STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

In the Matter of Remedial Action by:	ENFORCEMENT ORDER
Union Pacific Railroad Company	No. DE 20752

TO: Kristen Stevens
Union Pacific Railroad Company
2401 E Sepulveda Blvd
Long Beach, CA 90810

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I. INTRODUCTION

The objective of the State of Washington, Department of Ecology (Ecology) under this Enforcement Order (Order) is to require remedial action at a facility where there has been a release or threatened release of hazardous substances. This Order requires Union Pacific Railroad Company (hereafter referred to as the Subject PLP) to perform a final cleanup of the Aluminum Recycling Trentwood Site in Spokane Valley, WA by implementing the Cleanup Action Plan (Exhibit C). Ecology believes the actions required by this Order are in the public interest.

II. JURISDICTION

This Enforcement Order is issued pursuant to the Model Toxics Control Act (MTCA), RCW 70A.305.050(1).

III. PLP(s) BOUND

This Order shall apply to and be binding upon the Subject PLP. To the extent allowed by law, changes in ownership or corporate status shall not alter the Subject PLP's responsibility under this Order. The Subject PLP shall provide a copy of this Order to all agents, contractors, and subcontractors retained to perform work required by this Order, and shall ensure that all work undertaken by such agents, contractors, and subcontractors complies with this Order.

IV. DEFINITIONS

Unless otherwise specified herein, the definitions set forth in RCW 70A.305 and WAC 173-340 shall control the meanings of the terms in this Order.

A. Site: The Site is referred to as Aluminum Recycling Trentwood. The Site constitutes a facility under RCW 70A.305.020(8). The Site is defined by where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or otherwise come to be located. Based upon factors currently known to Ecology, the Remedial Action Location Diagram (Exhibit A) shows where the Subject PLP will implement the remedial action. The Site description and remedial action are more fully described in the Cleanup Action Plan (Exhibit B).

B. Potentially Liable Person (PLP): Refers to Union Pacific Railroad Company and Pentzer Venture Holdings II, Inc. Ecology retains the right to name additional PLP(s) for this Site as credible evidence is found or presented to the agency.

C. Subject PLP: Refers to PLP subject to the Order, Union Pacific Railroad Company.

D. Enforcement Order or Order: Refers to this Order and each of the exhibits to the Order. All exhibits are an integral and enforceable part of this Order.

V. FINDINGS OF FACT

Ecology makes the following findings of fact, without any express or implied admissions of such facts by the Subject PLP:

A. Based upon factors currently known to Ecology, the Site is generally located at 2317 N. Sullivan Road, Spokane Valley, WA as shown in the Remedial Action Location Diagram (Exhibit A).

B. Union Pacific Railroad Company is the current and historical owner of a portion of the Site.

C. Pentzer Venture Holdings II, Inc. is the current owner of a portion of the Site.

D. This Site was the location of aluminum dross reprocessing activities by Aluminum Recycling Corporation, a tenant of the Subject PLP, resulting in the generation and storage of aluminum dross. Aluminum Recycling Corporation began operations in 1979 and filed for bankruptcy in 1985.

E. Aluminum Recycling Corporation processed aluminum skim called white dross, obtained from aluminum smelters, and aluminum scrap materials in a batch process. This secondary processing of aluminum dross involved addition of sodium and potassium chloride salts. Molten aluminum metal was extracted during the process, poured into ingots, and sold. Spent dross process waste called black dross was present on-site, along with black dross imported from other locations.

F. In 1986, remaining black dross at the Site was transported to Mica Landfill by the Subject PLP.

G. In 1987, Imperial West Chemical Company (IWCC) transported low-salt aluminum dross to the Site for use in aluminum sulfate manufacturing. After production, unreacted solids were produced which were stockpiled at the Site. This continued until 1995. IWCC operations are located on property leased from the Subject PLP. Unreacted solids and dross were stockpiled by IWCC on property now owned by the Subject PLP and Pentzer Venture Holdings II, Inc.

H. An approximately 4 acre pile of waste material (comprised of mixed low-salt dross and unreacted solids) is present on-site. The pile is uncovered and historically uncontained, and had eroded onto neighboring properties. The volume is estimated at 57,000 cubic yards.

I. The waste material is a hazardous substance as defined by MTCA.

J. In February 2008, a Site Hazard Assessment was done by Ecology. It was evaluated under the Washington Ranking Method and ranked a 2.

K. In certified correspondence dated July 23, 2008, Ecology notified the Subject PLP, Pioneer Companies Inc., and Kaiser Aluminum of the preliminary finding of potential liability and requested comment on that finding.

L. In certified correspondence dated September 8, 2008, Ecology notified the Subject PLP of its status as a potentially liable person with regard to the release of hazardous substances at the Aluminum Recycling Trentwood Site.

M. In certified correspondence dated October 7, 2009, Ecology notified Pentzer Venture Holdings II, Inc. of the preliminary finding of potential liability and requested comment on that finding.

N. In certified correspondence dated December 11, 2009, Ecology notified Pentzer Venture Holdings II, Inc. of its status as a PLP with regard to the release of hazardous substances at the Aluminum Recycling Trentwood Site.

O. The Subject PLP entered into Agreed Order 6968 with Ecology, and a Remedial Investigation/Feasibility Study was completed and approved by Ecology after public review and comment on September 6, 2012.

P. Agreed Order 6968 was determined to be satisfied on October 18, 2012.

Q. In March 2020, the Subject PLP excavated contaminated soil caused by erosion on the Washington State Department of Transportation property and placed it onto the main pile in preparation for future remedial action.

R. A revised draft Feasibility Study was prepared by the Subject PLP and submitted to Ecology on April 24, 2020.

S. A second major revision to the revised draft Feasibility Study was prepared by the Subject PLP and submitted to Ecology on March 10, 2021.

T. Ecology approved the revised draft Feasibility Study on April 20, 2021.

U. Ecology and the Subject PLP entered into negotiations for an Agreed Order to implement the Cleanup Action Plan (CAP) on September 18, 2020 with negotiations to be completed by November 18, 2020. Ecology approved the first request to extend the negotiation period to December 11, 2020. Ecology approved the second request to extend the negotiation period to December 23, 2020. Ecology approved the third request to extend the negotiation period to April 20, 2021.

V. The Subject PLP withdrew from Agreed Order negotiations on April 19, 2021.

VI. ECOLOGY DETERMINATIONS

Ecology makes the following determinations, without any express or implied admissions of such determinations (and underlying facts) by the Subject PLP.

A. The Subject PLP is an “owner or operator” as defined in RCW 70A.305.020(22) of a “facility” as defined in RCW 70A.305.020(8).

B. Based upon all factors known to Ecology, a "release" or "threatened release" of "hazardous substance(s)" as defined in RCW 70A.305.020(32), (13), respectively, has occurred at the Site.

C. Based upon credible evidence, Ecology issued a PLP status letter to the Subject PLP dated July 23, 2008, pursuant to RCW 70A.305.040, .020(26), and WAC 173-340-500. After providing for notice and opportunity for comment, reviewing any comments submitted, and concluding that credible evidence supported a finding of potential liability, Ecology issued a determination that the Subject PLP is a PLP under RCW 70A.305.040 and notified the Subject PLP of this determination by letter dated September 8, 2008.

D. Pursuant to RCW 70A.305.030(1), .050(1), Ecology may require PLPs to investigate or conduct other remedial actions with respect to any release or threatened release of hazardous substances, whenever it believes such action to be in the public interest. Based on the foregoing facts, Ecology believes the remedial actions required by this Order are in the public interest.

VII. WORK TO BE PERFORMED

Based upon the above Findings of Fact and Ecology Determinations, Ecology hereby orders the Subject PLP to comply with all provisions of this Order and any modifications to this Order, including all exhibits to this Order and all documents incorporated by reference into this Order. Ecology hereby orders that the Subject PLP take the following remedial actions at the Site. The area within the Site where remedial action is necessary under RCW 70A.305 is described in the Remedial Action Location Diagram (Exhibit A). The Subject PLP must conduct these remedial actions in accordance with WAC 173-340:

A. The Subject PLP will implement the CAP (Exhibit C) in accordance with the Scope of Work and Schedule attached to this Order (Exhibit B). Among other remedial actions, the CAP requires the Subject PLP to excavate and dispose off-site all materials exceeding cleanup levels on the properties owned by Pentzer Venture Holdings II, Inc. and the Washington State Department

of Transportation; to excavate and dispose off-site all materials in the stockpile; and to excavate and dispose off-site all soil exceeding cleanup levels; and to cap on-site all soil exceeding cleanup levels but below remediation levels, on the property owned by the Subject PLP.

B. If the Subject PLP learns of a significant change in conditions at the Site, including but not limited to a statistically significant increase in contaminant and/or chemical concentrations in soil, the Subject PLP, within seven (7) days of learning of the change in condition, shall notify Ecology in writing of said change and provide Ecology with any reports or records (including laboratory analyses, sampling results) relating to the change in conditions. In the event that Ecology determines that this unanticipated or changed circumstances warrant changes in the Scope of Work or CAP, Ecology shall modify the associated Work Plan or CAP in writing accordingly or direct the Subject PLP to modify and submit the modified Work Plan or CAP to Ecology for approval. The Subject PLP shall perform the Work Plan or CAP as modified.

C. The Subject PLP shall submit to Ecology written monthly Progress Reports that describe the actions taken during the previous month to implement the requirements of this Order. The Subject PLP must submit all Progress Reports by the tenth (10th) day of the month in which they are due after the effective date of this Order. Unless otherwise specified by Ecology, Progress Reports and any other documents submitted pursuant to this Order shall be sent by certified mail, return receipt requested, to Ecology's project coordinator. The Progress Reports shall include the following:

1. A list of on-site activities that have taken place during the month.
2. Detailed description of any deviations from required tasks not otherwise documented in project plans or amendment requests.
3. Description of all deviations from the Scope of Work and Schedule (Exhibit B) during the current month and any planned deviations in the upcoming month.
4. For any deviations in schedule, a plan for recovering lost time and maintaining compliance with the schedule.

5. All raw data (including laboratory analyses) received during the previous quarter (if not previously submitted to Ecology), together with a detailed description of the underlying samples collected.
6. A list of deliverables for the upcoming month.

D. Pursuant to WAC 173-340-440(11), the Subject PLP 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.

1. Within sixty (60) days of the effective date of this Order, the Subject PLP shall submit to Ecology for review and approval an estimate of the costs under this Order for operation and maintenance of the remedial actions at the Site, including institutional controls, compliance monitoring and corrective measures. Within sixty (60) days after Ecology approves the aforementioned cost estimate, the Subject PLP shall provide proof of financial assurances sufficient to cover all such costs in a form acceptable to Ecology.
2. The Subject PLP shall adjust the financial assurance coverage and provide Ecology's project coordinator with documentation of the updated financial assurance for:
    i. Inflation, annually, within thirty (30) days of the anniversary date of the entry of this Order; or if applicable, the modified anniversary date established in accordance with this section, or if applicable, ninety (90) days after the close of the Subject PLP's fiscal year if the financial test or corporate guarantee is used.
    ii. Changes in cost estimates, within thirty (30) days of issuance of Ecology's approval of a modification or revision to the CAP that result in increases to the cost or expected duration of remedial actions. 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 CAP will revise the anniversary date established under this section to become the date of issuance of such revised or modified CAP.

E. As detailed in the CAP, institutional controls are required at the Site. Environmental (Restrictive) Covenants will be used to implement the institutional controls.

1. In consultation with the Subject PLP, Ecology will prepare the Environmental (Restrictive) Covenants consistent with WAC 173-340-440, RCW 64.70, and any policies or procedures specified by Ecology. The Environmental (Restrictive) Covenants shall restrict future activities and uses of the Site as agreed to by Ecology and the Subject PLP.
2. After approval by Ecology, the Subject PLP shall record the Environmental (Restrictive) Covenant for affected properties it owns with the office of the Spokane County Auditor as detailed in the Schedule (Exhibit B). The Subject PLP shall provide Ecology with the original recorded Environmental (Restrictive) Covenants within thirty (30) days of the recording date.

F. All plans or other deliverables submitted by the Subject PLP for Ecology's review and approval under the Scope of Work and Schedule (Exhibit B) shall, upon Ecology's approval, become integral and enforceable parts of this Order. The Subject PLP shall take any action required by such deliverable.

G. If Ecology determines that the Subject PLP has failed to make sufficient progress or failed to implement the remedial action, in whole or in part, Ecology may, after notice to the Subject PLP, perform any or all portions of the remedial action or at Ecology's discretion allow the Subject PLP opportunity to correct. In an emergency, Ecology is not required to provide notice to the Subject PLP. The Subject PLP shall reimburse Ecology for the costs of doing such work in

accordance with Section VIII.B (Remedial Action Costs). Ecology reserves the right to enforce requirements of this Order under Section X (Enforcement).

H. Except where necessary to abate an emergency situation or where required by law, the Subject PLP shall not perform any remedial actions at the Site outside those remedial actions required by this Order to address the contamination that is the subject of this Order, unless Ecology concurs, in writing, with such additional remedial actions pursuant to Section VIII.J. (Amendment of Order). In the event of an emergency, or where actions are taken as required by law, the Subject PLP must notify Ecology in writing of the event and remedial action(s) planned or taken as soon as practical but no later than within twenty-four (24) hours of the discovery of the event.

I. Ecology may determine that, in addition to tasks described in the Scope of Work or CAP, other additional work may be necessary to accomplish the objectives of MTCA. The Subject PLP must perform these response actions in addition to those required by the Scope of Work or CAP, if Ecology determines that such actions are necessary to meet the requirements of MTCA. The Subject PLP must complete the additional work according to the standards, specifications, and schedule set forth or approved by Ecology in a written modification to any Work Plan or the CAP. Ecology reserves the right to conduct the work itself, to seek reimbursement from the Subject PLP for the costs incurred in performing the work, and/or to seek any other appropriate relief. Nothing in this Paragraph shall be construed to limit Ecology's authority to require performance of further response actions at the Site.

VIII. TERMS AND CONDITIONS

A. Remedial Action Costs

The Subject PLP shall pay to Ecology costs incurred by Ecology pursuant to this Order 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 RCW 70A.305, including remedial actions and Order preparation, oversight, and administration. These costs shall include work performed both prior to and subsequent to the issuance of this Order. Ecology's costs shall include costs of direct activities

and support costs of direct activities as defined in WAC 173-340-550(2). For all Ecology costs incurred, the Subject PLP shall pay the required amount within thirty (30) 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 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.

In addition to other available relief, pursuant to RCW 19.16.500, Ecology may utilize a collection agency and/or, pursuant to RCW 70A.305.060, file a lien against real property subject to the remedial actions to recover unreimbursed remedial action costs.

B. Designated Project Coordinators

The project coordinator for Ecology is:

Sandra Treccani
4601 N. Monroe
Spokane, WA 99205
(509)329-3412
satr461@ecy.wa.gov

The project coordinator for the Subject PLP is:

Kristen Stevens
Union Pacific Railroad Company
2401 E Sepulveda Blvd
Long Beach, CA 90810
(562)756-0076
kmsteven@up.com

Each project coordinator shall be responsible for overseeing the implementation of this Order. Ecology's project coordinator will be Ecology's designated representative for the Site. To the maximum extent possible, communications between Ecology and the Subject PLP, and all documents, including reports, approvals, and other correspondence concerning the activities

performed pursuant to the terms and conditions of this Order shall be directed through the project coordinators. The project coordinators may designate, in writing, working level staff contacts for all or portions of the implementation of the work to be performed required by this Order.

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.

C. Performance

All geologic and hydrogeologic work performed pursuant to this Order shall be under the supervision and direction of a geologist or hydrogeologist licensed by the State of Washington or under the direct supervision of an engineer registered by the State of Washington, except as otherwise provided for by RCW 18.43, .220.

All engineering work performed pursuant to this Order shall be under the direct supervision of a professional engineer registered by the State of Washington, except as otherwise provided for by RCW 18.43.130.

All construction work performed pursuant to this Order shall be under the direct supervision of a professional engineer or a qualified technician under the direct supervision of a professional engineer. The professional engineer must be registered by 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 RCW 18.43, .220.

The Subject PLP shall notify Ecology in writing of the identity of any engineer(s) and geologist(s), contractor(s), subcontractor(s), and other key personnel to be used in carrying out the terms of this Order, in advance of their involvement at the Site.

D. Access

RCW 70A.305.030(1)(a) authorizes Ecology or any Ecology authorized representative to enter all property at the Site that the Subject PLP either owns, controls, or has access rights to, after reasonable notice unless an emergency prevents such notice. The Subject PLP shall use their

best efforts to secure access rights for those properties within the Site not owned or controlled by the Subject PLP where remedial activities or investigations will be performed pursuant to this Order.

