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STATE OF WASHINGTON
WHATCOM COUNTY SUPERIOR COURT

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Plaintiff, v. PORT OF BELLINGHAM, Defendant.	NO. 14-2-02700-8 FIRST AMENDMENT TO CONSENT DECREE (w/signature)

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I. INTRODUCTION

1. Pursuant to Section XV of the Consent Decree between Ecology and the Port of Bellingham (Defendant), entered by this Court on December 22, 2014 (2014 Decree), State of Washington, Department of Ecology (Ecology) and the Defendant hereby stipulate to amend the 2014 Decree. This First Amendment to Consent Decree supersedes and incorporates all remaining obligations under the 2014 Decree.

2. The mutual objective of the State of Washington, Department of Ecology (Ecology) and the Defendant under this First Amendment to the 2014 Decree is to provide for remedial action at a facility where there has been a release or threatened release of hazardous substances.

3. The Second Amendment to Ecology Agreed Order No. 6834 (2013) separated the Georgia-Pacific West Site (Site) into two remedial action units (RAU), the Pulp/Tissue Mill RAU and the Chlor-Alkali RAU, for the purpose of expediting remedial actions and facilitating redevelopment of the Site. The Port completed the cleanup of the Pulp/Tissue Mill RAU portion of the Site pursuant to the requirement of the 2014 Decree.

4. To expedite remedial actions and facilitate future redevelopment of a portion of the Site for affordable housing, the Defendant shall conduct a final cleanup of the Lignin Operable Unit of the Chlor-Alkali RAU (as shown on Exhibit A), by implementing the Lignin Operable Unit Cleanup Action Plan (Lignin CAP) attached as Exhibit G, according to the Lignin Operable Unit Schedule of Deliverables (Lignin Schedule) attached as Exhibit H and other requirements identified in this Decree and all exhibits thereto. The 2014 Decree also requires the Defendant to continue to implement the final cleanup requirements of the Pulp/Tissue Mill RAU Cleanup Action Plan (Pulp/Tissue Mill RAU CAP) attached as Exhibit B, according to the Pulp/Tissue Mill Remedial Action Unit Schedule of Deliverables (Pulp/Tissue Mill RAU Schedule) attached as Exhibit C, and other requirements identified in this Decree and all exhibits thereto.

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5. The remaining portion of the Chlor-Alkali RAU beyond the Lignin Operable Unit is not subject to the terms and conditions of this Decree, nor is liability for that remaining portion of the Chlor-Alkali RAU addressed or settled in this Decree.

6. The Parties anticipate that the remedial actions required under the Model Toxics Control Act (MTCA), RCW 70A.305, at the remainder of the Site's Chlor-Alkali RAU will be performed under a second amendment to the 2014 Decree and a CAP to address releases or threatened releases of hazardous substances including mercury and polycyclic aromatic hydrocarbons (PAHs) contaminated soils, and mercury, PAHs, volatile organic compounds (VOCs), and pH contaminated groundwater.

7. Ecology has determined that these actions are necessary to protect human health and the environment.

8. The Complaint in this action was filed with the 2014 Decree in December 2014. An Answer has not been filed, and there has not been a trial on any issue of fact or law in this case. However, the Parties wish to resolve the issues raised by Ecology's Complaint. In addition, the Parties agree that settlement of these matters without litigation is reasonable and in the public interest, and that entry of this Decree is the most appropriate means of resolving these matters.

9. By signing this Decree, the Parties agree to its entry and agree to be bound by its terms.

10. By entering into this Decree, the Parties do not intend to discharge non-settling parties from any liability they may have with respect to matters alleged in the Complaint. The Parties retain the right to seek reimbursement, in whole or in part, from any liable persons for sums expended under the 2014 Decree and this First Amendment.

11. This Decree shall not be construed as proof of liability or responsibility for any releases of hazardous substances or cost for remedial action nor an admission of any facts; provided, however, that Defendant shall not challenge the authority of the Attorney General and Ecology to enforce this Decree.

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12. The Court is fully advised of the reasons for entry of this First Amendment to the 2014 Decree, and good cause having been shown:

Now, therefore, it is HEREBY ORDERED, ADJUDGED, AND DECREED as follows:

II. JURISDICTION

1. This Court has jurisdiction over the subject matter and over the Parties pursuant to MTCA, RCW 70A.305.

2. Authority is conferred upon the Washington State Attorney General by RCW 70A.305.040(4)(a) to agree to a settlement with any potentially liable person (PLP) if, after public notice and any required hearing, Ecology finds the proposed settlement would lead to a more expeditious cleanup of hazardous substances. RCW 70A.305.040(4)(b) requires that such a settlement be entered as a consent decree issued by a court of competent jurisdiction.

3. Ecology has determined that a release or threatened release of hazardous substances has occurred at the Lignin Operable Unit of the Chlor-Alkali RAU that is the subject of this First Amendment to the 2014 Decree.

4. Ecology has given notice to Defendant of Ecology's determination that Defendant is a PLP for the Site, as required by RCW 70A.305.020(26) and WAC 173-340-500.

5. The actions to be taken pursuant to this Decree are necessary to protect public health and the environment.

6. This Decree has been subject to public notice and comment and a public meeting that was held on June 29, 2022.

7. Ecology finds that this Decree will lead to a more expeditious cleanup of hazardous substances at the Site in compliance with the cleanup standards established under RCW 70A.305.030(2)(e) and WAC 173-340.

8. Defendant has agreed to undertake the actions specified in this Decree and consents to the entry of this Decree under MTCA.

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III. PARTIES BOUND

1. This Decree shall apply to and be binding upon the Parties to this Decree, their successors and assigns. The undersigned representative of each party hereby certifies that he or she is fully authorized to enter into this Decree and to execute and legally bind such party to comply with this Decree. Defendant agrees to undertake all actions required by the terms and conditions of this Decree. No change in ownership or corporate status shall alter Defendant's responsibility under this Decree. Defendant shall provide a copy of this Decree to all agents, contractors, and subcontractors retained to perform work required by this Decree, and shall ensure that all work undertaken by such agents, contractors, and subcontractors complies with this Decree.

IV. DEFINITIONS

1. Unless otherwise specified herein, all definitions in RCW 70A.305.020 and WAC 173-340 shall control the meanings of the terms in this Decree.

A. Site: The Site is referred to as the Georgia-Pacific West Bellingham Site, Cleanup Site ID number 2279. 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.

B. 2014 Decree: Refers to the 2014 Consent Decree and each of the exhibits to the 2014 Decree.

C. Consent Decree or Decree: Refers to this Consent Decree and each of the exhibits to this Decree. All exhibits are integral and enforceable parts of this Consent Decree.

D. Defendant: Refers to the Port of Bellingham.

E. Parties: Refers to the State of Washington, Department of Ecology and Defendant.

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F. Lignin Operable Unit: Refers to the operable unit of the Chlor-Alkali RAU at the Georgia Pacific West Bellingham Site. This Operable Unit is generally located on the property that is bounded on the southwest by W. Laurel Street, on the southeast by Cornwall Avenue, on the northeast by a business park at the corner of Cornwall Avenue and W. Chestnut Street, and on the northwest by the Pulp/Tissue Mill RAU. The Lignin Operable Unit is more particularly described in Exhibit A.

V. FINDINGS OF FACT

1. Ecology makes the following findings of fact without any express or implied admissions of such facts by Defendant.

A. Based upon factors currently known to Ecology, the Site is generally bounded by Whatcom Waterway and Cornwall Avenue with Roeder Avenue and West Chestnut Street to the northeast and the Bellingham Shipping Terminal to the southwest, as shown in the Site Location Diagram (Exhibit A). Ecology has assigned the Site an overall priority ranking of 5 pursuant to MTCA.

B. The majority of the Site was operated as a pulp and paper making facility from its original development in 1925 through 2007.

C. Between approximately 1926 and 1963, the Pulp/Tissue Mill RAU was used by the Puget Sound Pulp and Timber Company, which then merged with Georgia-Pacific West, Inc., Georgia Pacific Corporation, and Georgia Pacific, L.L.C. (collectively G-P), and continued operating the facility.

D. In 1965, G-P installed a chlor-alkali plant at the Site to produce chlorine and sodium hydroxide (caustic) using a mercury-cell process for use in bleaching and pulping operations. The location of the former chlor-alkali plant is depicted in the Site Diagram, Exhibit A. During 1976, G-P implemented the treatment and on-site containment of sediments from an on-site settling pond. The sediments were treated by chemical stabilization and remain contained on-site subject to the requirements of

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Ecology Order DE-77-336. G-P operated the chlor-alkali plant at the Site from 1965 through 1999 when G-P ceased operating the chlor-alkali plant.

E. Early environmental investigations in and around the Chlor-Alkali RAU found mercury in groundwater, soils, and process materials in concentrations exceeding applicable MTCA cleanup standards. G-P completed an independent remedial investigation/feasibility study (RI/FS) of the chlor-alkali facility in 1994. Following the 1994 RI/FS, G-P performed various remedial actions and associated performance monitoring within the chlor-alkali plant area.

