in evaluating whether a cleanup action provides for a reasonable restoration timeframe.
- Consider public concerns (WAC 173-340-360). Ecology considers public concerns by making draft copies of remedial decision documents available for review and comment.

The overall protectiveness that a cleanup alternative provides depends on its ability to meet cleanup standards for Site chemicals of concern. A cleanup standard consists of a cleanup level and the point at which the required concentration must be demonstrated. The selected cleanup action for the East Landfill AOC is compliant with cleanup standards and ARARs (identified in Section 3) within a reasonable restoration timeframe to the maximum extent practicable. The following sections discuss the various studies Ecology used to select the components of this selected final cleanup action.

5.2 Studies Supporting the 2003 Interim Action

Per the requirements of the 1990 Agreed Order, Alcoa completed a Feasibility Study to evaluate remediation options for the East Landfill (Hart Crowser 1994). Eight remedial options that met the minimum threshold requirements of a MTCA cleanup action were developed and reviewed. The cleanup remedies were designed to protect human health and the environment through the management of the most significant risks posed by the landfill areas and associated potential contamination. These risks included potential contaminant discharges to surface waters such as the Columbia River, impacts to groundwater, and direct contact with waste and contaminated soil and groundwater. In terms of the soil remediation, the goals were to reduce, eliminate, and/or control direct contact exposure to workers within the top 15 feet of the soil, inhalation exposures, and constituent migration from the soil to the groundwater. The objectives of the remediation in the context of groundwater were to protect workers, aquatic life, and human health.

The remedial options as presented in the Focused Feasibility Study included (Hart Crowser 1994):

- Alternative One: No Action. This alternative did not satisfy MTCA requirements. Natural processes would require an extensive time to achieve cleanup levels without source control.
- Alternative Two: Containment. An Engineered RCRA cap would be placed over the East Landfill and monitoring would occur.
- Alterative Three: Off-Site Disposal of Hot Spot Soils with Containment. Soil hot spots exceeding the indicator chemical cleanup levels in the landfill would be excavated to an

off-site disposal facility. An Engineered RCRA cap would be placed over the East Landfill.

- Alterative Four: Off-Site Disposal of All Soils Exceeding Indicator Chemical Soil Cleanup Levels. All soils exceeding the indicator chemical cleanup levels in the landfill would be excavated to an off-site disposal facility.
- Alternative Five: Stabilization of Hot Spot Soils with Containment. Hot spot soils from the East Landfill exceeding the soil cleanup levels would be excavated and asphalt would be incorporated into them. The excavated material would be transported to the East Landfill and an asphalt cap (RCRA equivalent) would be placed over the East Landfill.
- Alternative Six: Thermal Treatment/Incineration of Hot Spot Soils with Containment. Hot spot soils from the East Landfill exceeding the soil cleanup levels would be excavated. On-site thermal treatment and incineration with on-site landfill disposal of ash would be conducted. An engineered RCRA cap would be placed over the East Landfill.
- Alternative Seven: Thermal Treatment/Incineration of All Soils Exceeding Indicator Chemical Soil Cleanup Levels. All soils in the East Landfill exceeding cleanup levels would be excavated and treated with on-site thermal treatment or incineration and on-site disposal of the ash.
- Alternative Eight: Thermal Treatment/Incineration of All Soils Exceeding Indicator Chemical Cleanup Levels and Groundwater Pump and Treat. All soils in the East Landfill exceeding cleanup levels would be excavated and treated with on-site thermal treatment or incineration and on-site disposal of the ash. Residually contaminated groundwater would be pumped and treated ex situ.

In 2003, Ecology selected a containment source control activity and groundwater monitoring as the most practicable interim remedy for the East Landfill. Performing the encapsulation of the East Landfill waste above Site groundwater (refer to Figure 2-3) and isolating the waste from infiltration under the Agreed Order prior to final Site-wide closure accelerated the degradation of TCE-impacted groundwater. Monitoring data collected verified that source control activities were effective and that natural attenuation of residual TCE in groundwater is occurring.

5.3 Supplemental Studies and Practicability Evaluations

In 2008, an RI/FS was conducted in support of Site-wide cleanup prior to the sale of the Alcoa and Evergreen properties to the Port of Vancouver (Anchor 2008). This report summarized the groundwater monitoring data that were collected after construction of the East Landfill engineered cap. As discussed in Section 2.3, these data demonstrate that the engineered cap has been an effective source control measure, as maximum concentrations of TCE have decreased in the Intermediate and Deep Zones.

Although TCE levels persist above the groundwater cleanup level, the reductions in the concentrations of TCE and the production of degradation products (e.g., vinyl chloride) demonstrate that:

- Natural attenuation/degradation of TCE is occurring.
- The landfill is no longer impacting groundwater, as the source of TCE has been effectively isolated.

As previously stated, based on the post-source control groundwater monitoring and supplemental field investigations, the interim remedy provides sufficient source control to protect human health and the environment through the various potential exposure pathways. Limited TZW monitoring in 2008 indicated that TCE is below cleanup levels while the TCE degradation product, vinyl chloride, was found to be above the surface water criteria in one of sixteen samples collected (although the 95% UCL is 0.017 µg/L). Compliance monitoring at the groundwater/surface water interface in the Columbia River or in shoreline groundwater monitoring wells adjacent to the East Landfill will be conducted to confirm and demonstrate that surface water resources are protected.

In 2008, Alcoa examined additional site alternatives and performed a disproportionate cost analysis (DCA) to determine if the additional remedial actions could be practicably implemented to reduce the groundwater restoration timeframe beneath the East Landfill. Specifically, the DCA considered the practicability of treating residually contaminated groundwater beneath the East Landfill to meet the requirements of WAC 173-340-430. The MTCA regulation defines the procedure by which an interim action may be demonstrated to serve as the final cleanup action for a site. Accordingly, the DCA followed the procedures in WAC 173-340-360(3)(e) – the primary test to determine if a remedial alternative uses permanent solution to the maximum extent practicable. The 2008 analysis evaluated in situ zero valent iron technology and groundwater pump and treatment as final groundwater treatment alternatives.

The specific alternatives for groundwater restoration considered in the 2008 disproportionate cost analysis included:

- Alternative One: Monitored Natural Attenuation. This option would consist of long-term monitoring to document the natural attenuation process, as well as institutional controls to prevent the use of Site groundwater.
- Alternative Two: Groundwater Pump and Treatment. This option would consist of installing and operating a groundwater recovery system to remove impacted groundwater from the Intermediate and Deep Zones, focusing primarily on the Intermediate Zone. Horizontal wells would be required to preserve the integrity of the landfill cap. Groundwater pumped from these formations would be treated using a combination of activated carbon absorption and reverse osmosis prior to discharge to the Columbia

River, although a small volume of reject water from the reverse osmosis system would require disposal at an off-site facility.

- Alternative Three: In-Situ Groundwater Treatment. This option would also consist of installing and operating a system of horizontal wells; however, in this alternative the wells would serve as injection points. Zero valent iron and nutrients would be used to break down TCE using reductive dechlorination.

A summary of the DCA evaluation including environmental benefit scores for each alternative is provided in Table 5-1. The DCA concluded that continued monitoring of the groundwater natural attenuation processes occurring at the East Landfill AOC would provide a similar environmental benefit as other potential remedies to address the groundwater beneath the East Landfill (i.e., the DCA environmental benefit scores for the three alternatives were not substantially different). Therefore, the monitored natural attenuation remedy was determined to provide the greatest environmental benefit in relation to the cost associated with additional remedial action. In addition, other alternatives with shorter projected restoration timeframes will not provide equivalent reductions in on-site risk. Figure 5-1 provides a graphic summary of the analysis. In accordance with WAC 173-340-370(7), natural attenuation of hazardous substances is appropriate at sites where:

- Source control has been conducted to the maximum extent practicable;
- On-site contaminants do not pose an unacceptable threat to human health or the environment during the restoration timeframe;
- There is evidence that natural biodegradation or chemical degradation is occurring and will continue to occur; and
- Appropriate monitoring is conducted to ensure that the natural attenuation process is taking place and that human health and the environment are protected.

Groundwater data collected before and after construction of the East Landfill engineered cap indicate that contaminants are naturally degrading. Observed reductions in the levels of TCE in groundwater are consistent with predicted values for natural degradation of TCE to vinyl chloride and ultimately to carbon dioxide and water. Accelerated degradation of TCE to vinyl chloride in the intermediate groundwater zone indicates that the cap is isolating the waste from surface water infiltration and limiting TCE and vinyl chloride exposure to groundwater.

Preliminary monitoring of TZW and surface water indicates that contaminants are not entering the Columbia River at levels that pose an unacceptable risk to human health or the environment. Compliance monitoring of groundwater and surface water in the vicinity of the East Landfill will ensure that the natural attenuation process continues and that human health and the environment are protected.

Ecology has determined that the selected final cleanup action for the East Landfill AOC meets the conditions of WAC 173-340-370(7) and -430, providing an alternative that is permanent to the maximum extent practicable and protective of human health and the environment.

Public participation and outreach is also an important part of the remedy selection process. Ecology considered public comments submitted during the 2003 Agreed Order, the Site-wide CAP, and CD processes in making its preliminary selection of a cleanup alternative for the Site. Ecology will continue to consider public concerns with notice of this SCAP.

Table 5-1 Summary of East Landfill Disproportionate Cost Analysis Supporting WAC 173-340-430 Requirements

Remedial Alternative[1]	Protectiveness (30%)[2]	Permanence (25%)	Long-Term Effectiveness (20%)
	Overall protectiveness of human health and the environment, including the degree to which existing risks are reduced, time required to reduce risk at the facility and attain cleanup standards, on-site and off-site risks resulting from implementing the alternative, and improvement of the overall environmental quality.	*The degree to which the alternative permanently reduces the toxicity, mobility or volume of hazardous substances, including the adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of waste treatment process, and the characteristics and quantity of treatment residuals generated.*	*Long-term effectiveness includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances are expected to remain on-site at concentrations that exceed cleanup levels, the magnitude of residual risk with the alternative in place, and the effectiveness of controls required to manage treatment residues or remaining wastes. The following types of cleanup action components may be used as a guide, in descending order, when assessing the relative degree of long-term effectiveness: reuse or recycling; destruction or detoxification; immobilization or solidification; on-site or off-site disposal in an engineered, lined and monitored facility; on-site isolation or containment with attendant engineering controls; and institutional controls and monitoring.*
Alternative 1 - Monitored Natural Attenuation	Institutional controls are easily implemented to prevent on-site risks during restoration. However, the potential for exposure is slightly higher than the other alternatives due to a relatively longer restoration timeframe. Therefore, this alternative is ranked slightly lower than the others. No off-site risk is expected 8	With respect to groundwater, natural attenuation of TCE is a permanent and non-reversible process. No treatment residuals will be generated. 9	Approximately 30 to 35 years will be required for groundwater contaminants below the East Landfill to naturally attenuate to below cleanup levels. During this time, institutional controls would be implemented to protect human health and the environment from exposures associated with drinking on-site groundwater. 8
Alternative 2 - Pump and Ex Situ Treatment	With respect to on-site risk reduction, this alternative meets the criteria to a slightly higher degree than Alternative 1 as the restoration timeframe is expected to be shorter. However, implementation of the alternative will generate residual wastes annually and therefore ranks slightly below Alternative 3 on an overall environmental quality basis. Off-site risk associated with treatment residuals can be sufficiently managed with best management practices. 8	This alternative provides an active solution to reduce contaminant mass within a shorter timeframe than Alternative 1; however, during construction and annually thereafter, treatment residuals would be generated and require off-site disposal. Therefore, the benefit scores of Alternatives 1 and 2 are relatively equal. 9	While this alternative employs treatment in efforts to reduce restoration timeframe, the degree of certainty to which this technology is expected to achieve this goal is questionable due to the geologic and hydrologic conditions at the Site. Therefore, the benefit scores of Alternatives 1 and 2 are relatively equal. 8
Alternative 3 - In Situ Treatment	With respect to on-site risk, this alternative removes the most contaminant mass from the Site within a shorter timeframe. Off-site risk associated with treatment residuals can be sufficiently managed with best management practices. 9	With respect to on-site risk, this alternative provides the greatest on-site contaminant mass reduction within the shortest timeframe in comparison to the other alternatives. However, during construction, treatment residuals would be generated and require off-site disposal. Therefore, the benefit scores of Alternatives 1 and 3 are relatively equal. 9	This alternative includes more of the higher ranking cleanup action components as listed in the column heading above in comparison to the other alternatives. Therefore, this alternative ranks most preferred for this category. 9

Notes:

1. Consideration of public concerns is not addressed in this table since the public has not yet had an opportunity to provide comments.
2. Each of the DCA criteria listed were weighted such that the overall DCA score would be influenced by criteria directly relating to protectiveness and effectiveness. A score of 10 represents an alternative that satisfies the criteria to the highest degree.
3. Although allowed, costs were not considered in the environmental benefit scoring.

Table 5-1 Summary of East Landfill Disproportionate Cost Analysis Supporting WAC 173-340-430 Requirements

Remedial Alternative[1]	Short-Term Risk Management (10%) *The risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks.*	Technical and Administrative Implementability (15%) *Ability to be implemented including consideration of whether the alternative is technically possible, availability of necessary off-site facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration with existing facility operations and other current or potential remedial actions.*	Environmental Benefit Score[3]	Probable Cost
Alternative 1 - Monitored Natural Attenuation	This alternative results in the least disturbance of contaminants and accordingly poses the least short-term risk; therefore, the alternative meets the criteria to the highest degree. 10	This alternative is the most technically and administratively implementable alternative and consists of remedial action components that are regularly implemented at cleanup sites. 10	8.8	$1M
Alternative 2 - Pump and Ex Situ Treatment	During well installation and development, impacted soil and water will be generated requiring off-site disposal. The annual volumes would be relatively small and can be reasonably managed using best management practices. 8	This alternative relies on a relatively well proven groundwater technology; however, success is variable from site to site. At this Site, challenges are present with respect to the discharge of treated groundwater. This FS assumes that permitting an outfall to the Columbia River for clean water would be successful and that technologies would be able to achieve the required surface water criteria. Some portion of the water would also require discharge to the City of Vancouver Publicly Owned Treatment Works. An alternate scenario may be to pump all water to the Publicly Owned Treatment Works, but this is highly dependent on the capacity of the system. In additional to these administrative challenges, the system may require regular pump rate adjustments to ensure the wells effectively extract water from the contaminated zone and not continually from the adjacent surface water. Because physical barriers are not technically feasible at the Site, the effect of surface water infiltration would not be fully understood until operation commenced. This may also require periods when pumps are halted so that steady state monitoring is permitted. These cycles could also extend the restoration timeframes used in this analysis. 6	8.0	$24M
Alternative 3 - In Situ Treatment	During treatment injection, impacted soil will be generated requiring off-site disposal. The annual volumes would be relatively small and can be reasonably managed using best management practices. Because treatment residuals will be generated at a lower frequency than Alternative 2, this alternative ranks slightly higher. 9	This alternative relies upon groundwater technologies that are applicable to Site contaminants and have shown effective results at nearby sites, but have not yet been demonstrated on this Site. A pilot study would be required to verify the full-scale viability of this alternative. Success of the technology would be limited by the geologic conditions beneath the East Landfill. In addition, because the Site is tidally influenced, the potential for infiltration of elevated dissolved oxygen bearing surface water to interfere with the anaerobic process exists. Because this technology can be implemented through a greater density of injection points (increasing accuracy of coverage) rather than horizontal wells, it is more implementable and ranks slightly higher than Alternative 2. 8	8.9	$22M

Notes:

1. Consideration of public concerns is not addressed in this table since the public has not yet had an opportunity to provide comments.
2. Each of the DCA criteria listed were weighted such that the overall DCA score would be influenced by criteria directly relating to protectiveness and effectiveness. A score of 10 represents an alternative that satisfies the criteria to the highest degree.
3. Although allowed, costs were not considered in the environmental benefit scoring.

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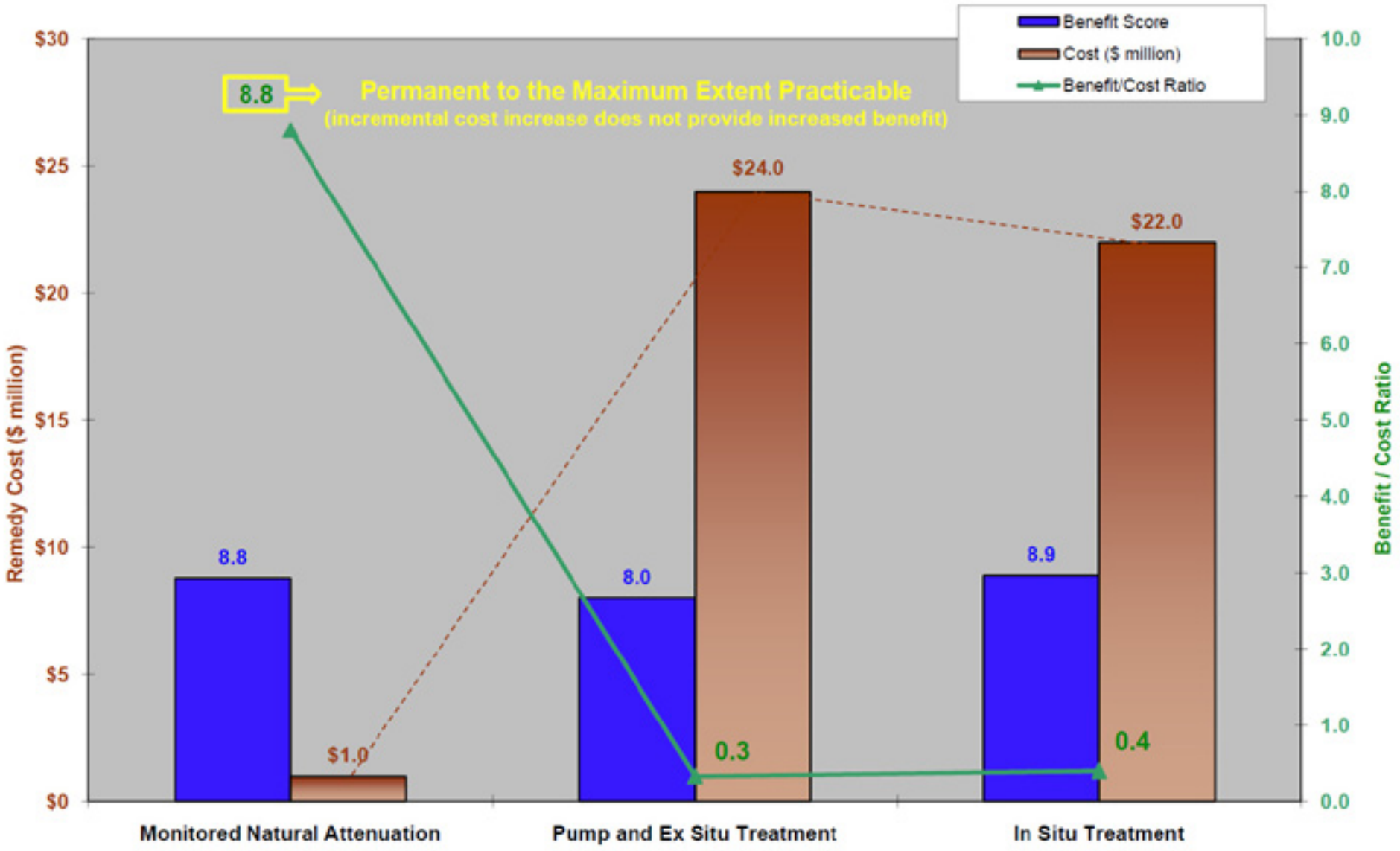


Figure 5-1
East Landfill Disproportionate Cost Analysis Summary
East Landfill AOC SCAP
Vancouver, Washington

6 SCHEDULE

An outline of the schedule for implementing the remedial action activities for the East Landfill AOC is shown below in Table 6-1.

Table 6-1
Schedule for Implementation of Cleanup Actions

Action	Timeframe
Source Control Remedial Action	Completed 2004
Upland Groundwater Monitoring and East Landfill Engineered Cap Maintenance	Ongoing per Plans
Restrictive Covenants	Completed March 2009
TZW Investigation Summary Report East Landfill AOC (Data collected 12/2008 – 1/2009)	Completed February 2010
Draft East Landfill AOC SCAP and Amended CD out for Public Comment	October 2010
Extension of Public Notice Period	November - December 2010
Response to Public Comments	June 2011
Final East Landfill AOC SCAP and Amended CD	June 2011
Develop TZW CMP	Summer 2011
First TZW Sampling Event	Fall 2011
Five-year Review (per 2009 CD and CAP)	January 2014

7 REFERENCES

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APPENDIX A

East Landfill Groundwater Monitoring Summary Tables (November 2003 through December 2010)