As used in this Section, "best efforts" means the efforts that a reasonable person in the position of the Subject PLP would use so as to achieve the goal in a timely manner, including the cost of employing professional assistance and the payment of reasonable sums of money to secure access and/or use restriction agreements, as required by this Section. If, within 30 days after the effective date of this Order, the Subject PLP is unable to accomplish what is required through "best efforts," they shall notify Ecology, and include a description of the steps taken to comply with the requirements. If Ecology deems it appropriate, it may assist the Subject PLP, or take independent action, in obtaining such access and/or use restrictions. Ecology reserves the right to seek payment from the Subject PLP for all costs, including cost of attorneys' time, incurred by Ecology in obtaining such access or agreements to restrict land, water, or other resource use.

Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access. Ecology will notify Subject PLP at least 24 hours in advance of any site visit in which any Ecology representative or Ecology equipment will be within 25 feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within 25 feet of any track. Upon receipt of such notice, Subject PLP will determine and inform Ecology whether a flagman or Union Pacific Railroad Company official need be present and whether Ecology need implement any special protective or safety measures.

E. Sampling, Data Submittal, and Availability

With respect to the implementation of this Order, the Subject PLP 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 sampling data shall be submitted to Ecology in both printed and electronic formats in accordance with Section VII (Work to be Performed),

Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

Upon Ecology's request, the Subject PLP shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by the Subject PLP pursuant to the implementation of this Order. The Subject PLP shall notify Ecology seven (7) days in advance of any sample collection or work activity at the Site.

In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses shall be conducted by a laboratory accredited under WAC 173-50 for the specific analyses to be conducted, unless otherwise approved by Ecology.

F. Access to Information

The Subject PLP shall provide to Ecology, upon request, copies of all records, reports, documents, and other information (including records, reports, documents, and other information in electronic form) (hereinafter referred to as "Records") within the Subject PLP's possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Order, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information regarding the work. The Subject PLP shall also make available to Ecology, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the work.

Nothing in this Order is intended to waive any right the Subject PLP may have under applicable law to limit disclosure of Records protected by the attorney work-product privilege and/or the attorney-client privilege. If the Subject PLP withholds any requested Records based on an assertion of privilege, the Subject PLP shall provide Ecology with a privilege log specifying the Records withheld and the applicable privilege. No Site-related data collected pursuant to this Order shall be considered privileged, including: (1) any data regarding the Site, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, radiological,

biological, or engineering data, or the portion of any other record that evidences conditions at or around the Site; or (2) the portion of any Record that Respondents are required to create or generate pursuant to this Order.

Notwithstanding any provision of this Order, Ecology retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under any other applicable statutes or regulations.

G. Retention of Records

During the pendency of this Order, and for ten (10) years from the date of completion of the work performed pursuant to this Order, the Subject PLP shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation of this Order and shall insert a similar record retention requirement into all contracts with project contractors and subcontractors.

H. Delay in Performance

1. The Subject PLP shall notify Ecology of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone and email to the Ecology Project Coordinator within forty-eight (48) hours after the Subject PLP first knew or should have known that a delay might occur. The Subject PLP shall adopt all reasonable measures to avoid or minimize any such delay. Within seven (7) days after notifying Ecology by telephone and email, the Subject PLP shall provide to Ecology written notification fully describing the nature of the delay, the anticipated duration of the delay, any justification for the delay, all actions taken or to be taken to prevent or minimize the delay or the effect of the delay, a schedule for implementation of any measures to be taken to mitigate the effect of the delay, and any reason why the Subject PLP should not be held strictly accountable for failing to comply with any relevant requirements of this Order. Increased costs or expenses associated with implementation of the activities called for in this Order is not a justification for any delay in performance.

2. Ecology shall consider any delay in performance of this Order that, in Ecology's judgment, is not properly justified by the Subject PLP a violation of this Order. Any delay in performance of this Order shall not affect the Subject PLP's obligations to fully perform all obligations under the terms and conditions of this Order.

I. Amendment of Order

The Ecology Project Coordinator may make minor changes to any plan or schedule or the work to be performed under this Order without formally amending this Order. The Ecology Project Coordinator may direct such changes in writing or verbally. Ecology will memorialize any verbal change in writing, but the effective date of the change is the date Ecology's Project Coordinator verbally directed the change.

To make substantial changes to any plan or schedule or the work to be performed, Ecology will formally amend this Order. Such amendments will be in writing and signed by the Regional Section Manager of the Toxics Cleanup Program. Such amendments are subject to public notice and comment.

No informal advice, guidance, suggestion, or comment by Ecology's Project Coordinator or other Ecology representatives regarding any deliverables submitted by the Subject PLP shall relieve the Subject PLP of their obligation to obtain any formal approval required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

J. Endangerment

In the event Ecology determines that any activity being performed at the Site under this Order is creating or has the potential to create a danger to human health or the environment on or surrounding the Site, Ecology may direct the Subject PLP to cease such activities for such period of time as it deems necessary to abate the danger. The Subject PLP shall immediately comply with such direction.

In the event the Subject PLP determines that any activity being performed at the Site under this Order is creating or has the potential to create a danger to human health or the environment, the Subject PLP may cease such activities. The Subject PLP 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, the Subject PLP shall provide Ecology with documentation of the basis for the determination or cessation of such activities. If Ecology disagrees with the Subject PLP's cessation of activities, it may direct the Subject PLP to resume such activities.

If Ecology concurs with or orders a work stoppage pursuant to this section, the Subject PLP'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 Section VIII.I (Delay in Performance) for such period of time as Ecology determines is reasonable under the circumstances.

Nothing in this Order shall limit the authority of Ecology, its employees, agents, or contractors to take or require appropriate action in the event of an emergency.

K. Reservation of Rights

Ecology reserves its rights under RCW 70A.305, including the right to require additional or different remedial actions at the Site should it deem such actions necessary to protect human health or the environment, and to issue orders requiring such remedial actions. Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the release or threatened release of hazardous substances at the Site.

Nothing in this Order shall limit the power and authority of Ecology to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants, or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing in this Order shall prevent

Ecology from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring the Subject PLP in the future to perform additional activities pursuant to MTCA, CERCLA or any other applicable law.

L. Other Claims

By issuance of this Order, Ecology assumes no liability for injuries or damages to persons or property resulting from any acts or omissions of the Subject PLP. Ecology shall not be deemed a party to any contract entered into by the Subject PLP or their directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Order.

Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against the Subject PLP or any person not a party to this Order, for any liability such person may have under MTCA, CERCLA, other statutes, or common law.

No action or decision by Ecology pursuant to this Order shall give rise to any right to judicial review, except as set forth in RCW 70A.305A.070.

M. Transfer of Interest in Property

Before any voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by the Subject PLP, the Subject PLP shall provide for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

Further, prior to the Subject PLP's transfer of any interest in all or any portion of the Site, the Subject PLP shall provide a copy of this Order to any prospective purchaser, lessee, transferee, assignee, or other successor in said interest; and at least thirty (30) days prior to any transfer, the Subject PLP shall notify Ecology of said transfer. Upon transfer of any interest, the Subject PLP shall notify all transferees of the restrictions on the activities and uses of the property under this Order and incorporate any such use restrictions into the transfer documents.

N. Compliance with Applicable Laws

1. *Applicable Laws.* All actions carried out by the Subject PLP pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits or approvals, except as provided in RCW 70A.305.090. The permits or specific federal, state, or local requirements that the agency has determined are applicable and that are known at the time of the execution of this Order have been identified in Exhibit C. The Subject PLP has a continuing obligation to identify additional applicable federal, state, and local requirements which apply to actions carried out pursuant to this Order, and to comply with those requirements. As additional federal, state, and local requirements are identified by Ecology or the Subject PLP, Ecology will document in writing if they are applicable to actions carried out pursuant to this Order and the PLP must implement those requirements.

2. *Relevant and Appropriate Requirements.* All actions carried out by the Subject PLP pursuant to this Order shall be done in accordance with relevant and appropriate requirements identified by Ecology. At this time, no relevant and appropriate requirements have been identified as being applicable to the actions required by this Order. If additional relevant and appropriate requirements are identified by Ecology or the Subject PLP, Ecology will document in writing if they are applicable to actions carried out pursuant to this Order and the Subject PLP must implement those requirements.

3. Pursuant to RCW 70A.305.090(1), the Subject PLP may be exempt from the procedural requirements of RCW 70A.15, 70A.205, 70A.300, 77.55, 90.48, and 90.58 and of any laws requiring or authorizing local government permits or approvals. However, the Subject PLP shall comply with the substantive requirements of such permits or approvals. For permits and approvals covered under RCW 70A.305.090(1) that have been issued by local government, Ecology has the non-exclusive ability under this Order to enforce those local government permits and/or approvals. At this time, no state or local permits or approvals have been identified as being applicable but procedurally exempt under this section.

4. The Subject PLP has a continuing obligation to determine whether additional permits or approvals addressed in RCW 70A.305.090(1) would otherwise be required for the remedial action under this Order. In the event either Ecology or the Subject PLP determines that additional permits or approvals addressed in RCW 70A.305.090(1) would otherwise be required for the remedial action under this Order, it shall promptly notify the other party of its determination. Ecology shall determine whether Ecology or the Subject PLP shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, the Subject PLP 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 agencies believe are applicable to the remedial action. Ecology shall make the final determination on the additional substantive requirements that must be met by the Subject PLP and on how the Subject PLP must meet those requirements. Ecology shall inform the Subject PLP in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Order. The Subject PLP shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

5. Pursuant to RCW 70A.305.090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70A.305.090(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 the Subject PLP shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70A.305.090(1), including any requirements to obtain permits.

O. Periodic Review

So long as remedial action continues at the Site, the Ecology will review the progress of remedial action at the Site, and review the data accumulated as a result of monitoring the Site as often as Ecology determines is necessary and appropriate under the circumstances. Unless otherwise decided by Ecology, every five (5) years after the initiation of cleanup action at the Site

the Parties will confer regarding the status of the Site and the need, if any, for further remedial action at the Site. At least ninety (90) days prior to each periodic review, the Subject PLP 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. This provision shall remain in effect for the duration of this Order.

IX. SATISFACTION OF ORDER

The provisions of this Order shall be deemed satisfied upon the Subject PLP's receipt of written notification from Ecology that the Subject PLP has completed the remedial activity required by this Order, and that the Subject PLP has complied with all other provisions of this Enforcement Order.

X. SEVERABILITY

If a court issues an order that invalidates any provision of this Order or finds that the Subject PLP have sufficient cause not to comply with one or more provisions of this Order, the Subject PLP shall remain bound to comply with all provisions of this Order not invalidated or determined to be subject to a sufficient cause defense by the court's order.

XI. ENFORCEMENT

Pursuant to RCW 70A.305.050, this Order may be enforced as follows:

A. The Attorney General may bring an action to enforce this Order in a state or federal court.

B. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and orders related to the Site.

C. A liable party, who refuses without sufficient cause, to comply with any term of this Order will be liable for:

1. Up to three (3) times the amount of any costs incurred by the State of Washington as a result of its refusal to comply.

2. Civil penalties of up to twenty-five thousand dollars ($25,000) per day for each day it refuses to comply.

D. This Order is not appealable to the Washington Pollution Control Hearings Board. This Order may be reviewed only as provided under RCW 70A.305.070.

Effective date of this Order: September 17, 2021

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Kathleen L. Falconer

Kathleen Falconer
Section Manager
Toxics Cleanup Program
Eastern Regional Office
509/329-3568

EXHIBIT A – SITE MAP

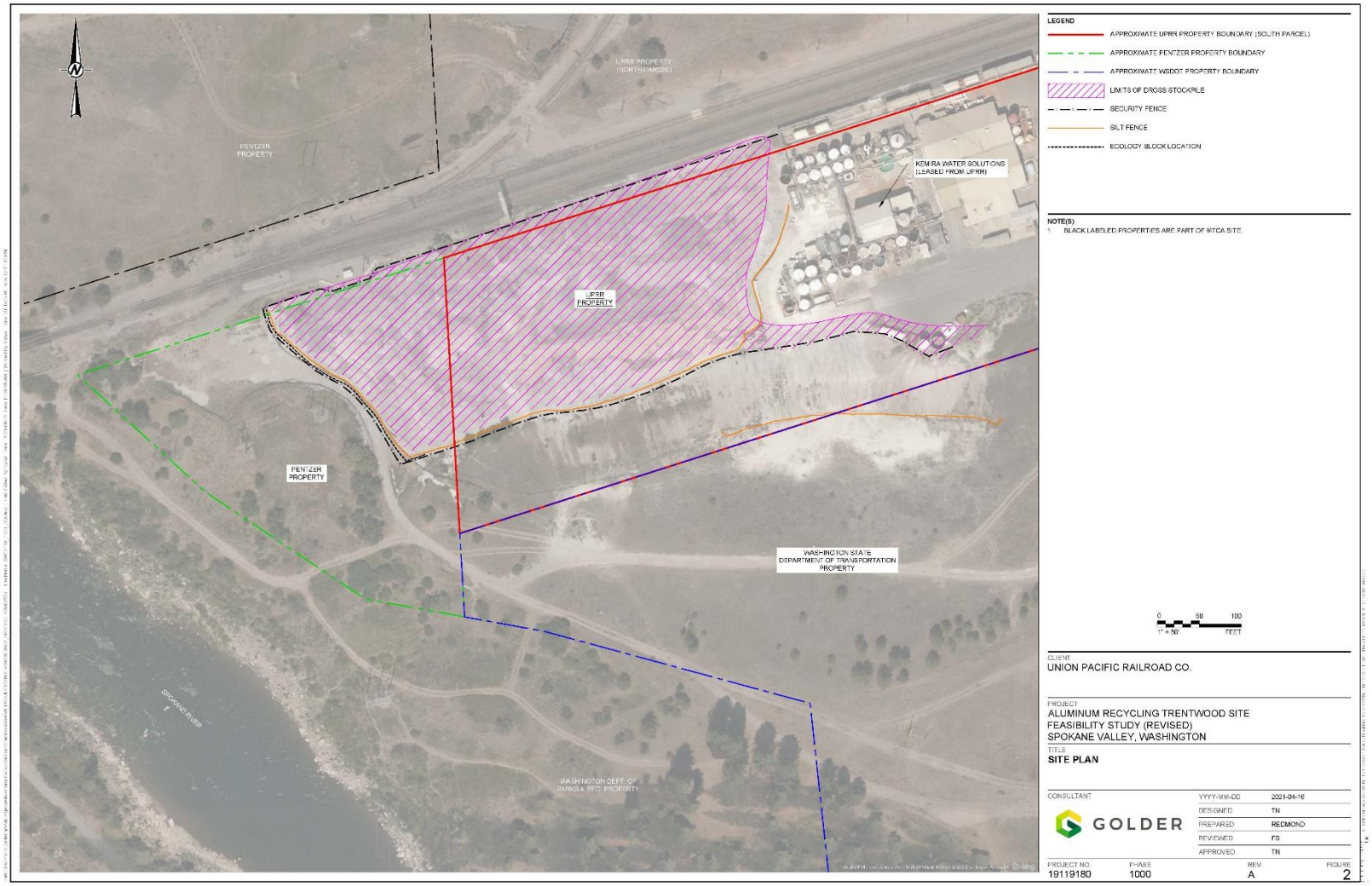

EXHIBIT B – SCOPE OF WORK AND SCHEDULE

SCOPE OF WORK

PURPOSE

The work under this Enforcement Order (EO) involves implementing the Cleanup Action Plan to address soil contamination at the Aluminum Recycling Trentwood Site in Spokane, WA. This Scope of Work is to be used to develop work plans in order to complete the remedial actions required by the Cleanup Action Plan at the Site.

The Subject PLP will coordinate with Ecology throughout the development of all tasks and will keep Ecology informed of changes to any Work Plan or other project plans, and of any issues or problems as they develop. The Subject PLP will furnish all personnel, materials, and services necessary for, or incidental to, performing the cleanup action selected for the Site.

The Scope of Work (SOW) contains the following tasks, to be accomplished in accordance with the schedule below.