F. Contamination at the Pulp/Tissue Mill RAU is related to the operations of the former Pulp and Tissue Mill. The facility contained six individual plants producing primary sulfite pulp, Permachem pulp, sulfuric acid, chlorine, sodium hydroxide, alcohol, and lignosulfonate products. Steam heat was supplied to the Mill by burning fuel oil (*e.g.*, Bunker C oil) in the Steam Plant. The fuel oil was stored in a 375,000 gallon tank located east of the Steam Plant and, later, in one of the Million Gallon Tanks (Tank 2) located immediately north of the BNSF main line and west of the Pulp/Tissue Mill RAU.

G. On July 6, 1999, G-P entered into AO No. DE 02-TC99 1035, which required G-P to undertake a number of decommissioning/demolition activities at the chlor-alkali plant following its closure by G-P, as well as to prepare a RI/FS work plan for the chlor-alkali plant area. In 2005, Ecology issued a letter to G-P indicating that the provisions of AO No. DE TC 99 1035 had been satisfied.

H. In 2001, G-P closed the pulp mill.

I. On October 1, 2002, G-P and Ecology entered into AO No. DE 02-TCPIS-4722 wherein G-P was required to complete a supplemental RI/FS for the chlor-alkali plant for purposes of updating the RI/FS prepared in 1994. As part of this work, Anchor Environmental, L.L.C. prepared a *Draft Soil Assessment-Data Report, Remedial*

Investigation/Feasibility Study Addendum, Georgia Pacific West, Inc.-Former Chlor-Alkali Facility, Bellingham, Washington, dated October 2003.

J. In 2004, G-P contracted with Aspect Consulting to perform a Phase II Environmental Site Assessment of its Bellingham operations, including the former pulp mill area and the then-operating tissue plant at the Pulp/Tissue Mill RAU. The results of that assessment showed soil contamination at the pulp and tissue mill areas in concentrations exceeding MTCA unrestricted soil cleanup levels for petroleum hydrocarbons, metals, semi volatile organic compounds (SVOCs), dioxins, furans, and PAHs. The assessment also indicated groundwater contamination in concentrations exceeding applicable MTCA cleanup levels for petroleum hydrocarbons, metals, certain VOCs and PAHs.

K. In January of 2005, the Defendant purchased the majority of G-P's property, including property within the Site. After the Defendant's purchase of the property, G-P continued to operate its tissue plant until December 2007 when it ceased the last of its operations at the Site and initiated demolition of the tissue plant and associated structures.

L. In August 2009, Ecology and the Defendant entered Agreed Order No. 6834, superseding Agreed Order No. DE 02-TCPIS-4722 and requiring the Defendant to perform an RI/FS at the Site.

M. In September 2009, Ecology terminated Agreed Order No. DE 02-TCPIS-4722 between it and G-P due to the Defendant taking over lead responsibility for cleaning up the Site under Agreed Order No. 6834.

N. In 2011, Ecology and the Defendant amended Agreed Order No. 6834 to allow an interim action to be performed to excavate and remove petroleum contaminated soils from the former Bunker C Tank Area.

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O. The Defendant contracted with Aspect Consulting to perform an Interim Action Pre-Design Investigation Report in 2011. The results of that document showed petroleum hydrocarbon (Bunker C) saturated soils and free product present in the vicinity of the former Bunker C Tank. PAHs also exist above MTCA unrestricted soil cleanup levels. The Interim Action Pre-Design Investigation Report was used to inform the soil removal interim action performed at the Bunker C Tank area in 2011. This work successfully removed 4,333 tons of petroleum contaminated soils from the Pulp/Tissue Mill RAU.

P. On August 2, 2013, a Second Amendment to Agreed Order No. 6834 was entered, separating the Site into two remedial action units, the Pulp/Tissue Mill RAU and Chlor-Alkali RAU, for the purpose of expediting remedial action and facilitating redevelopment of the Site.

Q. In August 2013, Aspect Consulting completed a Remedial Investigation for the Site. The results of that investigation showed soil contaminated with petroleum hydrocarbon, PAHs, and dioxin/furans exceed MTCA cleanup levels in the Bunker C Tank area. Metals and acidic pH in soil and groundwater in the Acid Plant area exceed MTCA cleanup levels. VOCs in groundwater in the Lignin Plant area exceed MTCA cleanup levels. Miscellaneous metals in groundwater in the area around the Alcohol Plant, Lignin Plant and Lignin Warehouse B exceed MTCA cleanup levels, and Pulp/Tissue Mill RAU wide soils exceeding miscellaneous metals, PAH, and dioxin/furan MTCA cleanup levels associated with the historic industrial use of the facility.

R. In April 2014, to further expedite remedial actions at the Pulp/Tissue Mill RAU under this Decree, the Pulp/Tissue Mill RAU and Chlor-Alkali RAU boundaries were redrawn such that the entire BNSF Railway Company property and easements were removed from the Pulp/Tissue Mill RAU and contained within the Chlor-Alkali RAU.

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Ecology considers this change to Agreed Order No. 6834 (Order), which does not alter the elements of the work to be performed, to be a minor modification pursuant to Section VIII.L of the Order.

S. On December 22, 2014, the Whatcom County Superior Court entered the 2014 Decree with Ecology and the Defendant which required the Defendant to conduct a cleanup of the Pulp/Tissue Mill RAU by implementing the Pulp/Tissue Mill RAU CAP.

T. In March 2017, Ecology approved the Aspect Consulting's As-Built Report for Bunker C Soil Removal and As-Built Report for RAU-Wide Capping for the Pulp/Tissue Mill RAU. These reports described the completion of the soil removal action conducted within the Bunker C subarea of the Pulp and Tissue Mill RAU and environmental capping of the entire Pulp and Tissue Mill RAU.

U. In February 2019, Ecology and the Defendant entered into a third amendment to Agreed Order No. 6834. This amendment required the Defendant to: (1) develop a public-review draft CAP per WAC 173-340-380; and (2) after that draft CAP had been finalized, prepare and submit for Ecology review and approval all documents necessary to complete the design and permitting of the cleanup action per WAC 173-340-400 described in a final CAP.

V. In November 2021 and February 2022, Ecology modified the Third Amendment to Agreed Order No. 6834's Schedule of Deliverables to prioritize completion of design documents for the Lignin Operable Unit to facilitate a proposed Affordable Housing Project.

W. In March 2022, Aspect Consulting completed a Pre-Remedial Design Investigation of the Lignin Operable Unit. The results of that investigation showed soil contaminated with zinc and carcinogenic poly aromatic hydrocarbons (cPAHs) above MTCA cleanup levels and groundwater contaminated with chromium and copper above

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MTCA cleanup levels. This supports the results of the Site-wide RI and Chlor-Alkali RAU FS that identified cPAHs in the soil and metals in the groundwater exceeding cleanup levels.

X. As documented in the Lignin CAP (Exhibit G), Ecology has chosen a final cleanup action to be implemented at the Lignin Operable Unit.

VI. WORK TO BE PERFORMED

1. This Decree contains a program designed to protect human health and the environment from the known release, or threatened release, of hazardous substances or contaminants at, on, or from portions of the Site. All remedial actions conducted by Defendant at the Site shall be done in accordance with WAC 173-340.

2. The Defendant shall implement the Lignin CAP (Exhibit G) in accordance with the Lignin Schedule attached to this Decree (Exhibit H). Among other remedial actions, the Lignin CAP requires Defendant to:

A. Remove soils exceeding MTCA cleanup levels at the Lignin Operable Unit up to a depth of 15 feet.

B. Remove obstructions to soil removal activities.

C. Treat wastewater generated during the construction work.

D. Implement institutional and engineering controls.

E. Define a groundwater monitoring well network, installing new wells as needed and perform long-term monitoring of groundwater.

F. Maintain, operate, secure, and inspect the integrity of the remedy implemented per the compliance monitoring plan and implement specific contingency actions outlined in that Plan if necessary.

3. All plans or other deliverables submitted by Defendant for Ecology's review and approval under the Lignin CAP (Exhibit G) or Lignin Schedule (Exhibit H) shall, upon Ecology's approval, become integral and enforceable parts of this Decree.

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4. If Defendant 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 or groundwater, Defendant, 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.

5. Pursuant to WAC 173-340-440(11), Defendant shall maintain sufficient and adequate financial assurance mechanisms to cover all costs associated with the operation and maintenance of the remedial action at the Site, including institutional controls, compliance monitoring, and corrective measures.

A. Within sixty (60) days of the effective date of this Decree, Defendant shall submit to Ecology for review and approval an estimate of the costs associated with the operation and maintenance of the remedial action at the Site that it will incur in carrying out the terms of this Decree. Within sixty (60) days after Ecology approves the aforementioned cost estimate, Defendant shall provide proof of financial assurances sufficient to cover those costs in a form acceptable to Ecology.

B. Defendant 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 Decree; or if applicable, the modified anniversary date established in accordance with this section, or if applicable, ninety (90) days after the close of Defendant's fiscal year if the financial test or corporate guarantee is used.

ii. Changes in cost estimates, within thirty (30) days of issuance of Ecology's approval of a modification or revision to the Lignin 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

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concurrent with adjustments for changes in cost estimates. The issuance of Ecology's approval of a revised or modified Lignin CAP will revise the anniversary date established under this section to become the date of issuance of such revised or modified Lignin CAP.

6. As detailed in the Lignin CAP and Pulp/Tissue Mill RAU CAP, institutional controls are required at the Site. Environmental (Restrictive) Covenants will be used to implement the institutional controls.