Appendix A - Table 1

Monitoring Well Cluster 35

	MW-35-S					MW-35-I					MW-35-D					MW-35-A				
Date	**Trichloroethene**	**1,1-Dichloroethene**	**cis-1,2-Dichloroethene**	**trans-1,2-Dichloroethene**	**Vinyl chloride**	**Trichloroethene**	**1,1-Dichloroethene**	**cis-1,2-Dichloroethene**	**trans-1,2-Dichloroethene**	**Vinyl chloride**	**Trichloroethene**	**1,1-Dichloroethene**	**cis-1,2-Dichloroethene**	**trans-1,2-Dichloroethene**	**Vinyl chloride**	**Trichloroethene**	**1,1-Dichloroethene**	**cis-1,2-Dichloroethene**	**trans-1,2-Dichloroethene**	**Vinyl chloride**
November 2003	DRY	DRY	DRY	DRY	DRY	**20**	0.5 U	**14**	0.5 U	0.5 U	**0.7**	**0.72**	**17**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
February 2004	**16**	0.5 U	0.5 U	0.5 U	0.5 U	**13**	0.5 U	**11**	0.5 U	0.5 U	**0.795**	**0.72**	**17**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2004	**41**	0.5 U	**0.51**	0.5 U	0.5 U	**16**	0.5 U	**13**	0.5 U	0.5 U	**1.1**	**0.7**	**18**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
September 2004	DRY	DRY	DRY	DRY	DRY	**13**	0.5 U	**10**	0.5 U	0.5 U	**0.88**	**0.68**	**18**	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ
December 2004	DRY	DRY	DRY	DRY	DRY	**13**	0.5 U	**10**	0.5 U	0.5 U	0.5 U	**0.7**	**16**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
March 2005	DRY	DRY	DRY	DRY	DRY	**15**	0.5 U	**11**	0.5 U	0.5 U	0.5 U	**0.59**	**17**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2005	**14**	0.5 U	**2.5**	0.5 U	0.5 U	**13.5**	0.5 U	**10.5**	0.5 U	0.5 U	0.5 U	**0.64**	**18**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
August 2005	DRY	DRY	DRY	DRY	DRY	**14**	0.5 U	**11**	0.5 U	0.5 U	0.5 U	**0.57**	**15**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
November 2005	DRY	DRY	DRY	DRY	DRY	**14**	0.5 U	**10**	0.5 U	0.5 U	0.5 U	**0.51**	**13**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
March 2006	**12**	0.5 U	**4.5**	0.5 U	0.5 U	**10**	0.5 U	**9.1**	0.5 U	0.5 U	0.5 U	**0.52**	**13**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2006	**11**	0.5 U	**5.9**	0.5 U	0.5 U	**9.3**	0.5 U	**7.6**	0.5 U	0.5 U	0.5 U	0.5 U	**13**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
August 2006	DRY	DRY	DRY	DRY	DRY	**12**	0.5 U	**9**	0.5 U	0.5 U	0.5 U	0.5 U	**11**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
November 2006	**11**	0.5 U	**0.62**	0.5 U	0.5 U	**12**	0.5 U	**9.3**	0.5 U	0.5 U	0.5 U	0.5	**14**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
February 2007	**11**	0.5 U	**28**	0.5 U	0.5 U	**12**	0.5 U	**9.3**	0.5 U	0.5 U	0.5 U	0.51	**13**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2007	**10**	0.5 U	**20**	0.5 U	0.5 U	**8.8**	0.5 U	**7**	0.5 U	0.5 U	0.5 U	0.5 U	**10**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
September 2007	DRY	DRY	DRY	DRY	DRY	**9.9**	**0.25** J	**8.3**	**0.43** J	**0.13** J	0.5 U	**0.45** J	**11**	**0.19** J	**0.09** J	0.5 U	0.5 U	0.5 U	0.5 U	0.04 U
December 2007	DRY	DRY	DRY	DRY	DRY	**8.9**	**0.15** J	**7.2**	**0.25** J	**0.07** J	0.5 U	**0.49** J	**14**	**0.2** J	**0.12** J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
March 2008	**6**	0.5 U	**12**	0.5 U	0.5 U	**7.25**	**0.16** J	**6.5**	**0.26** J	**0.08** J	0.5 U	**0.43** J	**11**	**0.19** J	**0.1** J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2008	DRY	DRY	DRY	DRY	DRY	**10**	**0.23** J	**7.9**	**0.41** J	**0.11** J	0.5 U	**0.48** J	**13**	**0.22** J	**0.11** J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
August 2008	DRY	DRY	DRY	DRY	DRY	**36**	0.5 U	**1.2**	**0.12** J	0.5 U	8.6	**0.23** J	**6.5**	**0.37** J	**0.08** J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
November 2008	DRY	DRY	DRY	DRY	DRY	**9.4**	**0.18** J	**6.8**	**0.22** J	0.5 U	**0.08** J	**0.41** J	**11**	**0.19** J	**0.1** J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
February 2009	DRY	DRY	DRY	DRY	DRY	**8**	**0.19** J	**5.8**	**0.27** J	**0.09** J	0.5 U	**0.32** J	**10**	**0.15** J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2009	DRY	DRY	DRY	DRY	DRY	**6.9**	1.0 U	**5.4**	1.0 U	0.2 U	1.0 U	1.0 U	**14**	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
August 2009	DRY	DRY	DRY	DRY	DRY	**6.6**	1.0 U	**6**	1.0 U	0.2 U	1.0 U	1.0 U	**13**	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
November 2009	DRY	DRY	DRY	DRY	DRY	**NS**	NS	NS	NS	NS	1.0 U	1.0 U	**12**	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
February 2010	DRY	DRY	DRY	DRY	DRY	**7.2**	1.0 U	**7.1**	**2.4**	0.2 U	1.0 U	**2.9**	**10.3**	**2.3**	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
June 2010	DRY	DRY	DRY	DRY	DRY	**6.3**	1.0 U	**5.8**	1.0 U	0.2 U	1.0 U	1.0 U	**9.4**	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
September 2010	DRY	DRY	DRY	DRY	DRY	**6.8**	1.0 U	**6.6**	1.0 U	0.2 U	1.0 U	1.0 U	**9.5**	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
November 2010	DRY	DRY	DRY	DRY	DRY	**5.6**	1.0 U	**5.4**	1.0 U	0.2 U	1.0 U	1.0 U	**9.1**	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U

Notes:
Gray highlight - Result shown is the average of the primary and field duplicate sample.
Bold values - detected

Appendix A - Table 2

Monitoring Well Cluster 41

Date	MW-41-S					MW-41-I					MW-41-D				
	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
November 2003	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
February 2004	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2004	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
September 2004	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
December 2004	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
March 2005	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2005	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
August 2005	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
November 2005	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
March 2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2006	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
August 2006	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
November 2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
February 2007	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2007	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
September 2007	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.042 U
December 2007	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
March 2008	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2008	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
August 2008	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
November 2008	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
February 2009	DRY	DRY	DRY	DRY	DRY	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2009	DRY	DRY	DRY	DRY	DRY	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
August 2009	DRY	DRY	DRY	DRY	DRY	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
November 2009	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
February 2010	DRY	DRY	DRY	DRY	DRY	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
June 2010	DRY	DRY	DRY	DRY	DRY	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
September 2010	DRY	DRY	DRY	DRY	DRY	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
November 2010	DRY	DRY	DRY	DRY	DRY	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U

Notes:
Gray highlight - Result shown is the average of the primary and field duplicate sample.

Appendix A - Table 3

Monitoring Well Cluster 46

Date	MW-46-I					MW-46-D					MW-46-A				
	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
November 2003	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.2**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
February 2004	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.9**	0.5 U	0.5 U	0.5 U	0.5 U	**0.5**	0.5 U	0.5 U
May 2004	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.3**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
September 2004	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.74**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
December 2004	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
March 2005	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.7**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2005	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.93**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
August 2005	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.5**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
November 2005	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
March 2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.4**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
May 2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.8**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
August 2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
November 2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.5**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
February 2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**3.1**	0.5 U	0.5 U	0.5 U	0.5 U	**0.63**	0.5 U	0.5 U
May 2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.4**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
September 2007	0.5 U	0.5 U	0.5 U	0.5 U	0.04 U	0.5 U	0.5 U	**0.97**	0.5 U	0.04 U	0.5 U	0.5 U	**0.87**	0.5 U	**0.17** J
December 2007	0.5 U	0.5 U	0.5 U	0.5 U	**0.05** J	0.5 U	0.5 U	**0.96**	0.5 U	0.5 U	0.5 U	0.5 U	**0.31** J	0.5 U	**0.18** J
March 2008	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.5**	0.5 U	0.5 U	0.5 U	0.5 U	**0.93**	0.5 U	**0.16** J
May 2008	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.1**	0.5 U	0.5 U	0.5 U	0.5 U	**0.28** J	0.5 U	**0.34** J
August 2008	0.5 U	0.5 U	0.5 U	0.5 U	**0.09** J	0.5 U	0.5 U	**1.3**	0.5 U	0.5 U	0.5 U	0.5 U	**0.45** J	0.5 U	0.5 U
November 2008	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.18** J	0.5 U	**2.9**	0.5 U	0.5 U	0.5 U	0.5 U	**0.5** J	0.5 U	**0.17** J
February 2009	0.5 U	0.5 U	0.5 U	0.5 U	**0.16** J	0.5 U	0.5 U	**2**	0.5 U	0.5 U	0.5 U	0.5 U	**0.3** J	0.5 U	**0.14** J
May 2009	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	**1.4**	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
August 2009	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
November 2009	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	**1.1**	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.2**
February 2010	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	**3.7**	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
June 2010	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	**1.5**	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
September 2010	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	**1.6**	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
November 2010	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U	1.0 U	1.0 U	**1.4**	1.0 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U

Notes:
Gray highlight - Result shown is the average of the primary and field duplicate sample.
Bold values - detected

Appendix A - Table 4

Monitoring Well Cluster 94-1

Date	MW-94-1-I					MW-94-1-D					MW-94-1-A				
	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
November 2003	**1200**	**27**	**4600**	**12**	**660**	**24**	**15**	**1100**	**5.1**	**150**	**1.2**	0.5 U	**4.0**	0.5 U	0.5 U
February 2004	**730**	**19**	**4700**	13 U	**440**	**35**	**14**	**1200**	**3.5**	**120**	**1.0**	0.5 U	**3.3**	0.5 U	0.5 U
May 2004	**765**	**20**	**5650**	13 U	**510**	**40**	**22**	**1600**	5 U	**170**	**1.2**	0.5 U	**3.0**	0.5 U	0.5 U
September 2004	**590**	**12**	**4800**	**23**	**270**	NS[1]	NS[1]	NS[1]	NS[1]	NS[1]	**1.0**	0.5 U	**2.1**	0.5 U	0.5 U
December 2004	**490**	10 U	**4400**	10 U	**130**	**8.7**	**4.4**	**540**	**2.6**	**21**	**0.9**	0.5 U	**2.5**	0.5 U	0.5 U
March 2005	**660**	**10**	**5000**	**14**	**330**	**8**	**11**	**1000**	**3.75**	**110**	**0.9**	0.5 U	**1.9**	0.5 U	0.5 U
May 2005	**1100**	**30**	**5100**	**14**	**660**	**12**	**21**	**1700**	**6.6**	**220**	**0.9**	0.5 U	**3.3**	0.5 U	0.5 U
August 2005	**720**	**13.5**	**6150**	**14**	**450**	**1**	**2.6**	**530**	**8.9**	**14**	**1.0**	0.5 U	**2.5**	0.5 U	0.5 U
November 2005	**640**	10 U	**5200**	**14**	**250**	**1.3**	**2.2**	**310**	**1.9**	**16**	**0.7**	0.5 U	**1.8**	0.5 U	0.5 U
March 2006	**510** D	5 U	**4600** D	**8.2** D	**52** D	**0.53**	**3**	**500** D	**2.7**	**21**	**1.1**	0.5 U	**2.6**	0.5 U	0.5 U
May 2006	**580** D	10 U	**4800** D	**11** D	**150** D	**1.1**	**1.7**	**325** D	**2.35**	**6.5**	**0.8**	0.5 U	**2.8**	0.5 U	0.5 U
August 2006	**525** D	10 U	**4100** D	**11.5** D	**14.5** D	**5.1**	**0.71**	**22**	**1.1**	0.5 U	**0.7**	0.5 U	**2.1**	0.5 U	0.5 U
November 2006	**600** D	10 U	**4900** D	**10** D	**130** D	**0.72**	**1.8**	**280** D	**1.9**	**11**	**0.8**	0.5 U	**2.3**	0.5 U	0.5 U
February 2007	**630** D	10 U	**4800** D	**15** D	**130** D	**2.3** D	**3.3** D	**680** D	**3.0** D	**22** D	**0.7**	0.5 U	**2.1**	0.5 U	0.5 U
May 2007	**420** D	10 U	**3700** D	10 U	**25** D	1.0 U	**2.0** D	**440** D	**2.5** D	**5.7** D	**0.6**	0.5 U	**1.8**	0.5 U	0.5 U
September 2007	**620**	**13**	**4700**	**11**	**280**	**7.2**	**4.4**	**580**	**2.6**	**39**	**0.5**	0.5 U	**1.4**	0.5 U	0.042 U
December 2007	**750**	**13**	**5500**	**10**	**280**	**11**	**37**	**4000**	**8.0** J	**460**	**0.7**	0.5 U	**1.7**	0.5 U	**0.07** J
March 2008	**410**	**3.8**	**3300**	**8**	**37**	**8.7**	**6.0**	**760**	**3.3**	**49**	**0.4** J	0.5 U	**1.0**	0.5 U	0.5 U
May 2008	**960**	**24**	**5300**	**17**	**510**	**2.9**	**17**	**2100**	**6.0**	**170**	**0.8**	0.5 U	**2.1**	**0.09** J	**0.1** J
August 2008	**610**	**10** J	**4700**	**9.3** J	**94**	**7.1**	**6.7**	**1000**	**6.5**	**74.5**	**0.6**	0.5 U	**1.8**	**0.06** J	0.5 U
November 2008	**690**	**9.8** J	**4500**	**8.4** J	**210**	**5.9**	**11**	**1300**	**4.1**	**100**	**0.7**	0.5 U	**2.0**	**0.06** J	0.5 U
February 2009	**590**	**8.8**	**3900**	**7.7**	**190**	**2.65**	**1.75**	**415**	**1.6**	**6.25**	**0.6**	0.5 U	**1.9**	0.5 U	0.5 U
May 2009	**435**	**8.4**	**3700**	**7.7**	**90**	**5.0**	**1.1**	**534**	**1.7**	0.2 U	1.0 U	1.0 U	**3.4**	1.0 U	0.2 U
August 2009	**377**	1.0 U	**3390**	**5.9**	**7.5**	**7.2**	**6.5**	**1180**	**3.3**	**62**	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
November 2009	**486**	**5.6**	**3920**	**7**	**63**	**2.3**	**6.3**	**955**	**3.2**	**55**	1.0 U	1.0 U	**1.6**	1.0 U	0.2 U
February 2010	**474**	**5.9**	**3770**	**7.1**	**21**	**1.1**	**3.9**	**765**	**4.1**	**9.2**	1.0 U	1.0 U	**1.9**	1.0 U	0.2 U
June 2010	**438**	**4.9**	**3350**	**6.1**	**1.7**	**1.2**	**6.9**	**1530**	**3.5**	**80.1**	1.0 U	1.0 U	**2.5**	1.0 U	0.2 U
September 2010	**512**	**8.0**	**3550**	**6.7**	**9.2**	2.0 U	**3.2**	**753**	**3.3**	**13.7**	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
November 2010	**336**	**6.1**	**2520**	**5.7**	**5.1**	**1.6**	**6.0**	**649**	**3.4**	**60.3**	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U

Notes:
Gray highlight - Result shown is the average of the primary and field duplicate sample.
Bold values - detected
[1] Well could not be sampled due to access issues related to landfill construction activity.
NS = no sample

Appendix A - Table 5

Monitoring Well Cluster 94-2

Date	MW-94-2-I					MW-94-2-D					MW-94-2-A				
	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
November 2003	**17**	**4.7**	**1300**	**7.8**	**9.2**	2.5 U	**10**	**1400**	**6.6**	**30**	0.5 U	0.5 U	**2.1**	0.5 U	0.5 U
February 2004	**19**	**4.0**	**1200**	**7.7**	**9.7**	5 U	**10**	**1300**	**6.5**	**32**	0.5 U	0.5 U	**1.4**	0.5 U	0.5 U
May 2004	**12**	**4.4**	**1500**	**11**	**10**	2.5 U	**11**	**1700**	**8.7**	**34**	0.5 U	0.5 U	**1.6**	0.5 U	0.5 U
September 2004	**5.4**	**3.4**	**1200**	**13**	**6**	2.5 U	**9**	**1400**	**8.5**	**26**	0.5 U	0.5 U	**1.7**	0.5 U	0.5 U
December 2004	**5.3**	**3.2**	**1300**	**7.3**	**4.7**	5 U	**12**	**1600**	**6.5**	**30**	0.5 U	0.5 U	**1.1**	0.5 U	0.5 U
March 2005	**9.7**	**3.2**	**1200**	**9**	**4.9**	2.5 U	**11**	**1700**	**7.6**	**31**	0.5 U	0.5 U	**1.2**	0.5 U	0.5 U
May 2005	**4.5**	**3.8**	**1300**	**11**	**4.5**	2.5 U	**10**	**1700**	**8.9**	**34**	0.5 U	0.5 U	**2.4**	0.5 U	0.5 U
August 2005	**7.2**	2.5 U	**950**	**8.8**	2.5 U	2.5 U	**11** J	**2000**	**13**	**36**	0.5 U	0.5 U	**1.2**	0.5 U	0.5 U
November 2005	**8.7**	**3.1**	**1300**	**7.8**	**3.2**	2.5 U	**12** J	**1900**	**8.5**	**36**	0.5 U	0.5 U	**1.2**	0.5 U	0.5 U
March 2006	**24** D	**3.6** D	**1300** D	**15** D	**4.0** D	2.5 U	**12** D	**2000** D	**9.4** D	**52** D	0.5 U	0.5 U	**1.3**	0.5 U	0.5 U
May 2006	**12** D	**2.9** D	**1100** D	**9.7** D	**2.6** D	5 U	**16** D	**2100** D	**10** D	**49** D	0.5 U	0.5 U	**1.5**	0.5 U	0.5 U
August 2006	**4.8** D	2.5 U	**700** D	**10** D	2.5 U	5 U	**12** D	**1800** D	**9.7** D	**35** D	0.5 U	0.5 U	**0.81**	0.5 U	0.5 U
November 2006	**8** D	**3.0** D	**1200** D	**9** D	**2.5** D	5 U	13 D	**2100** D	**10** D	**36** D	0.5 U	0.5 U	**1.6**	0.5 U	0.5 U
February 2007	**9.6** D	**3.1** D	**1400** D	**10** D	2.5 U	5 U	**15** D	**3200** D	**12** D	**51** D	0.5 U	0.5 U	**0.99**	0.5 U	0.5 U
May 2007	**8.2** D	2.5 U	**1100** D	**8.2** D	2.5 U	5 U	**14** D	**2400** D	**9.6** D	**45** D	0.5 U	0.5 U	**1.2**	0.5 U	0.5 U
September 2007	**4.9**	**0.92** J	**610**	**6.9**	**1.8**	5 U	**15**	**2000**	**9.6**	**38**	0.5 U	0.5 U	**0.62**	0.5 U	0.0 U
December 2007	**5.6**	**2.8**	**1300**	**8.9**	**3.3**	5 U	**17**	**2900**	**12**	**55**	**0.16** J	0.5 U	**1.6**	0.5 U	**0.1** J
March 2008	**17**	**2.6** J	**1100**	**6.8**	**2.4** J	5 U	**15**	**2200**	**10**	**48**	0.5 U	0.5 **U**	**0.87**	0.5 U	0.5 U
May 2008	**7.2**	**2.9**	**1300**	**15**	**2.5** J	5 U	**18**	**3000**	**14**	**62**	**0.17 J**	0.5 U	**1.1**	0.5 U	**0.08** J
August 2008	**7.1**	**2.2** J	**850**	**8.6**	**1.8** J	10 U	**16**	**2800**	**13**	**58**	**0.13 J**	0.5 U	**0.99**	0.5 U	0.5 U
November 2008	**5.3**	**1.6**	**840**	**6.2**	**1.5**	5 U	**17**	**2800**	**12**	**54**	**0.12** J	0.5 U	**0.83**	0.5 U	0.5 U
February 2009	**6.6**	**1.5**	**850**	**6.3**	**1.4**	**0.8 J**	**14**	**2600**	**11**	**46**	**0.12** J	0.5 U	**1.2**	0.5 U	0.5 U
May 2009	**3.3**	**2.2**	**887**	**9.3**	**1.5**	1.0 U	**20**	**2780**	**15**	**46**	1.0 U	1.0 U	**2.1**	1.0 U	0.2 U
August 2009	**3.4**	1.0 U	**1220**	**7.9**	0.2 U	1.0 U	**19**	**3140**	**15**	**88**	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
November 2009	**8.3**	**1.9**	**997**	**8**	**2.4**	1.0 U	**17**	**3420**	**15**	**72**	1.0 U	1.0 U	**1.3**	1.0 U	0.2 U
February 2010	**10.9**	**4.4**	**1400**	**9.2**	**1.9**	1.0 U	**15**	**3820**	**13.1**	**77.5**	1.0 U	1.0 U	**2.6**	1.0 U	0.2 U
June 2010	**5.3**	**2.3**	**1460**	**7.6**	**2.4**	1.0 U	**15.7**	**3305**	**13.9**	**85.4**	1.0 U	1.0 U	**1.7**	1.0 U	0.2 U
September 2010	**6.1**	**2.3**	**1360**	**10.4**	**1.7**	1.0 U	**18.1**	**3625**	**19.6**	**60**	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
November 2010	**3.5**	**2.1**	**993**	**9.3**	**2.2**	1.0 U	**19.9**	**3245**	**17.8**	**87.9**	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U

Notes:
Gray highlight - Result shown is the average of the primary and field duplicate sample.
Bold values - detected

EXHIBIT "N"

RESTRICTIVE COVENANTS

[CD attached]

HARD COPY ONLY

33

4545480 COV
RecFee - $74.00 Pages: 33 - FIDELITY NATIONAL TITLE
Clark County, WA 03/31/2009 02:06

After Recording Return to:

Paul Skyllingstad
Department of Ecology
Industrial Section
P.O. Box 47706
Olympia, Washington 98504-7706

ENVIRONMENTAL RESTRICTIVE COVENANT
Former Alcoa Vancouver Works

V040059

Grantor: Alcoa Inc.
Grantee: State of Washington, Department of Ecology
Legal: A tract of land located in Sections 17, 18, 19 and 20, Township 2 North, Range 1 East, Willamette Meridian, Clark County, Washington; another tract of land located in Sections 18 and 19, Township 2 North, Range 1 East and Section 13, Township 2 North, Range 1 West, Willamette Meridian, Clark County, Washington; and another tract of land located in Northeast one-quarter of Section 19, Township 2 North, Range 1 East, Willamette Meridian, Clark County, Washington. Additional legal description can be found attached as Exhibit A hereto.
Tax Parcel Nos.: 152166-000, 152798-000, 152800-000, 152903-000, 152905-000, 152907-000, and 153104-000.

RECITALS

A. Grantor, Alcoa Inc. ("Alcoa"), hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental restrictive covenant (hereafter "Covenant") made this 26 day of March 2009 in favor of the State of Washington, Department of Ecology ("Ecology"). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act ("MTCA"), RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

B. This Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by and between Alcoa and its successors and assigns, and Ecology and its successors and assigns.

C. The undersigned, Alcoa, is the fee owner of the real property in the County of Clark, State of Washington, that is subject to this Covenant (hereafter "Property"). The Property is legally described in Exhibit A attached to this Covenant and made a part hereof.

D. A remedial action occurred at the Property that is the subject of this Covenant (hereafter "Remedial Action"). The Remedial Action is described in the Consent Decree

entered in the *State of Washington Department of Ecology v. Alcoa Inc.*, Clark County Superior Court No. 09-2-00247-2, and in attachments to the Decree and in documents referenced in the Decree. These documents are on file at Ecology's Olympia Washington Office.

E. As described in detail in the Cleanup Action Plan attached to the Consent Decree, this Covenant is required because after the Remedial Action is complete, residual concentrations of fluoride, cyanide, vinyl chloride, polychlorinated biphenyls ("PCBs"), trichloroethylene ("TCE"), polycyclic aromatic hydrocarbons ("PAHs") and total petroleum hydrocarbons ("TPH") will remain at the Property which exceed Cleanup Levels for soil (fluoride, vinyl chloride, TCE, TPH, PCBs and PAHs) and/or groundwater (fluoride, cyanide, TPH, TCE and vinyl chloride) established in accordance with WAC 173-340-720 and 740.

F. Within the Property are located 3 separate and distinct areas where, as part of the Remedial Action, soils having residual concentrations of contaminants (fluoride, vinyl chloride, PCBs, TCE, and PAHs) above Unrestricted Use Cleanup Levels established in accordance with WAC 173-340-740 remain in place (the "Restricted Sites"). The Restricted Sites, known as the East Landfill(vinyl chloride, fluoride, TCE, PCBs and PAHs), the North and North 2 Landfill Area (PCBs and PAHs), and the Shoreline Area (PCBs and PAHs), are more particularly described in Exhibits B, C and D attached to this Covenant and made a part hereof.

G. This Restrictive Covenant is in addition to the prior Restrictive Covenants concerning the Property which were recorded at 9212160226 and 9603120195 by the Recording Division of the Clark County Auditor's Office.

DECLARATION OF RESTRICTIONS AND COVENANTS APPLICABLE TO ENTIRE PROPERTY

Alcoa makes the following declaration 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 Alcoa and all future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1. The Property shall be used solely for industrial purposes, as described in RCW 70.105D.020(23) and defined in and allowed under the City of Vancouver's zoning regulations codified at Title 20 of the Vancouver Municipal Code and/or Clark County's Unified Development Code codified at Title 40 of the Clark County Code.