TASK 1. ENGINEERING DESIGN REPORT

The Subject PLP will prepare an Engineering Design Report (EDR) which will comply with the requirements of WAC 173-340-400(4)(a). The EDR will describe key concepts and design criteria for components of the cleanup action. It should include:

- maps identifying existing site conditions
- anticipated volumes, depths and areal extents of excavations
- soil excavation and disposal plan, including proposed transportation routes
- engineered cap compositions and thicknesses
- material and design specifications
- planned final grades and cross-sections
- compaction requirements
- stormwater management designs for both during and after implementation of the cleanup action
- specific measures to manage short-term hazards associated with the construction phase of the cleanup action, including but not limited to dust control, surface water/stormwater runoff management, accidental spill response, the specifics of any quality control testing to be performed
- a compliance monitoring plan prepared under WAC 173-340-410 describing monitoring to be performed during construction
- a sampling and analysis plan meeting the requirements of WAC 173-340-820
- additional information needed to address applicable state, federal, and local requirements

In addition, the EDR will include a health and safety plan to be following during the cleanup action. The health and safety plan will conform to WAC 173-340-810 and include emergency information, characteristics of waste, levels of protection, hazard evaluation, and any other applicable site specific information such as working on/near active rail lines. The health and safety plan will also

include information pertinent to transport of waste by truck, including any traffic control measures, traffic safety, routes, and securing loads.

The Subject PLP will provide Ecology with an Agency Review Draft EDR. Once Ecology reviews and approves the EDR, it will be considered the Final EDR. The EDR will not be implemented until approved by Ecology. Once approved by Ecology, the Subject PLP will implement the Final EDR according to the schedule contained in this Exhibit.

The Subject PLP will prepare and submit two electronic copies of the Agency Review Draft EDR, one each in Word (.doc) and Adobe (.pdf) formats, to Ecology for review and comment. After incorporating Ecology's comments on the Agency Review Draft EDR and after Ecology approval, the Subject PLP will prepare one copy of the Final EDR and submit it, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology.

TASK 2. OPERATIONS AND MAINTENANCE PLAN

The Subject PLP will develop an Operations and Maintenance (O&M) Plan in accordance with WAC 173-340-400(4)(c) for the engineered cover. It is intended to present procedures to assure ongoing protection to human health and the environment after completion of the remedy. The O&M Plan should include procedures for maintenance of the remedy, any contingency procedures, monitoring and reporting schedules, and persons responsible for tasks. The O&M Plan should also provide for continued implementation of any institutional controls associated with the remedy, such as access controls or signage.

TASK 3. SEPA COMPLIANCE

The Subject PLP will be responsible for complying with the State Environmental Policy Act (SEPA) Rules including preparing and submitting an environmental checklist. If the result of the threshold determination is a determination of significance (DS), the Subject PLP will be responsible for the preparation of Draft and final environmental impact statements. The Subject PLP will assist Ecology with coordinating SEPA public involvement requirements with MTCA public involvement requirements whenever possible, such that public comment periods and meetings or hearings can be held concurrently.

TASK 4. PROGRESS REPORTS

The Subject PLP will complete monthly progress reports in accordance with Section VII.E of the Enforcement Order. They should include:

- A list of activities that have taken place;
- Detailed descriptions of any deviations from required tasks not otherwise documents in project plans or amendment requests;
- Description of all deviations from this Scope of Work and Schedule for the current month and any planned deviations in the upcoming month;
- For any deviations in schedule, a plan for recovering lost time and maintaining compliance with the schedule;
- All raw data (including laboratory analyses) received during the reporting month; and
- A list of deliverables for the upcoming month if different from the schedule.

TASK 5. CLEANUP ACTION REPORT

The Subject PLP will submit a draft Cleanup Action Report in accordance with WAC 173-340-400 no later than 90 days after completion of the cleanup construction, defined as the end of physical work at the site. The Cleanup Action Report will include final representations of the work performed, all laboratory data, any deviations from the EDR, and documentation of institutional controls.

SCHEDULE OF DELIVERABLES

The schedule for deliverables described in the Enforcement Order and the Scope of Work is presented below. If the date for submission of any item or notification required by this Schedule of Deliverables occurs on a weekend, state or federal holiday, the date for submission of that item or notification is extended to the next business day following the weekend or holiday. Where a deliverable due date is triggered by Ecology notification, comments or approval, the starting date for the period shown is the date the Subject PLP received such notification, comments or approval. Where triggered by Ecology receipt of a deliverable, the starting date for the period shown is the date Ecology receives the deliverable.

Deliverables	Completion Times
Effective date of Enforcement Order	Start
Subject PLP submits Agency Review Draft EDR, O&M Plan, and Schedule of Work to be Performed	90 calendar days following effective date of the Enforcement Order
Subject PLP submits Final EDR, O&M Plan, and Schedule of Work to be Performed	30 calendar days after subject PLP receives Ecology written comments on draft documents
Subject PLP begins implementation of remedial action following Schedule of Work to be Performed	30 days after Subject PLP receives written approval of plans from Ecology
Subject PLP submits Agency Review Draft Cleanup Action Report	90 days after completion of construction
Subject PLP submits Final Cleanup Action Report	30 days after Subject PLP receives written approval of report from Ecology
Subject PLP submits a recorded Environmental Covenant	30 days after Ecology approval of final Cleanup Action Report
Subject PLP submits Progress Reports	Monthly, in accordance with Section VII.E of Enforcement Order, beginning at the Start and ending with Ecology approval of final Cleanup Action Report

EXHIBIT C – CLEANUP ACTION PLAN

DEPARTMENT OF ECOLOGY
State of Washington

CLEANUP ACTION PLAN
ALUMINUM RECYCLING TRENTWOOD SITE
SPOKANE, WA

Facility Site ID 628
Cleanup Site ID 1081

September 2021

Publication and Contact Information

This document is available on the Department of Ecology's website at: https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=1081.

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1.0 INTRODUCTION

This report presents the Washington State Department of Ecology's proposed cleanup action for the Aluminum Recycling Trentwood Site (Site) (Facility Site #628, Cleanup Site #1081), located at 2317 N. Sullivan Rd, Spokane Valley, in Spokane County, Washington (Figure 1). This draft Cleanup Action Plan (CAP) is required as part of the Site cleanup process under the Model Toxics Control Act (MTCA), Ch. 70A.305 RCW, implemented by the Washington State Department of Ecology (Ecology). The cleanup action decision is based on the Remedial Investigation/Feasibility Study (RI/FS) and other relevant documents in the administrative record. Union Pacific Railroad (UPRR) and Pentzer Venture Holdings II Inc. (Pentzer) have been named the potentially liable persons (PLPs) by Ecology. UPRR has completed investigation activities under Agreed Order 6968 with Ecology.

This CAP outlines the following:

- The history of operations, ownership, and activities at the Site;
- The nature and extent of contamination as presented in the RI;
- Cleanup levels for the Site that are protective of human health and the environment;
- The selected remedial action for the Site; and
- Any required compliance monitoring and institutional controls.

1.1 Declaration

Ecology has selected this remedy because it will be protective of human health and the environment. Furthermore, the selected remedy is consistent with the preference of the State of Washington as stated in RCW 70A.305.030(1)(b) for permanent solutions.

1.2 Applicability

Cleanup standards specified in this CAP are applicable only to the Aluminum Recycling Trentwood Site. They were developed as a part of an overall remediation process under Ecology oversight using the authority of MTCA, and should not be considered as setting precedents for other sites.

1.3 Administrative Record

The documents used to make the decisions discussed in this CAP are on file in the administrative record for the Site. Major documents are listed in the reference section. The entire administrative record for the Site is available for public review by appointment at Ecology's Eastern Regional Office, located at 4601 N. Monroe Street, Spokane, WA 99205-1295. Results from applicable studies and reports are summarized to provide background information pertinent to the CAP. These studies and reports include:

- RI/FS Work Plan for the Aluminum Recycling Trentwood Site, Pastor, Behling & Wheeler LLC, 2010

- Final Remedial Investigation/Feasibility Study, Pastor, Behling & Wheeler LLC, 2012
- Union Pacific Railroad Co. Feasibility Study (Revised), Aluminum Recycling Trentwood Site, Golder Associates Inc., 2021

1.4 Cleanup Process

Cleanup conducted under the MTCA process requires the preparation of specific documents either by the PLP or Ecology. These procedural tasks and resulting documents, along with the MTCA section requiring their completion, are listed below with a brief description of each task.

- Remedial Investigation and Feasibility Study — WAC 173-340-350
  The RI/FS documents Site investigations and evaluations from the discovery phase to the RI/FS document. The RI collects and presents information on the nature and extent of contamination, and the risks posed by the contamination. The FS presents and evaluates Site cleanup alternatives and proposes a preferred cleanup alternative. The document is prepared by the PLP, approved by Ecology, and undergoes public comment.
- Cleanup Action Plan — WAC 173-340-380
  The CAP sets cleanup standards for the Site, and selects the cleanup actions intended to achieve the cleanup standards. The document is prepared by Ecology, and undergoes public comment.
- Engineering Design Report, Construction Plans and Specifications — WAC 173-340-400
  The report outlines details of the selected cleanup action, including any engineered systems and design components from the CAP. These may include construction plans and specifications with technical drawings. The document is prepared by the PLP and approved by Ecology. Public comment is optional.
- Operation and Maintenance Plan(s) — WAC 173-340-400
  These plans summarize the requirements for inspection and maintenance of cleanup actions. They include any actions required to operate and maintain equipment, structures, or other remedial systems. The document is prepared by the PLP and approved by Ecology.
- Cleanup Action Report — WAC 173-340-400
  The Cleanup Action Report is completed following implementation of the cleanup action, and provides details on the cleanup activities along with documentation of adherence to or variance from the CAP. The document is prepared by the PLP and approved by Ecology.
- Compliance Monitoring Plan — WAC 173-340-410
  Compliance Monitoring Plans provide details on the completion of monitoring activities required to ensure the cleanup action is performing as intended. It is prepared by the PLP and approved by Ecology.

2.0 SITE BACKGROUND

2.1 Site Description and History

The Site is comprised of three properties owned by UPRR, Pentzer, and the Washington State Department of Transportation (WSDOT) (Figure 2). It is bounded by Sullivan Road to the east, Washington Department of Parks and Recreation and City of Spokane Valley properties to the south, and a separate property owned by UPRR to the north and west. The Site is zoned heavy industrial. A large stockpile of mixed industrial process material is present over approximately 4 acres of the site; the volume is estimated at 57,000 cubic yards. The stockpile slopes have an approximate grade of 1:1 and show evidence of erosion onto neighboring properties with lower elevations.

The Site has been occupied by numerous lessees over the years. From 1979 to 1984, Aluminum Recycling Corporation performed aluminum recovery activities using aluminum cans and low-salt white aluminum dross as source material. These materials were mixed with salts and cryolite and heated in a rotary kiln, whereupon additional molten aluminum was extracted. The residue from this process is called black dross. Materials present on-site during this time included piles of white and black dross. Aluminum Recycling Corporation filed for bankruptcy in 1985, and UPRR removed all black dross from the Site by 1986.

From 1986 to 1995, Imperial West Chemical leased the Site to produce concrete additives. Low-salt aluminum dross was imported to produce aluminum sulfate. Residues from this process, including unreacted solids containing aluminum, magnesium, and silica oxides, were stockpiled on-site along with low-salt dross.

In 1998, Kemwater North America Inc. leased the site to produce water treatment chemicals. Other related companies producing similar products have leased the land and continue to operate on the property. None of these tenants appeared to use stockpiled waste materials, or produced any wastes present in the stockpile.

In October 1998, Pentzer Venture Holdings II Inc. acquired 7.5 acres of land immediately west of the UPRR property. Approximately one-third of the stockpile is on that land.

2.2 Site Investigations

Ecology completed a Preliminary Assessment in 1985, which indicated there wasn't evidence of hazardous waste at the site and made basic recommendations to protect air and water quality. In 1987, Ecology completed a Phase I Site Inspection to evaluate the nature of wastes, ascertain immediate risks, and recommend further actions. That report determined material in the stockpile was not a federally designated waste, and the site should not be evaluated by the Environmental Protection Agency. It also noted potential runoff to the Spokane River and leaching to groundwater were primary concerns.

In 2007, the Spokane Regional Health District, under contract by Ecology, completed a Site Hazard Assessment to assess the Site's risk to human health and the environment. The outcome of that assessment is a ranking of the Site relative to all other ranked sites in the State of Washington at that time. The ranking for the Aluminum Recycling Trentwood site was a two, with one representing the highest risk and five the lowest.

2.3 Physical Site Characteristics

2.3.1 Topography and Climate

The Site elevation is around 1,980 feet above mean sea level. The stockpile represents an additional 30 feet of height. The stockpile sits on a narrow but flat surface nearly level with the land to the north, east, and west but immediately abuts a steep slope which drops another 25 feet down to a former borrow pit and the Spokane River to the south. The region is semi-arid, receiving around 16–18 inches of precipitation annually. The majority of the precipitation occurs in late fall through early spring; winter precipitation is usually in the form of snow. Summers are typically warm and dry. The annual mean temperature is about 50˚F.

2.3.2 Regional Hydrogeology

The geology in the vicinity of the Site is primarily basalt flows of the Columbia Plateau overlain by Quaternary glacial flood deposits. The flood deposits are composed of thickly bedded, poorly sorted boulders, cobbles, gravel, and sand and are approximately 250–300 feet thick in the site vicinity. The coarse nature of the deposits results in very high permeabilities. Overlying the flood deposits are native surficial soils consisting of gravelly loam with thicknesses of up to five feet.

The primary aquifer underlying the Site is the Spokane-Valley Rathdrum-Prairie Aquifer, which is the sole source of drinking water for over 500,000 people in the greater Spokane area. It consists of unconsolidated glaciofluvial sediments and is largely unconfined. The aquifer flows from northern Idaho to the west and southwest down the Spokane Valley at rates of up to 80 feet per day. At the Site, depth to water is about 55 feet with a seasonal variation of 10 to 15 feet, and flows to the west-southwest at a rate of about 33 feet per day. Gradients at the Site are fairly flat, with a change of approximately 0.003 feet/foot. Near the site, the aquifer is also affected by the Spokane River, which can be gaining or losing depending on conditions. During most of the year, the river near the site is a gaining reach.

3.0 Remedial Investigations

An RI was performed to assess the nature and extent of contamination. Soil and groundwater were first investigated to determine whether they were impacted by site contaminants. The outcome of sampling would determine next steps. If groundwater was impacted, then surface water would be evaluated. If soils proximal to the river were impacted, then sediments would be evaluated.

3.1 Soil

Based on knowledge of prior site operations, assumptions were made about the stockpile composition. Suspected contaminants were metals and “conventional” contaminants such as chloride, fluoride, nitrate, sulfate, and ammonia. These contaminants are commonly associated with both white and black dross, and have been found at other dross sites in Spokane County.

Soil investigations were designed to evaluate soil, stockpile material, and soil/stockpile mixes. Two soil borings were completed into the stockpile to evaluate its composition, to determine the depth of the soil/stockpile interface, and assess whether contaminants leached into the soil and to what depth. Eight soil borings were completed outside of the stockpile to determine the horizontal and vertical extent of stockpile erosion, and determine the depth of any leached contamination (Figure 3). Soil samples were also collected during the installation of the two downgradient monitoring wells.

The stockpile evaluation showed different types of material may be present based on significant color variations; some material was gray, and some was tan. Samples of both were collected from the surface to depths of fifteen feet. Samples of gray material were high in aluminum and lower in metals such as copper and chromium than the tan material. Gray material was also lower in chloride and nitrate, but higher in sulfate. Depth profiles of stockpile samples also showed concentrations of metals and conventionals reduced significantly below the stockpile interface, indicating significant leaching was not occurring. None of the stockpile samples aligned with traditional dross composition, indicating the stockpile was likely not comprised of a high percentage of dross. The stockpile material is suspected to be a mixture of aluminum sulfate and its processing residues. Small amounts of residual dross material may be present, but can’t be confirmed.

Soil samples outside the stockpile area confirmed erosion has occurred to varying extents. In areas with steep slopes, such as the UPRR – WSDOT property border, significant erosion has occurred. In other areas with gentler slopes adjacent to the stockpile, erosion is less defined. Sampling was designed to coincide with visual evidence of erosion, since stockpile material color was much lighter than native soil. Samples showed much lower contaminant levels than stockpile material. The highest levels of contaminants occur at the surface and generally decrease rapidly with depth. Sampling was conducted at a level spot at the base of a slope nearest the Spokane River to evaluate the potential for contaminants to have reached the surface water. Results showed samples did not exceed conservative screening levels. Based on this and the results of the groundwater evaluation provided below, it was determined sediments would not be sampled. The RI/FS (Pastor, Behling & Wheeler 2012) summarizes all RI soil and stockpile sampling results.

3.2 Groundwater

Three groundwater monitoring wells were installed to evaluate potential groundwater contamination, one upgradient and two downgradient (Figure 3). As with soil, groundwater was evaluated for metals and conventionals related to suspected dross contamination. Groundwater elevations were also measured to determine flow direction and gradient.