A. In consultation with Defendant, 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 Defendant.

B. After approval by Ecology, Defendant shall record the Environmental (Restrictive) Covenant for affected properties it owns with the office of the Whatcom County Auditor as detailed in the Schedules (Exhibits B and E). Defendant shall provide Ecology with the original recorded Environmental (Restrictive) Covenants within thirty (30) days of the recording date.

7. Unless otherwise directed by Ecology, Defendant shall submit to Ecology written quarterly Progress Reports that describe the actions taken during the previous quarter to implement the requirements of this Decree. All Progress Reports shall be submitted by the tenth (10th) day of the month in which they are due after the effective date of this Decree. Unless otherwise specified in writing by Ecology, Progress Reports and any other documents submitted pursuant to this Decree shall be sent by email and hard copy to Ecology's project coordinator. The Progress Reports shall include the following:

A. A list of on-site activities that have taken place during the quarter.

B. Description of any sample results which deviate from the norm.

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C. Detailed description of any deviations from required tasks not otherwise documented in project plans or amendment requests.

D. Description of all deviations from the Pulp and Tissue Mill RAU Schedule (Exhibit C) and the Lignin Schedule (Exhibit H) during the current quarter and any planned deviations in the upcoming quarter.

E. For any deviations in a schedule, a plan for recovering lost time and maintaining compliance with the schedule.

F. 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.

G. A list of planned activities for the upcoming quarter.

8. Except in the case of an emergency, Defendant agrees not to perform any remedial actions at the Site outside the scope of this Decree without prior written approval of Ecology. In the case of an emergency, Defendant must notify Ecology of the event and remedial actions as soon as practical, but no later than twenty-four (24) hours after discovery of the emergency.

VII. DESIGNATED PROJECT COORDINATORS

1. The project coordinator for Ecology is:

John Rapp
Bellingham Field Office
913 Squalicum Way, #101
Bellingham, WA 98225
360-206-594-0131
Email: john.rapp@ecy.wa.gov

2. The project coordinator for Defendant is:

Brian Gouran
Port of Bellingham
1801 Roeder Avenue
Bellingham, WA 98225
360-676-2500
Email: briang@portofbellingham.com

Each project coordinator shall be responsible for overseeing the implementation of this Decree. Ecology's project coordinator will be Ecology's designated representative for the Site. To the maximum extent possible, communications between Ecology and Defendant and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Decree shall be directed through the project coordinators. The project coordinators may designate, in writing, working level staff contacts for all or portions of the implementation of the work to be performed required by this Decree.

4. Any party may change its respective project coordinator. Written notification shall be given to the other party at least ten (10) calendar days prior to the change.

VIII. PERFORMANCE

1. Except as otherwise provided for by RCW 18.43 and 18.220, all geologic and hydrogeologic work performed pursuant to this Decree 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.

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

3. Except as otherwise provided for by RCW 18.43.130, all construction work performed pursuant to this Decree shall be under the direct supervision of a professional engineer registered by the State of Washington or a qualified technician under the direct supervision of a professional engineer registered by the State of Washington.

4. As required by RCW 18.43 and 18.220, any documents submitted containing geologic, hydrogeologic, or engineering work shall be under the seal of an appropriately licensed professional.

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5. Defendant shall notify Ecology in writing of the identity of any engineer(s) and geologist(s), contractor(s) and subcontractor(s), and others to be used in carrying out the terms of this Decree, in advance of their involvement at the Site.

IX. ACCESS

1. Ecology or any Ecology authorized representative shall have access to enter and freely move about all property at the Site that Defendant either owns, controls, or has access rights to at all reasonable times for the purposes of, *inter alia*: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Decree; reviewing Defendant's progress in carrying out the terms of this Decree; conducting such tests or collecting such samples as Ecology may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Decree; and verifying the data submitted to Ecology by Defendant.

2. Nothing in this Decree is intended by the Defendant to waive any right it may have under applicable law to limit disclosure of documents protected by the attorney work-product privilege and/or the attorney-client privilege. If Defendant withholds any requested records based on an assertion of privilege, it shall provide Ecology with a privilege log specifying the records withheld and the applicable privilege. No Site-related data collected pursuant to this Decree shall be considered privileged.

3. Defendant shall make all reasonable efforts to secure access rights for those properties within the Site not owned or controlled by Defendant where remedial activities or investigations will be performed pursuant to this Decree.

4. Ecology or any Ecology authorized representative shall give reasonable notice before entering any Site property owned or controlled by Defendant unless an emergency prevents such notice. All Parties who access the Site pursuant to this section shall comply with any applicable health and safety plan(s). Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access.

X. SAMPLING, DATA SUBMITTAL, AND AVAILABILITY

1. With respect to the implementation of this Decree, Defendant shall make the results of all sampling, laboratory reports, and/or test results generated by it or on its behalf available to Ecology by submitting data as detailed in this section. 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 XI (Progress Reports), Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

2. If requested by Ecology, Defendant shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by Defendant pursuant to the implementation of this Decree. Defendant shall notify Ecology seven (7) days in advance of any sample collection or work activity at the Site. Ecology shall, upon request, allow Defendant and/or its authorized representative to take split or duplicate samples of any samples collected by Ecology pursuant to the implementation of this Decree, provided that doing so does not interfere with Ecology's sampling. Without limitation on Ecology's rights under Section IX (Access), Ecology shall notify Defendant prior to any sample collection activity unless an emergency prevents such notice.

3. 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.

XI. RETENTION OF RECORDS

1. During the pendency of this Decree, and for ten (10) years from the date this Decree is no longer in effect as provided in Section XXVIII (Duration of Decree), Defendant shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation of this Decree and shall insert a similar record retention requirement into all

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contracts with project contractors and subcontractors. Upon request of Ecology, Defendant shall make all records available to Ecology and allow access for review within a reasonable time.

2. Nothing in this Decree is intended by Defendant to waive any right it may have under applicable law to limit disclosure of documents protected by the attorney work-product privilege and/or the attorney-client privilege. If Defendant withholds any requested records based on an assertion of privilege, Defendant shall provide Ecology with a privilege log specifying the records withheld and the applicable privilege. No Site-related data collected pursuant to this Decree shall be considered privileged.

XII. TRANSFER OF INTEREST IN PROPERTY

1. No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by Defendant without provision for continued operation and maintenance of any containment system, treatment system, and/or monitoring system installed or implemented pursuant to this Decree.

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

XIII. RESOLUTION OF DISPUTES

1. In the event that Defendant elects to invoke dispute resolution, Defendant must utilize the procedure set forth below.

A. Upon the triggering event (receipt of Ecology's project coordinator's written decision or an itemized billing statement), Defendant has fourteen (14) calendar

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days within which to notify Ecology's project coordinator in writing of its dispute (Informal Dispute Notice).

B. The Parties' project coordinators shall then confer in an effort to resolve the dispute informally. The parties shall informally confer for up to fourteen (14) calendar days from receipt of the Informal Dispute Notice. If the project coordinators cannot resolve the dispute within those 14 calendar days, then within seven (7) calendar days Ecology's project coordinator shall issue a written decision (Informal Dispute Decision) stating: the nature of the dispute; the Defendant's position with regards to the dispute; Ecology's position with regards to the dispute; and the extent of resolution reached by informal discussion.

C. Defendant may then request regional management review of the dispute. This request (Formal Dispute Notice) must be submitted in writing to the Northwest Region Toxics Cleanup Section Manager within seven (7) calendar days of receipt of Ecology's Informal Dispute Decision. The Formal Dispute Notice shall include a written statement of dispute setting forth: the nature of the dispute; the disputing Party's position with respect to the dispute; and the information relied upon to support its position.

D. The Section Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute (Decision on Dispute) within thirty (30) calendar days of receipt of the Formal Dispute Notice.

E. If Defendant finds Ecology's Regional Section Manager's decision unacceptable, Defendant may then request final management review of the decision. This request (Final Review Request) shall be submitted in writing to the Toxics Cleanup Program Manager within seven (7) calendar days of Defendant's receipt of the Decision on Dispute. The Final Review Request shall include a written statement of dispute setting forth: the nature of the dispute; the disputing Defendant's position with respect to the dispute; and the information relied upon to support its position.

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F. Ecology's Toxics Cleanup Program Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute (Final Decision on Dispute) within thirty (30) calendar days of receipt of the Final Review Request. The Toxics Cleanup Program Manager's decision shall be Ecology's final decision on the disputed matter.

2. If Ecology's Final Decision on Dispute is unacceptable to Defendant, Defendant has the right to submit the dispute to the Court for resolution. The Parties agree that one judge should retain jurisdiction over this case and shall, as necessary, resolve any dispute arising under this Decree. Under RCW 70A.305.070, Ecology's investigative and remedial decisions shall be upheld unless they are arbitrary and capricious.

3. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used. Where either party utilizes the dispute resolution process in bad faith or for purposes of delay, the other party may seek sanctions.

4. Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Decree, unless Ecology agrees in writing to a schedule extension or the Court so orders.

5. In case of a dispute, failure to either proceed with the work required by this Decree or timely invoke dispute resolution may result in Ecology's determination that insufficient progress is being made in preparation of a deliverable, and may result in Ecology undertaking the work under Section XXV (Implementation of Remedial Action).

XIV. AMENDMENT OF DECREE

1. The Parties may agree to minor changes to the work to be performed without formally amending this Decree. Minor changes will be documented in writing by Ecology.