Section 2: Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained within the Restricted Sites as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology. Some examples of activities that are prohibited in the Restricted Sites

include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

Section 3. Owner is prohibited from extracting through wells or by other means or otherwise using the groundwater at the Property for consumption or other beneficial uses, as long as the hazardous substance concentrations exceed the acceptable risk level for such use, as determined by water quality at the wellhead. These prohibitions shall not apply to extraction of groundwater associated with groundwater treatment or monitoring activities approved by Ecology or to temporary dewatering activities related to construction, development, or the installation of utilities or other subsurface infrastructure at the Property. Owner shall conduct a waste determination on any groundwater that is extracted during such monitoring, treatment, or dewatering activities and handle, store and manage the water according to applicable laws and regulations. In addition to these restrictions and limitations concerning groundwater use at the Property generally, Owner is strictly prohibited from installing wells and/or extracting groundwater adjacent to or in the vicinity of the East Landfill as such could result in migration of trichloroethylene from that area.

Section 4. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 5. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 6. The Owner of the Property, or any portion thereof, must give thirty (30) days advance written notice to Ecology of the Owner's intent to convey any interest in the Property or said portion thereof. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action in accordance with the Consent Decree and Cleanup Action Plan.

Section 7. The Owner must restrict leases to uses and activities consistent with the Covenant and notify all lessees of the restrictions on the use of the Property. The Owner must include in any instrument conveying any interest in any portion of the property, notice of this restrictive covenant.

Section 8. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment. If Ecology approves of an inconsistent use, this Restrictive Covenant must be amended to reflect the change.

Section 9. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take

samples, to inspect remedial actions conducted at the Property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action.

Section 10. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this 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 if Ecology, after public notice and opportunity for comment, concurs.

ALCOA INC.

Mark A. Stiffler
Director Asset Planning and Management

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

[Name] Merley F. McCall
[Title] Industrial Section Manager

Commonwealth Of Pennsylvania)
) ss:
County of Allegheny)

On this 19th day of March, 2009, I certify that Mark A. Stiffler personally appeared before me, acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to execute this instrument, and acknowledged it as the Director of Asset Planning and Management of Alcoa Inc. to be the free and voluntary act and deed of such party for the uses and purposes mentioned in the instrument.

Jacqueline L Murfin
Notary Public in and for the
Commonwealth of Pennsylvania

My appointment expires:

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Jacqueline L. Murfin, Notary Public
City Of Pittsburgh, Allegheny County
My Commission Expires Jan. 24, 2011
Member, Pennsylvania Association of Notaries

State of Washington)
) ss:
County of Thurston)

On this 23rd day of March, 2009, I certify that Merlyn McCall personally appeared before me, acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to execute this instrument, and acknowledged it as the Industrial Section Manager of State of Washington Department of Ecology to be the free and voluntary act and deed of such party for the uses and purposes mentioned in the instrument.

Kim A. Sigman
Notary Public in and for the
State of Washington

My appointment expires: 9-10-11

KIM A. SIGMAN
NOTARY
PUBLIC
9-10-11
STATE OF WASHINGTON
COMMISSION EXPIRES

EXHIBIT A

Legal Description of Property
(See Next Page)

EXHIBIT 'A'

LEGAL DESCRIPTION:

Parcel I

A TRACT OF LAND LOCATED IN SECTIONS 17, 18, 19 AND 20, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591"

THENCE ALONG THE SOUTHERN LINES OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9206090248 THE FOLLOWING COURSES:

SOUTH 65°59'34" EAST, 861.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 62°05'21" EAST, 78.63 FEET A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°53'48" EAST, 278.45 FEET TO THE SOUTHWESTERN LINE OF THAT PROPERTY CONVEYED TO THE UNITED STATES OF AMERICA AS DESCRIBED IN AUDITOR'S FILE E36885;

THENCE ALONG SAID SOUTHWESTERN SOUTH 40°06'49" EAST, 9.21 FEET THE EASTERN LINE OF THAT PROPERTY CONVEYED TO ALCOA, INC. AS DESCRIBED IN AUDITOR'S FILE 3451521;

THENCE ALONG SAID EASTERN LINE SOUTH 23°47'45" WEST, 526.31 FEET;

THENCE ALONG THE SOUTHERN AND EASTERN LINES OF THOSE PROPERTIES DESCRIBED IN AUDITOR'S FILES 9609250325 AND 9506230321 THE FOLLOWING COURSES:

SOUTH 66°56'33" EAST, 61.43 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 22°18'35" WEST, 26.79 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 66°01'38" EAST, 546.86 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 25°14'59" WEST, 5.80 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 69°29'52" EAST, 1.06 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°56'09" WEST, 152.66 FEET TO A POINT OF NON-TANGENT CURVATURE WITH A 220.00 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS NORTH 07°47'59" EAST;

THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 19°29'02" (THE CHORD BEARS NORTH 88°03'28" EAST, 74.45 FEET) AN ARC DISTANCE OF 74.81 FEET;

THENCE NORTH 78°18'57" EAST, 61.62 FEET TO A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 220.00 FEET RADIUS CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 54°14'23" (THE CHORD BEARS NORTH 51°11'45" EAST, 200.58 FEET) AN ARC DISTANCE OF 208.27 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°04'34" EAST, 471.83 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591" AT A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 270.00 FEET RADIUS CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 38°56'34" (THE CHORD BEARS NORTH 04°36'17" EAST, 180.00 FEET) AN ARC DISTANCE OF 183.51 FEET TO A POINT OF REVERSE CURVATURE;

THENCE ALONG THE ARC OF A 330.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 22°54'37" (THE CHORD BEARS NORTH 03°24'42" WEST, 131.08 FEET) AN ARC DISTANCE OF 131.95 FEET;

THENCE NORTH 08°05'38" EAST, 30.56 FEET TO THE SOUTHERN RIGHT-OF-WAY LINE OF LOWER RIVER ROAD AT A POINT OF NON-TANGENT CURVATURE WITH A 497.00 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 02°19'17" EAST;

THENCE ALONG SAID RIGHT-OF-WAY CURVE THROUGH A CENTRAL ANGLE OF 06°58'17" (THE CHORD BEARS SOUTH 88°50'08" EAST, 60.44 FEET) AN ARC DISTANCE OF 60.47 FEET;

THENCE ALONG THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1A THE FOLLOWING COURSES:

SOUTH 08°05'03" WEST, 37.80 FEET TO A POINT OF NON-TANGENT CURVATURE WITH A 270.00 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 81°57'23" EAST;

THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 22°54'37" (THE CHORD BEARS SOUTH 03°24'41" EAST, 107.24 FEET) AN ARC DISTANCE OF 107.96 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT A POINT OF REVERSE CURVATURE;

THENCE ALONG THE ARC OF A 330.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 38°56'34" (THE CHORD BEARS SOUTH 04°36'17" WEST, 220.00 FEET) AN ARC DISTANCE OF 224.29 FEET;

THENCE SOUTH 24°04'34" WEST, 471.83 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 280.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 36°12'35" (THE CHORD BEARS SOUTH 42°10'52" WEST, 174.02 FEET) AN ARC DISTANCE OF 176.95 FEET TO THE NORTHERN RIGHT-OF-WAY OF THE SPOKANE, PORTLAND AND SEATTLE RAILROAD AS DESCRIBED IN AUDITOR'S FILE E24906;

THENCE ALONG SAID RIGHT-OF-WAY LINE SOUTH 73°39'14" WEST, 307.82 FEET TO THE WESTERN LINE OF THE VAN ALMAN DONATION LAND CLAIM;

THENCE THEN ALONG SAID WESTERN LINE SOUTH 09°54'57" WEST, 497.01 FEET TO THE SOUTHERN RIGHT-OF-WAY LINE THE SPOKANE, PORTLAND AND SEATTLE RAILROAD;

THENCE ALONG SAID SOUTHERN RIGHT-OF-WAY NORTH 39°07'39" EAST, 468.36 FEET TO A POINT OF CURVATURE;

THENCE CONTINUING ALONG SAID RIGHT-OF-WAY ALONG THE ARC OF A 739.50 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 33°02'42" (THE CHORD BEARS NORTH 55°39'00" EAST, 420.62 FEET) AN ARC DISTANCE OF 426.50 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT ITS INTERSECTION WITH THE WESTERN LINE OF THAT PROPERTY CONVEYED TO CLARK COUNTY AS DESCRIBED IN AUDITOR'S FILE 9804030486;

THENCE ALONG THE WESTERN AND SOUTHERN LINES OF SAID CLARK COUNTY PROPERTY THE FOLLOWING COURSES:

SOUTH 04°28'45" WEST, 79.82 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT A POINT OF NON-TANGENT CURVATURE WITH A 691.97 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 21°15'02" EAST;

THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 29°41'58" (THE CHORD BEARS SOUTH 53°53'59" WEST, 354.68 FEET) AN ARC DISTANCE OF 358.68 FEET;

THENCE SOUTH 39°03'00" WEST, 741.81 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE SOUTH 24°08'35" WEST, 28.79 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE SOUTH 89°38'19" EAST, 352.44 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE NORTH 82°45'01" EAST, 712.86 FEET TO THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1B;

THENCE ALONG SAID WESTERN LINE SOUTH 35°02'02" WEST, 44.85 FEET;

THENCE CONTINUING ALONG SAID WESTERN LINE SOUTH 35°00'15" WEST, 749.59 FEET;

THENCE CONTINUING ALONG SAID WESTERN LINE SOUTH 35°00'15" WEST 1.05 FEET TO THE ORDINARY HIGH WATER LINE OF THE COLUMBIA RIVER;

THENCE ALONG THE ORDINARY HIGH WATER LINE THE FOLLOWING COURSES:

NORTH 89°29'12" WEST, 9.52 FEET;

THENCE NORTH 77°40'26" WEST, 16.60 FEET;

THENCE SOUTH 86°36'31" WEST, 77.49 FEET;

THENCE NORTH 78°50'38" WEST, 173.64 FEET;

THENCE NORTH 84°19'36" WEST, 254.87 FEET;

THENCE NORTH 76°30'55" WEST, 20.14 FEET;

THENCE NORTH 69°05'45" WEST, 310.36 FEET;

THENCE NORTH 73°25'50" WEST, 31.58 FEET;

THENCE NORTH 78°01'48" WEST, 41.07 FEET;

THENCE NORTH 75°14'34" WEST, 70.64 FEET;

THENCE NORTH 67°13'09" WEST, 106.03 FEET;

THENCE NORTH 85°08'56" WEST, 14.42 FEET;

THENCE NORTH 69°41'50" WEST, 102.24 FEET;

THENCE NORTH 62°47'21" WEST, 22.10 FEET;

THENCE NORTH 85°06'24" WEST, 12.19 FEET;

THENCE NORTH 78°40'23" WEST, 23.96 FEET;

THENCE NORTH 68°36'38" WEST, 11.78 FEET;

THENCE NORTH 54°35'29" WEST, 28.64 FEET;

THENCE NORTH 61°34'46" WEST, 105.07 FEET;

THENCE NORTH 70°03'25" WEST, 111.12 FEET;

THENCE NORTH 61°56'51" WEST, 18.49 FEET;

THENCE NORTH 66°35'10" WEST, 27.88 FEET;

THENCE NORTH 71°57'33" WEST, 28.64 FEET;

THENCE NORTH 61°44'43" WEST, 36.12 FEET;

THENCE NORTH 70°11'57" WEST, 27.01 FEET;

THENCE NORTH 75°26'06" WEST, 88.93 FEET;

THENCE NORTH 69°07'46" WEST, 82.68 FEET;

THENCE NORTH 85°00'29" WEST, 9.42 FEET;

THENCE NORTH 79°39'38" WEST, 24.20 FEET;

THENCE NORTH 71°31'12" WEST, 49.99 FEET;

THENCE NORTH 76°56'35" WEST, 34.63 FEET;

THENCE NORTH 79°53'56" WEST, 6.78 FEET;

THENCE NORTH 74°55'38" WEST, 53.64 FEET;

THENCE NORTH 73°16'30" WEST, 41.35 FEET;

THENCE NORTH 69°24'34" WEST, 52.13 FEET;

THENCE NORTH 62°17'46" WEST, 32.15 FEET;

THENCE NORTH 65°47'53" WEST, 33.52 FEET;

THENCE NORTH 63°32'11" WEST, 25.50 FEET;

THENCE NORTH 55°03'48" WEST, 52.98 FEET;

THENCE NORTH 34°13'21" WEST, 10.50 FEET;

THENCE NORTH 48°48'47" WEST, 8.46 FEET;

THENCE NORTH 67°23'10" WEST, 34.95 FEET;

THENCE NORTH 62°28'18" WEST, 21.35 FEET;

THENCE NORTH 60°53'29" WEST, 42.70 FEET;

THENCE NORTH 62°43'59" WEST, 61.76 FEET;

THENCE NORTH 47°54'15" WEST, 13.10 FEET;

THENCE NORTH 57°42'47" WEST, 34.21 FEET;

THENCE NORTH 45°30'34" WEST, 26.68 FEET;

THENCE NORTH 63°11'33" WEST, 91.74 FEET;

THENCE NORTH 63°52'03" WEST, 43.89 FEET;

THENCE NORTH 68°40'24" WEST, 45.31 FEET;

THENCE NORTH 63°18'56" WEST, 41.82 FEET;

THENCE NORTH 55°08'42" WEST, 40.63 FEET;

THENCE NORTH 65°23'25" WEST, 39.33 FEET;

THENCE NORTH 68°13'41" WEST, 36.75 FEET;

THENCE NORTH 59°46'47" WEST, 20.47 FEET;

THENCE NORTH 56°29'02" WEST, 23.33 FEET;

THENCE NORTH 73°15'43" WEST, 30.91 FEET;

THENCE NORTH 65°05'42" WEST, 34.79 FEET TO THE EASTERN LINE OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC AS DESCRIBED IN AUDITOR'S FILE 8706250115;

THENCE ALONG THE EASTERN LINE OF SAID PROPERTY THE FOLLOWING COURSES:

NORTH 24°51'44" EAST, 19.90 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°51'44" EAST, 75.00 FEET;

THENCE SOUTH 67°02'30" EAST, 150.95 FEET;

THENCE SOUTH 24°24'13" WEST, 8.03 FEET;

THENCE SOUTH 65°32'25" EAST, 139.46 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°25'27" EAST, 190.47 FEET TO A BRASS SCREW IN LEAD;

THENCE SOUTH 65°26'27" EAST, 75.44 FEET;

THENCE NORTH 24°33'33" EAST, 16.47 FEET;

THENCE SOUTH 65°26'27" EAST, 3.23 FEET TO A BRASS SCREW IN LEAD;

THENCE NORTH 24°02'00" EAST, 8.74 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°37'38" EAST, 30.69 FEET;

THENCE NORTH 24°22'22" EAST, 43.42 FEET;

THENCE SOUTH 66°03'36" EAST, 202.10 FEET;

THENCE SOUTH 21°35'33" WEST, 53.64 FEET;

THENCE SOUTH 66°03'43"EAST, 337.03 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°23'48" EAST, 332.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°37'48" EAST, 491.35 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°34'33" WEST, 17.72 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°13'05" EAST, 25.00 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 23°39'31" EAST, 602.51 FEET;

THENCE NORTH 65°35'48" WEST, 483.30 FEET TO A SPINDLE;

THENCE NORTH 09°15'46" WEST, 56.18 FEET TO A SPINDLE;

THENCE NORTH 24°23'13" EAST, 214.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°27'24" WEST, 22.46 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°16'52" EAST, 40.03 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°35'26" WEST, 440.76 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591",

THENCE NORTH 24°23'35" EAST, 253.74 FEET TO A BRASS SCREW IN LEAD;

THENCE SOUTH 65°35'08" EAST, 29.66 FEET TO A BRASS SCREW IN LEAD;

THENCE NORTH 19°44'44" WEST, 68.68 FEET;

THENCE NORTH 65°36'36" WEST, 109.69 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°23'37" EAST, 435.28 FEET TO THE POINT OF BEGINNING.

EXCEPTING THERE FROM:

COMMENCING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°22'35" EAST, 2,450.69 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591" AND THE **TRUE POINT OF BEGINNING**;

THENCE SOUTH 65°57'51" EAST, 137.31 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°06'06" WEST, 125.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°57'29" WEST, 137.25 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°04'31" EAST, 125.66 FEET TO THE POINT OF BEGINNING.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.

Parcel II

A TRACT OF LAND LOCATED IN SECTIONS 18 AND 19, TOWNSHIP 2 NORTH, RANGE 1 EAST AND SECTION 13, TOWNSHIP 2 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 83°36'37" WEST, 2,411.16 FEET TO A POINT ON THE SOUTHERN LINE OF THE TIDEWATER TRACT BEING THE MOST NORTHERN NORTHWEST CORNER OF THAT PROPERTY CONVEYED TO RUSSELL TOWBOAT AND MOORAGE CO. AS DESCRIBED IN AUDITOR'S FILE 9501260058 AND THE TRUE POINT OF BEGINNING;

THENCE ALONG THE WESTERN LINE OF SAID RUSSELL PROPERTY THE FOLLOWING COURSES:

SOUTH 25°51'55" WEST, 511.44 FEET;

THENCE SOUTH 65°53'18" EAST, 426.16 FEET;

THENCE SOUTH 49°01'37" WEST, 182.34 FEET;

THENCE SOUTH 49°01'33" WEST, 782.97 FEET;

THENCE NORTH 65°32'10" WEST, 53.72 FEET;

THENCE NORTH 08°41'22" WEST, 212.96 FEET;

THENCE NORTH 66°14'51" WEST, 109.99 FEET TO THE SOUTHERN MOST CORNER OF THAT PROPERTY CONVEYED TO VANALCO INC AS DESCRIBED AS PARCEL 1 AUDITOR'S FILE 9501260083;

THENCE ALONG THE EASTERN AND NORTHERN BOUNDARY OF SAID VANALCO PROPERTY THE FOLLOWING COURSES:

NORTH 23°44'52" EAST, 93.21 FEET;

THENCE SOUTH 72°34'32" EAST, 28.67 FEET;

THENCE SOUTH 78°41'13" EAST, 29.76 FEET;

THENCE SOUTH 88°59'26" EAST, 29.49 FEET;

THENCE NORTH 84°48'34" EAST, 28.92 FEET;

THENCE NORTH 68°13'10" EAST, 40.09 FEET;

THENCE NORTH 40°50'00" EAST, 30.39 FEET;

THENCE NORTH 27°26'22" EAST, 49.86 FEET;

THENCE SOUTH 64°08'05" EAST, 96.65 FEET;

THENCE NORTH 25°51'55" EAST, 376.04 FEET;

THENCE NORTH 65°53'18" WEST, 993.55 FEET TO THE SOUTHEASTERN LINE OF THAT PROPERTY CONVEYED TO TIDEWATER ENVIRONMENTAL SERVICES, INC AS DESCRIBED IN AUDITOR'S FILE 9104290287;

THENCE ALONG SAID SOUTHEASTERN LINE NORTH 23°15'04" EAST, 606.83 FEET TO A FOUND ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE ALONG THE SOUTHERN LINE OF SAID TIDEWATER TRACT SOUTH 65°25'50" EAST, 1,021.02 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 19.87 ACRES MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.

Parcel III

A TRACT OF LAND LOCATED IN NORTHEAST ONE-QUARTER OF SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°22'35" EAST, 2,450.69 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591" AND THE **TRUE POINT OF BEGINNING;**

THENCE SOUTH 65°57'51" EAST, 137.31 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°06'06" WEST, 125.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°57'29" WEST, 137.25 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°04'31" EAST, 125.66 FEET TO THE POINT OF BEGINNING.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.

EXHIBIT B

Legal Description of the East Landfill
(See Next Page)

EXHIBIT 'B'
EAST LANDFILL DESCRIPTION

A TRACT OF LAND LOCATED IN SECTIONS 19 AND 20, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE ALONG THE SOUTHERN LINES OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9208090248 SOUTH 65°59'34" EAST, 861.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°54'21" EAST, 2,655.23 FEET TO **TRUE POINT OF BEGINNING** AT THE INTERSECTION OF THE ORDINARY HIGH WATER LINE OF THE COLUMBIA RIVER WITH THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1B;

THENCE ALONG THE ORDINARY HIGH WATER LINE THE FOLLOWING COURSES:

THENCE NORTH 89°29'12" WEST, 9.52 FEET;

THENCE NORTH 77°40'26" WEST, 16.60 FEET;

THENCE SOUTH 86°36'31" WEST, 77.49 FEET;

THENCE NORTH 78°50'38" WEST, 173.64 FEET;

THENCE NORTH 84°19'36" WEST, 254.87 FEET;

THENCE NORTH 76°30'55" WEST, 20.14 FEET;

THENCE NORTH 69°05'45" WEST, 266.22 FEET;

THENCE LEAVING THE ORDINARY HIGH WATER LINE NORTH 25°18'16" EAST, 449.46 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE SOUTH 89°38'19" EAST, 352.44 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE NORTH 82°45'01" EAST, 712.86 FEET TO THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1B;

THENCE ALONG SAID WESTERN LINE SOUTH 35°02'02" WEST, 44.85 FEET;

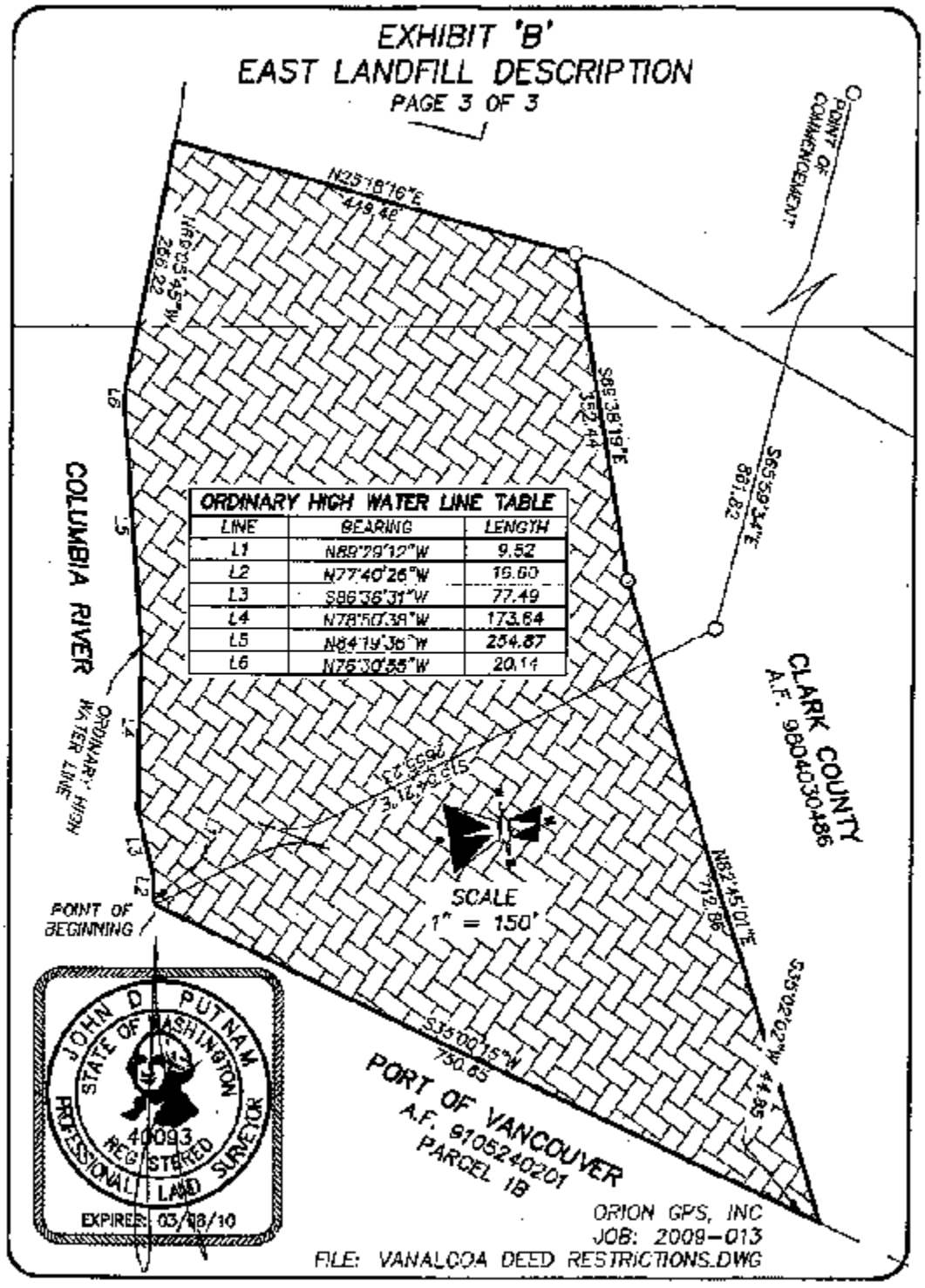
THENCE CONTINUING ALONG SAID WESTERN LINE SOUTH 35°00'15" WEST, 750.65 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 505,061 SQUARE FEET / 11.59 ACRES, MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.