Two monitoring events were conducted in late 2010. Groundwater was at a depth of between 50 and 65 feet below ground surface, and generally flowed from northeast to southwest towards the Spokane River. This is consistent with information on regional groundwater flow. This stretch of the river is a gaining reach, so any contamination in groundwater would be expected to impact the river. Sampling results showed concentrations of metals and conventionals did not exceed conservative screening levels. Downgradient concentrations generally matched with upgradient concentrations. Therefore, it was determined groundwater was not impacted by site-related contaminants, and surface water samples were not collected. The RI/FS (Pastor, Behling & Wheeler 2012) summarizes all groundwater sampling results.

3.3 Risks to Human Health and the Environment

The Site is currently zoned as heavy industrial in the City of Spokane Valley. Properties to the east, west, and north of the Site are also zoned heavy industrial. Immediately to the south of the Site and adjacent to the Spokane River, property is zoned as parks/open spaces and contains a public use trail.

Exposures to human populations could occur through direct contact with contaminated surface or subsurface soil, dust entrained in air, or surface water runoff from the stockpile. Erosion off the stockpile also serves to spread the contaminant footprint and make incidental exposure more likely. Trespass is highly likely due to the Site's proximity to the rail line and the river trail, and to the lack of any fencing or signage. Potential exposed populations include workers at the neighboring Kemira Water Solutions plant, trespassers to the property, and recreational users of the trail.

Exposure to environmental receptors is likely given the presence of natural vegetation, open space, and the Spokane River. A terrestrial ecological evaluation (TEE) is in Section 4.3 that fully evaluates the exposure to ecological receptors.

3.4 Independent Actions Conducted Post-Remedial Investigation

In October 2019, UPRR submitted a work plan to Ecology for removal of aluminum dross material from the parcel owned by WSDOT and surface dross-containing soil from the Pentzer property. The work was conducted in March 2020 as an independent action. The area subject to the removal of dross material is shown on Figure 2 in green. Twenty confirmation samples

were collected and analyzed for metals after the removal was performed. Those locations are shown on Figures 4 and 5.

A Pre-Design Investigation (PDI) was performed as an independent action in 2020. The purpose was to further characterize the nature of dross-containing soil to refine the scale and cost of various alternatives. A work plan was prepared and submitted to Ecology in August 2020 for the PDI. Sixty-one samples were collected from 16 borings and an additional 12 surface soil samples were collected for chemical analysis under the PDI. Those locations are shown on Figure 6. The results provided additional data to refine the lateral and vertical delineation of contaminants of concern that exceed cleanup levels and reinforced the remedial alternative recommendation in the Revised FS.

Information on those independent actions can be found in the following reports:

- Completion Report: Dross Removal Project – WSDOT Property Union Pacific Railroad, Aluminum Recycling Trentwood Site, Golder Associates Inc., 2021
- Completion Report: Pre-Design Investigation Union Pacific Railroad, Aluminum Recycling Trentwood Site, Golder Associates Inc., 2021

4.0 CLEANUP STANDARDS

MTCA requires the establishment of cleanup standards for individual sites. The two primary components of cleanup standards are cleanup levels and points of compliance. Cleanup levels determine the concentration at which a substance does not threaten human health or the environment. All material exceeding a cleanup level is addressed through a remedy that prevents exposure to the material. Points of compliance represent the locations on the site where cleanup levels must be met.

4.1 Overview

The process for establishing cleanup levels involves the following:

- Determining which method to use;
- Developing cleanup levels for individual contaminants in each media;
- Determining which contaminants contribute the majority of the overall risk in each media (indicators); and
- Adjusting the cleanup levels downward based on total site risk.

MTCA provides three options for establishing cleanup levels: Methods A, B, and C.

- Method A may be used to establish cleanup levels at routine sites or sites with relatively few hazardous substances.
- Method B is the standard method for establishing cleanup levels and may be used to establish cleanup levels at any site.

- Method C is a conditional method used when a cleanup level under Method A or B is technically impossible to achieve or may cause significantly greater environmental harm. Method C also may be applied to qualifying industrial properties.

MTCA defines the factors used to determine whether a substance should be retained as an indicator for the Site. When defining cleanup levels at a site contaminated with several hazardous substances, Ecology may eliminate from consideration those contaminants contributing a small percentage of the overall threat to human health and the environment. WAC 173-340-703(2) provides a substance may be eliminated from further consideration based on:

- The toxicological characteristics of the hazardous substance that govern its ability to adversely affect human health or the environment relative to the concentration of the substance;
- The chemical and physical characteristics of the substance which govern its tendency to persist in the environment;
- The chemical and physical characteristics of the substance which govern its tendency to move into and through the environment;
- The natural background concentration of the substance;
- The thoroughness of testing for the substance;
- The frequency of detection; and
- The degradation by-products of the substance.

4.2 Site Use

The evaluation of cleanup levels and ecological exposures depends on the nature of the Site use. Options under MTCA are either an unrestricted property or an industrial property. Industrial properties are defined in WAC 173-340-200; the definition includes properties characterized by transportation areas and facilities zoned for industrial use. Industrial properties are further described in WAC 173-340-745(1) with the following factors:

- People don’t normally live on industrial property;
- Access by the general public is generally not allowed;
- Food is not grown/raised;
- Operations are characterized by chemical use/storage, noise, odors, and truck traffic;
- Ground surface is mostly covered by buildings, paved lots and roads, and storage areas; and
- Presence of support facilities serving the industrial facility employees and not the general public.

The Site is currently zoned industrial, and so potentially would qualify as an industrial site use. However, most of the ground surface on and around the site is not paved or covered by buildings, and the surrounding land is not developed and represents vacant land with quality habitat. Additionally, adjacent land has heavy recreational use due to the presence of parks and

trails. All neighboring parcels to the south and west are zoned as parks/open space. This makes human and ecological exposure to any residual contamination highly likely. Therefore, even though the UPRR property qualifies as industrial, Ecology will move this Site forward as unrestricted land use.

4.3 Terrestrial Ecological Evaluation

WAC 173-340-7490 requires that site managers perform a TEE to determine the potential effects of soil contamination on ecological receptors. A site may be excluded from a TEE if any of the following are met:

- All contaminated soil is or will be located below the point of compliance;
- All contaminated soil is or will be covered by physical barriers such as buildings or pavement;
- The site meets certain requirements related to the nature of on-site and surrounding undeveloped land; or
- Concentrations of hazardous substances in soil do not exceed natural background levels.

This Site does not meet any of the exclusionary criteria. Therefore, Ecology evaluated the Site to determine whether to conduct a simplified TEE or a site-specific TEE. As provided in WAC 173-340-7491, if any of the following criteria are true, then the Site is evaluated under a site-specific TEE:

- The site is located on or adjacent to an area where management or land use plans will maintain or restore native or semi-native vegetation;
- The site is used by a threatened or endangered species;
- The site is located on a property containing at least 10 acres of native vegetation within 500 feet of the site, not including vegetation beyond the property boundaries; or
- The department determines the site may pose a risk to significant wildlife populations.

The Site meets the first and third criteria based on its location near the riparian corridor of the Spokane River and the surrounding native vegetation, and must be evaluated under a site-specific TEE.

The first step of the evaluation is problem formulation. Problem formulation involves:

1. Determining the chemicals of ecological concern using Table 749-3 of MTCA.

   Table 749-3 of MTCA provides ecological indicator concentrations for contaminants with demonstrated ecological impacts. For unrestricted land use, the lowest value of the three receptors (wildlife, soil biota, and plants) is compared to maximum detected concentrations in soil. Table 1 shows that aluminum, arsenic, barium, copper, and mercury were all detected at levels of potential ecological concern.

2. Identifying complete exposure pathways for exposure of plants or animals to the chemicals of concern.

   Man-made barriers would eliminate exposure pathways with the use of institutional controls. Institutional controls would be required if a cap were used, but wouldn't if all materials were excavated (see Section 5.2). Excavation represents the most conservative scenario (all exposure pathways remain intact) and will be carried forward for this analysis.

3. Identifying current or potential future terrestrial species groups reasonably likely to live or feed at the Site.

   Identified terrestrial groups that are reasonably likely to live or feed at the Site include:

   - Plants (including trees, shrubs, grasses, flowering plants)
   - Soil-Dwelling Macroinvertebrates
   - Terrestrial Wildlife
     - Mammals
     - Avian Species
     - Reptiles

   Species within each identified group above that have been observed at/near the Site or are expected to live or feed near the Site are identified below.

   Plants

Common Name	Taxa
Shrubs	
Oregon Grape	*Mahonia aquifolium*
Sagebrush	*Artemisia tridentate*
Serviceberry	*Amelanchier alnifolia*
Nootka Rose	*Rosa nutkana*
Snowberry	*Symphoricarpos albus*
Syringa	*Philadephus lewisii*
Trees	
Ponderosa Pine	*Pinus Ponderosa*
Netleaf Hackberry	*Celtis reticulate*
Black Locust	*Robina pseudoacacia*
Grasses	
Bluebunch Wheatgrass	*Agropyron spicatum*
Cheatgrass	*Bromus tectorum*
Flowering Plants	
Arrowleaf Balsamroot	*Balsamorhiza sagittata*
Teasel	*Dipsacus sylvestris*

Soil-Dwelling Macroinvertebrates

Common Name	Taxa
Earthworms	*Oligocheata*
Ground Beetles	*Carabidae*
True Weevils	*Curculionidae*
Termites	*Iosptera*
Ants	*Fomicidae*
Woodlice/Pillbugs	*Isopoda*
Centipedes	*Chilopada*
Millipedes	*Diploda*
Snails	*Gastropoda*

Terrestrial Wildlife

Common Name	Taxa
Mammals	
Mammalian Herbivore	
Mule Deer	*Odocoileus hemionus*
Deer Mouse	*Peromyscus maniculatus*
Ground Squirrel	*Urocitellus washingtoni*
Cottontail Rabbit	*Sylvilagus* spp.
Blacktailed Jackrabbit	*Lepus californicus*
White-tailed Deer	*Odocoileus virgianus*
Shiras Moose	*Alces alces*
Voles (species)	*Microtus* spp.
Mammalian Omnivore	
Badger	*Taxidea taxus*
Yellow-Bellied Marmot	*Marmota flaviventris*
Raccoon	*Procyon lotor*
Chipmunk	*Tamias* spp.
Deer Mouse	*Peromyscus maniculatus*
Striped Skunk	*Mephitis*
Porcupine	*Erethizon dorsatum*
Bats (species)	*Chiroptera*
Mammalian Predator	
Coyote	*Canis latrans*
Vagrant Shrews	*Sorex vagrans*
Avian Species	
Avian Omnivore (Including Insectivorous)	
American Robin	*Turdus migratorius*
Nuthatch	*Sitta* spp
Red-Winged Blackbird	*Agelaius phoeniceus*

Common Name	Taxa
Wren	Troglodytida
Cedar Waxwing	*Bombycilla cedrorum*
Sparrow	Emberizidae
Warbler	Parulidae
Magpie	*Pica hudsonia*
Savannah Sparrow	*Passecrculus sandwichensis*
Western Bluebird	*Sialia mexicana*
Avian Herbivore	
Finch	*Fringillidae*
Canada Goose	*Branta Canadensis*
Mourning Dove	*Zenaida macroura*
Avian Predator	
Osprey	*Pandion haliaetus*
Red-Tailed Hawk	*Buteo jamaicensis*
Reptiles	
Fence Lizard	*Sceloporus occidentalis*
Western Skink	*Eumeces skiltonianus*
Gopher Snake	*Pituophis catenfe*
Western Terrestrial Garter Snake	*Thamnophis elegans*

Threatened and Endangered Species

A review of the Washington State Department of Natural Resources geographic information system data set[1,2] indicated that no threatened or endangered plant species occur within the area of the Site. In addition, no federally listed threatened or endangered terrestrial animal species[3] are expected to occur within the area of the Site while only the mountain quail (*Oreortyx pictus*), a State candidate species, may be found on or near the Site[4]. It is expected though that the representative receptor for ground-feeding avian species, the American robin, will be a qualified surrogate for evaluating any risks.

Surrogate Receptor Species of Concern

The site-specific TEE procedure of MTCA (WAC 173-340-7493) identifies default surrogate wildlife species for assessing risks of hazardous substances in soil to most sites found within Washington State. The identified species are American robin (*Turdus migratorius*), the shrew

[1] The Washington Natural Heritage Program Geographic Information System data set was obtained from the Washington State Department of Natural Resources on May 1, 2013.

[2] A list of known occurrences of rare plants in Spokane County can be found at: https://www.dnr.wa.gov/NHPlists

[3] Lists of federally listed threatened or endangered species are available for Washington at: https://ecos.fws.gov/ecp/report/species-listings-by-state?stateAbbrev=WA&stateName=Washington&statusCategory=Listed

[4] List of Species of Concern in Washington State can be found at: https://wdfw.wa.gov/species-habitats/at-risk/listed

(*Sorex* spp.), and the vole (*Microtus* spp.). The American robin is representative of the omnivorous bird feeding guild, eating both invertebrates (insects and soil-dwelling) and seeds and berries. Shrews are representative of the predatory mammal feeding guild, eating both other mammals as well as invertebrates. The vole is representative of the herbivorous mammal feeding guild. All of these species have relatively-small home ranges (robins have small home ranges during the spring and summer reproduction period, which also represents the period for highest exposure to contaminated soil), are known to be found at/near the Site, and their diets lead to a higher exposure to potentially contaminated soil. These factors, and because these receptors have been heavily studied in the literature, make them qualified candidate surrogate receptors to evaluate potential risks to terrestrial wildlife at this Site.

MTCA does not identify a surrogate receptor for plants. Plants also have varying degrees of toxicity to individual contaminants, thus identifying an appropriate surrogate for a site with multiple contaminants is difficult.

MTCA identifies the earthworm (*Oligocheata*) as the surrogate receptor for soil-dwelling biota. Earthworms spend their entire lives in soil, thus they have a potentially high exposure to any contaminants found in the soil. They are also the diet of numerous other organisms including the robin and the shrew. In addition, earthworms have been heavily studied in their response to soil contamination.

4. Determining significant adverse effects to receptors that may result from exposure to chemicals of concern.

   The ecological indicator hazardous substances for the Site include aluminum, arsenic, barium, chromium, copper, and mercury. Detailed reviews of the ecotoxicity of these constituents to the respective receptor surrogates are provided by:

   - Oak Ridge National Laboratory
     - Terrestrial Plants[5]
     - Soil and Litter Invertebrates and Heterotrophic process[6]
     - Wildlife[7]
   - Environmental Protection Agency[8]
   - U.S. Geological Survey[9]
   - National Park Service[10]

After completing the problem-formulation step, the next step is selecting a method to address issues arising during problem formulation. Before completing the second step, Ecology has the opportunity to determine whether it needs to be completed. If the cleanup action plans

[5] Available online at: https://rais.ornl.gov/documents/tm85r3.pdf
[6] Available online at: https://rais.ornl.gov/documents/tm126r21.pdf
[7] Available online at: https://rais.ornl.gov/documents/tm86r3.pdf
[8] Available online at: https://www.epa.gov/chemical-research/ecological-soil-screening-level
[9] Available online at: https://www.usgs.gov/centers/pwrc
[10] Available online at: http://www.nps.gov

developed for the protection of human health will eliminate the exposure pathways of concern to all the soil contamination, then the TEE can be ended. In all active cleanup scenarios (Section 5.2, excavation or capping), all exposure pathways will be eliminated for ecological receptors concurrently with humans. Therefore, the TEE was ended.

4.4 Site Cleanup Levels

The RI/FS and previous investigations have documented the presence of contamination in soil at the Site. Even though groundwater sampling results were below conservative screening levels, cleanup levels will be fully developed to ensure groundwater is not impacted. Therefore, cleanup levels will be developed for both soil and groundwater.

Since it was determined the Site will move forward as a property with unrestricted site use (Section 4.2), Method B cleanup levels will apply to soil. Since groundwater is an established drinking water source, Method B is appropriate for groundwater.

Tables 2 and 3 show screening of indicators based on detection frequencies for groundwater and soil. If contaminants are detected at a low frequency (generally 5 percent or less), they are not carried forward to cleanup level development. Tables 4 and 5 show the cleanup level screening for groundwater and soil. Since no groundwater concentrations exceed cleanup levels, groundwater is not contaminated, and soil cleanup levels do not have to consider protection of groundwater. Since soil contaminant cleanup levels based on background are not included in calculations for total carcinogenic site risk or hazard quotients, no adjustments are necessary for overall Site risk. There may be a high degree of variability in the composition of the stockpile and contaminated soils, so Table 5 may be used for non-indicators should higher concentrations be discovered during remedy implementation.