2. Substantial changes to the work to be performed shall require formal amendment of this Decree. This Decree may only be formally amended by a written stipulation among the

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Parties that is entered by the Court, or by order of the Court. Ecology will provide its written consent to a formal amendment only after public notice and opportunity to comment on the formal amendment. Such amendment shall become effective upon entry by the Court. Agreement to amend the Decree shall not be unreasonably withheld by any party.

3. When requesting a change to the Decree, Defendant shall submit a written request to Ecology for approval. Ecology shall indicate its approval or disapproval in writing and in a timely manner after the written request is received. If Ecology determines that the change is substantial, then the Decree must be formally amended. Reasons for the disapproval of a proposed change to this Decree shall be stated in writing. If Ecology does not agree to the requested change, the disagreement may be addressed through the dispute resolution procedures described in Section XIV (Resolution of Disputes).

XV. EXTENSION OF SCHEDULE

1. Defendant's request for an extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion, generally at least thirty (30) days prior to expiration of the deadline for which the extension is requested, and good cause exists for granting the extension. All extensions shall be requested in writing. The request shall specify:

A. The deadline that is sought to be extended.

B. The length of the extension sought.

C. The reason(s) for the extension.

D. Any related deadline or schedule that would be affected if the extension were granted.

2. The burden shall be on Defendant to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Good cause may include, but may not be limited to:

A. Circumstances beyond the reasonable control and despite the due diligence of Defendant including delays caused by unrelated third parties or Ecology,

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such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by Defendant.

B. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other unavoidable casualty.

C. Endangerment as described in Section XVII (Endangerment).

3. However, neither increased costs of performance of the terms of this Decree nor changed economic circumstances shall be considered circumstances beyond the reasonable control of Defendant.

4. Ecology shall act upon any Defendant's written request for extension in a timely fashion. Ecology shall give Defendant written notification of any extensions granted pursuant to this Decree. A requested extension shall not be effective until approved by Ecology or, if required, by the Court. Unless the extension is a substantial change, it shall not be necessary to amend this Decree pursuant to Section XV (Amendment of Decree) when a schedule extension is granted.

5. At Defendant's request an extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. Ecology may grant schedule extensions exceeding ninety (90) days only as a result of one of the following:

A. Delays in the issuance of a necessary permit which was applied for in a timely manner.

B. Other circumstances deemed exceptional or extraordinary by Ecology.

C. Endangerment as described in Section XVII (Endangerment).

XVI. ENDANGERMENT

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

2. In the event Defendant determines that any activity being performed at the Site under this Decree is creating or has the potential to create a danger to human health or the environment, Defendant may cease such activities. Defendant shall notify Ecology's project coordinator as soon as possible, but no later than twenty-four (24) hours after making such determination or ceasing such activities. Upon Ecology's direction, Defendant shall provide Ecology with documentation of the basis for the determination or cessation of such activities. If Ecology disagrees with Defendant's cessation of activities, it may direct Defendant to resume such activities.

3. If Ecology concurs with or orders a work stoppage pursuant to this section, Defendant's obligations with respect to the ceased activities shall be suspended until Ecology determines the danger is abated, and the time for performance of such activities, as well as the time for any other work dependent upon such activities, shall be extended, in accordance with Section XVI (Extension of Schedule), for such period of time as Ecology determines is reasonable under the circumstances.

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

XVII. COVENANT NOT TO SUE

1. Covenant Not to Sue: In consideration of Defendant's compliance with the terms and conditions of this Decree, Ecology covenants not to institute legal or administrative actions against Defendant regarding the release or threatened release of hazardous substances at the Pulp/Tissue Mill RAU and Lignin Operable Unit (Settlement Area), as detailed in Exhibit A, which includes only the hazardous substances detailed in Section V.1.J. (Pulp/Tissue Mill RAU) and Section V.1.W. (Lignin Operable Unit). This Covenant Not to Sue does not cover any other hazardous substances or area. Ecology retains all of its authority relative to any hazardous substances or area not covered by this Decree.

This Covenant Not to Sue shall have no applicability whatsoever to:

A. Criminal liability.

B. Liability for damages to natural resources.

C. Any Ecology action, including cost recovery, against PLPs not a party to this Decree.

2. Pursuant to RCW 70A.305.040(4)(c), the Court shall amend this Covenant Not to Sue if factors not known at the time of entry of this Decree are discovered and present a previously unknown threat to human health or the environment.

3. Reopeners: Ecology specifically reserves the right to institute legal or administrative action against Defendant to require it to perform additional remedial actions at the Settlement Area and to pursue appropriate cost recovery, pursuant to RCW 70A.305.050, under any of the following circumstances:

A. Upon Defendant's failure to meet the requirements of this Decree.

B. Failure of the remedial action to meet the cleanup standards identified in either the Pulp/Tissue Mill RAU CAP (Exhibit B) or the Lignin CAP (Exhibit G).

C. Upon Ecology's determination that remedial action beyond the terms of this Decree is necessary to abate an imminent and substantial endangerment to human health or the environment.

D. Upon the availability of information previously unknown to Ecology regarding Settlement Area factors including the nature, quantity, migration, pathway, or mobility of hazardous substances, and Ecology's determination, in light of this information, that further remedial action is necessary at the Settlement Area to protect human health or the environment.

E. Upon Ecology's determination that additional remedial actions are necessary to achieve cleanup standards within the reasonable restoration time frame set forth in the Lignin CAP or the Pulp/Tissue Mill RAU CAP.

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4. Except in the case of an emergency, prior to instituting legal or administrative action against Defendant pursuant to this section, Ecology shall provide Defendant with fifteen (15) calendar days' notice of such action.

XVIII. CONTRIBUTION PROTECTION

1. With regard to claims for contribution against Defendant, the Parties agree that Defendant is entitled to protection against claims for contribution for matters addressed in this Decree as provided by RCW 70A.305.040(4)(d).

XIX. INDEMNIFICATION

1. To the extent permitted by law, Defendant agrees to indemnify and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action (1) for death or injuries to persons, or (2) for loss or damage to property to the extent arising from or on account of acts or omissions of Defendant, its officers, employees, agents, or contractors in entering into and implementing this Decree. However, Defendant shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action to the extent arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in entering into or implementing this Decree.

XX. COMPLIANCE WITH APPLICABLE LAWS

1. *Applicable Law.* All actions carried out by Defendant pursuant to this Decree shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in RCW 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 Decree have been identified in Exhibit I. Defendant has a continuing obligation to identify additional applicable federal, state, and local requirements which apply to actions carried out pursuant to this Decree, and to comply with those requirements. As additional federal, state, and local requirements are identified by Ecology

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or the Defendant, Ecology will document in writing if they are applicable to actions carried out pursuant to this Decree, and the Defendant must implement those requirements.

2. *Relevant and Appropriate Requirements.* All actions carried out by Defendant pursuant to this Decree 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 Decree. If additional relevant and appropriate requirements are identified by Ecology or the Defendant, Ecology will document in writing if they are applicable to actions carried out pursuant to this Decree and the Defendant must implement those requirements.

3. Pursuant to RCW 70A.305.090(1), Defendant 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, Defendant 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, the Parties agree that Ecology has the non-exclusive ability under this Decree to enforce those local government permits and/or approvals. The exempt permits or approvals and the applicable substantive requirements of those permits or approvals, as they are known at the time of the execution of this Decree, have been identified in Exhibit J.

4. Defendant 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 Decree. In the event either Ecology or Defendant determines that additional permits or approvals addressed in RCW 70A.305.090(1) would otherwise be required for the remedial action under this Decree, it shall promptly notify the other party of its determination. Ecology shall determine whether Ecology or Defendant shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, Defendant shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation

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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 Defendant and on how Defendant must meet those requirements. Ecology shall inform Defendant in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Decree. Defendant shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

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 Defendant 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 or approvals.

XXI. REMEDIAL ACTION COSTS

1. Defendant shall pay to Ecology costs incurred by Ecology pursuant to this Decree and consistent with WAC 173-340-550(2). These costs shall include work performed by Ecology or its contractors for, or on, the Pulp/Tissue Mill RAU or the Lignin Operable Unit under RCW 70A.305, including remedial actions and Decree preparation, negotiation, oversight, and administration. These costs shall include work performed both prior to and subsequent to the entry of this Decree. Ecology's costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2). For all costs incurred, Defendant 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

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receipt of the itemized statement of costs will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

2. 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.

XXII. IMPLEMENTATION OF REMEDIAL ACTION

1. If Ecology determines that the Defendant has failed to make sufficient progress or failed to implement the remedial action, in whole or in part, Ecology may, after notice to Defendant, perform any or all portions of the remedial action or at Ecology's discretion allow the Defendant opportunity to correct. In an emergency, Ecology is not required to provide notice to Defendant, or an opportunity for dispute resolution. The Defendant shall reimburse Ecology for the costs of doing such work in accordance with Section XXIV (Remedial Action Costs).

2. Except where necessary to abate an emergency situation or where required by law, the Defendant shall not perform any remedial actions at the Pulp/Tissue Mill RAU or the Lignin Operable Unit outside those remedial actions required by this Decree to address the contamination that is the subject of this Decree, unless Ecology concurs, in writing, with such additional remedial actions pursuant to Section XV (Amendment of Decree). In the event of an emergency, or where actions are taken as required by law, Defendant 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.