EXHIBIT 'B'
EAST LANDFILL DESCRIPTION
PAGE 3 OF 3



ORDINARY HIGH WATER LINE TABLE		
LINE	BEARING	LENGTH
L1	N89°29'12"W	9.52
L2	N77°40'26"W	16.60
L3	S86°36'31"W	77.49
L4	N78°50'39"W	173.64
L5	N84°19'36"W	254.87
L6	N75°30'55"W	20.14

EXHIBIT C

Legal Description of the North and North 2 Landfills
(See Next Page)

EXHIBIT 'C'
NORTH AND NORTH 2 LANDFILL DESCRIPTION

A TRACT OF LAND LOCATED IN SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE ALONG THE SOUTHERN LINES OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9206090248 SOUTH 65°59'34" EAST, 861.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°39'29" EAST, 1,256.50 FEET TO THE POINT OF INTERSECTION OF THE NORTHERN RIGHT-OF-WAY OF THE SPOKANE, PORTLAND AND SEATTLE RAILROAD AS DESCRIBED IN AUDITOR'S FILE E24906 WITH THE WESTERN LINE OF THE VAN ALMAN DONATION LAND CLAIM BEING THE **TRUE POINT OF BEGINNING;**

THENCE ALONG SAID WESTERN LINE SOUTH 09°54'57" WEST, 421.20 FEET;

THENCE SOUTH 39°01'25" WEST, 210.18 FEET TO A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 450.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 20°00'08" (THE CHORD BEARS SOUTH 49°01'29" WEST, 156.30 FEET) AN ARC DISTANCE OF 157.10 FEET;

THENCE SOUTH 59°01'33" WEST, 49.26 FEET;

THENCE NORTH 15°47'45" WEST, 110.37 FEET;

THENCE NORTH 76°13'17" WEST, 32.27 FEET;

THENCE NORTH 80°08'54" WEST, 105.61 FEET;

THENCE NORTH 16°55'31" EAST, 819.47 FEET;

THENCE NORTH 88°14'48" EAST, 47.29 FEET;

THENCE SOUTH 75°52'42" EAST, 535.80 FEET TO THE NORTHERN RIGHT-OF-WAY OF THE SPOKANE, PORTLAND AND SEATTLE RAILROAD AS DESCRIBED IN AUDITOR'S FILE E24906;

THENCE ALONG SAID RIGHT-OF-WAY SOUTH 73°39'14" WEST, 286.47 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 315,292 SQUARE FEET / 7.24 ACRES, MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.



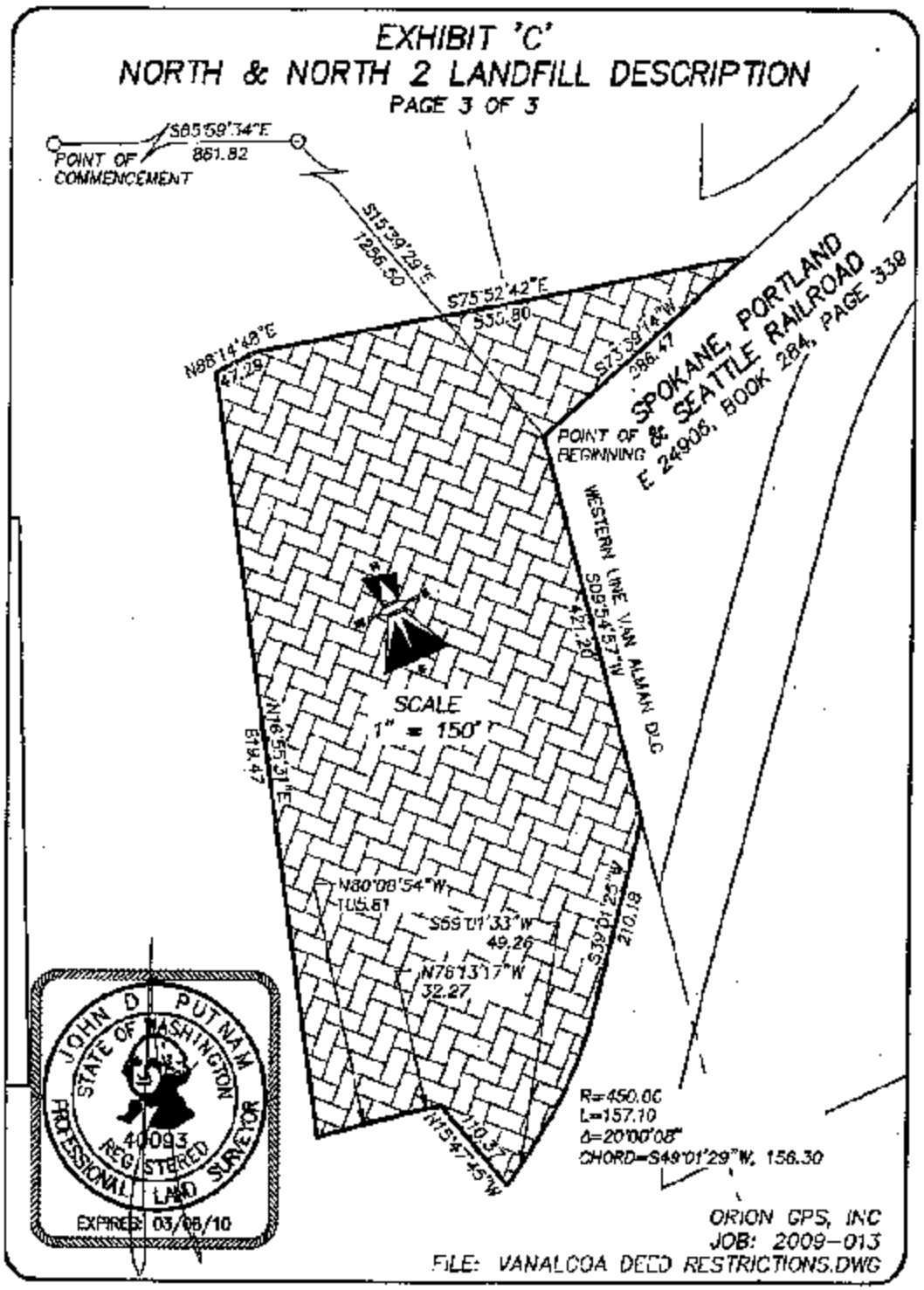

EXHIBIT 'C'
NORTH & NORTH 2 LANDFILL DESCRIPTION
PAGE 3 OF 3
POINT OF COMMENCEMENT
S85°59'34"E
861.82
S15°39'29"E
1256.50
S75°52'42"E
550.80
S73°39'14"W
386.47
N88°14'48"E
47.29
POINT OF BEGINNING
SPOKANE, PORTLAND & SEATTLE RAILROAD
E 24906, BOOK 284, PAGE 338
WESTERN LINE VAN ALMAN D.C.
S05°54'57"W
421.20
N16°55'31"E
619.47
SCALE
1" = 150'
N30°08'54"W
105.51
S55°01'33"W
49.26
N76°13'17"W
32.27
S39°01'25"W
210.19
N15°47'45"W
210.37
R=450.00
L=157.10
Δ=20°00'08"
CHORD=S49°01'29"W, 156.30
JOHN D PUTNAM
STATE OF WASHINGTON
40093
REGISTERED
PROFESSIONAL LAND SURVEYOR
EXPIRES: 03/06/10
ORION GPS, INC
JOB: 2009-013
FILE: VANALCOA DEED RESTRICTIONS.DWG

EXHIBIT D

Legal Description of the Shoreline Area
(See Next Page)

EXHIBIT 'D'
SHORELINE AREA DESCRIPTION

A TRACT OF LAND LOCATED IN SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE ALONG THE SOUTHERN LINES OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9206090248 SOUTH 85°59'34" EAST, 861.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°54'21" EAST, 2,655.23 FEET TO **TRUE POINT OF BEGINNING** AT THE INTERSECTION OF THE ORDINARY HIGH WATER LINE OF THE COLUMBIA RIVER WITH THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1B;

THENCE ALONG THE ORDINARY HIGH WATER LINE THE FOLLOWING COURSES:

NORTH 89°29'12" WEST, 9.52 FEET;

THENCE NORTH 77°40'26" WEST, 16.60 FEET;

THENCE SOUTH 86°36'31" WEST, 77.49 FEET;

THENCE NORTH 78°50'38" WEST, 173.64 FEET;

THENCE NORTH 84°19'36" WEST, 254.87 FEET;

THENCE NORTH 76°30'55" WEST, 20.14 FEET;

THENCE NORTH 69°05'45" WEST, 266.22 FEET TO THE TRUE POINT OF BEGINNING;

THENCE CONTINUE ALONG THE ORDINARY HIGH WATER LINE NORTH 69°05'45" WEST, 44.14 FEET;

THENCE NORTH 73°25'50" WEST, 31.58 FEET;

THENCE NORTH 78°01'48" WEST, 41.07 FEET;

THENCE NORTH 75°14'34" WEST, 70.64 FEET;

THENCE NORTH 67°13'09" WEST, 106.03 FEET;

THENCE NORTH 85°08'56" WEST, 14.42 FEET;

THENCE NORTH 69°41'50" WEST, 102.24 FEET;

THENCE NORTH 62°47'21" WEST, 22.10 FEET;

THENCE NORTH 85°06'24" WEST, 12.19 FEET;

THENCE NORTH 76°40'23" WEST, 23.96 FEET;

THENCE NORTH 66°36'38" WEST, 11.78 FEET;

THENCE NORTH 54°35'29" WEST, 28.64 FEET;

THENCE NORTH 61°34'46" WEST, 105.07 FEET;

THENCE NORTH 70°03'25" WEST, 111.12 FEET;

THENCE NORTH 61°56'51" WEST, 10.49 FEET;

THENCE NORTH 66°35'10" WEST, 27.88 FEET;

THENCE NORTH 71°57'33" WEST, 28.64 FEET;

THENCE NORTH 61°44'43" WEST, 36.12 FEET;

THENCE NORTH 70°11'57" WEST, 27.01 FEET;

THENCE NORTH 75°26'06" WEST, 88.93 FEET;

THENCE NORTH 69°07'46" WEST, 82.68 FEET;

THENCE NORTH 85°00'29" WEST, 9.41 FEET;

THENCE NORTH 79°39'38" WEST, 24.20 FEET;

THENCE NORTH 71°31'12" WEST, 49.99 FEET;

THENCE NORTH 76°56'35" WEST, 34.63 FEET;

THENCE NORTH 79°53'56" WEST, 6.78 FEET;

THENCE NORTH 74°56'38" WEST, 53.64 FEET;

THENCE NORTH 73°16'30" WEST, 41.35 FEET;

THENCE NORTH 69°24'34" WEST, 52.13 FEET;

THENCE NORTH 62°17'46" WEST, 32.15 FEET;

THENCE NORTH 65°47'53" WEST, 33.52 FEET;

THENCE NORTH 63°32'11" WEST, 25.50 FEET;

THENCE NORTH 55°03'48" WEST, 52.98 FEET;

THENCE NORTH 34°13'21" WEST, 10.50 FEET;

THENCE NORTH 48°48'47" WEST, 8.46 FEET;

THENCE NORTH 67°23'10" WEST, 34.95 FEET;

THENCE NORTH 62°28'18" WEST, 21.35 FEET;

THENCE NORTH 60°53'29" WEST, 42.70 FEET;

THENCE NORTH 62°43'59" WEST, 61.76 FEET;

THENCE NORTH 47°54'15" WEST, 13.10 FEET;

THENCE NORTH 57°42'47" WEST, 34.21 FEET;

THENCE NORTH 45°30'34" WEST, 28.68 FEET;

THENCE NORTH 63°11'33" WEST, 91.74 FEET;

THENCE NORTH 63°52'03" WEST, 43.89 FEET;

THENCE NORTH 68°40'24" WEST, 45.31 FEET;

THENCE NORTH 63°18'56" WEST, 41.82 FEET;

THENCE NORTH 55°08'42" WEST, 40.63 FEET;

THENCE NORTH 65°23'25" WEST, 39.33 FEET;

THENCE NORTH 68°13'41" WEST, 36.75 FEET;

THENCE NORTH 59°46'47" WEST, 20.47 FEET;

THENCE NORTH 56°29'02" WEST, 23.33 FEET;

THENCE NORTH 73°15'43" WEST, 30.91 FEET;

THENCE NORTH 65°05'42" WEST, 34.79 FEET TO THE EASTERN LINE OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC AS DESCRIBED IN AUDITOR'S FILE 8706250115;

THENCE ALONG THE EASTERN LINE OF SAID PROPERTY NORTH 24°51'44" EAST, 77.61 FEET;

THENCE SOUTH 65°49'16" EAST, 150.32 FEET;

THENCE SOUTH 22°26'15" WEST, 19.56 FEET;

THENCE SOUTH 65°18'35" EAST, 749.17 FEET;

THENCE SOUTH 66°11'01" EAST, 73.82 FEET;

THENCE SOUTH 69°43'12" EAST, 53.83 FEET;

THENCE SOUTH 75°14'17" EAST, 47.47 FEET;

THENCE SOUTH 81°49'10" EAST, 35.53 FEET;

THENCE SOUTH 77°37'51" EAST, 49.50 FEET;

THENCE SOUTH 68°59'58" EAST, 67.05 FEET;

THENCE SOUTH 65°30'32" EAST, 124.87 FEET;

THENCE SOUTH 64°19'30" EAST, 168.53 FEET;

THENCE SOUTH 67°05'55" EAST, 373.27 FEET;

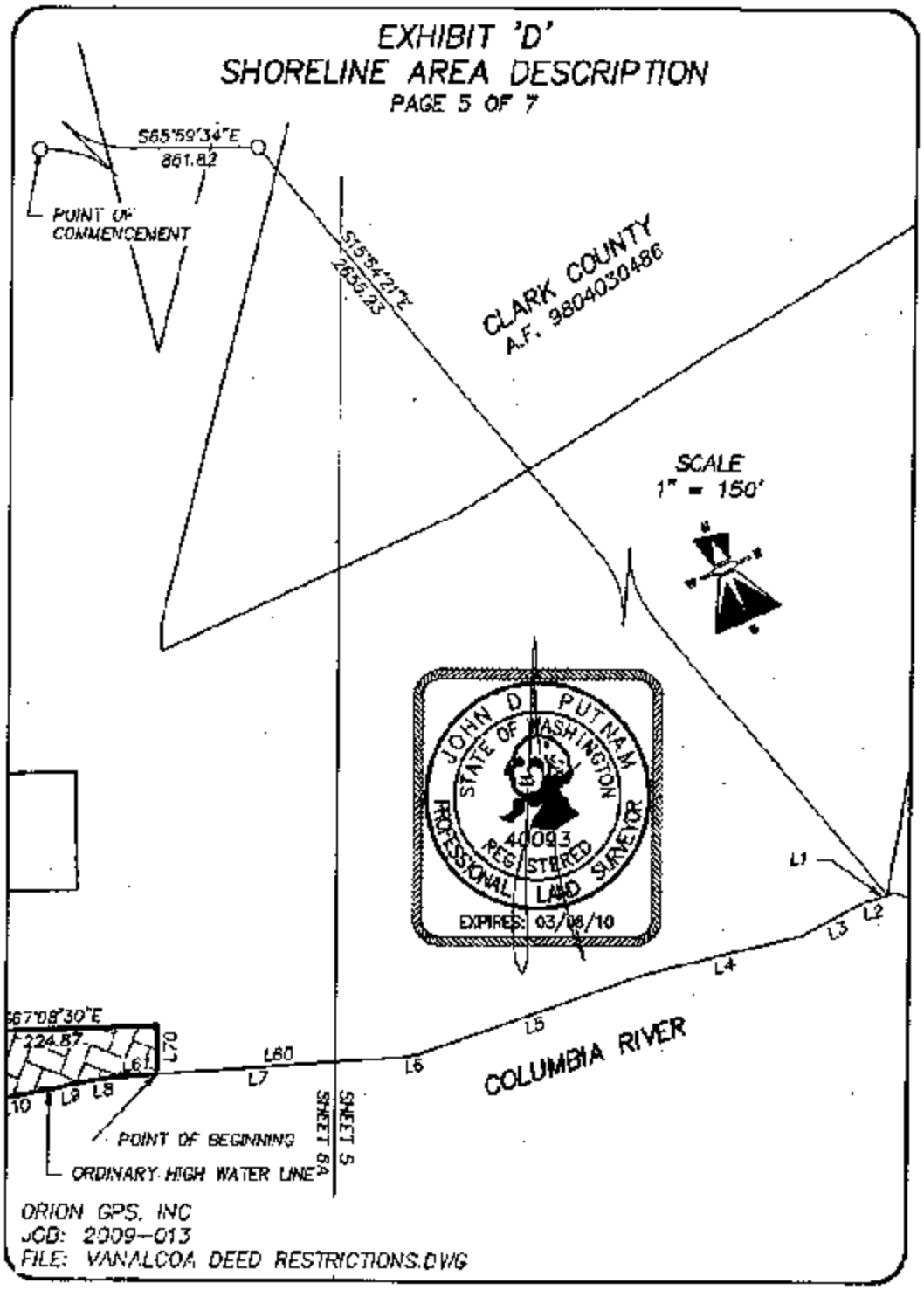
THENCE SOUTH 67°08'30" EAST, 224.87 FEET;

THENCE SOUTH 25°18'16" WEST, 51.22 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 177,584 SQUARE FEET OR 4.08 ACRES, MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.




EXHIBIT 'D'
SHORELINE AREA DESCRIPTION
PAGE 5 OF 7
S65°59'34"E
861.82
POINT OF COMMENCEMENT
S15°54'21"E
2655.23
CLARK COUNTY
A.F. 9804030486
SCALE
1" = 150'
JOHN D PUTNAM
STATE OF WASHINGTON
40093
REGISTERED
PROFESSIONAL LAND SURVEYOR
EXPIRES: 03/08/10
L1
L2
L3
L4
L5
L6
L7
L60
L61
L70
L8
L9
L10
S67°08'30"E
224.87
COLUMBIA RIVER
POINT OF BEGINNING
ORDINARY HIGH WATER LINE
SHEET 5
SHEET 6A
ORION GPS, INC
JOB: 2009-013
FILE: VANALCOA DEED RESTRICTIONS.DWG

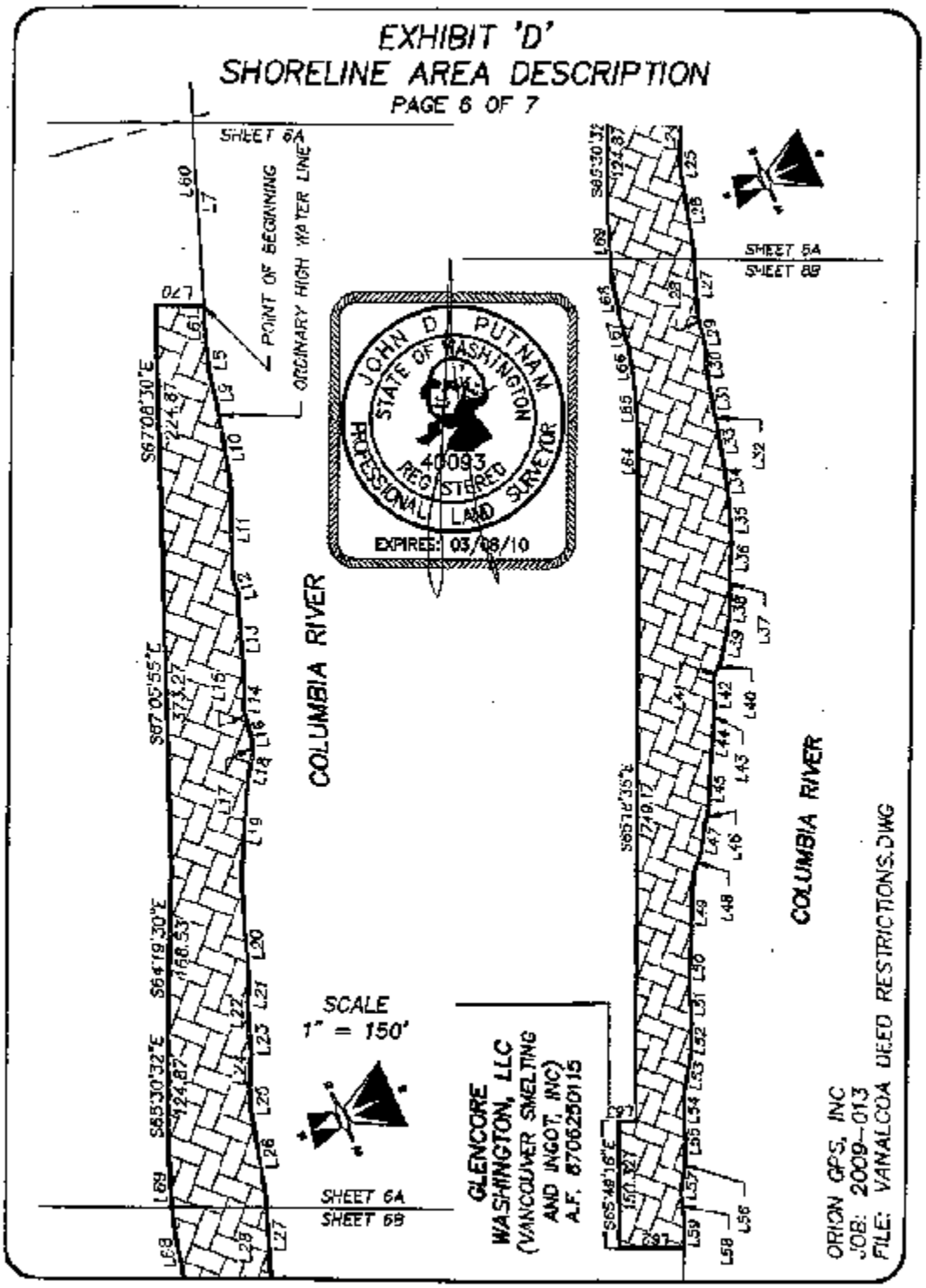

EXHIBIT 'D'
SHORELINE AREA DESCRIPTION
PAGE 6 OF 7
SHEET 6A
POINT OF BEGINNING
ORDINARY HIGH WATER LINE
S67°08'30"E
224.87'
S67°05'55"E
377.27'
S64°19'30"E
166.33'
S85°30'32"E
424.87'
S85°30'32"E
424.87'
S85°48'16"E
150.27'
S85°14'35"E
278.17'
JOHN D. PUTNAM
STATE OF WASHINGTON
40093
REGISTERED
PROFESSIONAL LAND SURVEYOR
EXPIRES: 03/08/10
COLUMBIA RIVER
COLUMBIA RIVER
SCALE
1" = 150'
SHEET 6A
SHEET 6B
SHEET 6A
SHEET 6B
GLENCORE
WASHINGTON, LLC
(VANCOUVER SMELTING
AND INGOT, INC)
A.F. #7062501 15
ORION GPS, INC
JOB: 2009-013
FILE: VANALCOA DEED RESTRICTIONS.DWG