This site consists of three separately-owned parcels. Two are currently unused (Pentzer and WSDOT), and one is used for industrial activities (UPRR). Given the UPRR property's planned continued use as an industrial property, it may not be appropriate to achieve unrestricted cleanup levels there. Remediation levels will be applied to portions of the property where unrestricted cleanup levels are not achieved. Remediation levels are defined as "… a concentration … of a hazardous substance in soil, water, air, or sediment above which a particular cleanup action component will be required as part of a cleanup action at a site." (WAC 173-340-200). Simply put, it is an action-based concentration; it is the level used to differentiate between different remedial actions at a Site. Table 6 shows the remediation levels that will be used at the Site. The alternative descriptions in Section 5.2 will state if and how a remediation level would be applied.

4.5 Point of Compliance

MTCA defines the point of compliance as the point or points where cleanup levels shall be attained. Once cleanup levels are met at the point of compliance, the Site is no longer considered a threat to human health or the environment.

WAC 173-340-740(6) gives the point of compliance requirements for soil. The standard soil point of compliance for indicator parameters based on human health protection is established at a depth of 15 feet below ground surface, and for ecological receptor protection at a depth of 6 feet below ground surface. Since soil cleanup levels are based on protection of ecological receptors and background, and site investigations did not find contamination exceeding human health levels from 6 to 15 feet below ground surface, the soil point of compliance will be set at 6 feet below ground surface throughout the Site. Groundwater is not contaminated, so no point of compliance needs to be established for it.

5.0 CLEANUP ACTION SELECTION

5.1 Remedial Action Objectives

The remedial action objectives are statements describing the actions necessary to protect human health and the environment through eliminating, reducing, or otherwise controlling risks posed through each exposure pathway and migration route. They are developed considering the characteristics of the contaminated media, the characteristics of the hazardous substances present, migration and exposure pathways, and potential receptor points.

Soil has been contaminated by past activities at the Site and erosional transport of stockpile materials. People may be exposed to contaminated soil via dermal contact or inhalation of dust. Potential human receptors include on-site workers, trespassers, and recreational users of the Spokane River shoreline. Both plant and animal receptors are also present due to the proximity to undeveloped land.

Given these potential exposure pathways, the following are the remedial action objectives for the Site:

- Prevent or minimize direct contact, ingestion, inhalation, or uptake of stockpile material by humans or ecological receptors.
- Prevent or minimize direct contact, ingestion, inhalation, or uptake of contaminated soil by humans or ecological receptors.
- Prevent or minimize direct contact, ingestion, or uptake of stormwater runoff from the stockpile.
- Prevent or minimize the potential for erosion to mobilize waste material and/or contaminated soil to adjacent properties.

5.2 Cleanup Action Alternatives

Cleanup alternatives to meet these remedial action objectives are evaluated as part of the RI/FS. The FS evaluated multiple alternatives for addressing all contaminated media at the Site. The following three alternatives are based on the proposals made by UPRR in their Revised FS.

5.2.1 Alternative 1: Institutional Controls and Monitoring

This alternative represents the Site with no active measures towards Site cleanup. Actions would include the addition of fencing to restrict access and institutional controls including deed restrictions. Access controls would need to be continuously maintained.

5.2.2 Alternative 2: On-Site Consolidation and Capping

This alternative involves consolidating all soils exceeding cleanup standards onto the main stockpile located on UPRR property. Soils exceeding cleanup standards that would not be placed on UPRR property due to volume restrictions would be disposed of offsite at a permitted landfill consistent with Alternative 3. The stockpile would be regraded, shaped, and compacted to minimize slope steepness. A multimedia cap comprised of a low-permeability barrier and a soil cover would then be installed over the stockpile. This would eliminate any direct contact with stockpile material by humans or ecological receptors, and would eliminate wind and water contact or erosion of the stockpile. Stockpile height is estimated at 32 feet with side slopes of 3:1 or less.

Regular maintenance of the cap would be performed to ensure it remains intact and protective. Institutional controls would be required for the UPRR property.

5.2.3 Alternative 3: Excavation and Disposal at a Permitted Landfill

This alternative would excavate and dispose stockpile material and contaminated soil at a permitted off-site landfill. Several landfills were evaluated in the Revised FS; the Waste Management Landfill at Graham Road was selected. Material would be transported by truck and disposed of at the landfill.

Contaminated soil exceeding cleanup standards would be excavated from the Pentzer and WSDOT properties. Remediation levels would be applied to the UPRR property; any soil exceeding the remediation levels would be excavated, and remaining soil exceeding cleanup levels would be capped in place. Figure 7 presents the anticipated area of soil excavation (the area outlined in yellow but not shaded blue) and the area where remediation levels would be applied (shaded in blue). Following removal of the dross stockpile, areas excavated to below grade would be backfilled to bring the final surface up to elevations comparable to the adjacent properties and to create a flat surface prior to placing the cap on the UPRR property. The cap would consist of a geotextile barrier overlain by a minimum of 6 inches of crushed rock, or a low-permeability surface such as asphalt or concrete. The cap is designed to minimize the potential for erosion by wind or runoff water, and to minimize the possibility of exposure to ecological receptors. Separation geotextile and clean aggregate have been determined to provide protection to burrowing animals from underlying contaminated soil (United States Department of the Interior, 2011).

5.2.4 Alternative 4: Reuse in Industrial Processes

This alternative would excavate all stockpile material and contaminated soil and transport to a selected industrial facility. Material testing was performed that showed the waste material was appropriate for use as an alternative raw material in cement production. Material would be loaded into rail cars and shipped to the selected facility in California. Similar to Alternative 3, remediation levels would be applied to the UPRR property.

5.3 Regulatory Requirements

MTCA sets forth the minimum requirements and procedures for selecting a cleanup action. A cleanup action must meet each of the minimum requirements specified in WAC 173-340-360(2), including certain threshold and other requirements. These requirements are outlined below.

5.3.1 Threshold Requirements

WAC 173-340-360(2)(a) requires that the cleanup action shall:

- Protect human health and the environment;
- Comply with cleanup standards (see Section 5.0);
- Comply with applicable state and federal laws (see Section 6.3.5); and
- Provide for compliance monitoring.

5.3.2 Other Requirements

In addition, WAC 173-340-360(2)(b) states the cleanup action shall:

- Use permanent solutions to the maximum extent practicable;
- Provide for a reasonable restoration time frame; and
- Consider public concerns.

WAC 173-340-360(3) describes the specific requirements and procedures for determining whether a cleanup action uses permanent solutions to the maximum extent practicable. A permanent solution is defined as one where cleanup levels can be met without further action being required at the Site other than the disposal of residue from the treatment of hazardous substances. To determine whether a cleanup action uses permanent solutions to the maximum extent practicable, a disproportionate cost analysis is conducted. This analysis compares the costs and benefits of the cleanup action alternatives and considers several factors, including:

- Protectiveness;
- Permanent reduction of toxicity, mobility and volume;
- Cost;
- Long-term effectiveness;
- Short-term risk;
- Implementability; and

- Consideration of public concerns.

The comparison of benefits and costs may be quantitative, but will often be qualitative and require the use of best professional judgment.

WAC 173-340-360(4) describes the specific requirements and procedures for determining whether a cleanup action provides for a reasonable restoration time frame.

5.3.3 Cleanup Action Expectations

WAC 173-340-370 sets forth the following expectations for developing cleanup action alternatives and selecting cleanup actions. These expectations represent the types of cleanup actions Ecology considers likely results of the remedy selection process; however, Ecology recognizes that there may be some sites where cleanup actions conforming to these expectations are not appropriate.

- Treatment technologies will be emphasized at sites with liquid wastes, areas with high concentrations of hazardous substances, or with highly mobile and/or highly treatable contaminants;
- To minimize the need for long-term management of contaminated materials, hazardous substances will be destroyed, detoxified, and/or removed to concentrations below cleanup levels throughout sites with small volumes of hazardous substances;
- Engineering controls, such as containment, may need to be used at sites with large volumes of materials with relatively low levels of hazardous substances where treatment is impracticable;
- To minimize the potential for migration of hazardous substances, active measures will be taken to prevent precipitation and runoff from coming into contact with contaminated soil or waste materials;
- When hazardous substances remain on-site at concentrations that exceed cleanup levels, they will be consolidated to the maximum extent practicable where needed to minimize the potential for direct contact and migration of hazardous substances;
- For sites adjacent to surface water, active measures will be taken to prevent/minimize releases to that water; dilution will not be the sole method for demonstrating compliance;
- Natural attenuation of hazardous substances may be appropriate at sites under certain specified conditions (see WAC 173-340-370(7)); and
- Cleanup actions will not result in a significantly greater overall threat to human health and the environment than other alternatives.

5.3.4 Applicable, Relevant, and Appropriate State and Federal Laws and Local Requirements

WAC 173-340-710(1) requires that all cleanup actions comply with all applicable state and federal law. It further states the term “applicable state and federal laws” shall include legally applicable requirements and those requirements that the department determines “… are

relevant and appropriate requirements." This section discusses applicable state and federal law, relevant and appropriate requirements, and local permitting requirements that were considered and were of primary importance in selecting cleanup requirements. If other requirements are identified at a later date, they will be applied to the cleanup actions at that time.

MTCA provides an exemption from the procedural requirements of several state laws and from any laws authorizing local government permits or approvals for remedial actions conducted under a consent decree, order, or agreed order (RCW 70A.305.090). However, the substantive requirements of a required permit must be met. The procedural requirements of the following state laws are exempted:

- Ch. 70.94 RCW, Washington Clean Air Act;
- Ch. 70.95 RCW, Solid Waste Management, Reduction, and Recycling;
- Ch. 70A.305 RCW, Hazardous Waste Management;
- Ch. 75.20 RCW, Construction Projects in State Waters;
- Ch. 90.48 RCW, Water Pollution Control; and
- Ch. 90.58 RCW, Shoreline Management Act of 1971.

WAC 173-340-710(4) sets forth the criteria Ecology evaluates when determining whether certain requirements are relevant and appropriate for a cleanup action. Table 7 lists the state and federal laws containing the applicable or relevant and appropriate requirements that apply to the cleanup action at the Site. Local laws, which may be more stringent than specified state and federal laws, will govern where applicable.

5.4 Evaluation of Cleanup Action Alternatives

The requirements and criteria outlined in Section 5.3 are used to conduct a comparative evaluation the alternatives and to select a cleanup action from them. Table 8 provides a summary of the ranking of the alternatives against the various criteria.

5.4.1 Threshold Requirements

5.4.1.1 Protection of Human Health and the Environment

Alternative 1 provides no additional protection to human health and the environment, and allows contaminated soil and stockpile exposures to remain. Alternatives 2, 3, and 4 would eliminate the risk due to contaminated soil through either capping or removal. As such, they would protect human health and the environment.

5.4.1.2 Compliance with State and Federal Laws

Alternative 1 would not be in compliance with state and federal laws because contaminated media would not be remediated, and would represent a violation of MTCA. Alternatives 2, 3, and 4 would be in compliance with applicable state and federal laws listed in Table 7. Local

laws, which can be more stringent, will govern actions when they are applicable. These will be established during the design phase of the project.

5.4.1.3 Provision for Compliance Monitoring

There are three types of compliance monitoring: protection, performance, and confirmational. Protection monitoring is designed to protect human health and the environment during the construction and operation and maintenance phases of the cleanup action. Performance monitoring confirms the cleanup action has met cleanup and/or performance standards. Confirmational monitoring confirms the long-term effectiveness of the cleanup action once cleanup standards have been met or other performance standards have been attained. Alternatives 2, 3, and would meet this provision as all would require varying levels of all three types of compliance monitoring.

5.4.2 Other Requirements

5.4.2.1 Use of Permanent Solutions to the Maximum Extent Practicable

As discussed previously, to determine whether a cleanup action uses permanent solutions to the maximum extent practicable, the disproportionate cost analysis specified in the regulation is used. The analysis compares the costs and benefits of the cleanup action alternatives and involves the consideration of several factors. The comparison of costs and benefits may be quantitative, but will often be qualitative and require the use of best professional judgment. Alternative 1 is not evaluated here because it does not meet threshold requirements. Table 8 provides a summary of the relative ranking of each alternative in the decision process.

- Protectiveness

  Protectiveness measures the degree to which existing risks are reduced, time required to reduce risk and attain cleanup standards, on- and off-site risks resulting from implementing the alternative, and improvement of overall environmental quality.

  Alternatives 2, 3, and 4 would be protective. All would equivalently reduce risks, attain cleanup standards, and improve overall environmental quality. All would have risks associated with their implementation, but Alternatives 3 and 4 would be slightly higher because of the removal of the most highly contaminated materials.

- Permanent Reduction of Toxicity, Mobility, and Volume

  Permanence measures the adequacy of the alternative in destroying the hazardous substance(s), the reduction or elimination of releases or sources of releases, the degree of irreversibility of any treatment process, and the characteristics and quantity of any treatment residuals.

  Alternatives 3 and 4 would have the highest degree of reduction because stockpile material and most contaminated soil would be removed, representing the largest

volume of material of all the alternatives. Both alternatives would also significantly reduce mobility by capping lower concentration contaminated soil that is left in place. Alternative 2 would rely on cap maintenance and institutional controls, thereby making it less permanent because future actions could undo them.

- Cleanup Costs

  Costs are approximated based on specific design assumptions for each alternative. Although the costs provided by UPRR and its consultants are estimates based on design assumptions that might change, the relative costs can be used for this evaluation. For a detailed description of the costs involved with each alternative, please refer to the Revised FS.

  Alternative 2 would involve consolidating contaminated soils onto the stockpile, and constructing a multimedia cap over the stockpile. Costs also include fencing, constructing stormwater drainage ditches, preparing reports, and long-term cap maintenance. The estimate for this alternative is $3,929,000, which does not include costs associated with required access and use of the Pentzer property.

  Alternative 3 would involve removing contaminated soil and the stockpile. It includes costs for excavation, staging, transport by truck, and disposal of contamination at the Graham Road Landfill in Medical Lake, WA. Costs also include restorating the Site, abandoning monitoring wells, and preparing reports. The estimate for this alternative is $8,082,000.

  Alternative 4 includes the costs for excavating and transporting contamination by rail to a cement-manufacturing company in California. Costs also include restoring the Site, abandoning monitoring wells, preparing reports, and possibly constructing a temporary rail crossing. The estimate for this alternative is $6,737,000.

- Long-Term Effectiveness

  Long-term effectiveness measures the degree of success, the reliability of the alternative during the period that hazardous substances will remain above cleanup levels, the magnitude of residual risk after implementation, and the effectiveness of controls required to manage remaining wastes.

  Alternatives 3 and 4 would rank higher than Alternative 2 because they completely remove the highest amount of contamination from the site.

  Alternatives 3 and 4 would have the highest degree of long-term effectiveness. By removing the most highly contaminated materials, the risk of contamination left behind is significantly reduced. Alternative 2 relies on containment of all contaminated material, so it would have the highest level of residual risk and require ongoing maintenance. The containment area created by Alternative 2 would be fairly steep-sided

and would be highly susceptible to erosion and trespass, leading to degradation of the cover system in the long-term. This would lead to lower long-term effectiveness.

- Short-Term Risk

  Short-term risk measures the risks related to an alternative during construction and implementation, and the effectiveness of measures taken to manage such risks.

  The highest risk related to all potential soil actions at this Site involves working on or very near active rail lines, but all alternatives are equivalent for that risk. All alternatives will involve earth work, and so will have equivalent measures to manage dust and potential exposures. Alternative 2 presents additional short-term risk due to the difficulty of earthwork on the steeper slopes of the containment area. Alternatives 3 and 4 would have additional short-term risk because of necessary measures to control contaminated material during transport. Alternative 4 risk is slightly higher due to longer transport distances to industrial users.

- Implementability

  Implementability considers whether the alternative is technically possible; the availability of necessary off-site facilities, services, and materials; administrative and regulatory requirements; scheduling; size; complexity; monitoring requirements; access for operations and monitoring; and integrations with existing facility operations.

  All alternatives are implementable at the Site. They are technically possible, have infrastructure to support them, and have similar size and access. Alternative 2 would have administrative and regulatory requirements due to the need for maintenance, institutional controls, and monitoring. Alternative 3 would have to meet characterization requirements for acceptance at the landfill. Alternative 4 would need to meet the shipping requirements for waste materials to be transported across state lines, and may need additional material handling to meet moisture requirements. Alternative 2 presents several engineering challenges related to the limited space at the current location of the stockpile. The slopes of the cap would need to be very steep and would require additional engineering controls. Creating a steep-sided landfill within a very limited area would be more difficult to implement. Alternative 3 ranks the highest, followed by Alternative 4, and then Alternative 2.