XXIII. PERIODIC REVIEW

1. So long as remedial action continues at the Pulp/Tissue Mill RAU and the Lignin Operable Unit, the Parties agree to review the progress of remedial action at the Pulp/Tissue Mill RAU or the Lignin Operable Unit, and to review the data accumulated as a result of monitoring the Pulp/Tissue Mill RAU or the Lignin Operable Unit as often as is necessary and appropriate under the circumstances. Unless otherwise agreed to by Ecology, at least every five (5) years

after the initiation of cleanup action at the Site the Parties shall confer regarding the status of the Pulp/Tissue Mill RAU or the Lignin Operable Unit and the need, if any, for further remedial action at the Pulp/Tissue Mill RAU or the Lignin Operable Unit. At least ninety (90) days prior to each periodic review, Defendant shall submit a report to Ecology that documents whether human health and the environment are being protected based on the factors set forth in WAC 173-340-420(4). Under Section XVIII (Covenant Not to Sue), Ecology reserves the right to require further remedial action at the Pulp/Tissue Mill RAU or the Lignin Operable Unit under appropriate circumstances. This provision shall remain in effect for the duration of this Decree.

XXIV. PUBLIC PARTICIPATION

1. Ecology shall maintain the responsibility for public participation at the Pulp/Tissue Mill RAU and the Lignin Operable Unit. However, Defendant shall cooperate with Ecology, and shall:

A. If agreed to by Ecology, develop appropriate mailing lists, prepare drafts of public notices and fact sheets at important stages of the remedial action, such as the submission of work plans, remedial investigation/feasibility study reports, cleanup action plans, and engineering design reports. As appropriate, Ecology will edit, finalize, and distribute such fact sheets and prepare and distribute public notices of Ecology's presentations and meetings.

B. Notify Ecology's project coordinator prior to the preparation of all press releases and fact sheets, and before major meetings related to remedial action work to be performed at the Pulp/Tissue Mill RAU or the Lignin Operable Unit with the interested public and/or local governments. Likewise, Ecology shall notify Defendant prior to the issuance of all press releases and fact sheets related to remedial action work to be performed at the Pulp/Tissue Mill RAU or the Lignin Operable Unit, and before major meetings related to remedial action work to be performed at the Pulp/Tissue Mill RAU or the Lignin Operable Unit with the interested public and/or local governments. For all

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press releases, fact sheets, meetings, and other outreach efforts by Defendant that do not receive prior Ecology approval, Defendant shall clearly indicate to its audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by Ecology.

C. When requested by Ecology, participate in public presentations on the progress of the remedial action at the Pulp/Tissue Mill RAU or the Lignin Operable Unit . Participation may be through attendance at public meetings to assist in answering questions, or as a presenter.

D. When requested by Ecology, arrange and/or continue information repositories at the following locations:

i. Bellingham Public Library
210 Central Avenue
Bellingham, Washington 98225

ii. Ecology's Bellingham Field Office
913 Squalicum Way, #101
Bellingham, Washington 98225

iii. Ecology's Northwest Regional Office
15700 Dayton Ave. N
Shoreline, Washington 98133

At a minimum, copies of all public notices, fact sheets, and documents relating to public comment periods shall be promptly placed in these repositories. A copy of all documents related to the Pulp/Tissue Mill RAU or the Lignin Operable Unit shall be maintained in the repository at Ecology's Bellingham Field Office in Bellingham, Washington.

XXV. DURATION OF DECREE

1. The remedial program required pursuant to this Decree shall be maintained and continued until Defendant has received written notification from Ecology that the requirements of this Decree have been satisfactorily completed. This Decree shall remain in effect until dismissed by the Court. When dismissed, Section XII (Retention of Records), Section XVII

(Covenant Not to Sue), and Section XVIII (Contribution Protection), Section XIX (Indemnification), and Section XXVI (Claims Against the State) shall survive.

XXVI. CLAIMS AGAINST THE STATE

1. Defendant hereby agrees that it will not seek to recover any costs accrued in implementing the remedial action required by this Decree from the State of Washington or any of its agencies; and further, that Defendant will make no claim against the State Toxics Control Account, the Local Toxics Control Account, the Environmental Legacy Stewardship Account, or a MTCA Cleanup Settlement Account for any costs incurred in implementing this Decree. Except as provided above, however, Defendant expressly reserves its right to seek to recover any costs incurred in implementing this Decree from any other PLP. This section does not limit or address funding that may be provided under WAC 173-322A.

XXVII. EFFECTIVE DATE

1. This Decree is effective upon the date it is entered by the Court.

XXVIII. WITHDRAWAL OF CONSENT

1. If the Court withholds or withdraws its consent to this Decree, it shall be null and void at the option of any party and the Complaint shall be dismissed without costs and without prejudice. In such an event, no party shall be bound by the requirements of this Decree.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Robert Warren

BARRY ROGOWSKI
Program Manager
Toxics Cleanup Program
360-407-7226

Acting Program Manager

Date: 8-16-22

ROBERT W. FERGUSON
Attorney General

JOHN A. LEVEL, WSBA # 20439
Assistant Attorney General
360-586-6753

Date: 8/16/22

PORT OF BELLINGHAM

ROBERT FIX
Executive Director
Port of Bellingham
360-676-2500

Date: 8/10/22

ENTERED this 10 day of August 2022.

JUDGE
Whatcom County Superior Court

PORT OF BELLINGHAM

_____

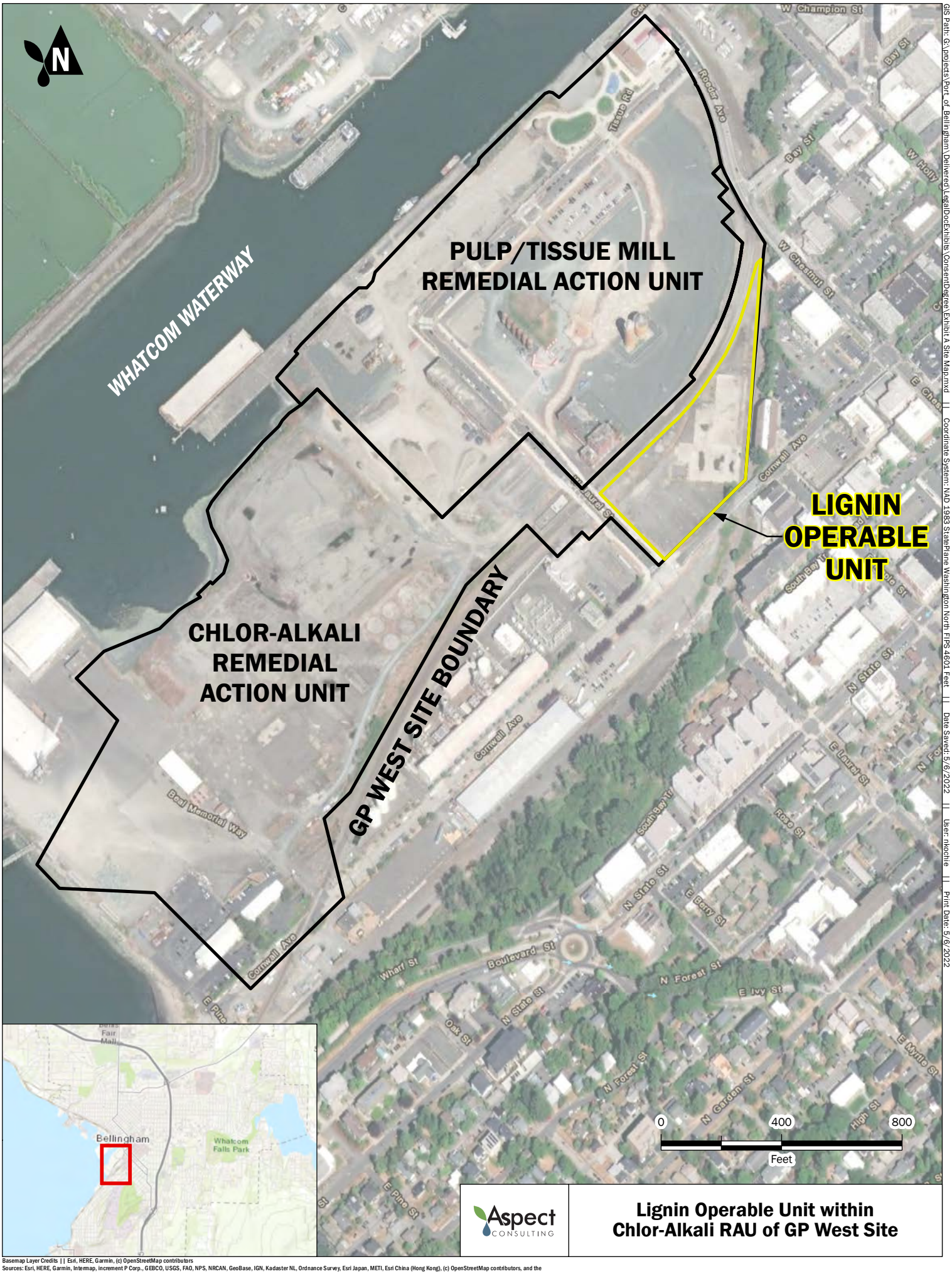
ROBERT FIX
Executive Director
Port of Bellingham
360-676-2500

Date: _____

ENTERED this 25th day of AUGUST 2022.