EXHIBIT 'D'
SHORELINE AREA DESCRIPTION
PAGE 7 OF 7

LINE TABLE					
LINE	BEARING	LENGTH	LINE	BEARING	LENGTH
L1	N89°29'12"W	5.52	L46	N47°54'15"W	13.10
L2	N77°40'29"W	16.50	L47	N52°42'47"W	34.21
L3	S86°36'31"W	77.49	L48	N45°30'34"W	26.68
L4	N78°50'38"W	173.64	L49	N63°11'33"W	91.74
L5	N84°19'36"W	254.67	L50	N55°52'03"W	43.89
L6	N76°30'55"W	20.14	L51	N68°40'24"W	45.31
L7	N69°05'45"W	310.36	L52	N63°18'56"W	41.82
L8	N73°25'52"W	31.58	L53	N55°08'42"W	40.63
L9	N76°01'48"W	41.07	L54	N65°23'25"W	39.33
L10	N75°14'34"W	70.64	L55	N68°13'41"W	36.75
L11	N67°15'09"W	105.03	L56	N59°46'47"W	20.47
L12	N85°08'56"W	14.42	L57	N56°29'02"W	23.33
L13	N69°31'50"W	102.24	L58	N73°15'43"W	30.91
L14	N62°47'21"W	22.10	L59	N65°05'42"W	34.79
L15	N85°06'24"W	12.19	L60	N69°05'45"W	266.22
L16	N78°40'25"W	23.96	L61	N69°05'45"W	44.14
L17	N68°36'38"W	11.78	L62	N24°51'44"E	77.61
L18	N54°35'29"W	28.64	L63	S22°25'15"W	19.56
L19	N61°34'16"W	105.07	L64	S66°11'01"E	73.82
L20	N70°23'25"W	111.12	L65	S69°43'12"E	53.83
L21	N61°56'51"W	16.49	L66	S75°14'17"E	47.47
L22	N66°35'10"W	27.88	L67	S81°49'10"E	35.53
L23	N71°57'33"W	28.64	L68	S77°37'51"E	49.50
L24	N61°44'43"W	36.12	L69	S68°59'58"E	87.09
L25	N70°11'57"W	27.01	L70	S25°18'16"W	51.22
L26	N75°26'06"W	88.93			
L27	N89°07'46"W	82.68			
L28	N85°00'29"W	9.41			
L29	N79°39'38"W	24.20			
L30	N71°31'12"W	49.99			
L31	N76°56'36"W	34.63			
L32	N79°53'56"W	5.78			
L33	N74°55'38"W	53.64			
L34	N73°16'30"W	41.35			
L35	N69°24'34"W	52.13			
L36	N62°17'46"W	32.15			
L37	N65°47'53"W	33.52			
L38	N63°32'11"W	25.50			
L39	N55°03'48"W	52.98			
L40	N34°13'21"W	10.50			
L41	N48°48'47"W	8.45			
L42	N67°23'10"W	34.95			
L43	N62°28'18"W	21.35			
L44	N60°53'29"W	42.70			
L45	N62°43'59"W	61.76			



ORION GPS, INC
JOB: 2009-013
FILE: VANALCOA DEED RESTRICTIONS.DWG

Return Address

Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600
Attention:

Document Title(s) (or transactions contained therein):

1. Restrictive Environmental Covenant

Reference Number(s) of Documents assigned or released:
(on page ___ of documents(s))

Grantor(s) (Last name first, then first name and initials):

1. Evergreen Aluminum LLC

Grantee(s) (Last name first, then first name and initials):

1. State of Washington, Department of Ecology

Legal description (abbreviated: i.e. lot, block, plat or section, township, range)

Sec. 18, Township 02 North, Range 01 East;
Sec. 19, Township 02 North, Range 01 East
Sec. 13, Township 02 North, Range 01 West

[X] Full legal is on pages 7-12 of document.

Assessor's Property Tax Parcel/Account Number

152799-000, 152907-000, 152801-000, 152805-000, 152803-000

Restrictive Environmental Covenant

Evergreen Aluminum LLC ("**Grantor**") hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights as are described in this environmental covenant ("**Covenant**") made this day of December 31, 2008 in favor of the State of Washington Department of Ecology ("**Ecology**"). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act, RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

This Declaration of Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by Grantor on behalf of itself and its successors and assigns, and Ecology on behalf of itself and its successors and assigns.

Grantor is the fee owner of certain real property (the "**Property**") located in the County of Clark, State of Washington. The Property is legally described in **Exhibit A** and made a part hereof by reference. A remedial action ("**Remedial Action**") occurred at the Property and is described in Enforcement Order No. 4931, August 7, 2007. This document is on file at Ecology's Headquarters Office in Lacey, Washington.

This Covenant is required because the Remedial Action used Industrial Cleanup Standards and resulted in residual concentrations of polychlorinated biphenyls ("**PCBs**") which exceed the Model Toxics Control Act Method A Cleanup Level(s) for soil established under WAC 173-340-740 on a portion of the Property described in this Covenant as the **Ingot Plant Capped Area**.

The Ingot Plant Capped Area is covered by an Ingot Plant Cap (the "**Cap**") and is legally described in **Exhibit B** made a part hereof by reference. The Ingot Plant Capped Area is depicted for reference purposes only in **Exhibit C**.

Grantor makes the following declaration as to limitations, restrictions, and uses to which the Property and the Ingot Plant Capped Area 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 and the Ingot Plant Capped Area ("**Owner**").

Section 1.

1. The Property described in Exhibit A shall be used only for traditional industrial uses, as described in RCW 70.105D.020(14) and defined in and allowed under Clark County's zoning regulations codified in the Clark County Washington Unified Development Code as of the date of this Covenant.

2. The Ingot Plant Capped Area contains soil contaminated with PCBs located under the Cap as described in Exhibit B. The Grantor shall not alter, modify, or remove the existing Cap in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior written approval from Ecology.

Any activity on the Ingot Plant Capped Area that may (1) result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action or (2) create a new exposure pathway is prohibited. Some examples of activities that are prohibited on the Ingot Plant Capped Area include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

Section 2. Any activity on the Ingot Plant Capped Area that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Ingot Plant Capped Area that may (1) result in the release or exposure to the environment of a hazardous substance that remains on the Ingot Plant Capped Area as part of the Remedial Action or (2) create a new exposure pathway is prohibited without prior written approval from Ecology.

Section 4. The Owner must give thirty (30) days advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with the Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the Property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action.

Section 8. The Owner reserves the right under WAC 173-340-440 to record an instrument that provides that this 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 if Ecology, after public notice and opportunity for comment, concurs.

EVERGREEN ALUMINUM LLC

Charles D. Reali
Its: Vice President and General Manager

Dated: December 31, 2008

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Carol Kruege

By: Carol Kruege
Its: Solid Waste Section Manager

Dated: 12.23.08

STATE OF MONTANA)
) ss.
COUNTY OF Flathead)

On this 31st day of December, 2008, before me, the undersigned, a Notary Public in and for the State of Montana, duly commissioned and sworn, personally appeared Charles D. Reali to me known to be the person who signed as Vice President and General Manager of Evergreen Aluminum LLC, the limited liability company that executed the within and foregoing instrument, and acknowledged said instrument to be the free and voluntary act and deed of said limited liability company for the uses and purposes therein mentioned, and on oath stated that he was duly elected, qualified and acting as said officer of the limited liability company and that he was authorized to execute said instrument.

IN WITNESS WHEREOF I have hereunto set my hand and official seal the day and year first above written.

Connie Y. Fisher
(Signature of Notary)

Connie Y. Fisher
(Print or stamp name of Notary)

NOTARY PUBLIC in and for the State of Montana, residing at Coram.
My appointment expires: 02/23/2012.

Exhibit A
Legal Description of the Property

PARCEL I:

Those portions of the John H. Mathews Donation Land Claim and Patrick Markeys Donation Land Claim situated in Sections 18 and 19, Township 2 North, Range 1 East of the Willamette Meridian, in Clark County, Washington, the point of beginning being the Section corner common to Sections 17, 18, 19, and 20 in said Township 2 North, Range 1 East of the Willamette Meridian, that is monumented with a 1-1/2" iron pipe size projecting 5.6 feet above ground; said section corner being South 02°30'12" West 273.26 feet from a Donation Land Claim corner common to the Patrick Markeys and H. Van Alma Donation Land Claim that is monumented with a 1-1/2" iron pipe size projecting 10.6 feet above ground; said portions more particularly described as a single parcel as follows:

(The following courses are on a grid bearing Washington State Coordinate System, North American Datum 1983. A scale and elevation factor of 1.000049 has been applied to the measured field distances.)

BEGINNING at said Section Corner; thence North 65°35'57" West 2013.30 feet to a 5/8" iron rod with a plastic cap as the True Point of Beginning, said True Point of Beginning being South 41°24'54" West 439.18 feet from the Bonneville Power Administration Substation site most Northerly corner and Hendrickson Donation Land Claim corner; thence South 24°23'36" West 435.25 feet along the West side of a woven wire fence to a 5/8" iron rod with a plastic cap; thence South 65°27'02" East 109.72 feet along a woven wire fence to a 5/8" iron rod with a plastic cap; thence South 19°56'22" East 68.47 feet along a woven wire fence to a leaded brass screw set in concrete; thence North 65°32'35" West 29.68 feet to a leaded brass screw set in concrete; thence South 24°22'38" West 253.80 feet to a 5/8" iron rod with plastic cap; thence South 65°35'42" East 440.80 feet to a 5/8" iron rod with a plastic cap; thence South 24°22'01" West 40.01 feet to a 5/8" iron rod with a plastic cap; thence South 65°29'21" East 22.49 feet to a 5/8" iron rod with a plastic cap; thence South 24°22'50" West 214.71 feet to a 5/8" steel pin with bevel gear top; thence South 09°14'16" East 56.06 feet to steel pin with bevel gear top; thence South 65°35'49" East 483.24 feet to a 5/8" iron rod with plastic cap; thence South 23°38'23" West 602.58 feet to a 5/8" iron rod with a plastic cap; thence North 65°18'33" West 25.00 feet to a 5/8" iron rod with plastic cap; thence North 24°28'09" East 17.77 feet to a 5/8" iron rod with plastic cap; thence North 65°37'47" West 491.32 feet to a 5/8" iron rod with plastic cap; thence South 24°24'00" West 332.70 feet to a 5/8" iron rod with plastic cap; thence North 66°02'32" West 337.10 feet to a 5/8" iron rod with plastic cap; thence North 21°38'52" East 53.65 feet to a 5/8" iron rod with plastic cap; thence North 63°16'23" West 202.63 feet to a 5/8" iron rod with plastic cap; thence South 24°02'56" West 53.17 feet to a 5/8" iron rod with plastic cap; thence North 65°57'05" West 30.63 feet to a 5/8" iron rod with plastic cap; thence South 23°57'32" West 8.74 feet to a leaded brass screw; thence North 66°02'28" West 3.23 feet to a point inside Bldg. 36A opposite the Northwesterly corner of Bldg. 36; thence South 23°57'32" West 16.63 feet to a point Northwesterly of the Southeasterly corner of Bldg. 36A; thence North 65°18'59" West 75.21 feet to a leaded brass screw; thence South 24°35'26" West 190.46 feet to a 5/8" iron rod with plastic cap; thence North 66°33'49" West 139.52 feet to a 5/8" iron rod with plastic cap by the Northerly gatepost; thence North 25°43'26" East 8.01 feet to an inside

fence corner and a 5/8" iron rod with plastic cap; thence North 66°06'29" West 151.08 feet along a woven wire fence to a 5/8" iron rod with plastic cap; thence South 24°50'40" West 74.95 feet to a 5/8" iron rod with plastic cap; thence South 24°50'40" West 211.30 feet, more or less, to the point of intersection with the calculated John H. Mathews Donation Land Claim line which is North 65°03'32" West 1317.02 feet from the Southeast corner thereof; thence North 65°03'32" West 868.86 feet, more or less, along said Donation Land Claim to a point South 65°03'32" East 1251.06 feet from the Southwest corner thereof; thence North 10°35'57" East 254.68 feet, more or less, to a 5/8" iron rod with plastic cap; thence North 10°35'57" East 257.38 feet to a 5/8" iron rod with a plastic cap adjacent to a woven wire fence; thence North 10°34'25" East 526.92 feet along a woven wire fence to a leaded brass screw at a corner fence post and angle point of the woven wire fence; thence North 23°49'02" East 269.16 feet along a woven wire fence to a 5/8" iron rod with plastic cap at a woven wire fence corner; thence North 24°39'37" East 461.19 feet to a U.S.C.E. Monument marked "VI-8"; thence North 64°22'38" East 360.64 feet to a U.S.C.E. Monument marked "VI-7"; thence along a 1175.77 foot radius curve right 378.54 feet whose long chord bears North 75°46'37" East 376.91 feet to a U.S.C.E. Monument marked "VI-6"; thence North 29°14'26" East 135.35 feet to a 5/8" iron rod with plastic cap at a point on the curve of the right of way line of Crowley Maritime Corp. access road; thence on a 117.00 foot radius curve to the left along said right of way line 66.51 feet, whose long chord bears North 59°03'39" East 65.62 feet to a 'PK' nail and shiner marking the point of reverse curve of a 50.00 foot radius curve to the right; thence on said 50.00 foot radius curve to the right along said right of way line 71.74 feet, whose long chord bears North 87°15'17" East 65.74 feet to a "PK" nail and shiner marking the beginning of curve along said right of way line; thence South 52°38'39" East 268.18 feet to a 5/8" iron rod with plastic cap to a point of tangency of a curve to the left on the access road to the herein described parcel; thence North 37°25'25" East 32.03 feet across said right of way to the point of tangency on the Northerly right of way line of said road to a 5/8" iron rod with a plastic cap; thence South 65°35'19" East 562.06 feet to the True Point of Beginning of the herein described parcel.

PARCEL II:

An undivided 55% interest in the following described property:

(The following courses are on a grid bearing Washington State Coordinate System, North American Datum 1983. A scale and elevation factor of 1.000049 has been applied to the measured field distances.)

A portion of the Patrick Markeys Donation Land Claim in Section 19, Township 2 North, Range 1 East of the Willamette Meridian, in Clark County, Washington;

Beginning at the Section corner common to Sections 17, 18, 19, and 20; thence South 33°41'06" West 1907.59 feet to the True Point of Beginning, said point also being the Northeasterly corner of that tract conveyed to Vancouver Smelting and Ingot, Inc., described as a sanitary sewer treatment plant in Schedule B-6 in Auditor's File No. 8706250115, Clark County Records; thence South 24°08'30" West along the East line of said sewer plant parcel a distance of 125.67 feet to the South line thereof; thence North 65°57'05" West along the South line of said sewer plant parcel a distance of 137.25 feet to the West line thereof; thence North 24°04'55" East along the West line of said sewer plant parcel a distance of 125.66 feet to the North line thereof; thence South 65°57'19" East along the North line of said sewer plant parcel a distance of 137.38 feet to the True Point of Beginning.

PARCEL III:

A parcel of property in the John Mathews Donation Land Claim and the William Hendrickson Donation Land Claim in the Southeast quarter of Section 13, Township 2 North, Range 1 West and the Southwest quarter of Section 18, Township 2 North, Range 1 East of the Willamette Meridian in Clark County, Washington, described as follows:

(The following courses are on a grid bearing Washington State Coordinate System, North American Datum 1983. A scale and elevation factor of 1.000049 has been applied to the measured field distances.)

COMMENCING at the Northeast corner of the Southeast quarter of Section 12, Township 2 North, Range 1 West, Willamette Meridian, said Northeast corner also being the Northeast corner of the William Hatten Donation Land Claim, the North line of said Hatten Donation Land Claim bearing South 89°29'19" West; thence South 20°09'51" East 8616.90 feet to "A line" station 10 + 55.06, 75.00 feet right, as per WSDH plans for SR 501, Vancouver Lake to Pioneer Avenue in Ridgefield, approved May 17, 1966; thence South 36°57'49" West parallel with said "A line" and a Southwesterly extension thereof, 298.85 feet to the centerline of Lower River Road; thence South 36°57'49" West along the Southeasterly line of that tract conveyed to Tidewater Environmental Services, Inc. by deed recorded under Auditor's File No. 9104290287 of Clark County records 100.87 feet to a 225.00 foot radius curve to the right with a tangent bearing of South 81°48'57" West into said 225.00 foot radius curve at this point; thence along said Southeasterly line and around said 225.00 foot radius curve to the right 40.00 feet; thence along said Southeasterly line North 88°00'00" West 302.25 feet; thence along said Southeasterly line South 89°29'56" West 11.39 feet to a 285.00 foot radius curve to the left with a tangent bearing of South 89°20'25" West into said 285.00 foot radius curve at this point; thence along said Southeasterly line and around said 285.00 foot radius curve to the left 200.52 feet; thence South 49°01'27" West along said Southeasterly line 488.75 feet to an angle point in said Tidewater tract; thence North 65°25'56" West along the Southerly line of said Tidewater tract 645.61 feet; thence South 25°51'49" West leaving said Southerly line 598.92 feet to the True Point of Beginning; thence South 25°51'49" West 376.06 feet; thence North 64°08'11" West 96.65 feet; thence South 27°26'16" West 49.86 feet; thence South 40°49'54" West 30.39 feet; thence South 68°13'04" West 40.09 feet; thence South 84°48'28" West 28.92 feet; thence North 88°59'32" West 29.49 feet; thence North 78°41'19" West 29.76 feet; thence North 72°34'38" West 28.67 feet; thence South 23°44'48" West 93.21 feet; thence North 66°15'14" West 727.49 feet to the Southeasterly line of said Tidewater tract; thence North 23°14'58" East along said Southeasterly line 614.15 feet to a point which bears North 65°53'24" West from the True Point of Beginning; thence South 65°53'24" East 993.60 feet to the True Point of Beginning.

PARCEL IV:

A parcel of property 40.00 feet wide being 20.00 feet on each side of the following described centerline in the John Mathews Donation Land Claim and the William Hendrickson Donation Land Claim in the Southeast quarter of Section 13 and the Northeast quarter of Section 24, Township 2 North, Range 1 West and the South half of Section 18 and the Northwest quarter of Section 19, Township 2 North, Range 1 East of the Willamette Meridian in Clark County, Washington, described as follows:

(The following courses are on a grid bearing Washington State Coordinate System, North American Datum 1983. A scale and elevation factor of 1.000049 has been applied to the measured field distances.)

COMMENCING at the Northeast corner of the Southeast quarter of Section 12, Township 2 North, Range 1 West, Willamette Meridian, said Northeast corner also being the Northeast corner of the William Hatten Donation Land Claim, the North line of said Hatten Donation Land Claim bearing South 89°29'19" West; thence South 20°09'51" East 6616.90 feet to "A line" station 10 + 55.06, 75.00 feet right, as per WSDH plans for SR 501, Vancouver Lake to Pioneer Avenue in Ridgefield, approved May 17, 1966; thence South 36°57'49" West parallel with said "A line" and a Southwesterly extension thereof, 298.85 feet to the centerline of Lower River Road; thence South 36°57'49" West along the Southeasterly line of that tract conveyed to Tidewater Environmental Services, Inc. by deed recorded under Auditor's File No. 9104290287 of Clark County records 100.67 feet to a 225.00 foot radius curve to the right with a tangent bearing of South 81°48'57" West into said 225.00 foot radius curve at this point; thence along said Southeasterly line and around said 225.00 foot radius curve to the right 40.00 feet; thence along said Southeasterly line North 88°00'00" West 302.26 feet; thence along said Southeasterly line South 89°29'56" West 11.39 feet to a 285.00 foot radius curve to the left with a tangent bearing of South 89°20'25" West into said 285.00 foot radius curve at this point; thence along said Southeasterly line and around said 285.00 foot radius curve to the left 200.52 feet; thence South 49°01'27" West along said Southeasterly line 488.75 feet to an angle point in said Tidewater tract; thence North 65°25'56" West along the Southerly line of said Tidewater parcel 645.61 feet; thence leaving said Southerly line South 25°51'49" West 974.98 feet; thence North 64°08'11" West 96.65 feet; thence South 27°26'16" West 49.86 feet; thence South 40°49'54" West 30.39 feet; thence South 68°13'04" West 40.09 feet; thence South 84°48'28" West 28.92 feet; thence North 88°59'32" West 29.49 feet; thence North 78°41'19" West 29.76 feet; thence North 72°34'38" West 28.67 feet; thence South 23°44'46" West 93.21 feet; thence North 66°15'14" West 541.49 feet to a drainage pipe and the True Point of Beginning; thence South 23°35'14" West along said pipe 221.96 feet to the Northeast bank of the Columbia River and the end of the above described centerline.

PARCEL V:

A parcel of property in the John Mathews Donation Land Claim and the William Hendrickson Donation Land Claim in the Southeast quarter of Section 13, Township 2 North, Range 1 West and the Southwest quarter of Section 18, Township 2 North, Range 1 East and the Northwest quarter of Section 19, Township 2 North, Range 1 East of the Willamette Meridian in Clark County, Washington, described as follows:

(The following courses are on a grid bearing Washington State Coordinate System, North American Datum 1983. A scale and elevation factor of 1.000049 has been applied to the measured field distances.)