- Consider Public Concerns

  All alternatives would provide opportunity for members of the public to review and comment on any proposals or plans.

Costs are disproportionate to the benefits if the incremental costs of an alternative are disproportionate to the incremental benefits of that alternative. Based on the analysis of the factors above, Ecology determined Alternative 3 has the highest ranking for use of a permanent

solution to the maximum extent practicable, followed by Alternative 4, and then Alternative 2. Alternative 2 provides a high degree of protection at a lower cost, but the long-term risks are high and the action has a high degree of reliance on maintenance. Alternative 1 is not subject to this analysis because it does not meet the threshold criteria.

5.4.2.2 Provide a Reasonable Restoration Time Frame

WAC 173-340-360(4) describes the specific requirements and procedures for determining whether a cleanup action provides for a reasonable restoration time frame, as required under subsection (2)(b)(ii). The factors used to determine whether a cleanup action provides a reasonable restoration time frame are set forth in WAC 173-340-360(4)(b).

All alternatives would have the same restoration time frame, as the actions would meet cleanup standards immediately upon completion. Alternative 2 would be less preferred since it would rely on institutional controls to sustain restoration. All alternatives are consistent with or meet the factors provided for evaluating this criterion.

However, the implementation time frame for each alternative differs. Alternative 4 would likely require time to build a temporary rail crossing and move the same amount of material to the staging area. However, due to limitations on the amount of material that can be used in the industrial process, Alternative 4 would require one to two years (or more) to remove all contamination. Therefore, Alternative 3 ranks higher than the other two alternatives because it permanently achieves cleanup standards in the shortest timeframe.

5.4.3 Cleanup Action Expectations

Specific expectations of cleanup levels are outlined in WAC 173-340-370 and are described in Section 5.3.3. Among those, all alternatives would address applicable expectations in the following manner:

- Alternatives 3 and 4 would minimize the need for long-term management of contaminated materials by removing a significant volume of contamination.
- Alternatives 2, 3, and 4 would use engineering controls with large volumes of materials at lower levels of contamination and would consolidate those materials.
- Alternatives 2, 3, and 4 would control surface runoff to prevent any impacts to surface water.

5.5 Decision

Based on the analysis described above, Alternative 3 has been selected as the proposed remedial action for the Site. The alternative meets each of the minimum requirements for remedial actions.

Alternative 3 meets each of the threshold requirements. Furthermore, Alternative 3 uses permanent solutions to the maximum extent practicable and provides a more reliable long-

term protection of human health and the environment than Alternatives 2 and 4 and does so in a shorter time frame. The incremental cost of Alternative 4 does not justify the incremental benefit of a reuse/recycling option.

6.0 SELECTED REMEDIAL ACTION

The proposed cleanup action for the Site includes excavating contaminated stockpile materials and soil above cleanup levels, transporting via truck to a permitted disposal facility, and grading and revegetating the ground surface on the Pentzer and WSDOT properties. For the UPRR property, the same actions will be taken except that remediation levels will be used to determine which soils will be excavated/disposed and which soils will be capped. For those soils exceeding cleanup levels but are below remediation levels, they will be capped with a combination of asphalt, concrete, and/or geotextile barrier/minimum of 6 inches of crushed rock.

Because contaminated material would remain on the UPRR property exceeding unrestricted cleanup levels, periodic monitoring and maintenance, institutional controls, and future periodic reviews would be required for that property.

6.1 Institutional Controls

Institutional controls are measures undertaken to limit or prohibit activities that may interfere with the integrity of a cleanup action or result in exposure to hazardous substances at the Site. Such measures are required to assure both the continued protection of human health and the environment and the integrity of the cleanup action whenever hazardous substances remain at the Site at concentrations exceeding applicable cleanup levels. Institutional controls can include both physical measures and legal and administrative mechanisms. WAC 173-340-440 provides information on institutional controls, and the conditions under which they may be removed. Because contamination will be left behind and remediation levels will be used, an Environmental Covenant (in conformance with the Uniform Environmental Covenants Act, Ch. 64-70 RCW) will be required for the UPRR property.

Institutional controls will be included in the cleanup action to address soil contamination remaining below caps.

6.2 Financial Assurances

WAC 173-340-440 states that financial assurance mechanisms shall be required at sites where the selected cleanup action includes engineered and/or institutional controls. Financial assurances are required at this Site because institutional controls are required at the Site.

6.3 Periodic Review

WAC 173-340-420 states that at sites where a cleanup action requires an institutional control, a periodic review shall be completed no less frequently than every five years after the initiation of a cleanup action. Periodic reviews will be required for the Site.

7.0 REFERENCES CITED

Golder Associates Inc. 2021a. Revised Feasibility Study, Aluminum Recycling Trentwood Site.

_____. 2021b. Completion Report Dross Removal Project – WSDOT Property Union Pacific Railroad, Aluminum Recycling Trentwood Site.

_____. 2021c. Completion Report Pre-Design Investigation Union Pacific Railroad, Aluminum Recycling Trentwood Site.

United States Department of the Interior, Fish and Wildlife Service, 2011, Response to Comments Submitted for the Engineering Evaluation Cost Analysis Report for the Midway Atoll National Wildlife Refuge.

Washington State Department of Ecology, 2001, Model Toxics Cleanup Act Regulation Chapter 173-340 WAC.