JUDGE ~~COMMISSIONER~~
Whatcom County Superior Court

Exhibit A



Aspect CONSULTING

Lignin Operable Unit within Chlor-Alkali RAU of GP West Site

GIS Path: G:\projects\Port_of_Bellingham\Delivered\LegalDocExhibits\ConsentDecree\Exhibit A Site Map.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 5/6/2022 || User: nkochle || Print Date: 5/6/2022

Exhibit B

CLEANUP ACTION PLAN, PULP/TISSUE MILL REMEDIAL ACTION UNIT

Georgia-Pacific West Site
Bellingham, Washington

October 30, 2014 Final

Washington State Department of Ecology
3190 160th Avenue Southeast
Bellevue, Washington 98008-545

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1 Introduction and Background

This Cleanup Action Plan (CAP) defines the cleanup action selected by the Washington State Department of Ecology (Ecology) for the portion of the Georgia-Pacific West Site (Site) referred to as the Pulp/Tissue Mill Remedial Action Unit (RAU). The Site is being cleaned up under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D of the Revised Code of Washington, and the Model Toxics Control Act Cleanup Regulation, Chapter 173-340 of the Washington Administrative Code (WAC).

The Port of Bellingham (Port) acquired the former Georgia-Pacific Mill property located at 300 West Laurel Street in Bellingham, Washington, in January 2005. In August 2009, Ecology and the Port entered into Agreed Order No. DE 6834 (Order), which requires the Port to perform a Remedial Investigation (RI) and a Feasibility Study (FS) for the Site. The Site is defined by the extent of contamination caused by the release of hazardous substances from the former industrial facility (refer to Figure 1).

In August 2013, a Site-wide RI was completed (Aspect, 2013) and an amendment to the Order separated the Site into the Pulp/Tissue Mill and Chlor-Alkali RAUs. Figure 1 shows the boundaries of the two RAUs. Remediation of contamination in the Chlor-Alkali RAU is expected to be considerably more complex than that in the Pulp/Tissue Mill RAU. The FS evaluations and selection/implementation of cleanup remedies for the two RAUs are now on separate tracks, which will allow cleanup and redevelopment at the Pulp/Tissue Mill RAU to proceed more quickly[1]. As such, the Chlor-Alkali RAU will be addressed in a separate CAP.

The RI identifies the following subareas of contamination within the Pulp/Tissue Mill RAU, which are shown on Figure 2:

- Bunker C subarea;
- Dioxin-Contaminated Debris subarea (within the Bunker C subarea footprint);
- Acid Plant subarea; and
- LP-MW01 subarea.

Soils in the Bunker C Subarea are impacted by carcinogenic polycyclic aromatic hydrocarbons (cPAHs) and total petroleum hydrocarbon (TPH) in the Bunker C oil range, including non-aqueous-phase liquid (NAPL). In addition, dioxins/furans are a concern in soils within a small portion of this subarea, which is designated the Dioxin-Contaminated Debris subarea. In late 2011, the Port conducted an interim action in the Bunker C Subarea pursuant to the amended Order. The interim action involved the excavation and off-site treatment/disposal of greater than 5,000 tons of TPH-impacted soil and debris from beneath the former Bunker C Tank and achieved soil cleanup levels within the excavation footprint (see Figure 2).

[1] The boundary between the two RAUs, which was originally defined in the Second Amendment to the Order, has been redrawn to further expedite cleanup at the Pulp/Tissue Mill RAU. Refer to Section 1 of the FS for the Pulp/Tissue Mill RAU (Aspect, 2014).

Soils in the Acid Plant subarea contain acidic (low) pH and elevated concentrations of metals, including arsenic, cadmium, copper, mercury, and lead. Shallow groundwater in the immediate vicinity and downgradient of these soils is acidic and impacted by dissolved metals at concentrations of concern based on marine protection. (As discussed in Section 4.2, RAU groundwater is nonpotable.) The RI data indicate that the dissolved metals are mobile due to the low groundwater pH, and that both metals concentrations and low pH attenuate naturally before the groundwater reaches the shoreline.

In the LP-MW01 subarea, vinyl chloride and tetrachloroethene (also known as perchloroethene or PCE) were detected in shallow groundwater from a single monitoring well at concentrations of concern based on vapor intrusion (VI) and marine protection. The RI data indicate that soil contamination above cleanup levels was not detected in this subarea, and that the extent of contaminant migration in groundwater is extremely limited due to natural attenuation.

The RI also identifies metals at concentrations of concern based on marine protection in shallow groundwater in the general vicinity of the LP-MW01 Subarea. The estimated extent of these elevated concentrations is labeled Miscellaneous Dissolved Metals Exceedances on Figure 2. In addition, soil throughout the Pulp/Tissue Mill RAU was found to contain widely scattered contaminant concentrations exceeding soil cleanup levels for unrestricted land use.

Detailed information is presented in the Site-wide RI (Aspect, 2013). Section 7 of the RI presents the conceptual site model for subareas within the Pulp/Tissue Mill RAU, which discusses contaminants of concern and their historical source(s), nature and extent of contamination, contaminant fate and transport, and environmental exposure pathways and receptors.

The FS for the Pulp/Tissue Mill RAU (Aspect, 2014) was completed in accordance with the amended Order. The FS, subject to public comment concurrent with this CAP, develops cleanup alternatives for the RAU and evaluates them with respect to criteria specified in the Washington State Model Toxics Control Act regulations (MTCA; Chapter 173-340 WAC). A "preferred alternative" was identified based on the results of that evaluation, which is the cleanup action selected for implementation.

This CAP describes the Ecology-selected cleanup action for the Pulp/Tissue Mill RAU and provides additional information in accordance with WAC 173-340-380(1)(a).

Consistent with Chapter 70.105D RCW, "Model Toxics Control Act", as implemented by Chapter 173-340 WAC, Model Toxics Control Act Cleanup Regulation", it is determined that the proposed cleanup actions are protective of human health and the environment, attain federal and state requirements that are applicable or relevant and appropriate, comply with cleanup standards, provide for compliance monitoring, use permanent solutions to the maximum extent practicable, provide for a reasonable restoration time frame, and consider public concerns raised during public comment.

2 Remedial Action Objectives

Remedial Action Objectives (RAOs) are specific goals for protecting human health and the environment. RAOs for the Pulp/Tissue Mill RAU were developed in the FS, and include the following:

- Prevent direct contact with, and erosion of, impacted soils throughout the RAU, which includes known contaminated soils within the Bunker C, Dioxin-Contaminated Debris, and Acid Plant subareas;
- Meet groundwater cleanup levels throughout the RAU;
- Within the Bunker C Subarea, prevent direct contact with TPH/cPAH-contaminated soils, and prevent the accumulation of NAPL for groundwater protection;
- Within the Dioxin-Contaminated Debris Subarea, prevent direct contact with, and erosion of, dioxin/furan-contaminated soils; and
- Within the Acid Plant Subarea, prevent direct contact with, and leaching of, metals-contaminated soils.

3 The Selected Cleanup Action

3.1 Description of Selected Cleanup Action

The selected cleanup action design concept is presented on Figure 3. The cleanup action consists of the following elements:

Soil Removal from the Bunker C Subarea. In addition to soils that were removed from beneath the former Bunker C Tank in the completed interim action, the cleanup action includes removal of all remaining soils with TPH concentrations exceeding 10,000 mg/kg (the subarea-specific residual saturation remediation level) from the Bunker C Subarea. These soils have an estimated in-place volume of 2,000 cubic yards (CY).

RAU-wide Capping. Capping to control soil direct-contact exposure and soil erosion pathways will consist of a combination of existing pavement and building foundations, new buildings and pavement, and new soil caps. Most of the RAU is currently capped with pavement and building foundations which, subject to long-term inspection and maintenance, should provide the required isolation of underlying contaminated soil to achieve environmental protection. Integration of the existing RAU surfaces - with repair, replacement, and installation of new cap materials and erosion controls as needed to achieve protectiveness - will constitute the RAU-wide cap pending redevelopment. When redevelopment modifies these conditions such that cap protectiveness is compromised, new capping would be implemented.

New hard caps will be composed of a minimum 3 inches of concrete, asphalt, paving blocks, or building foundations. New soil caps will be composed of a minimum 24

inches of uncontaminated soil cover with a geotextile separation layer to distinguish the capping material from the underlying soil. Uncontaminated soil may include RAU soil confirmed to meet applicable soil cleanup levels (soil reuse) as well as imported uncontaminated soil.

The redevelopment plans for the Port property include increasing grade elevation to mitigate the impact of potential sea level rise and to reduce the grade separation with the downtown Bellingham Central Business District. RAU grading will be designed to maintain the required remediation performance standards, and will be integrated with redevelopment aesthetics and drainage. It is anticipated that impacted soil generated during redevelopment projects can be reused beneath new capping systems. In general, soil generated from a defined project area can be subsequently reused beneath a new capping system within the same project area without additional chemical testing. Soil may be temporarily stockpiled for a time period of up to 2 years; however, Ecology must approve reuse of any material that is placed outside of the project area from which it is generated, based on chemical testing data for that material. In addition, material removed from the source area of the Acid Plant Subarea (low-pH, metals-contaminated soil; Figure 2., requires chemical testing and Ecology approval prior to any reuse of that material.