COMMENCING at the Northeast corner of the Southeast quarter of Section 12, Township 2 North, Range 1 West, Willamette Meridian, said Northeast corner also being the Northeast corner of the William Hatten Donation Land Claim, the North line of said Hatten Donation Land Claim bearing South 89°29'19" West; thence South 20°09'51" East 6616.90 feet to "A line" station 10 + 55.06, 75.00 feet right, as per WSDH plans for SR 501, Vancouver Lake to Pioneer Avenue in Ridgefield, approved May 17, 1966; thence South 36°57'49" West, parallel with said "A line" and a Southwesterly extension thereof, 298.85 feet to the centerline of Lower River Road; thence South 36°57'49" West along the Southeasterly line of that tract conveyed to Tidewater Environmental Services, Inc. by deed recorded under Auditor's File No. 9104290287 of Clark County records 100.87 feet to a 225.00 foot radius curve to the right with a tangent bearing of South 81°48'57" West into said 225.00 foot radius curve at this point; thence along said Southeasterly line and around said 225.00 foot radius curve to the right 40.00 feet; thence along said Southeasterly line North 88°00'00" West 302.26 feet; thence along said Southeasterly line South 89°29'56" West 11.39 feet to a 285.00 foot radius curve to the left with a tangent bearing of South 89°20'25" West into said 285.00 foot radius curve at this point; thence along said Southeasterly line and around said 285.00 foot radius curve to the left 200.52 feet; thence South 49°01'27" West along said Southeasterly line (line referred to as line "B" from hereon) 488.75 feet to an angle point in said Tidewater tract; thence North 65°25'56" West along the Southerly line of said Tidewater tract 645.61 feet; thence South 25°51'49" West leaving said Southerly line 834.08 feet; thence South 68°51'19" East 239.65 feet; thence South 64°16'05" East 52.04 feet to the Southwesterly extension of said Line "B" and the True Point of Beginning; thence South 64°16'05" East 112.23 feet; thence South 56°01'08" East 115.94 feet; thence South 51°08'50" East 320.70 feet; thence South 28°12'11" East 86.38 feet; thence South 79°25'35" East 24.62 feet to the Westerly line of that tract conveyed to Vancouver Smelting and Ingot, Inc. (as referred to in Schedule A) by deed recorded under Auditor's File No. 8706250115 of Clark County Records; thence South 10°34'25" West along said Westerly line 234.66 feet (Hill Record of Survey, Book 22, Page 154 South 09°00'40" West); thence South 10°35'57" West along said Westerly line 216.41 feet (Hill Record of Survey, Book 22, Page 154 South 09°00'40" West); thence North 26°15'16" West 72.91 feet; thence North 06°24'44" West 60.47 feet; thence North 14°30'34" East 218.85 feet; thence North 00°03'06" West 106.25 feet; thence North 28°12'11" West 61.91 feet; thence North 51°08'50" West 310.89 feet; thence North 56°01'08" West 111.36 feet; thence North 64°16'05" West 126.57 feet to the Southwesterly extension of said line "B"; thence North 49°01'27" East along said Southwesterly extension 43.55 feet to the True Point of Beginning.

Exhibit B

LEGAL DESCRIPTION FOR EVERGREEN ALUMINUM
INGOT PLANT CAPPED AREA

September 25, 2008

A parcel of land located within the John H. Mathews Donation Land Claim in the Northwest quarter of Section 19, Township 2 North, Range 1 East of the Willamette Meridian, in Clark County, Washington, the point of commencement being the section corner common to Sections 17, 18, 19 and 20 in said Township 2 North, Range 1 East of the Willamette Meridian, that is monumented with a 1-1/2" iron pipe size projecting 5.6 feet above ground, said section corner being South 02° 30' 12" West 273.26 feet from a Donation Land Claim corner common to the Patrick Markey and H. Van Allman Donation Land Claim that is monumented with a 1-1/2" iron pipe size projecting 10.6 feet above ground; said parcel being more particularly described as follows:

(The following courses are on a grid bearing Washington State Coordinate System, North American Datum 1983. A scale and elevation factor of 1.000049 has been applied to the measured field distances.)

COMMENCING at the Northeast corner of said Section 19;

THENCE South 78° 51' 45" West 3240.20 feet to a 1/2" iron rod with yellow plastic cap marked "OLSON ENG PLS 17686" and the TRUE POINT OF BEGINNING;

THENCE North 66° 01' 04" West a distance of 616.56 feet to a 1/2" iron rod with yellow plastic cap marked "OLSON ENG PLS 17686";

THENCE South 24° 17' 03" West a distance of 201.02 feet to 1/2" iron rod with yellow plastic cap marked "OLSON ENG PLS 17686";

THENCE South 63° 58' 35" East a distance of 615.92 feet to 1/2" iron rod with yellow plastic cap marked "OLSON ENG PLS 17686";

THENCE North 24° 31' 07" East a distance of 222.96 feet to the TRUE POINT OF BEGINNING.

Exhibit C
Diagram Depicting the Property and the Site

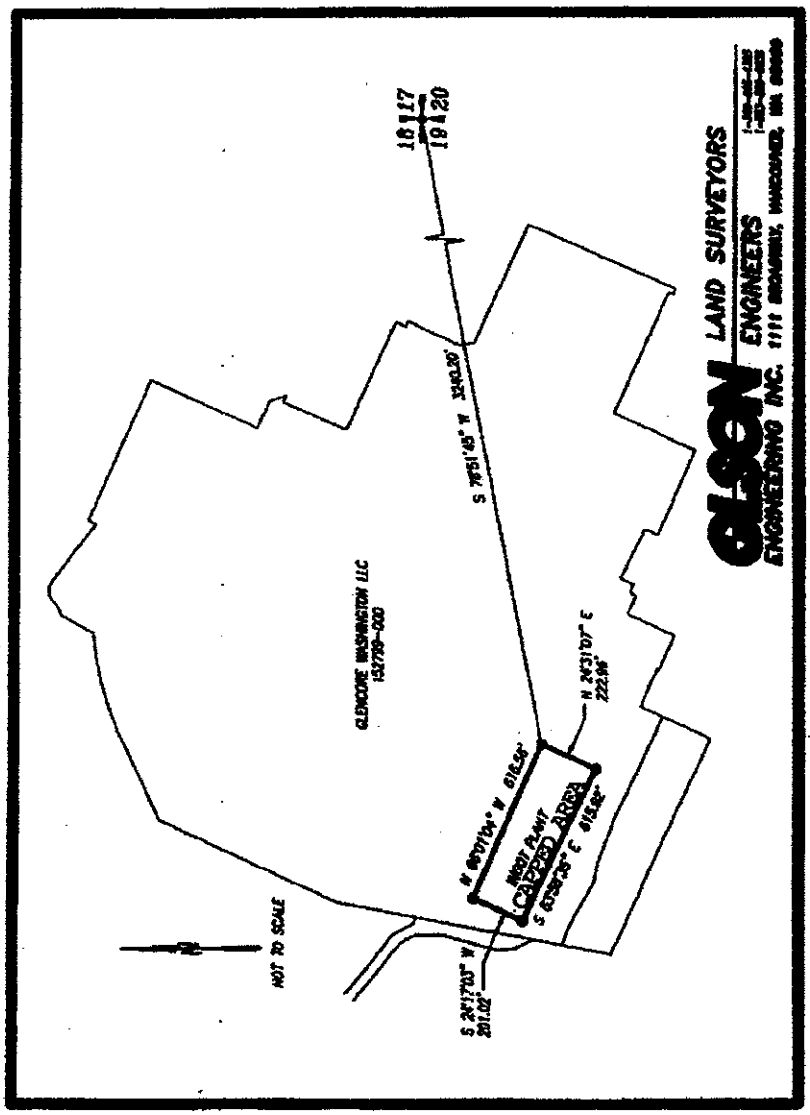


EXHIBIT E

Restrictive Covenant

EXHIBIT E
RESTRICTIVE COVENANT

The property that is the subject of this Restrictive Covenant has been the subject of remedial action under Chapter 70.105D RCW. The work done to clean up the property (hereafter the "Cleanup Action") is described in the Consent Decree entered in State of Washington Department of Ecology v. Aluminum Company of America, Clark County Superior Court No. _____, and in attachments to the Decree and in documents referenced in the Decree. This Restrictive Covenant is required by Ecology under Ecology's rule WAC 173-340-440 (1991 ed.) because the Cleanup Action on the Site resulted in residual concentrations of free cyanide and fluoride which exceed Ecology's Method B cleanup levels for groundwater established under WAC 173-340-720(3)(a)(i).

The undersigned, Aluminum Company of America, is the fee owner of real property in the County of Clark, State of Washington (legal description attached), hereafter referred to as the "Site." The Site refers to the three piles of spent potlining and reclaimed alumina insulation materials in the northeast corner of the old Alcoa complex at 5509 N.W. Lower River Road, Vancouver, Washington. Also refers to subsurface areas impacted by cyanide and fluoride, as documented through groundwater, subsurface sediment and soil sampling performed by Alcoa, within the shallow zone, intermediate zone, deep zone and aquifer zone. Aluminum Company of America makes the following declaration as to limitations, restrictions, and uses to which the Site 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 Site.

Section 1. No groundwater may be taken for domestic purposes from any well at the old Alcoa complex that is located within the rectangular area bounded to the south by the banks of the Columbia River, to the west by O Street, to the north by D Street, and to the east by a line running in a north/south direction 2500 feet southeast of O Street.

Section 2. Any activity on the Site that may interfere with the Cleanup Action is prohibited. Any activity on the Site that may result in the release of a hazardous substance that was contained as a part of the Cleanup Action is prohibited.

Section 3. For purposes of Sections 4, 5 and 6 of this Restrictive Covenant, the Site shall not include the wastewater treatment facility located at the old Alcoa complex, nor shall

the Site include subsurface utilities and conveyances to and from the facility, nor shall the Site include surface and subsurface areas required for access to the facility and to subsurface conveyances and utilities. The owner and operator of the wastewater treatment facility and the subsurface conveyances and utilities (unless Alcoa is the owner and operator) shall not be subject or bound by the terms of this Restrictive Covenant.

Section 4. The owner of the Site must give written notice to the Department of Ecology, or to a successor agency, of the owner's intent to convey any interest in the Site. No conveyance of title, easement, lease or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance and monitoring of the Cleanup Action.

Section 5. The owner must notify and obtain approval from the Department of Ecology, or from a successor agency, prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. The Department of Ecology or its successor agency may approve such a use only after public notice and comment.

Section 6. The owner shall allow authorized representatives of the Department of Ecology, or of a successor agency, the right to enter the Site at reasonable times for the purpose of evaluating compliance with the Cleanup Action Plan and the Consent Decree, to take samples, to inspect Cleanup Actions conducted at the Site, and to inspect records that are related to the Cleanup Action.

Section 7. The owner of the Site and the owner's assigns and successors in interest reserve the right under WAC 173-340-720 and WAC 173-340-440 (1991 ed.) to record an instrument which provides that this Restrictive Covenant shall no longer limit use of the Site or be of any further force or effect. However, such an instrument may be recorded only with the consent of the Department of Ecology, or of a successor agency. The Department of Ecology or a successor agency may consent to the recording of such an instrument only after public notice and comment.

_____
Name
Title
for Aluminum Company of America

_____
Date

9603120195

RETURN RECORDED DOCUMENT TO:

Sanford W. Harvey, Jr., Esquire
Aluminum Company of America
425 Sixth Avenue
Suite 1244 - ALCOA Building
Pittsburgh, PA 15219

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SEP 20 1996
Department of Ecology
Industrial Section

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EXHIBIT F

RESTRICTIVE COVENANT

The property that is the subject of this Restrictive Covenant has been the subject of remedial action under Chapter 70.105D RCW. The work done to clean up the property (hereafter the "Cleanup Action") is described in the Consent Decree entered in State of Washington Department of Ecology v. Aluminum Company of America (ALCOA), Clark County Superior Court No. 95-2-03268-4 ____, and in attachments to the Decree and in documents referenced in the Decree. This Restrictive Covenant is required by Ecology under Ecology's rule WAC 173-340-440 (1991 ed.) because the Cleanup Action on the Site resulted in residual concentrations of polychlorinated biphenyl (PCB) contaminates which exceed Ecology's Method A cleanup levels for soils established under WAC 173-340-740(2).

The undersigned, Aluminum Company of America, is the fee owner of real property in the County of Clark, State of Washington (legal description attached), hereafter referred to as the "Alcoa VANEXCO/Rod Mill Site". Alcoa makes the following declaration as to limitations, restrictions, and uses to which the Alcoa VANEXCO/Rod Mill site 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 Alcoa VANEXCO/Rod Mill Site.

Section 1. No residential development may take place on the Alcoa VANEXCO/Rod Mill site.

Section 2. Any activity on the Alcoa VANEXCO/Rod Mill Site that may interfere with the Cleanup Action is prohibited. Any activity on the Alcoa VANEXCO/Rod Mill Site that may result in the release of a hazardous substance that was contained as part of the Cleanup or Independent Action(s) is prohibited.

Section 3. The owner of the Alcoa VANEXCO/Rod Mill Site must give written notice to the Department of Ecology, or to a successor agency, of the owner's intent to convey any interest in the Alcoa VANEXCO/Rod Mill Site. No conveyance of title, easement, lease or other interest in the Alcoa VANEXCO/Rod Mill Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance and monitoring of the Cleanup Action.

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S. W. H.

Section 4. The owner must notify and obtain approval from the Department of Ecology, or from a successor agency, prior to any use of the Alcoa VANEXCO/Rod Mill Site that is inconsistent with the terms of this Restrictive Covenant. The Department of Ecology or its successor agency may approve such a use only after public notice and comment.

Section 5. The owner shall allow authorized representatives of the Department of Ecology, or of a successor agency, the right to enter the Alcoa VANEXCO/Rod Mill Site at reasonable times for the purpose of evaluating compliance with the Cleanup Action Plan and the Consent Decree, to take samples, to inspect Cleanup Actions conducted at the Alcoa VANEXCO/Rod Mill Site, and to inspect records that are related to the Cleanup Action.

Section 6. The owner of the Alcoa VANEXCO/Rod Mill Site and the owner's assigns and successors-in-interest reserve the right under WAC 173-340-740 and WAC 173-340-440 (1991 ed.) to record an instrument which provides that this Restrictive Covenant shall no longer limit the use of the Alcoa VANEXCO/Rod Mill Site or be of any further force or effect. However, such an instrument may be recorded only with the consent of the Department of Ecology, or successor agency. The Department of Ecology, or a successor agency, may consent to the recording of such an instrument only after public notice and comment.

Richard B Kelson

Name Richard B. Kelson
Title Executive Vice President, Environmental Health & Safety and General Counsel of Aluminum Company of America

March 8, 1996
Date

103\alcoa-f.exh

COMMONWEALTH OF PENNSYLVANIA)
) ss:
COUNTY OF ALLEGHENY)

Before me, a Notary Public in and for the Commonwealth and County aforesaid, on this day personally appeared Richard B. Kelson known to me to be the Executive Vice President, Environmental Health & Safety and General Counsel of Aluminum Company of America and signed, acknowledged and delivered the foregoing Restrictive Covenant.

Witness my hand and official seal this 8th day of March, 1996.

Doris P. Marston

Notary Public

Notarial Seal
Doris P. Marston, Notary Public
Pittsburgh, Allegheny County
My Commission Expires April 13, 1999
Member, Pennsylvania Association of Notaries

OLSON
LAND SURVEYORS
ENGINEERS

1111 Broadway
Vancouver, WA
98660

LEGAL DESCRIPTION FOR ALCOA
Building Perimeter

March 7, 1996

A parcel of property in Sections 18 and 19 in Township 2 North, Range 1 East of the Willamette Meridian in Clark County, Washington and being a portion of the Henry Van Alman, John Matthews and Patrick Markey Donation Land Claim further described as follows:

The following courses are on a grid bearing, Washington State coordinate system, North American Datum 1983. A scale factor of 1.000049 has been applied to the measured field distances:

COMMENCING at the Southeast corner of said Section 18, from which a 1-1/2" iron pipe (as shown on that survey recorded in Book 29 at Page 161) bears North 02° 24' 03" East 273.11 feet;

THENCE North 75° 36' 06" West 879.38 feet to a building corner and the TRUE POINT OF BEGINNING;

THENCE South 24° 07' 45" West along a building wall 160.67 feet to a point on the Northerly face of the Southerly column line of ALCOA Building 404;

THENCE North 65° 51' 44" West along said face of said column line 187.05 feet to a brass screw set by E.V. Hill and Associates;

THENCE North 22° 05' 56" East 8.55 feet to a brass screw set by E.V. Hill and Associates;

THENCE North 66° 13' 59" West 13.61 feet to the Easterly line of a red brick structure;

THENCE South 24° 37' 05" West along said face of said structure 1.53 feet to a point that is on the projection of the centerline of an interior partition of said red brick structure;

THENCE North 65° 52' 17" West along the centerline of said partition 13.30 feet to a point;

THENCE South 24° 07' 43" West along the centerline of said partition 6.96 feet to a point on the Southwesterly face of said red brick structure;

THENCE North 65° 52' 17" West along said Southwesterly face 6.87 feet to the Southwest corner of said structure;

THENCE North 23° 33' 08" East along Northwesterly face of said structure 15.21 feet to the Northwest corner of said structure;

THENCE North 49° 37' 08" West 23.30 feet to a brass screw set by E.V. Hill and Associates;

THENCE South 24° 09' 10" West 33.08 feet to a brass screw set by E.V. Hill and Associates;

THENCE North 65° 57' 22" West 56.43 feet;

THENCE South 24° 07' 43" West 39.58 feet ;

THENCE South 65° 56' 07" East 51.78 feet to a brass screw set by E.V. Hill and Associates;

THENCE South 23° 53' 20" West 28.60 feet to a brass screw set by E.V. Hill and Associates;

THENCE North 65° 52' 50" West 172.16 feet to a brass screw set by E.V. Hill and Associates;

THENCE North 24° 13' 41" East 88.32 feet;

THENCE North 65° 52' 17" West 27.40 feet;

THENCE North 24° 07' 43" East 19.34 feet;

THENCE North 70° 02' 43" West 13.07 feet;

THENCE North 88° 57' 23" West 22.37 feet;

THENCE South 24° 07' 43" West 18.17 feet;

THENCE North 65° 48' 14" West 21.16 feet to a brass screw set by E.V. Hill and Associates;

THENCE South 24° 02' 41" West towards a ½" iron pipe set by E.V. Hill and Associates 2.04 feet to a building wall;

THENCE North 65° 55' 37" West along a building wall 159.82 feet;

THENCE along a building wall the following courses:

THENCE South 24° 05' 36" West 25.09 feet;

THENCE North 65° 54' 24" West 182.39 feet;

THENCE North 24° 05' 36" East 104.89 feet;

THENCE North 65° 54' 22" West 139.81 feet;

THENCE North 24° 05' 38" East 122.46 feet;

THENCE South 65° 53' 56" East 111.75 feet;

THENCE North 24° 05' 54" East 13.85 feet

THENCE South 65° 53' 56" East 18.55 feet;

THENCE South 24° 05' 38" West 13.85 feet;

THENCE South 65° 53' 56" East 9.94 feet;

THENCE North 24° 05' 38" East 19.70 feet;

THENCE South 65° 50' 49" East 171.48 feet;

THENCE South 24° 06' 09" West 19.56 feet;

THENCE South 65° 53' 52" East 113.23 feet;

THENCE South 24° 06' 41" West 39.94 feet;

THENCE South 65° 54' 06" East 120.90 feet;

THENCE North 24° 05' 54" East 11.20 feet;

THENCE South 65° 54' 06" East 35.80 feet;

THENCE South 24° 05' 54" West 11.20 feet;

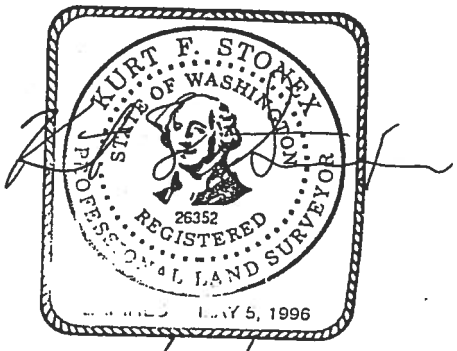
THENCE South 65° 54' 06" East 180.51 feet;

THENCE North 24° 10' 52" East 34.80 feet;

THENCE South 65° 49' 08" East 102.48 feet;

THENCE South 24° 10' 52" West 34.65 feet;

THENCE South 65° 55' 05" East along a building wall 119.89 feet to the TRUE POINT OF BEGINNING.



3/7/96

Harold Harvey Jr

MAR 12 3 22 PM '96

AUDITOR
ELIZABETH A LUCE

0584

EXHIBIT "O"

FORM OF CARGO COMMODITY PAYMENTS AND MINIMUM ANNUAL GUARANTY AGREEMENT

THIS CARGO COMMODITY PAYMENTS AND MINIMUM ANNUAL GUARANTY AGREEMENT (this "Agreement") is made by and between the PORT OF VANCOUVER, a municipal corporation organized and existing under the laws of the State of Washington (hereinafter referred to as "Lessor") and TESORO SAVAGE PETROLEUM TERMINAL LLC, a Delaware limited liability company (hereinafter referred to as "Lessee") as of August 1, 2013. Capitalized terms have the meanings set forth in that certain Ground Lease between Lessor and Lessee dated as of even date herewith (the "Lease").

This Agreement is being entered into in order to induce Lessor to enter into the Lease and Lessee acknowledges that without this Agreement, Lessor would not enter into the Lease.

W I T N E S S E T H:

That Lessor and Lessee do hereby mutually agree as follows:

1. Method for Calculating Petroleum Product Payments. This Agreement outlines payments due to Lessor for Wharfage, Service and Facilities Fees and the calculations thereof for the handling of Petroleum Products at the Facility. The payments shall consist of the following components: (1) a fixed monthly fee for the minimum guaranteed amount of an average of [redacted] bpd (as defined in the Lease) of Petroleum Products ("MGA") throughout the MGA Term (as defined below); (2) additional payments for Petroleum Products handled in excess of the MGA during the MGA Term; and (3) following the expiration of the MGA Term, all Wharfage, Service and Facilities Fees due hereunder. Charges hereunder will be calculated based on actual volumes of Petroleum Products unloaded out of or loaded into railcars at the Facility; provided, however, that during the MGA Term, the charges shall not be less than the MGA Fee (defined below). Lessee will maintain daily logs of cargo commodities unloaded out of or loaded into railcars and submit those daily production reports along with payment as outlined in Section 3 below. The Port reserves the right to audit the cargo records of Lessee upon no less than twenty-four (24) hours' notice on any Port business day during the hours of 9 a.m. Pacific Time and 5 p.m. Pacific Time.

2. Payments for Petroleum Products Handled; Minimum Annual Guaranty.

a. Rates and Fees. For cargo volumes of Petroleum Products handled from the Rent Commencement Date through the first June 30th thereafter, the following rates and fees will apply:

	Wharfage	Service and Facilities (or "S&F")
From [redacted] bpd	[redacted] per bbl	[redacted] per bbl
From [redacted] bpd	[redacted] per bbl	[redacted] per bbl
Over [redacted] bpd	[redacted] per bbl	[redacted] per bbl

Thereafter, the rates as escalated in accordance with Paragraph 2(b) will apply.

For any volumes of cargo other than Petroleum Products, Lessee shall pay the applicable fees pursuant to Lessor's terminal tariff.

Beginning on the Rent Commencement Date through the end of the MGA Term, Lessee shall pay a fixed monthly fee for the MGA, initially set at [redacted] per day multiplied by the number of days in a given calendar month, and thereafter escalated as provided in Paragraph 2(b) below (the "MGA Fee") (i.e., the Wharfage and S&F rates for an average of [redacted] bpd in a given calendar month as set forth above), plus fees for Wharfage and S&F for volumes of Petroleum Products unloaded out of or loaded into railcars in excess of [redacted] bpd (multiplied by the number of

days in a given calendar month). Following the expiration of the MGA Term, Lessee shall pay Wharfage and S&F fees for all Petroleum Products unloaded out of or loaded into railcars, as set forth herein.

b. Adjustment of Rates and Fees. The rates and fees set forth in Section 2(a) above will be increased on each July 1st following the Rent Commencement Date ("Adjustment Calculation Date"), by increasing such rates and fees then applicable by the percentage increase in the Index on such Adjustment Calculation Date when compared to the Index on the more recent of: (i) the date that is one year prior to such Adjustment Calculation Date; or (ii) the Rent Commencement Date; provided, however, that no such increase shall be less than two percent (2%) or more than six percent (6%).

c. Term. Lessor and Lessee agree that the term of this Agreement shall mirror the duration of the Lease Term, as it may be extended from time to time; provided, however, that the term of the obligation for Lessee to pay the MGA Fee shall be seven (7) years after the Rent Commencement Date (the "MGA Term"); provided, further, that the MGA Term shall expire on the date of any termination of the Lease by Lessee based on a default by Lessor thereunder.