FIGURES

Figure 1: Site Location

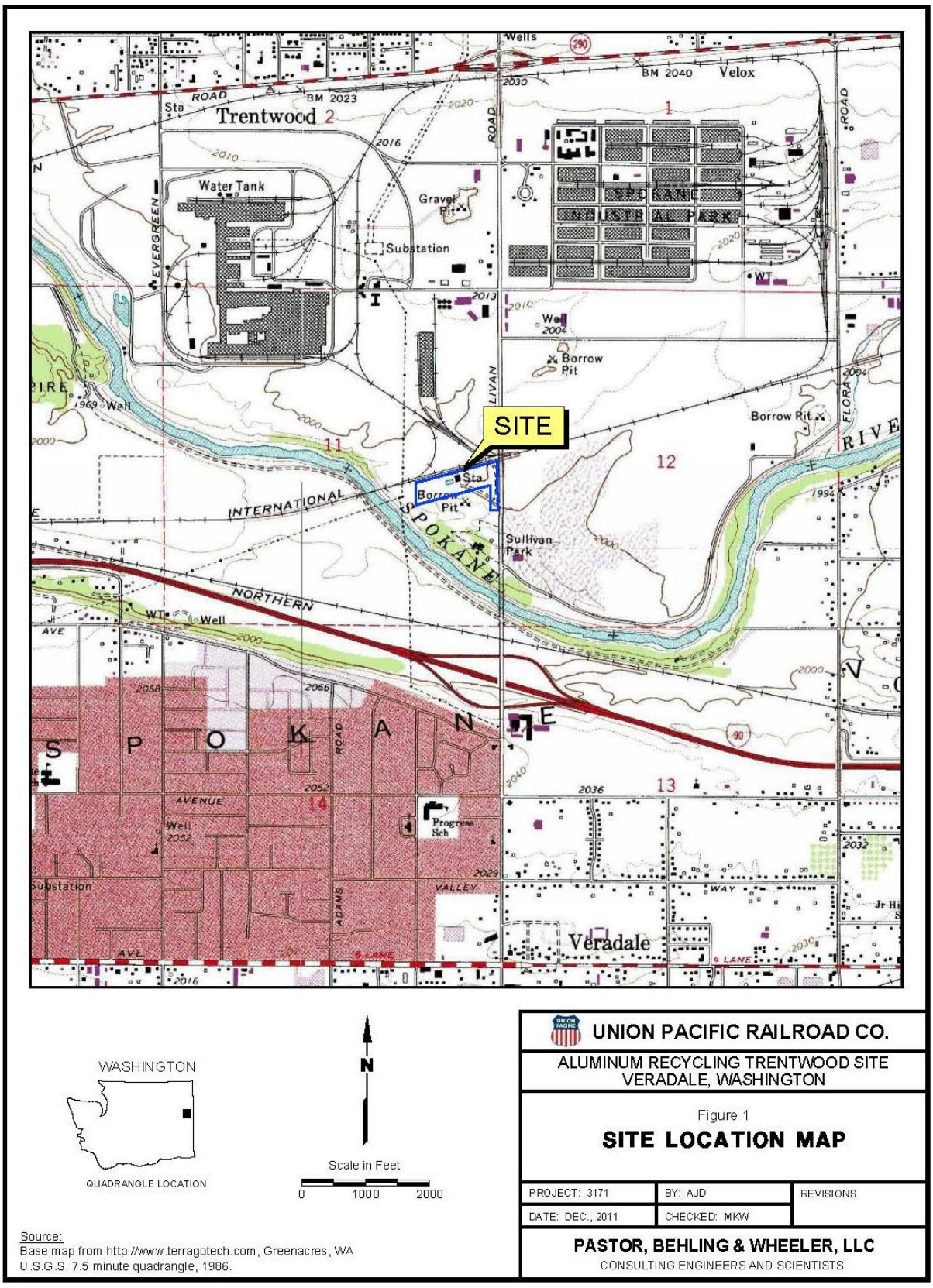


Figure 2: Site Map

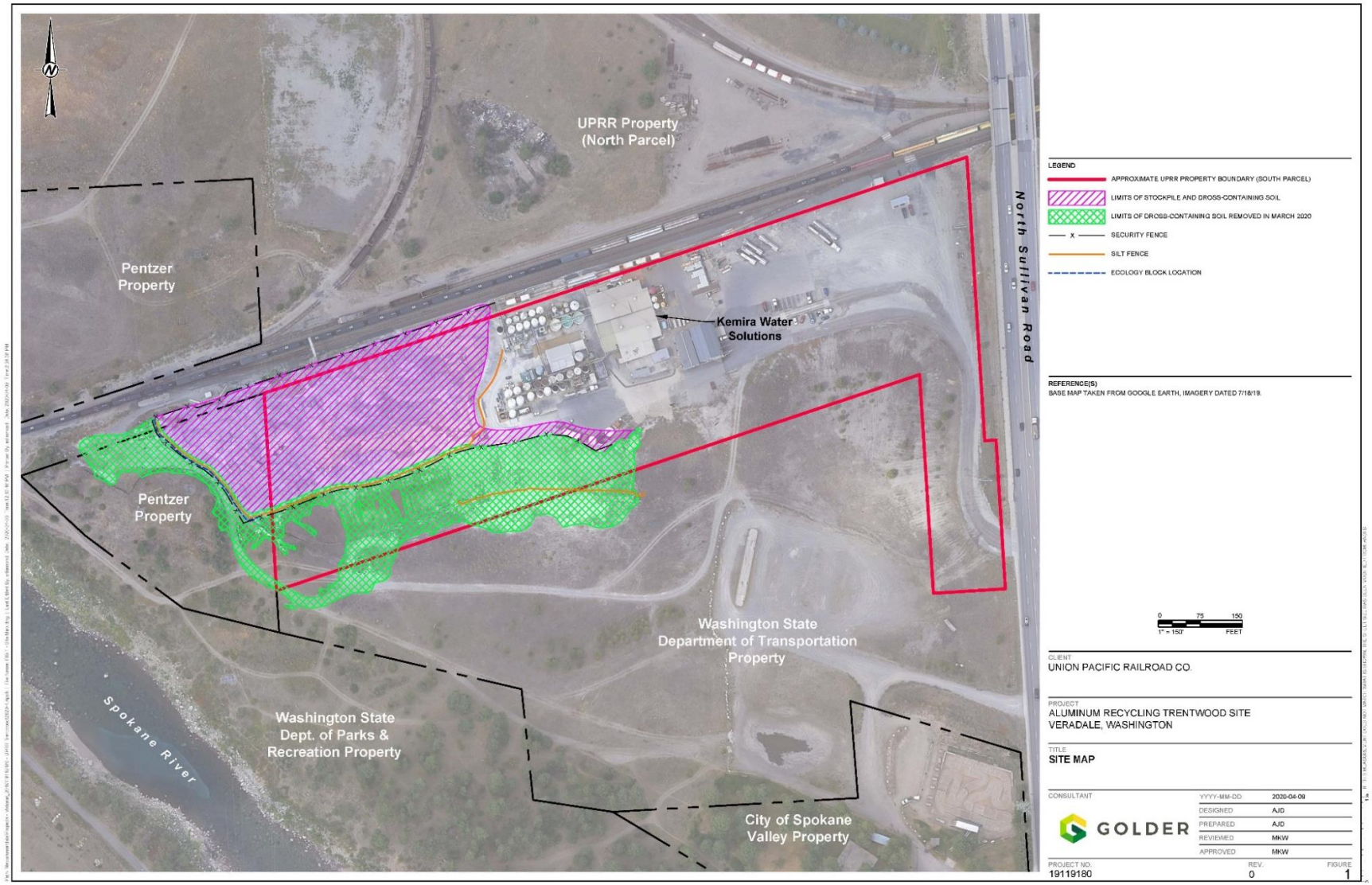


Figure 3: Remedial Investigation Sampling Locations

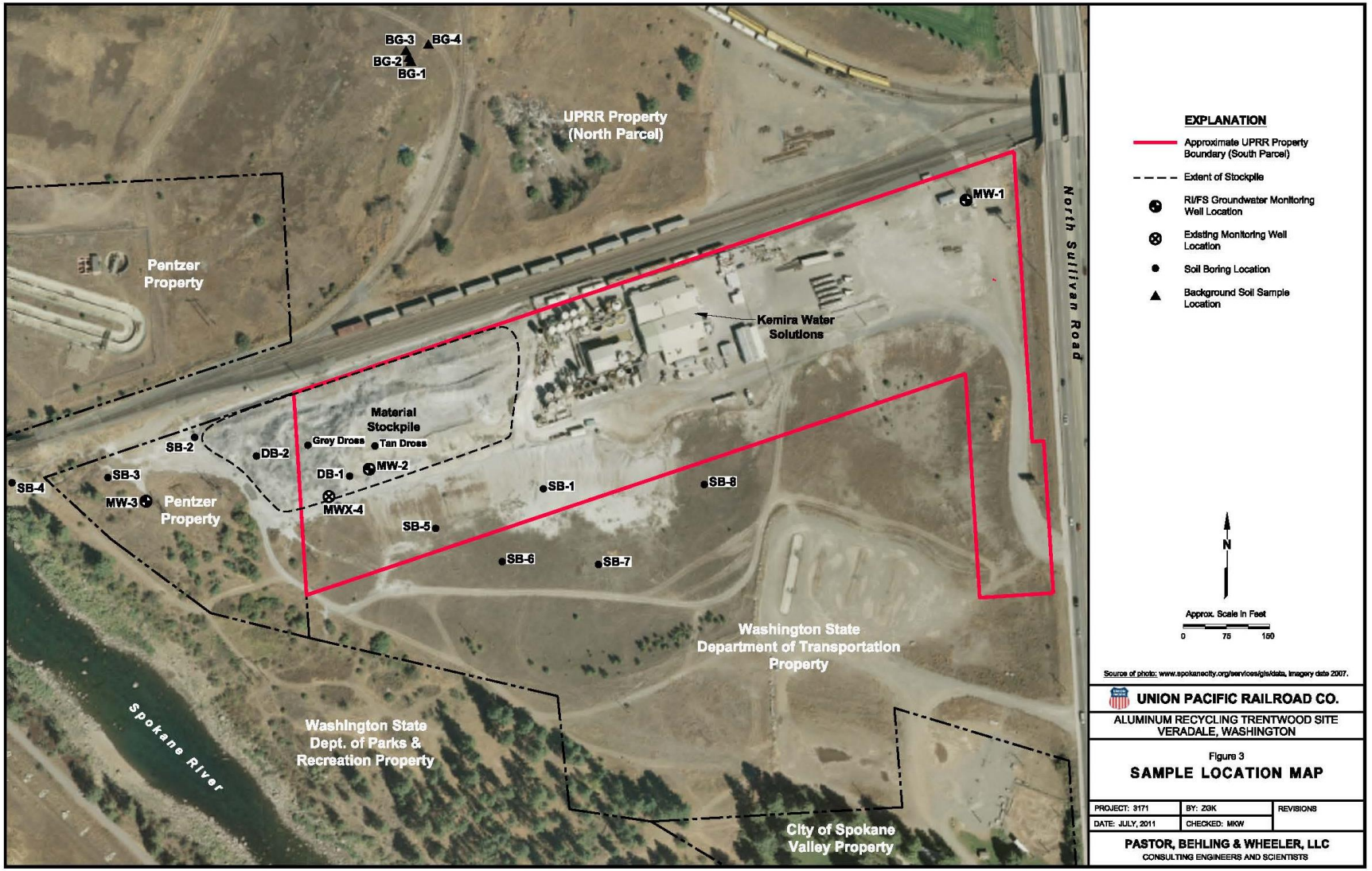


Figure 4: Post-Independent Cleanup Action Sample Locations

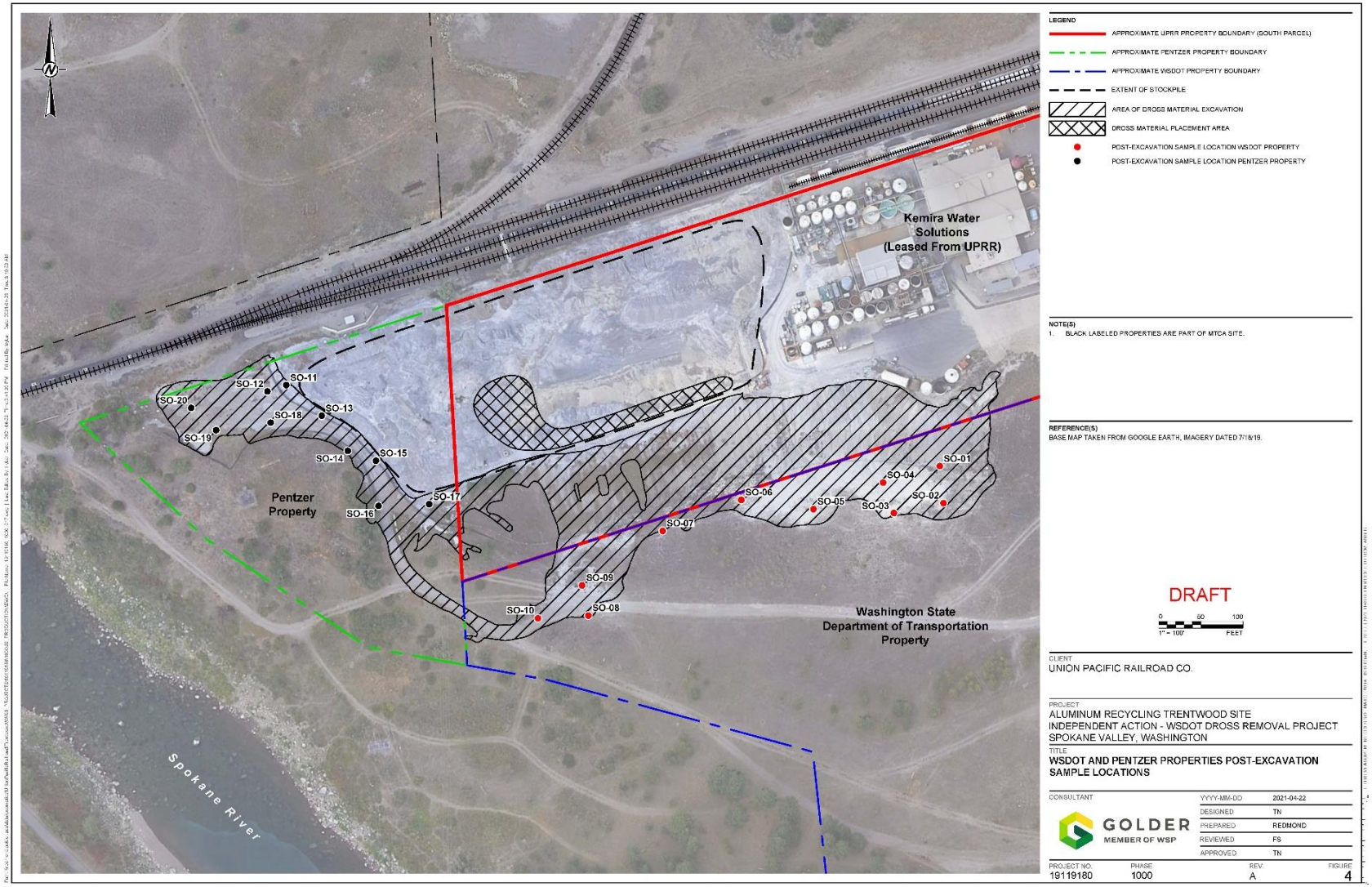


Figure 5: PDI Sample Locations

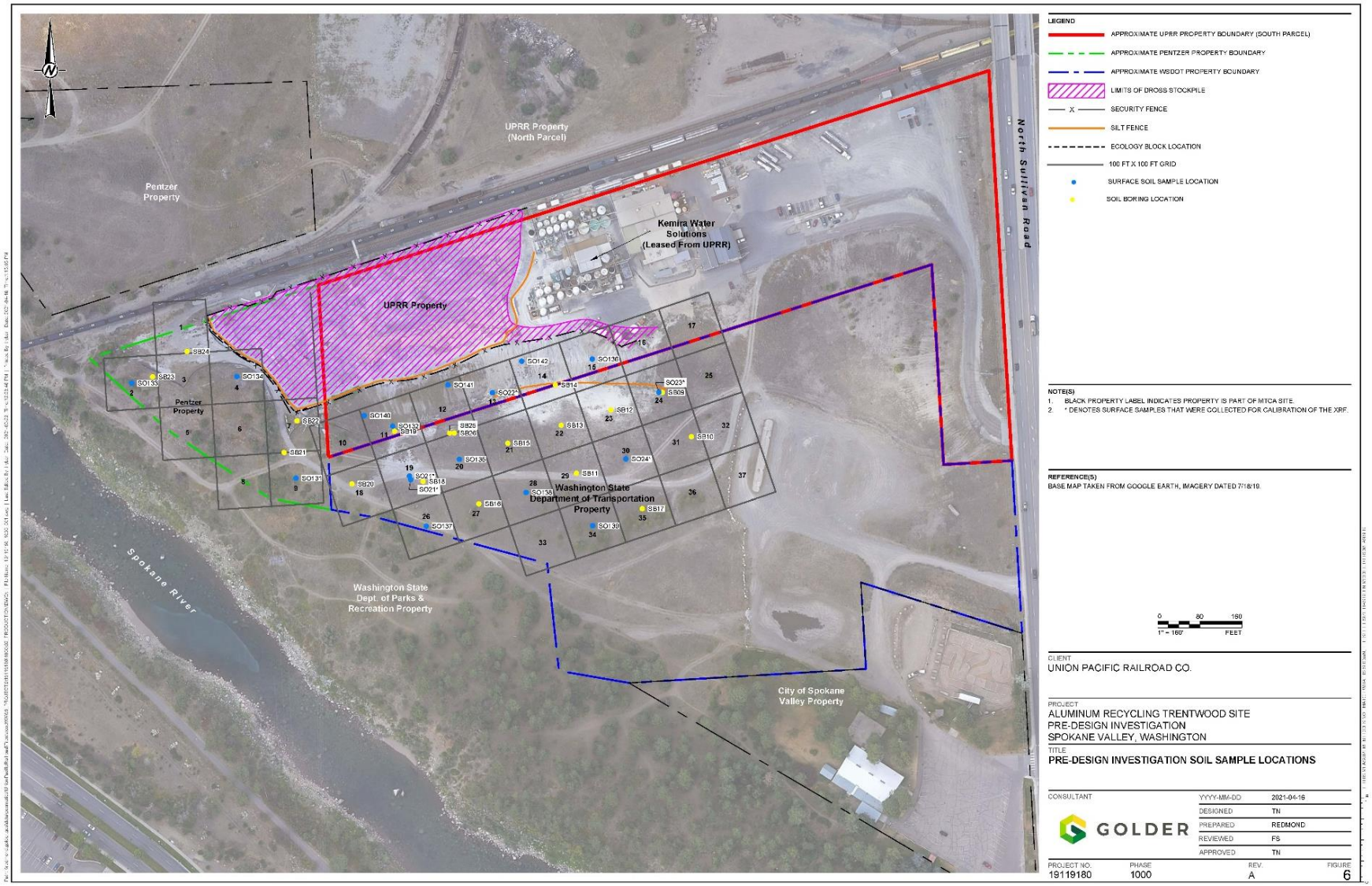
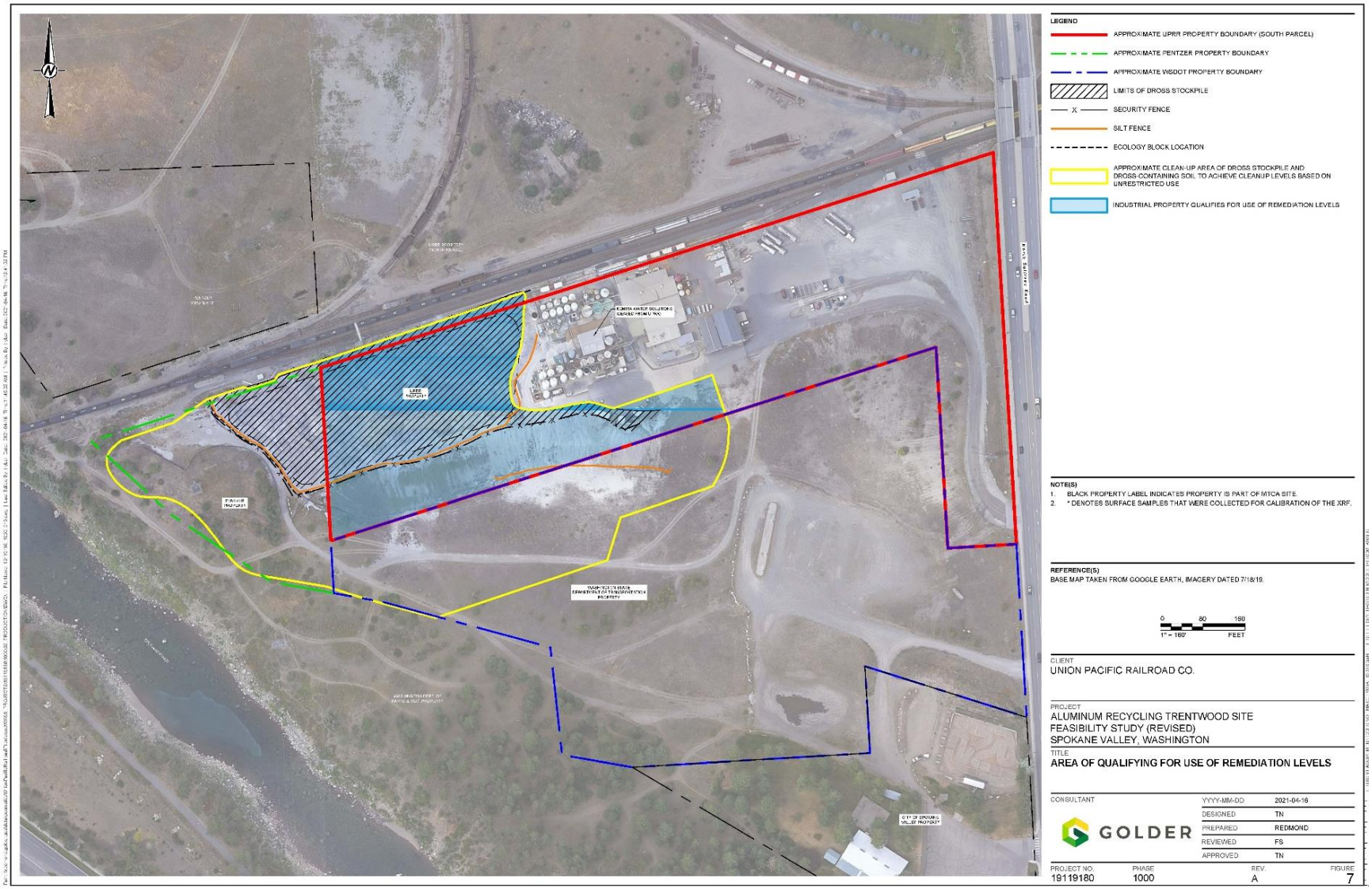


Figure 6: Selected Remedial Action Areas



TABLES

Table 1: Ecological Screening of Contaminants

Analyte	Maximum Detection	Protection of Plants [a]	Protection of Soil Biota [a]	Protection of Wildlife [a]	Potential Concern?
Aluminum	70,000	50			yes
Arsenic	16	10	60	132	yes
Barium	160	500		102	yes
Chromium (total)	86	42	42	67	yes
Copper	980	100	50	217	yes
Lead	40	50	500	118	no
Mercury	5.2	0.3	0.1	5.5	yes
Silver	0.11 [b]	2			no
Nitrate	101				no
Nitrite	4.2 [b]				no

All values are in milligrams per kilogram.

a = ecological indicator soil concentration from WAC 173-340 Table 749-3

b = analyte concentration is only an estimated value

Table 2: Groundwater Detection Frequency

Analyte [a]	Total Samples	Number of Detections	Detection Frequency	Maximum Concentration
Aluminum	6	1	16.67%	660 [b]
Arsenic	6	0	0.00%	<0.24
Barium	6	6	100.00%	35
Cadmium	6	0	0.00%	<0.14
Chromium (total)	6	3	50.00%	2.9 [b]
Copper	6	0	0.00%	<4.5
Lead	6	2	33.33%	5.9
Selenium	6	0	0.00%	<0.76 [b]
Silver	6	0	0.00%	<0.15
Mercury	6	3	50.00%	0.051 [b]
Fluoride	6	0	0.00%	<500
Nitrate	6	6	100.00%	990
Nitrite	6	1	16.67%	<200

All values are in micrograms per liter.

a = analytes are only listed if they have cleanup levels available

b = analyte concentration is only an estimated value

Table 3: Soil Detection Frequency

Analyte [a]	Total Samples	Number of Detections	Detection Frequency	Maximum Detection
Aluminum	28	27	96.43%	70,000
Arsenic	28	28	100.00%	16
Barium	28	28	100.00%	160
Cadmium	28	0	0.00%	
Chromium (total)	28	28	100.00%	86
Copper	28	28	100.00%	980
Lead	28	28	100.00%	40
Mercury	28	17	60.71%	5.2
Selenium	28	0	0.00%	
Silver	28	2	7.14%	0.11 [b]
Nitrate	28	20	71.43%	101
Nitrite	28	4	14.29%	4.2 [b]

All values are milligrams per kilogram.

a = analytes are only listed if they have cleanup levels available

b = analyte concentration is only an estimated value

Table 4: Groundwater Cleanup Levels

Analyte	Max Conc-entration	Federal MCL	Federal MCLG	State MCL	MTCA Hazard Quotient at MCL	Is MCL Protective?	Method A	Method B, non-carcinogen	Drinking Water Protection Criteria	Cleanup Level	Indicator?	Basis
Aluminum	660							**16,000**		16,000	no	C_m<CUL
Barium	35	**2000**	2000	2000	0.625	yes		3200	2000	2000	no	C_m<CUL
Chromium (total)	2.9 [b]	100	100	100	NA		**50** [a]			50	no	C_m<CUL
Lead	5.9	**15**		15	NA		15		15	15	no	C_m<CUL
Mercury	0.051 [b]	**2**	2	2	NA		2			2	no	C_m<CUL
Nitrate	990	**10,000**	10,000	10,000	0.385	yes		26,000		10,000	no	C_m<CUL
Nitrite	<200	**1000**	1000	1000	0.625	yes		1600		1000	no	C_m<CUL

All values are in micrograms per liter.
a = conservatively assumes hexavalent chromium is present
b = analyte concentration is only an estimated value
C_m = maximum concentration
CUL = cleanup level
MCL = maximum contaminant levelI
MCLG = maximum contaminant level goal
MTCA = Model Toxics Control Act
bold = applicable value selected as cleanup level
NA = not applicable

Table 5: Soil Cleanup Levels

Analyte	Maximum Value	Method A Unrestricted	Method B Unrestricted, carcinogen	Method B Unrestricted, non-carcinogen	Ecological Indicator Values [a]	Detected in Groundwater?	Protection of Groundwater [b]	Back-ground	Cleanup Level	Indicator?	Basis
Aluminum	70,000			80,000	50	yes	6,900,000	**21,400**	21,400	yes	background
Arsenic	16	20	0.67	24	**10**	no	42	9	10	yes	ecological
Barium	160			16,000	**102**	yes	24,000		102	yes	ecological
Chromium (total)	86 [c]	2,000 [d]		120,000	**42**	yes	6,900,000	18	42	yes	ecological
Copper	980			3,200	**50**	no	4,100	22	50	yes	ecological
Lead	40	250			**50**	yes	43,000	15	50	no	C_m<CUL
Mercury	5.2	2			**0.1**	yes	30	0.02	0.1	yes	ecological
Nitrate	101			**130,000**		yes	no value		130,000	no	C_m<CUL
Nitrite	4.2 [d]			**8,000**		yes	no value		8,000	no	C_m<CUL
Silver	0.36 [d]			400	**2**	no	190		2	no	C_m<CUL