Proper management of potentially contaminated materials remaining beneath the RAU-wide cap after cleanup is necessary to ensure that future redevelopment-related activities are consistent with this CAP. The Contaminated Materials Management Plan (CMMP), included as an exhibit to the Pulp/Tissue Mill RAU Consent Decree, defines the procedures required for managing contaminated materials (soil, debris, and water) encountered during post-cleanup redevelopment-related activities, including chemical testing, and requirements for restoration of the RAU-wide cap if disturbed by redevelopment, within the Pulp/Tissue Mill RAU.

- **Monitored Natural Attenuation (MNA) of Groundwater.** MNA will be applied to address residual contamination in groundwater that exceeds applicable groundwater cleanup levels. Based on the RI data, the contaminants that exceed cleanup levels in upland groundwater include pH and selected metals in the Acid Plant Subarea, PCE and vinyl chloride in the LP-MW01 subarea, and selected metals in the Miscellaneous Dissolved Metals Exceedances area. Contaminants are expected to continue to naturally attenuate through a combination of sorption, bioattenuation, volatilization, dispersion, and tidal mixing. The RI data indicate that natural attenuation is effectively reducing concentrations of groundwater contaminants in each of these areas.
- Contingent actions will be considered for implementation if MNA fails to restore groundwater at a reasonable rate and is determined not to be protective of human health and the environment (remedy failure). Contingent actions could include enhanced source attenuation or downgradient groundwater treatment and/or control. Design of a contingent action would be conducted if potential failure of MNA is indicated based on groundwater compliance monitoring results, at which time substantial additional information would be available to determine the causes of failure and, therefore, the most effective and practicable means to remedy it.

- **Institutional Controls.** The Port and Ecology will develop an Institutional Controls Plan for the RAU that includes environmental covenants in accordance with WAC 173-340-440 and RCW 64.70. Institutional controls will:
- Provide notification regarding the presence of residual contaminated materials, and regulate the disturbance/management of those materials and the cleanup action components;
- Prohibit activities such as utility excavations or site grading that could cause preferential pathways for contaminant migration or run-off and sediment impacts to Whatcom Waterway;
- Prohibit extraction of groundwater for drinking or any other use;
- Provide for long-term monitoring and stewardship of the cleanup action;
- Require that VI potential be evaluated and/or VI controls constructed beneath future buildings in the LP-MW01 subarea if groundwater compliance monitoring indicates that vinyl chloride and PCE concentrations have not naturally attenuated to below cleanup levels in that subarea;
- Prohibit activities that may impact or interfere with the remedial action and any operation, maintenance, inspection or monitoring without prior written approval from Ecology;
- Prohibit activities that that may threaten continued protection of human health or the environment without prior written approval from Ecology;
- Prohibit conveyance of 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 the restrictive covenant;
- Restrict any lease for any portion of the Property to uses and activites consistent with the restrictive covenant and notify all lessees of the restrictions on the use of the Property; and
- Amendments to the restrictive covenant will require public comment and Ecology approval.

3.2 Contamination Remaining in the RAU

- The extent of contaminated soil and groundwater exceeding cleanup levels following completion of the Bunker C Subarea interim action was estimated in the FS (Aspect, 2014). As noted above, additional contaminated soils in the Bunker C subarea, with an estimated volume of 2,000 CY, will be removed under the selected cleanup action. Therefore, using the FS estimates as a basis, soil contamination exceeding cleanup levels for unrestricted land use (Table 1) will remain in the RAU as follows (refer to Figure 2):
- An estimated 4,600 CY of TPH-contaminated soil will remain in the Bunker C Subarea;

- An estimated 100 CY of dioxin-contaminated soil will remain in the Dioxin-Contaminated Debris Subarea; and
- An estimated 3,700 CY of soil with acidic pH and metals contamination will remain in the Acid Plant Subarea.
- In addition, soils throughout the 31-acre RAU contain scattered contaminant concentrations exceeding soil screening levels for unrestricted land use. These scattered exceedances occur from the existing ground surface down to an estimated average depth of 12 feet. This equates to an RAU-wide impacted soil volume of approximately 600,000 CY. Exposure to, and erosion of, contaminated soils remaining in the RAU following implementation of the cleanup action will be controlled through capping and institutional controls.
- With respect to groundwater, plumes exceeding cleanup levels (Table 1) will be present at the beginning of remedy implementation as follows (refer to Figure 2):
- Acidic pH and dissolved metals covering an estimated 2.1 acres in the Acid Plant Subarea;
- Dissolved vinyl chloride and PCE covering an area estimated at less than 0.1 acre in the LP-MW01 Subarea; and
- Dissolved metals covering an area estimated at 2.5 acres in the Miscellaneous Dissolved Metals Exceedances area.
- The RI data indicate that none of the plumes are approaching the shoreline, and that natural attenuation is effectively reducing contaminant concentrations in each of the plumes.

3.3 Other Remedial Alternatives Evaluated

The FS evaluates four remedial alternatives (Alternatives 1 through 4), the first of which corresponds to the selected cleanup action described above. Alternatives 2 and 3 would include the same remedial components as Alternative 1 but, in addition, would provide active treatment in the Acid Plant Subarea. In Alternative 2, a hydraulic cap would be installed over impacted vadose zone soils to control acidic leaching, and crushed limestone would be placed beneath the water table to provide *in situ* buffering of acidic groundwater. *In situ* buffering of acidic groundwater would also be provided in Alternative 3, but impacted vadose zone soils would be removed rather than capped.

Finally, the most aggressive remedial alternative, Alternative 4, involves removal and off-site disposal/reuse of contaminated soils throughout the RAU to a depth of 15 feet below ground surface (bgs), or deeper if needed to address groundwater risk.

3.4 Rationale for Selecting Cleanup Action

In the FS comparative evaluation, the four remedial alternatives were evaluated against the following MTCA criteria in accordance with WAC 173-340-360(2):

Threshold Criteria

- Protection of human health and the environment;

- Compliance with cleanup standards and applicable state and federal laws;
- Provision for compliance monitoring;

Other Criteria

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

It was determined that all four alternatives would meet the requirements of the "threshold criteria." Estimated restoration time frames, which range from 3–6 years in Alternative 4 to 16–36 years in Alternative 1, were all determined to be reasonable.

Consideration of public concerns is an inherent part of the cleanup process under MTCA. The FS report was issued for public review and comment along with this CAP. Ecology determined whether changes to the documents were needed in response to public comments.

A disproportionate cost analysis (DCA) was conducted to assess the extent to which the remedial alternatives would use permanent solutions to the maximum extent practicable. The DCA quantified the environmental benefits of each alternative, and then compared alternative benefits versus costs. Costs are disproportionate to benefits if the incremental cost of a more permanent alternative over that of a lower-cost alternative exceeds the incremental benefits achieved by the more permanent alternative. Based on the results of the DCA, Alternative 1 was determined to be the most cost effective. Therefore, under MTCA, Alternative 1 has been identified as the alternative that is permanent to the maximum extent practicable. Additional details on the DCA and the alternatives that were evaluated are included in the FS (Aspect Consulting 2014).

3.5 Compliance with WAC 173-340-360

The selected cleanup action complies with the provisions of WAC 173-340-360. It will be protective of human health and the environment, comply with cleanup standards and applicable state and federal laws, and provide for compliance monitoring.

All soils with TPH concentrations above the residual saturation remediation level (Aspect 2013) of 10,000 mg/kg TPH will be removed. Remaining soils with hazardous substance concentrations that exceed soil cleanup levels will be contained through capping. Institutional controls will provide notification regarding the presence of residual contaminated soils, regulate the disturbance/management of those soils and the cleanup action components, and provide for long-term monitoring and stewardship of the cleanup action. MNA will address residual contamination in groundwater that exceeds applicable groundwater cleanup levels, and a compliance monitoring plan will specify contingency actions to be considered in the event that potential contaminant migration is indicated.

As discussed above, the selected cleanup action is also considered to use permanent solutions to the maximum extent practicable, provides for a reasonable restoration time frame of 16-36 years, and considers public concerns.

3.6 Compatibility with Whatcom Waterway Remedial Activities

The Pulp/Tissue Mill RAU is adjacent to the Whatcom Waterway cleanup site, which has a cleanup remedy and schedule defined under a Consent Decree with Ecology. The selected cleanup action for the Pulp/Tissue Mill RAU has overlap with the planned cleanup of the Whatcom Waterway site, in terms of integrating the RAU-wide soil cap with planned capping of the south bank of the Whatcom Waterway. The cleanup action for the Pulp/Tissue Mill RAU is compatible with the Whatcom Waterway cleanup.

If the Whatcom Waterway cleanup is not initiated by the time the Pulp/Tissue Mill RAU cleanup is conducted, the upland area within the planned clarifier cutback footprint (planned for removal/regrading under the Whatcom Waterway cleanup) will be remediated consistent with the surrounding portion of the RAU (all part of the Bunker C Subarea).

4 Cleanup Standards

Cleanup standards consist of cleanup levels for hazardous substances present at a site, the location where cleanup levels must be met (point of compliance), and other regulatory requirements that apply to the site ("applicable state and federal laws"). Soil and groundwater cleanup standards applicable to the Pulp/Tissue Mill RAU are outlined below.