3. Payments; Credits.

a. Subject to any credits to be applied as expressly provided herein: (i) during the MGA Term, notwithstanding anything to the contrary herein, Lessee will remit all payments of the MGA Fee together with additional Wharfage and S&F fees on Petroleum Products handled in excess of the MGA during the previous calendar month to the Port within fifteen (15) days after the end of each calendar month; and (ii) after the MGA Term, Lessee shall remit all Wharfage and S&F fees calculated by multiplying the monthly aggregate Barrels of Petroleum Products unloaded from or loaded into railcars at the Facility during the previous calendar month by the rates specified in Paragraph 2.a (as escalated in accordance with Paragraph 2.b) on all Petroleum Products handled during the previous calendar month to the Port within fifteen (15) days after the end of each calendar month.

b. Each monthly payment during the MGA Term will be calculated as follows:

(1) The MGA Fee for such month (i.e., [redacted] multiplied by the number of days in such calendar month), plus

(2) An amount equal to the product (or the sum of the products, as applicable) of (x) the greater of (A) the Current Excess less the Existing Shortfall, or (B) zero (0) multiplied by (y) the applicable rate or rates specified in Paragraph 2.a (as escalated in accordance with Paragraph 2.b) multiplied by (z) the number of days in such calendar month, where:

the "Current Excess" is the average number of bpd of Petroleum Products, if any, actually unloaded from or loaded into railcars at the Facility during the month in excess of the MGA, and

the "Existing Shortfall" is the amount, if any, by which the average number of bpd actually unloaded from or loaded into railcars at the Facility during the immediately preceding two (2) calendar months is less than the MGA, which Existing Shortfall has not previously been used in calculating Wharfage and S&F fees under this Paragraph 3.b.

c. Each monthly payment following the end of the MGA Term and continuing through the balance of the term of this Agreement will be calculated by multiplying the monthly aggregate Barrels of Petroleum Products unloaded from or loaded into railcars at the Facility during a given calendar month by the rates specified in Paragraph 2.a (as escalated in accordance with Paragraph 2.b).

d. Notwithstanding anything to the contrary herein, until the entire Prepaid Amount (as hereinafter defined) has been credited by Lessor to Lessee pursuant to this Paragraph 3.d, during each month that the volume of Petroleum Products unloaded out of or loaded into railcars at the Facility exceeds an average equal to the MGA and Lessee has paid the MGA Fee for such month, then for each dollar in excess of the MGA Fee that is owed by Lessee

to Lessor with respect to Petroleum Products unloaded out of or loaded into railcars at the Facility for such month, Lessor shall apply and credit [redacted] of the remaining Prepaid Amount, and Lessee shall only be obligated to pay [redacted] of such dollar. As used herein, the term "Prepaid Amount" shall mean the total of all Contingency Period Fees paid by Lessee to Lessor. The credit applied pursuant to this Paragraph 3.d in any month shall be applied after applying any applicable credit pursuant to the terms set forth in Paragraph 3.b above.

e. Lessee also agrees to pay, during the Term of this Agreement, all Leasehold Taxes applicable to the amounts payable hereunder, as determined by the DOR under RCW 82.29A.020.

f. In the event of a Force Majeure event that prevents Lessee from receiving crude oil at the Facility for a period of sixty (60) days or longer during the MGA Term, and if Lessee subsequently exercises an available extension of the Term of the Lease, Lessor shall reasonably consider (but does not hereby agree or promise to provide) a partial credit for the MGA Fees received during such Force Majeure period.

4. Security for the MGA. As further security for the payment by Lessee of the amounts to be paid by Lessee to Lessor hereunder, Lessee agrees to grant to Lessor or its assigns a first lien security interest in Lessee's leasehold interest in the Premises and Lessee's ownership interest in the Alterations, fixtures, and improvements that constitute the Facility. Such first lien shall be created by a deed of trust in a form reasonably satisfactory to Lessor and to Lessor's lender, the holder of Lessor's bonds for improvements related to the Facility, or the trustee for any such bonds, and shall be perfected by the recording of such deed of trust in the real property records of Clark County, Washington.

Such deed of trust shall be released by Lessor, under all circumstances, at such time as Lessee has paid to Lessor, in respect of Wharfage, Service and Facilities Fees due hereunder, a total of [redacted] (the "WS&F Lien Amount"). The deed of trust contemplated by this paragraph shall be executed and delivered by Lessee not more than ten (10) business days following the date on which Lessor requests that such deed of trust be executed (but not earlier than the Conditions Precedent Expiration Date), and shall thereafter be recorded in the real property records of Clark County, Washington.

At such time as Lessee has paid the WS&F Lien Amount in full to Lessor, Lessor shall execute and deliver a request for full reconveyance with respect to such deed of trust, in a form satisfactory to the trustee named therein (the "Release"). Lessee shall thereafter be authorized to deliver the Release to the trustee under such deed of trust and to cause a full reconveyance of such deed of trust to be recorded.

5. Defaults. Each of the following events shall constitute an event of default ("Event of Default") with respect to this Agreement:

a. Any failure of Lessee to pay the MGA Fee, or any Wharfage or S&F fees due hereunder when due;

b. Any Default (as that term is defined therein) under the Lease; or

c. Any termination of the Lease pursuant to Section 17.C of the Lease or pursuant to the Bankruptcy Act.

6. Remedies Upon Default.

a. In addition and not in substitution of any and all other rights and remedies available to Lessor pursuant to the Lease, upon the occurrence of an Event of Default hereunder, Lessor may demand the immediate payment in full of the MGA Fee for the remaining term of this Agreement as liquidated damages, it being acknowledged by Lessor and Lessee that damages for Lessee's failure to comply with this Agreement would be difficult to ascertain because of the variability in usage of the Facility.

b. Lessor may pursue any other damages recoverable at law, in equity or under the Lease. Lessor's rights and remedies shall be cumulative and may be exercised and enforced concurrently. Any right or remedy conferred upon Lessor hereunder shall not be deemed to be exclusive of any other right or remedy Lessor may have.

7. Modifications for Financing. To the extent it does not affect the economic terms hereof or otherwise have an adverse effect on Lessee's rights and obligations under this Agreement, as determined by Lessee in its reasonable discretion, Lessee agrees to modify this Agreement as requested by an underwriter or bond purchaser(s) in connection with the issuance of securities or the acquisition of other financing by Lessor which are secured in whole or part by the fees due hereunder.

8. Captions. The captions in this Agreement are for convenience only and do not in any way limit or amplify the provisions of this Agreement.

9. Severability. If any term or provision of this Agreement or the applications thereof to any person or circumstances shall, to any extent, be invalid or unenforceable, the remainder of this Agreement or the application of such term or provision to persons or circumstances other than those as to which it is held invalid or unenforceable shall not be affected thereby and shall continue in full force and effect.

10. Notices. All notices hereunder may be delivered (personally or by reliable overnight courier), faxed, or mailed. If mailed, they shall be sent by certified or registered mail to the address set forth in Section 1.M of the Lease or to such other address as either party hereto may hereafter from time to time designate in writing. Notices sent by mail shall be deemed to have been given three (3) days after the date on which properly mailed, postage prepaid, certified mail, return receipt requested. Notices delivered by reliable overnight courier service shall be deemed to have been given one (1) business day after the date on which deposited with such overnight courier service, properly addressed to the address set forth in Section 1.M of the Lease or to such other address as either party hereto may hereafter from time to time designate in writing, with charges paid for next business day delivery. Notices sent by facsimile or email shall be transmitted to the facsimile number or email address set forth in Section 1.M of the Lease or to such other number or email address as either party hereto may hereafter from time to time designate in writing, and shall be verified by a printout showing successful transmission or by a return email confirming receipt. Lessee shall also provide information to Lessor regarding Lessee's billing address if it is different from the notice listed above.

11. Attorneys' Fees and Court Costs. In case suit or action is instituted to enforce compliance with any of the terms of this Agreement, the losing party agrees to pay the prevailing party reasonable attorneys' fees before or at trial (including in a bankruptcy, insolvency or receivership proceeding), arbitration or any appeal, together with all costs and expenses incurred in connection with such actions, including the reasonable cost of searching the records to determine the condition of title at the time suit is commenced.

12. Successors and Assigns. All rights, remedies and liabilities herein given to or imposed upon either of Lessor or Lessee shall inure to the benefit of and bind the executors, administrators, successors and assigns of such parties. Nothing herein shall or is intended to confer upon any person, other than Lessor and Lessee and their respective successors and assigns, any rights, remedies, obligations or liabilities. Notwithstanding the foregoing, Lessee shall not assign any of its obligations hereunder without the prior written consent of Lessor, which may be withheld in Lessor's sole and absolute discretion.

13. Waiver. Lessor shall not be deemed to have waived any rights under this Agreement unless the waiver is given in writing and signed by Lessor. No delay or omission on the part of Lessor in exercising any right shall operate as a waiver of the right or any other right. A waiver by Lessor of a provision of this Agreement shall not prejudice or constitute a waiver of Lessor's right otherwise to demand strict compliance with that provision or any other provision of this Agreement. No prior waiver by Lessor shall constitute a waiver of any of Lessor's rights or of any of Lessee's obligations as to any future transactions.

14. Entire Agreement. This Agreement and the Lease contain the entire agreement between the Lessor and Lessee with respect to the MGA Fees and the Wharfage and Service and Facilities Fees. Each of Lessor and Lessee represents that no promises, representations or commitments have been made by the other as a basis for this agreement which have not been reduced to writing herein. No oral promises or representations shall be binding upon either party, whether made in the past or to be made in the future, unless such promises or representations are reduced to writing in the form of a modification to this Agreement executed with all necessary legal formalities by the Commission of the Port of Vancouver. This Agreement shall be construed without regard to any presumption or other rule requiring construction against the party causing this Agreement to be drafted..

15. Counterparts. This Agreement may be signed in counterparts. All signatures taken together shall amount to the concurrence of Lessor and Lessee. In that regard, a photostatic copy of any signature shall have the same effect as the original.

16. Applicable Law and Venue. This Agreement shall be governed by and construed in accordance with the laws of the State of Washington, and in the event of any litigation arising out of or relating to this Agreement, the parties hereto stipulate and agree that the venue of any such action shall be laid in Clark County, Washington.

IN WITNESS WHEREOF, Lessor and Lessee hereto have signed this Agreement as of the 23rd day of July, 2013.

PORT OF VANCOUVER, Lessor

By: _____
President

By: _____
Vice-President

By: _____
Secretary

TESORO SAVAGE PETROLEUM TERMINAL, LLC, Lessee

By: _____

Title: AUTHORIZED PERSON

By: _____

Title: _____

Approved as to form:

SCHWABE, WILLIAMSON & WYATT

By: _____

Alicia L. Lowe, Port Counsel

Exhibit "O"

EXHIBIT "P"

PORT MANAGEMENT AGREEMENT

[attached]

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
Jennifer M. Belcher
Commissioner of Public Lands
Olympia, WA 98504

AMENDMENT TO PORT MANAGEMENT AGREEMENT NO. 20-080008

WHEREAS, the Port has requested that certain state-owned aquatic lands be included in Port Management Agreement No. 20-080008; and

WHEREAS, the Department of Natural Resources has determined that said parcel of state-owned aquatic lands meets the criteria established by law for inclusion in a port management agreement; and

WHEREAS, the Department of Natural Resources believes that it is in the best interest of the state of Washington to grant the Port's request;

IT IS THEREFORE AGREED:

1) That this amendment is hereby created covering the following parcels of state-owned aquatic land:
Parcel 3 and Parcel 4, legally described on the attached exhibit. Parcel 3 is commonly known as Columbia Gateway Parcel 1. Parcel 4 is commonly known as Columbia Gateway Parcel 3.

2) That Exhibit A of Port Management Agreement No. 20-080008 is hereby amended to include parcel 3 and parcel 4.

3) That all other terms and conditions of Port Management Agreement No. 20-080008 (including Exhibit B) are not affected by this amendment.

The Port expressly agrees to all covenants herein.

Executed this _____ day of _____, 19_____.

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

_____
JENNIFER BELCHER
Commissioner of Public Lands

Executed this 11th day of May, 19 93.

PORT OF Vancouver

_____
Title Byron H. Hanke, Executive Directc

APPROVAL OF DOCUMENT TERMS	
	Lease Admin.
	Section Mgr.
	Asst. Div. Mgr.
ACE	Division Mgr.

PROOF READ 4/15/93

anl/20080008.amd

[redacted]

CERTIFICATE OF ACKNOWLEDGMENT

STATE OF WASHINGTON)
) ss.
County of Thurston)

On this _____ day of _____, 19__, personally appeared before me JENNIFER M. BELCHER, to me known to be the Commissioner of Public Lands, and ex officio administrator of the Department of Natural Resources of the state of Washington, the department that executed the within and foregoing instrument on behalf of the state of Washington, and acknowledged said instrument to be the free and voluntary act and deed of the state of Washington for the uses and purposes therein mentioned, and on oath stated that she was authorized to execute said instrument and that the seal affixed is the official seal of the Commissioner of Public Lands for the state of Washington.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

SEAL

_____
NOTARY PUBLIC in and for the
state of Washington

My commission expires _____

CERTIFICATE OF
GOVERNMENTAL AGENCY ACKNOWLEDGEMENT

STATE OF)
) ss.
County of)

On this 11th day of May, 1993, personally appeared before me Byron H. Hanke, to me known to be the Executive Director of Port of Vancouver that executed the within and foregoing instrument, Port Management Agreement No. 20-080008, and acknowledged said instrument to be the free and voluntary act and deed of the agency for the uses and purposes therein mentioned, and on oath stated that he/she was authorized to execute said instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

SEAL

Beth E. Burchett
NOTARY PUBLIC in and for the
state of Washington
My commission expires 9/15/94

20-080008

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
Brian J. Boyle
Commissioner of Public Lands
Olympia, WA 98504

AMENDMENT TO PORT MANAGEMENT AGREEMENT NO. 20-080008

WHEREAS, the Port has requested that certain state-owned aquatic lands be included in Port Management Agreement No. 20-080008; and

WHEREAS, the Department of Natural Resources has determined that said parcel of state-owned aquatic lands does not meet the criteria established by law for inclusion in a port management agreement; and

IT IS THEREFORE AGREED:

1) That this amendment is hereby created covering the following parcel of state-owned aquatic land:

That portion of the Harbor Area in front of Tract 35 lying westerly of Easement Number 20-025136 granted to Bonneville Power Administration for a transmission line right-of-way; 1981 Supplemental Maps of Vancouver Harbor bounded by the Inner and Outer Harbor Lines as shown on said map on file in the Office of the Commissioner of Public Lands at Olympia, Washington.

Said parcel contains 10.17 acres, more or less.

2) That Exhibit A - Parcel 1 of Port Management Agreement No. 20-080008 is hereby amended to exclude this area as highlighted on the attached exhibit.

3) That all other terms and conditions of Port Management Agreement No. 20-080008 (including Exhibit B) are not affected by this amendment.

The Port expressly agrees to all covenants herein.

Executed this 26th day of September, 1988.

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

By James A. Stearns
JAMES A. STEARNS, Supervisor

Executed this 24th day of February, 1989.

PORT OF VANCOUVER

By

PO Box 1180
Vancouver, WA 98666-1180

Attested To:

Director Finance & Admin
(Title)

Vancouver WA
(Address)

DE8 80008.1

CERTIFICATE OF ACKNOWLEDGEMENT
JAMES A. STEARNS

STATE OF WASHINGTON)
) ss.
County of Thurston)

I certify that I know or have satisfactory evidence that James A. Stearns
JAMES A. STEARNS
signed this instrument, and oath stated that he was authorized to execute the instrument and acknowledged it as the Supervisor of the Department of Natural Resources, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated: February 24, 1989

Edith L. Murray
Notary Public in and for the
State of Washington

My appointment expires June 1, 1989

(Seal or stamp)

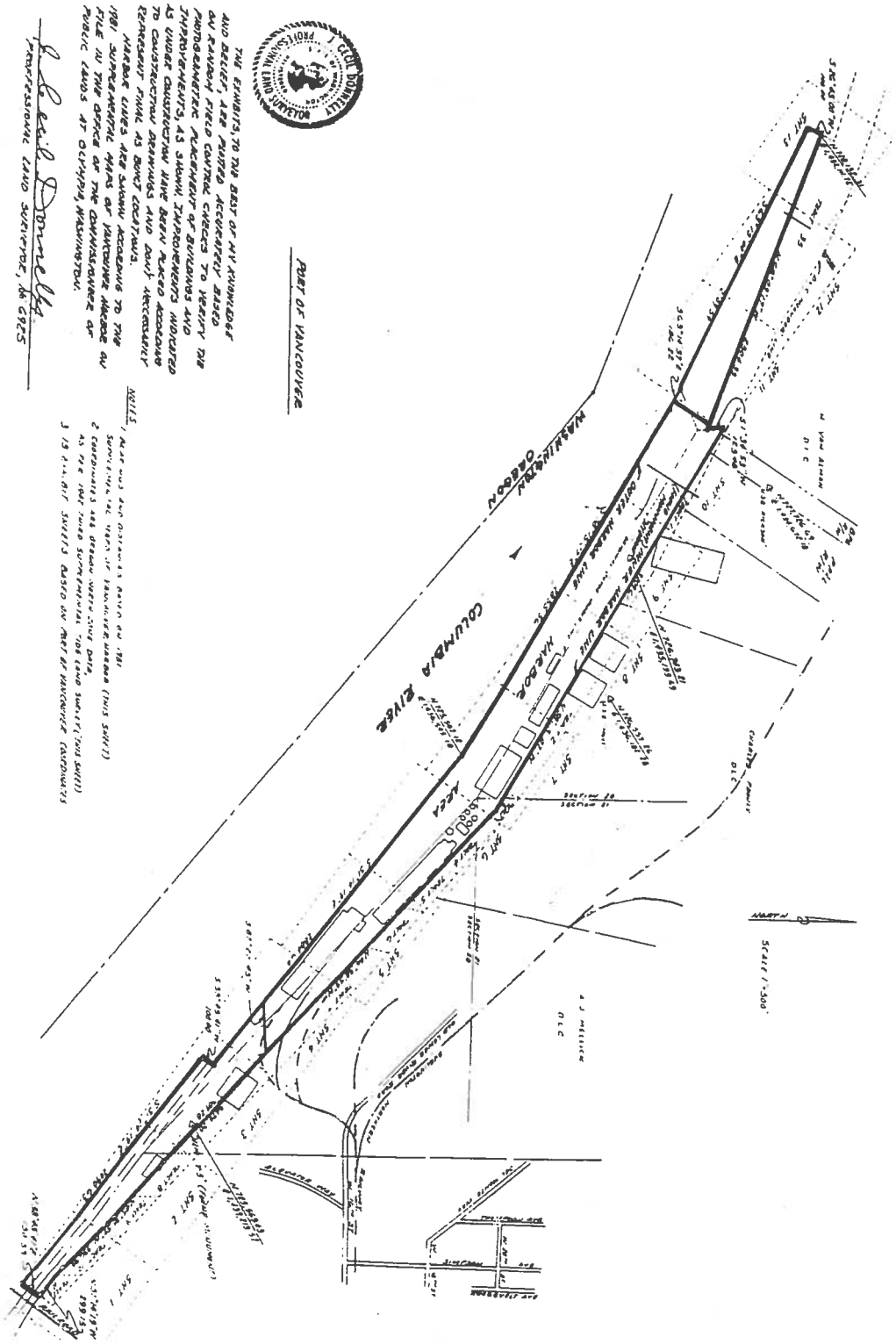


EXHIBIT A

PARCEL 1

AQUATIC LANDS MANAGEMENT AGREEMENT

Washington State Department of Natural Resources

and

Public Port Districts of the State of Washington

Port of Vancouver
Port Management Agreement
No. 20-080008

COPY

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MANAGEMENT AGREEMENT

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MANAGEMENT AGREEMENT
No. 20-080008
Port of Vancouver

This Management Agreement, made as of the 1st day of October 1984, by and between the State of Washington, Department of Natural Resources, (hereinafter referred to as "DNR"), and the Port of Vancouver, a Washington municipal corporation, (hereinafter referred to as "the Port").

Witnesseth:

Whereas, DNR is directed by law to manage aquatic lands owned by the State of Washington; and

Whereas, Section 6, Chapter 221, Laws of 1984, authorizes DNR and the port district, upon request of a port district, to enter into an agreement to manage state-owned aquatic lands as set forth in said law; and

Whereas, the Port has requested such an agreement; and

Whereas, DNR has determined that it is in the best interest of the State of Washington to enter into such an agreement with the Port,

Now, therefore, the parties hereto hereby agree as follows:

1. Term. This Management Agreement shall commence as of the date first written above and shall continue in full force and effect so long as the laws of the State of Washington allow management of aquatic lands by port districts.

2. Delegation. DNR hereby delegates management to the Port, and the Port hereby accepts the delegation and agrees to manage the parcels of state-owned aquatic lands listed on Exhibit A, which are attached hereto and incorporated by reference, (hereinafter referred to as the "Property"), as of the date of this Management Agreement in accordance with the provisions hereof.

The parties intend that this Management Agreement encompass all authority required for the Port to effectively manage the Property as contemplated by Chapter 221, Laws of 1984. However, if future circumstances indicate that additional authority is required to effectively manage the Property, the Port may request such authority from DNR, which approval shall not be unreasonably withheld.

The Port is hereby granted exclusive authority to enter into leases or other use authorization, including leases or use authorizations to itself, for the Property or portions thereof, except as otherwise provided herein. All such agreements shall be subject to this Management Agreement and shall have a copy of the Management Agreement attached thereto. Said leases shall survive this Management Agreement; PROVIDED, that any such lease by the Port shall contain a clause which states that upon termination of the Management Agreement, or removal of the leased property therefrom, the lessor of said lease shall become DNR. The Port shall furnish a copy of any lease to DNR upon request.

3. Property. Any parcel which meets the criteria established by law shall, upon request of the Port, be covered by this Management Agreement and included on Exhibit A. Any parcel hereafter meeting those criteria shall be added to this Management Agreement, upon request of the Port, by amending Exhibit A.

Any parcel which no longer meets these criteria shall cease to be covered by this Management Agreement and the management thereof shall return to DNR upon six (6) months written notice. Any parcel may be deleted from this Management Agreement at any time by mutual agreement or by the Port upon six (6) months written notice to DNR. If all subject property is deleted from this Management Agreement, and if the Port requests, this Management Agreement shall terminate. If any parcel is no longer included in this Management Agreement for any reason, upon cessation the Port shall promptly remit to DNR its pro rata share of any prepaid rent received for that parcel.

4. Access. It is not the intent that any parcel owned by the State which is not covered by this Management Agreement, or any property owned by the Port should be left without access as a result of the Port's management of the Property. Provisions for access to such parcels shall be listed on Exhibit A or its amendments.

5. Acceptance of the Property. Except as otherwise agreed in writing the Port hereby accepts management of the Property listed on Exhibit A and any amendments in its present condition, and agrees, at its sole expense, to conform to federal, state, and local laws and regulations applicable to the holding or use of the Property.

6. Standard of Management. Management of the Property shall be consistent with the aquatic land policies of Chapters 79.90 through 79.96 RCW, as amended, and the implementing regulations adopted by DNR. These laws now state, in Sect. 2, Chapter 221, Laws of 1984 (RCW 79.90.455): "The manager of state-owned aquatic lands shall strive to provide a balance of public benefits for all." The administrative procedures for management of the Property shall be those of Title 53 RCW.

7. Use. The Port may use the Property for port purposes as authorized in Title 53 RCW so long as said use is consistent with the Washington State Constitution and laws of the State of Washington.