All values are milligrams per kilogram.

a = value represents the most conservative ecological receptor for each contaminant from Table 1

b = protective of unsaturated zone of groundwater, using site specific groundwater flow and infiltration values

c = this concentration represents total chromium; site data shows that over 98 percent of chromium is present as trivalent chromium; therefore, total chromium values are appropriate to use

d = analyte concentration is only an estimated value

bold = applicable value selected as cleanup level

C_m = maximum concentration

CUL = cleanup level

Table 6: Soil Remediation Levels

Analyte	Method C Industrial, carcinogen	Method C Industrial, non-carcinogen	Ecological Indicator Concentrations [a]	Protection of Groundwater [b]	Remediation Level	Basis
Aluminum	NR	**3,500,000**		6,900,000	3,500,000	human health
Arsenic	88	1,100	132	**42**	42	gw protection
Barium	NR	**700,000**	102	24,000	700,000	human health
Chromium (total)	NR	**5,300,000**	67	6,900,000	5,300,000	human health
Copper	NR	**140,000**	217	4,100	140,000	human health
Mercury	NR	NR	**5.5**	30	5.5	ecological

All values are milligrams per kilogram.

a = value represents exposure to wildlife in Table 749-3 for industrial site use; since a cap protective of ecological receptors will be placed over all contamination exceeding unrestrictive cleanup levels, these values won't drive remediation levels (unless no other appropriate values exist)

b = protective of unsaturated zone of groundwater, using site specific groundwater flow and infiltration values

NR = not researched; no value exists for this parameter

bold = applicable value selected as remediation level

Table 7: Applicable, Relevant, and Appropriate Requirements

Cleanup Action

Ch. 18.104 RCW;	Water Well Construction;
Ch. 173-160 WAC	Minimum Standards for Construction and Maintenance of Water Wells
Ch. 173-162 WAC	Rules & Regulations Governing the Licensing of Well Contractors & Operators
Ch. 70A.305 RCW;	Model Toxics Control Act;
Ch. 173-340 WAC	MTCA Cleanup Regulation
Ch. 43.21C RCW;	State Environmental Policy Act;
Ch. 197-11 WAC	SEPA Rules
29 CFR 1910	Occupational Safety and Health Act

Air

42 USC 7401;	Clean Air Act of 1977;
40 CFR 50	National Ambient Air Quality Standards
Ch. 70.94 RCW;	Washington Clean Air Act;
Ch. 43.21A RCW; Ch. 173-400 WAC	General Regulations for Air Pollution
Ch. 173-460 WAC	Controls for New Sources of Air Pollution
Ch. 173-470 WAC	Ambient Air Quality Standards for Particulate Matter
Ch. 70A.305 RCW;	Model Toxics Control Act;
Ch. 173-340 WAC	MTCA Cleanup Regulation

Table 8: Alternative Evaluation

Criteria	Alternative 1 - No action	Alternative 2 - On-site Consolidation & Capping	Alternative 3 - Excavation & Disposal at a Permitted Landfill	Alternative 4 - Reuse in Industrial Processes
Threshold Requirements				
Protection of human health & environment	no	yes	yes	yes
Compliance with cleanup standards	no	yes	yes	yes
Compliance with state & federal laws	no	yes	yes	yes
Provision for compliance monitoring	yes	yes	yes	yes
Other Requirements				
Use of Permanent Solutions (disproportionate cost analysis)	--	rank #3	rank #1	rank #2
1. Protectiveness	--	2	1	1
2. Permanent Reduction	--	2	1	1
3. Cleanup Cost (estimated)	--	$3,929,000	$8,082,000	$6,737,000
4. Long-term Effectiveness	--	2	1	1
5. Short-term Risk	--	2	1	1
6. Implementability	--	3	1	2
7. Consider Public Concerns	--	yes	yes	yes
Provide Reasonable Time Frame	--	yes	yes - highest	yes - lowest
Consider Public Comments	--	yes	yes	yes

EXHIBIT D – ENVIRONMENTAL COVENANT

After Recording Return
Original Signed Covenant to:
Sandra Treccani
Toxics Cleanup Program
Department of Ecology
4601 N Monroe
Spokane, WA 99205

Environmental Covenant

Grantor: Union Pacific Railroad Company
Grantee: State of Washington, Department of Ecology (hereafter "Ecology")
Brief Legal Description: [to be determined]
Tax Parcel Nos.: 45114.9030

RECITALS

a. This document is an environmental (restrictive) covenant (hereafter "Covenant") executed pursuant to the Model Toxics Control Act ("MTCA"), chapter 70.105D RCW, and Uniform Environmental Covenants Act ("UECA"), chapter 64.70 RCW.

b. The Property that is the subject of this Covenant is part or all of a site commonly known as Aluminum Recycling Trentwood, Facility/Site ID 628. The Property is legally described in Exhibit A, and illustrated in Exhibit B, both of which are attached (hereafter "Property"). If there are differences between these two Exhibits, the legal description in Exhibit A shall prevail.

c. The Property is the subject of remedial action conducted under MTCA. This Covenant is required because residual contamination remains on the Property after completion of remedial actions. Specifically, the following principal contaminants remain on the Property:

Medium	Principal Contaminants Present
Soil	[to be inserted after completion of cleanup action]

d. It is the purpose of this Covenant to restrict certain activities and uses of the Property to protect human health and the environment and the integrity of remedial actions conducted at the site. Records describing the extent of residual contamination and remedial actions conducted are available through Ecology. This includes the following document:

- Final Cleanup Action Report [exact title and date to be determined after completion of cleanup action]

e. This Covenant grants Ecology certain rights under UECA and as specified in this Covenant. As a Holder of this Covenant under UECA, Ecology has an interest in real property, however, this is not an ownership interest which equates to liability under MTCA or the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601 *et seq.* The rights of Ecology as an "agency" under UECA, other than its' right as a holder, are not an interest in real property.

COVENANT

Union Pacific Railroad Company, as Grantor and fee simple owner of the Property hereby grants to the Washington State Department of Ecology, and its successors and assignees, the following covenants. Furthermore, it is the intent of the Grantor that such covenants shall supersede any prior interests the Grantor has in the property and run with the land and be binding on all current and future owners of any portion of, or interest in, the Property.

Section 1. General Restrictions and Requirements.

The following general restrictions and requirements shall apply to the Property:

a. Interference with Remedial Action. The Grantor shall not engage in any activity on the Property that may impact or interfere with the remedial action and any operation, maintenance, inspection or monitoring of that remedial action without prior written approval from Ecology.

b. Protection of Human Health and the Environment. The Grantor shall not engage in any activity on the Property that may threaten continued protection of human health or the environment without prior written approval from Ecology. This includes, but is not limited to, any activity that results in the release of residual contamination that was contained as a part of the remedial action or that exacerbates or creates a new exposure to residual contamination remaining on the Property.

c. Continued Compliance Required. Grantor shall not convey any interest in any portion of the Property without providing for the continued adequate and complete operation, maintenance and monitoring of remedial actions and continued compliance with this Covenant.

d. Leases. Grantor shall restrict any lease for any portion of the Property to uses and activities consistent with this Covenant and notify all lessees of the restrictions on the use of the Property.

e. Preservation of Reference Monuments. Grantor shall make a good faith effort to preserve any reference monuments and boundary markers used to define the areal extent of coverage of this Covenant. Should a monument or marker be damaged or destroyed, Grantor shall have it replaced by a licensed professional surveyor within 30 days of discovery of the damage or destruction.

Section 2. Specific Prohibitions and Requirements.

In addition to the general restrictions in Section 1 of this Covenant, the following additional specific restrictions and requirements shall apply to the Property.

a. Land use.
The remedial action for the Property is based on a cleanup designed for industrial property. As such, the Property shall be used in perpetuity only for industrial uses, as that term is defined in the rules promulgated under Chapter 70.105D RCW. Prohibited uses on the Property include but are not limited to residential uses, childcare facilities, K-12 public or private schools, parks, grazing of animals, growing of food crops, and non-industrial commercial uses.

b. Containment of soil/waste materials.
The remedial action for the Property is based on containing contaminated soil under a cap consisting of [to be completed when the cleanup is completed] and located as illustrated in Exhibit B. The primary purpose of this cap is to prevent direct contact of humans or ecological receptors with contaminated soil, and to minimize transport potential by wind or stormwater runoff. As such, the following restrictions shall apply within the area illustrated in Exhibit B:

Any activity on the Property that will compromise the integrity of the cap including: drilling; digging; piercing the cap with sampling device, post, stake or similar device; grading; excavation; installation of underground utilities; removal of the cap; or, application of loads in excess of the cap load bearing capacity, is prohibited without prior written approval by Ecology. The Grantor

shall report to Ecology within forty-eight (48) hours of the discovery of any damage to the cap. Unless an alternative plan has been approved by Ecology in writing, the Grantor shall promptly repair the damage and submit a report documenting this work to Ecology within thirty (30) days of completing the repairs.

The Grantor covenants and agrees that it shall annually, or at another time as approved in writing by Ecology, inspect the cap and report within thirty (30) days of the inspection the condition of the cap and any changes to the cap that would impair its performance.

Section 3. Access.

a. The Grantor shall maintain clear access to all remedial action components necessary to construct, operate, inspect, monitor and maintain the remedial action.

b. The Grantor freely and voluntarily grants Ecology and its authorized representatives, upon reasonable notice, the right to enter the Property at reasonable times to evaluate the effectiveness of this Covenant and associated remedial actions, and enforce compliance with this Covenant and those actions, including the right to take samples, inspect any remedial actions conducted on the Property, and to inspect related records.

c. Ecology will notify Grantor at least 24 hours in advance of any site visit in which any Ecology representative or Ecology equipment will be within 25 feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within 25 feet of any track. Upon receipt of such notice, Grantor will determine and inform Ecology whether a flagman or Grantor's official need be present and whether Ecology need implement any special protective or safety measures.

d. No right of access or use by a third party to any portion of the Property is conveyed by this instrument.

Section 4. Notice Requirements.

a. Conveyance of Any Interest. The Grantor, when conveying any interest in any part of the property, including but not limited to title, easement, leases, and security or other interests, must:

i. Provide written notice to Ecology of the intended conveyance at least thirty (30) days in advance of the conveyance.

ii. Include in the conveying document a notice in substantially the following form, as well as a complete copy of this Covenant:

NOTICE: THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL COVENANT GRANTED TO THE WASHINGTON STATE DEPARTMENT OF ECOLOGY ON [DATE] AND RECORDED WITH THE SPOKANE COUNTY AUDITOR UNDER RECORDING NUMBER [RECORDING NUMBER]. USES AND ACTIVITIES ON THIS PROPERTY MUST COMPLY WITH THAT COVENANT, A COMPLETE COPY OF WHICH IS ATTACHED TO THIS DOCUMENT.

iii. Unless otherwise agreed to in writing by Ecology, provide Ecology with a complete copy of the executed document within thirty (30) days of the date of execution of such document.

b. Reporting Violations. Should the Grantor become aware of any violation of this Covenant, Grantor shall promptly report such violation in writing to Ecology.

c. Emergencies. For any emergency or significant change in site conditions due to Acts of Nature (for example, flood or fire) resulting in a violation of this Covenant, the Grantor is

authorized to respond to such an event in accordance with state and federal law. The Grantor must notify Ecology in writing of the event and response actions planned or taken as soon as practical but no later than within 24 hours of the discovery of the event.

d. Notification procedure. Any required written notice, approval, reporting or other communication shall be personally delivered or sent by first class mail to the following persons. Any change in this contact information shall be submitted in writing to all parties to this Covenant. Upon mutual agreement of the parties to this Covenant, an alternative to personal delivery or first class mail, such as e-mail or other electronic means, may be used for these communications.

[insert contact name, address, phone number and e-mail for Grantor]	Environmental Covenants Coordinator Washington State Department of Ecology Toxics Cleanup Program P.O. Box 47600 Olympia, WA 98504 – 7600 (360) 407-6000 ToxicsCleanupProgramHQ@ecy.wa.gov

Section 5. Modification or Termination.

a. Grantor must provide written notice and obtain approval from Ecology at least sixty (60) days in advance of any proposed activity or use of the Property in a manner that is inconsistent with this Covenant. For any proposal that is inconsistent with this Covenant and permanently modifies an activity or use restriction at the site:

i. Ecology must issue a public notice and provide an opportunity for the public to comment on the proposal; and

ii. If Ecology approves of the proposal, the Covenant must be amended to reflect the change before the activity or use can proceed.

b. If the conditions at the site requiring a Covenant have changed or no longer exist, then the Grantor may submit a request to Ecology that this Covenant be amended or terminated. Any amendment or termination of this Covenant must follow the procedures in MTCA and UECA and any rules promulgated under these chapters.

c. By signing this agreement, per RCW 64.70.100, the original signatories to this agreement, other than Ecology, agree to waive all rights to sign amendments to and termination of this Covenant.

Section 6. Enforcement and Construction.

a. This Covenant is being freely and voluntarily granted by the Grantor.

b. Within ten (10) days of execution of this Covenant, Grantor shall provide Ecology with an original signed Covenant and proof of recording and a copy of the Covenant and proof of recording to others required by RCW 64.70.070.

c. Ecology shall be entitled to enforce the terms of this Covenant by resort to specific performance or legal process. All remedies available in this Covenant shall be in addition to any and all remedies at law or in equity, including MTCA and UECA. Enforcement of the terms of this Covenant shall be at the discretion of Ecology, and any forbearance, delay or omission to exercise its rights under this Covenant in the event of a breach of any term of this Covenant is

not a waiver by Ecology of that term or of any subsequent breach of that term, or any other term in this Covenant, or of any rights of Ecology under this Covenant.

d. The Grantor shall be responsible for all costs associated with implementation of this Covenant. Furthermore, the Grantor, upon request by Ecology, shall be obligated to pay for Ecology's costs to process a request for any modification or termination of this Covenant and any approval required by this Covenant.

e. This Covenant shall be liberally construed to meet the intent of MTCA and UECA.

f. The provisions of this Covenant shall be severable. If any provision in this Covenant or its application to any person or circumstance is held invalid, the remainder of this Covenant or its application to any person or circumstance is not affected and shall continue in full force and effect as though such void provision had not been contained herein.

g. A heading used at the beginning of any section or paragraph or exhibit of this Covenant may be used to aid in the interpretation of that section or paragraph or exhibit but does not override the specific requirements in that section or paragraph.

The undersigned Grantor warrants he/she holds the title to the Property and has authority to execute this Covenant.

EXECUTED this _____ day of _____, 20___.

_____ [SIGNATURE] _____

by: _____ [PRINTED NAME] _____

Title: _____

INDIVIDUAL ACKNOWLEDGMENT

STATE OF _____
COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____ personally appeared before me, acknowledged that **he/she** is the individual described herein and who executed the within and foregoing instrument and signed the same at **his/her** free and voluntary act and deed for the uses and purposes therein mentioned.

_____
Notary Public in and for the State of Washington
Residing at _____
My appointment expires _____

CORPORATE ACKNOWLEDGMENT

STATE OF _____
COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____ personally appeared before me, acknowledged that **he/she** is the _____ of the corporation that executed the within and foregoing instrument, and signed said instrument by free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that **he/she** was authorized to execute said instrument for said corporation.

_____
Notary Public in and for the State of Washington
Residing at _____
My appointment expires _____

REPRESENTATIVE ACKNOWLEDGEMENT

STATE OF _____
COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____ 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 [TYPE OF AUTHORITY] of [NAME OF PARTY BEING REPRESENTED] to be the free and voluntary act and deed of such party for the uses and purposes mentioned in the instrument.

_____
Notary Public in and for the State of Washington [15]
Residing at _____
My appointment expires _____

The Department of Ecology**,** hereby accepts the status as GRANTEE and HOLDER of the above Environmental Covenant.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

_____ [SIGNATURE] _____

by: _____ [PRINTED NAME] _____

Title: _____

Dated: _____

STATE ACKNOWLEDGMENT

STATE OF _____

COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____ personally appeared before me, acknowledged that **he/she** is the _____ of the state agency that executed the within and foregoing instrument, and signed said instrument by free and voluntary act and deed, for the uses and purposes therein mentioned, and on oath stated that **he/she** was authorized to execute said instrument for said state agency.

_____
Notary Public in and for the State of Washington

Residing at _____

My appointment expires _____

Exhibit A

LEGAL DESCRIPTION

[to be determined**]**

Exhibit B

PROPERTY MAP

[to be determined]