8. Port Regulations. The Port may adopt written policies and regulations to implement this Management Agreement and to direct the management of the Property. All such policies and regulations shall be submitted to DNR for review and comment prior to becoming effective. Any such policies or regulations must be consistent with this Management Agreement.

9. Planning for Aquatic Land Use. The parties recognize that long-range planning for aquatic land use involving the Property, developed through consultation between the parties in cooperation with the planning authorities of appropriate local jurisdictions, is a desirable management objective. In the event the parties develop and agree upon a long-range plan for aquatic land use for the Property, the Port may enter into leases for non-water dependent uses consistent with that plan without DNR approval.

In the absence of a long-range plan for aquatic use of a portion of the Property, if the Port contemplates the possible lease or use of that portion of the Property for nonwater-dependent uses, it shall give DNR notice of its intentions at the earliest practicable time. DNR shall promptly meet with the Port to review the proposal for its consistency with the aquatic land policies of Chapters 79.90 through 79.96 RCW, as amended, and the implementing regulations adopted by DNR.

10. Rent. The following shall apply:

a. The Port shall pay DNR no rent for the Port's use of any portion of the Property, provided, in the event the Port engages in a significant nonwater-dependent use on other than a temporary basis which produces substantial income, 85% of the revenue attributable to the rent of the state-owned aquatic land only shall be paid to DNR.

b. If the use of any portion of the Property involves a lease or other use authorization to a third party, rent for such portion shall be collected and distributed according to law. In the event the use is nonwater-dependent, the Port shall establish the fair market rental in dollars and shall remit, in dollars, to DNR that portion required by law.

11. Security. If the Port leases any portion of the Property to a third party, the Port shall require security as provided by law.

12. Removal of Natural Resources. Other as than provided by RCW 79.90.150 no natural resources shall be removed from any parcel subject to this Management Agreement without the prior written approval of DNR. If any approved removal requires payment to DNR for the value of the natural resources removed, such payment shall be made within 90 days of the removal.

13. Improvements.

a. State-Owned Improvements. Any state-owned improvements existing on the Property shall be listed on Exhibit B. These improvements shall remain the property of the State and shall be maintained at the Port's sole expense in a good condition and state of repair. Upon the cessation or termination of this Management Agreement as to any portion of the Property, the Port shall return said portion, together with the state-owned improvements, to DNR in a condition as good as when received, normal wear and tear excepted.

At the time any portion of the Property with state-owned improvements becomes subject to Management Agreement, the Port and DNR shall determine whether, in view of the character and value of the improvements, the financial condition of the Port, the likelihood of risk of loss or damage, and other relevant factors, fire and extended coverage insurance on state-owned improvements shall be obtained by the Port.

The current agreed fair market value of the existing state-owned improvements on the Property, is listed on Exhibit B. The Port agrees to pay for the use of these improvements an amount equal to that which would be charged lessees by DNR for the use of those improvements, as the same is billed to the Port by DNR from time to time during the term of this Management Agreement.

b. Other Improvements. Other improvements existing on the Property, or subsequently installed on the Property, shall be owned by the Port or any third party contractually entitled thereto. If any parcel is not substantially continuously subject to this Management Agreement or a lease, then, upon the termination of the Management Agreement or such lease, such improvements shall become the property of the State, unless DNR elects to have the improvements removed, in which case they shall be removed by the Port at its sole expense. If the Port fails to so do, DNR may have them removed, and the Port agrees to pay for the total cost of that removal.

14. Easements. DNR may grant permanent easements across any portion of the Property. DNR shall obtain the Port's written approval prior to making such grants, which approval shall not be unreasonably withheld. Any request to DNR by the Port and its Lessee for a permanent easement across any portion of the Property shall be promptly considered and approval shall not be unreasonably withheld.

The Port may grant non-permanent easements without DNR approval so long as the term of such grant does not exceed the maximum term allowed by statute for leases of the burdened portion of the Property.

15. Local Improvement Districts. The Port shall have the exclusive authority to consent or withhold consent to the inclusion of any portion of the Property in any local improvement district (LID). The Port shall be responsible for all assessments levied against any portion of the Property after the date of this Management Agreement, whether installment payments are due during the term of this Management Agreement or otherwise. The Port shall be responsible, during the term of this Management Agreement, for installments due on pre-existing LID assessments.

16. Taxes. Except for taxes and other governmental charges imposed by law on third parties, the Port shall be responsible for, and shall pay when due, all taxes, fees, licenses, and other governmental charges of whatever character or arising out of, or attributable to, the Property or to the Port's management, use and/or leasing thereof during the term of this Management Agreement.

17. Entry. DNR shall have right of entry to the Property at reasonable times for any lawful purposes.

18. Audits. The Port shall make all records concerning the management of any portion of the Property available to DNR upon request.

19. Liens and Encumbrances. The Port shall keep the Property free from liens and other encumbrances (other than leases and other use authorizations authorized in Paragraphs 2 Delegation, 14 Easements and 15 Local Improvement Districts). Nothing in this Management Agreement shall be construed as authorizing the Port to obligate DNR, directly or indirectly, to any costs, expenses, or financial liability on account of the management, use, lease, or other actions taken by the Port with respect to the Property.

20. Indemnification. DNR shall not be liable for any injury or death to any persons, or for damage to any property occurring on or about any portion of the Property, regardless of how such injury or damage be caused other than through the negligence of DNR. The Port agrees to indemnify and to hold and save DNR harmless from all liability and expense, including the expense of litigation, in connection with any such actual or alleged injury or damage.

The Port shall indemnify and hold and save DNR harmless from all contractual liability and expense, including the expense of litigation arising by virtue of Port management of the Property.

21. Eminent Domain. If at any time during the term of the Management Agreement the Property or any part thereof is taken or condemned by any authority having the power of eminent domain, the Port, DNR, and any other person having a legal interest shall have the right to appear in such proceedings and be represented by their respective counsel, and each may claim just compensation for its respective loss or damage sustained by the taking or condemnation. Any award, compensation, damages, or payment by reason of such taking shall be apportioned within such proceeding and each party shall take such amount, if any, as may be awarded to it.

22. Non-Waiver. The failure of either party to insist upon the strict performance of any of the covenants or conditions of this Management Agreement in any one or more instances shall not be construed to be a waiver thereof. In the event that a default is for other than the payment of money, the acceptance by either party of payments required under the Management Agreement shall not be deemed as a waiver of such default.

23. Dispute Resolution.

a. Dispute: Means that whenever the Port and DNR cannot agree on the factual circumstances necessary to interpret this Management Agreement, or whenever the Port and DNR cannot agree on the application of any operative sections of this Management Agreement, either party may declare that a dispute exists concerning the Management Agreement.

b. Dispute Resolution:

(1) If either party declares the existence of a dispute concerning this Management Agreement, the declaring party shall so notify the other party and shall provide a written statement of the facts, its interpretation of the Management Agreement, and its position concerning such dispute. Within 15 days the other party shall provide to the declaring party a written statement addressing those same three elements. Within 15 days after the declaring party has received the other party's written statement, the parties shall meet and try to resolve the dispute. In the event the dispute is not resolved within 60 days after the first meeting the matter may be referred to the Disputes Resolution Panel by either party.

(2) Disputes Resolution Panel. The Disputes Resolution Panel shall consist of the following members:

(a) The Chairman of the Board of Natural Resources (or some other member of the Board of Natural Resources designated by the chairman);

(b) The Supervisor of the Department of Natural Resources;

(c) The president of the port commission of the Port (or some other member of the port commission designated by the president);

(d) The chief administrative officer of the Port. (In the event the Port has no chief administrative officer, then such person shall be designated by the port commission.)

(3) Consideration by Disputes Resolution Panel: Within 60 days after the dispute is referred to the Disputes Resolution Panel it shall meet and attempt to resolve such dispute. In the event it is unable to resolve the dispute within said 60 day period either party may petition the Superior Court for resolution of the dispute.

24. Termination for Default. DNR may cancel this Management Agreement or remove any portion of the Property therefrom for any failure by the Port to perform its obligations under this Management Agreement on six months written notice to the Port, unless, within that time, the Port cures such default. DNR's decision whether to cancel the Management Agreement or to remove any portion of the Property shall be reasonably exercised. If the default is of a character which cannot be remedied within six months, the Port shall so notify DNR and the parties shall agree on a reasonable period to remedy the default. In the event the parties cannot agree on a period, that shall be referred to arbitration as provided in Paragraph 23. Failure to cure the default within such period may result in cancellation or removal of any portion of the Property upon notice. The decision by DNR to give notice of its intention to cancel this Management Agreement, or to remove a portion of the Property for default after expiration of the period for cure, shall constitute a dispute and shall be appropriate for resolution under Paragraph 23 herein.

25. Notices. All notices required by law or this Management Agreement shall be in writing and may be personally served or sent by registered or certified mail, return receipt requested. If such notice is served personally, service shall be conclusively deemed made at the time of service. If service is by registered or certified mail, service shall be conclusively deemed made three (3) days after the deposit thereof in the

United States mail, postage prepaid, addressed to the parties to whom such notice is to be given. Any notice may be given at the following address (or such other address as either party may notify the other, in writing):

DNR — Department of Natural Resources
Division of Aquatic Lands
Mail Stop QW-21
Olympia, WA 98504

Port — Port of Vancouver
PO Box 1180
Vancouver, WA 98666

26. Attorney Fees. In the event either party shall be required to bring any action to enforce any of the provisions of this Management Agreement or shall be required to defend any action brought by the other with respect to this Management Agreement the prevailing party in such action shall be entitled to reasonable attorney's fees in addition to costs and necessary disbursements.

27. Assignment. No part of this Management Agreement may be assigned or otherwise transferred.

Signed this 12 day of July, 1988.

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

JAMES A. STEARNS, Supervisor

Signed this 11 day of MAY, 1988.

Port of Vancouver

Executive Director
Title

P.O. BOX 1180
Address

Vancouver, WA 98666

20-080008
25MS3 80008.1

STATE OF WASHINGTON)
) ss.
County of Thurston)

I certify that I know or have satisfactory evidence that James A. Stearns
JAMES A. STEARNS

signed this instrument, and oath stated that he was authorized to execute the instrument and acknowledged it as the Supervisor of the Department of Natural Resources, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated: July 12, 1988

Sheri Yonker
Notary Public in and for the
State of Washington

My appointment expires 2-1-89

(Seal or stamp)

STATE OF WASHINGTON)
) ss.
County of Clark)

I certify that I know or have satisfactory evidence that Byron H Hanke
name of person

signed this instrument, and oath stated that (he/she/they) (was/were) authorized to execute the instrument and acknowledged it as the Executive director
(type of authority, e.g., officer, trustee,

partner, marital community, etc.) of Port of Vancouver
(name of party(ies) on behalf of whom instrument

was executed) to be the free and voluntary act of such party(ies) for the uses and purposes mentioned in the instrument.

Dated: 5-11-88

Notary Public in and for the
State of Washington

My appointment expires 6-22-90

(Seal or stamp)

20-080008

EXHIBIT A
Legal Description

Parcel 1

That portion of the harbor area in front of Tract 35 and all of Tracts 1 thru 11, inclusive, 1981 Supplemental Maps of Vancouver Harbor bounded by the inner and outer harbor lines, the southeasterly boundary of said Tract 11 projected across the harbor area to the outer harbor line and the west harbor line of the 1981 Supplemental Maps of Vancouver Harbor as shown on said maps on file in the office of the Commissioner of Public Lands at Olympia, Washington.

Subject to Easement No. 25136 granted to Bonneville Power Administration for a transmission line right of way; also,

Subject to Easement No. 25523 granted to Pacific Power and Light Company for a transmission line right of way.

Parcel 2

All harbor area lying in front of Tracts 25 and 26 and West "C" (Columbia) Street and West "D" Street, Vancouver Tide Lands, included in a tract described as follows:

Beginning at the point of intersection of the east line of West "C" (Columbia) Street and the inner harbor line, said point of beginning being North 93.05 feet and West 510.80 feet from the southeast corner of the Amos Short Donation Land Claim, and running thence North 64° 25' 39" West 1,326.61 feet along said inner harbor line to the point of intersection of the west line of Grant Street produced and the inner harbor line, thence South 25° 34' 21" West 150.00 feet to the outer harbor line, thence South 64° 25' 39" East 1,326.61 feet along said outer harbor line, and thence North 25° 34' 21" East 150.00 feet to the point of beginning, all as shown on the official maps of Vancouver Tide Lands on file in the office of the Commissioner of Public Lands at Olympia, Washington.

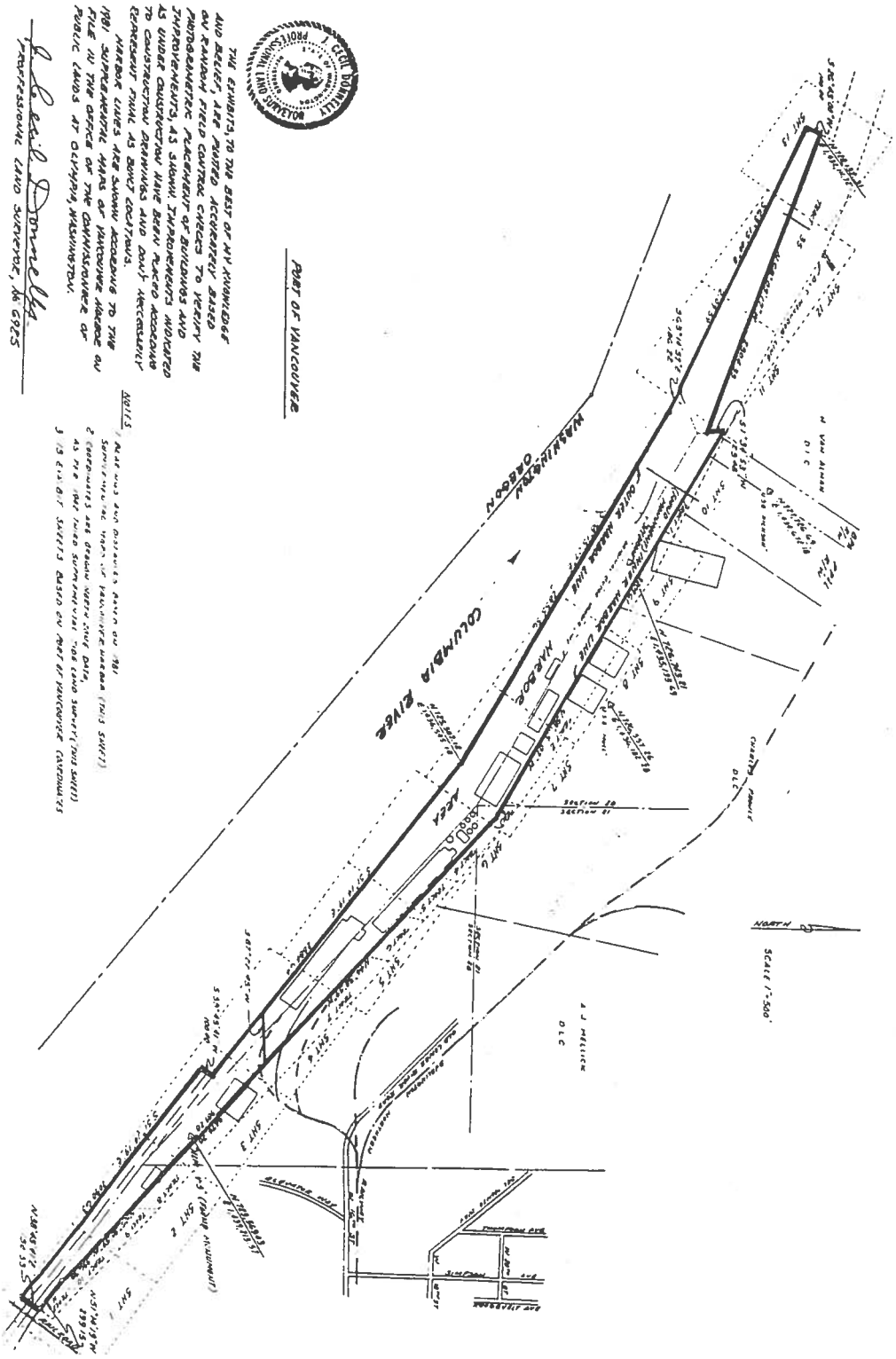


EXHIBIT A

PARCEL 1

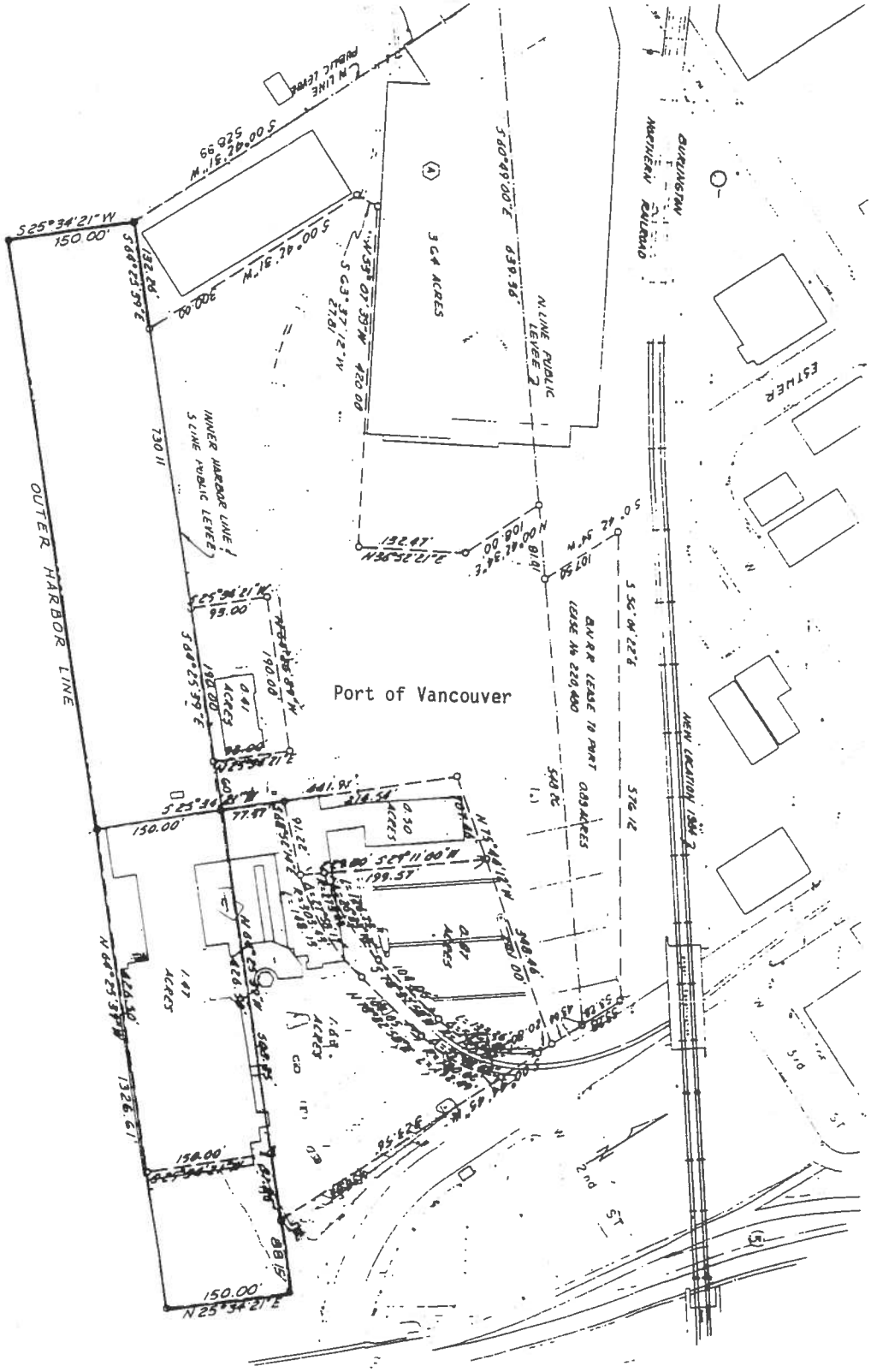


EXHIBIT A

PARCEL 2

EXHIBIT B

There are no state-owned inmprovements on the parcels described in Exhibit A as of the date of issuance of this agreement.

EXHIBIT "Q"

MONITORING WELLS

[attached]

Monitoring Well Locations
Terminal 5
July 12, 2013

Well Number	Easting*	Northing*	TOC Elevation**
MW-18A (R)	1069765.41	121917.21	34.00
MW-18I (R)	1069775.24	121912.55	35.10
MW-19I (R)	1070096.12	121769.3	33.40
MW-30D (R)	1069782.05	122463.86	33.10
MW–30I (R)	1069792.66	122460.64	33.10
MW–30S (R)	1069802.02	122458.15	34.10
MW-35-A	1071261.078	121903.3978	37.84
MW-35-D	1071251.172	121902.2417	39.13
MW-35-I	1071242.537	121900.9016	39.16
MW-35-S	1071234.515	121900.0484	39.7
MW-41-D	1071852.272	122014.4843	35.03
MW-41-I	1071837.566	122014.7935	35.4
MW-41-S	1071844.473	122014.1159	35.38
MW-46-A	1070717.277	121606.8292	38.86
MW-46-D	1070722.913	121599.5267	39.86
MW-46-I	1070724.612	121607.0625	36.85
MW-47-A	1070674.901	122429.5464	33.29
MW-47-D	1070672.637	122423.8356	33.71
MW-47-I	1070678.834	122435.4090	33.02
MW-48-A	1070678.777	122058.7000	31.83
MW-48-D	1070677.82	122065.1161	31.32
MW-48-I	1070678.489	122070.7170	31.26
MW-49D (R)	1069785.54	121908.28	34.80
MW-49S (R)	1069795.71	121904.36	35.10
MW-50A (R)	1070065.82	121782.14	32.30
MW-50D (R)	1070085.95	121773.21	33.30
MW-50S (R)	1070075.65	121777.48	33.20

Exhibit "Q"

MW-51A (R)	1070227.35	121710.8	33.30
MW-51D (R)	1070237.18	121706.14	33.00
MW-51I (R)	1070247.48	121701.87	32.50
MW-51S (R)	1070257.65	121697.95	33.00
MW-52-S	1070380.916	122336.1313	35.03
MW-8-A	1070386.375	122335.2208	34.78
MW-8-D	1070376.568	122336.3237	34.88
MW-8-I	1070369.837	122335.8164	34.93
MW-94-1-A	1071060.619	121491.3085	34.85
MW-94-1-D	1071045.24	121494.6060	32.76
MW-94-1-I	1071032.168	121497.4103	32.66
MW-94-2-A	1071229.879	121454.2828	33.39
MW-94-2-D	1071222.85	121445.0665	31.45
MW-94-2-I	1071233.033	121443.8915	32
EVGR-02s***	1069279.000	122400.0000	31.79
EVGR-02I***	1069275.000	122402.0000	31.80
EVGR-02D***	1069270.000	122404.0000	31.81
EVGR-02A***	1069266.000	122405.0000	31.79
EVGR-02s****	1069328.000	122279.0000	N/A
EVGR-02I***	1069318.000	122283.0000	N/A
EVGR-02D***	1069307.000	122287.0000	N/A
EVGR-02A***	1069297.000	122292.0000	N/A

*Washington State Plane South, North American Datum of 1983 (NAD83)

**Locations based on the Clark County Datum 1990/USACE NVGD 1929

***Wells proposed for relocation in 2014

****Proposed new well locations, relocation anticipated to occur in 2014

Exhibit "Q"