4.1 Soil

Table 1 lists soil cleanup levels and remediation levels for the soil contaminants identified in the RI. The standard point of compliance for the direct-contact exposure pathway (i.e., throughout the Site from the ground surface to 15 feet bgs) is not applicable to this containment (i.e., capping) remedy. Per WAC 173-340-700(4)(c):

> *Where a cleanup action involves containment of soils with hazardous substances above cleanup levels, the cleanup action may be determined to comply with cleanup standards provided the compliance monitoring program is designed to ensure the long-term integrity of the containment system, and the other requirements for containment in this chapter are met.*

Institutional controls shall be used to limit or prohibit activities that may interfere with the integrity of the cleanup action and provide inspection and maintenance of the RAU-wide cap to assure both the continued protection of human health and the environment.

4.2 Groundwater

Table 1 also lists groundwater cleanup levels for the groundwater contaminants identified in the RI. As described in Section 5.2 of the RI, the highest beneficial use of Site groundwater is discharge to marine water—not potable use. Under MTCA, however, the standard point of compliance for groundwater cleanup levels is throughout Site groundwater, regardless of whether the groundwater is potable (WAC 173-340-

720(8)(b)). As noted in Section 3.4, a restoration time frame of 16 to 36 years has been estimated for MNA to achieve groundwater cleanup levels throughout the RAU under the selected cleanup action. A groundwater compliance monitoring plan will be developed and implemented to evaluate the performance of the MNA remedy. The Groundwater MNA Monitoring Compliance Plan will present the locations of monitoring wells, monitoring frequency, location-specific monitoring analytes, and analytical methods.

Compliance with groundwater cleanup standards also encompasses the MTCA requirement to remove soil with NAPL exceeding residual saturation. This requirement will be addressed through removal of remaining soils with TPH concentrations exceeding the RAU-specific residual saturation remediation level (RI Section 7.5.2.1 Aspect 2013) of10,000 mg/kg for the Bunker C Subarea.

5 Applicable State and Federal Laws

Cleanup standards established for the Pulp/Tissue Mill RAU incorporate applicable state and federal laws and regulations in the form of chemical-specific regulatory criteria for soil and groundwater as described in Section 2.6 of the FS. In addition, there may be location- and action-specific requirements for completing a cleanup action.

In accordance with MTCA, the Port would be exempt from the procedural requirements of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 of the Revised Code of Washington (RCW), and of any laws requiring or authorizing local government permits or approvals. However, the Port must still comply with the substantive requirements of such permits or approvals (WAC 173-340-520). The permits, approvals, and substantive requirements that are known at this time to apply to the selected cleanup action are listed as an exhibit to the Consent Decree.

6 Cleanup Implementation Schedule

A schedule of deliverables will be included as an exhibit to the Consent Decree. However, it is anticipated that cleanup implementation will generally proceed according to the following schedule:

- Complete pre-design investigation and then design of the cleanup action construction components (i.e., TPH-impacted soil removal from the Bunker C Subarea and RAU-wide capping) within 12 months of Consent Decree execution;
- Complete soil removal from the Bunker C Subarea and initiate RAU-wide capping within 24 months of Consent Decree execution;
- Develop a Groundwater MNA Compliance Monitoring Plan within 10 months and initiate compliance monitoring within 24 months[2] of Consent Decree execution; and
- Develop and initiate implementation of an Institutional Controls Plan within 30 months of Consent Decree execution.

Groundwater MNA compliance monitoring will continue until groundwater cleanup levels are achieved throughout the Site. The FS estimated that this may take up to 36 years, with the limiting factor being groundwater natural attenuation in the Acid Plant Subarea.

Post-cleanup property redevelopment will maintain the RAU-wide cap by replacing the capped surfaces with new redevelopment elements (pavements, building foundations, and new soil caps). Therefore, the Institutional Controls Plan will include controls to prevent direct contact with, and erosion of, impacted soils in the interim. Requirements for periodic inspection and maintenance of the RAU-wide cap will also likely be detailed in the Institutional Controls Plan. These requirements would remain in effect in perpetuity.

7 References

Aspect, 2013, Remedial Investigation, Georgia-Pacific West Site, Bellingham, August 5, 2013, Final, Volume 1 of RI/FS.

Aspect, 2014, Feasibility Study, Pulp/Tissue Mill Remedial Action Unit, Vol. 2a of RI/FS, Georgia-Pacific West Site, Bellingham, Washington, April 15, 2014, Draft Final.

[2] Initiated after completion of RAU-wide capping to avoid potential destruction of newly installed monitoring wells during capping.

TABLES

Table 1 - Soil and Groundwater Cleanup and Remediation Levels

Pulp/Tissue Mill RAU Cleanup Action Plan, GP West Site

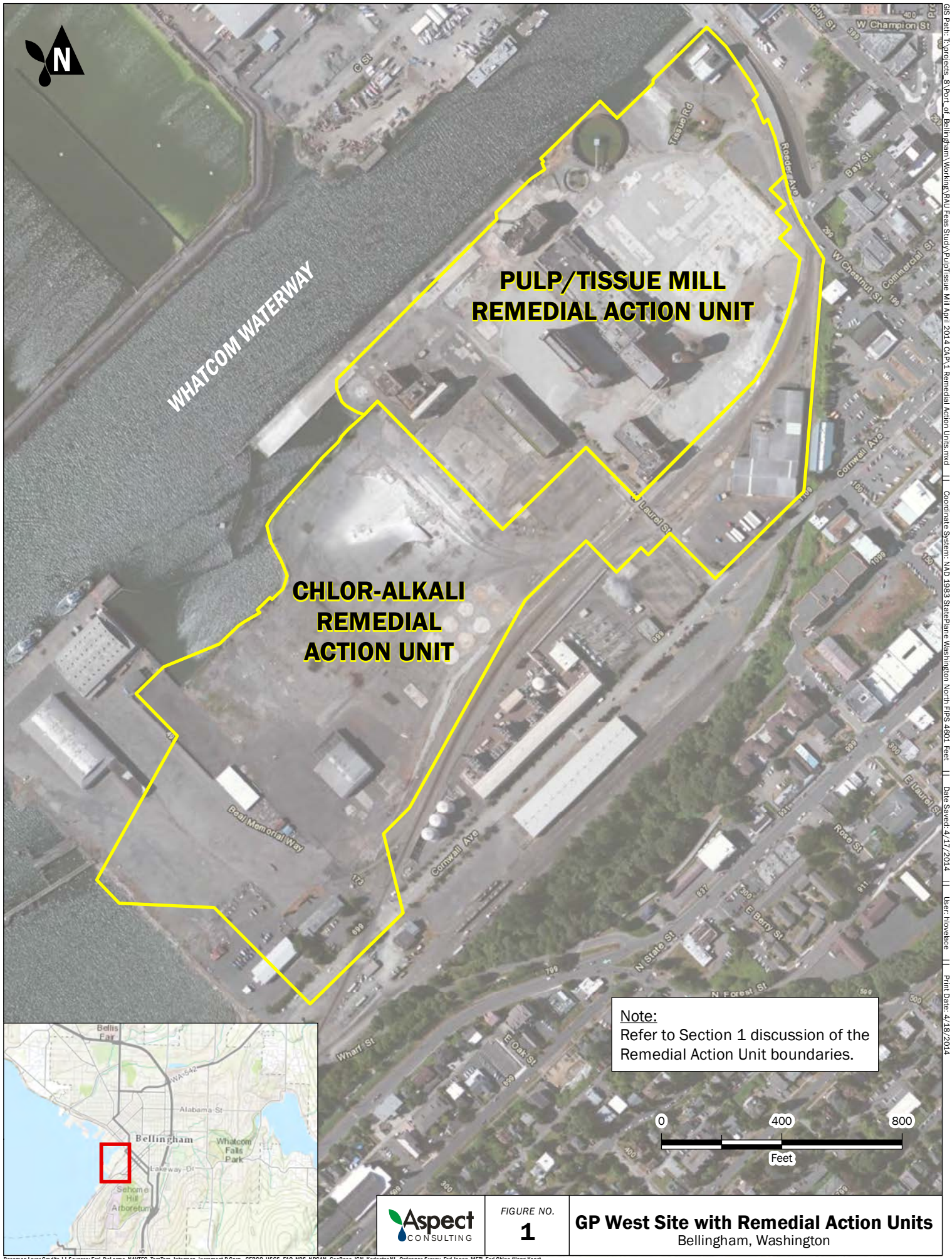
Constituent of Concern	Soil Cleanup Level (mg/kg)		Soil Remediation Level (mg/kg)	Groundwater Cleanup Level (µg/L)
	Unsaturated Soil	Saturated Soil		
Total Petroleum Hydrocarbon (TPH)				
Diesel-Range TPH	2,000	2,000		--
Oil-Range TPH	2,000	2,000		--
Bunker C in Bunker C Subarea	3,100	3,100	10,000	--
Heavy Metals				
Arsenic	20	20		5
Cadmium	1.2	1		8.8
Chromium (Total)	5,200	260		260
Copper	36	36		3.1
Lead	250	81		8.1
Mercury	2	0.1		0.059
Nickel	48	48		8.2
Selenium	7.4	1		71
Silver	0.32	0.02		1.9
Zinc	100	85		81
Volatile Organic Compounds				
cis-1,2-Dichloroethene (DCE)	2.5	0.14		--
Tetrachloroethene (PCE)	0.3	0.015		3.3
Trichloroethene (TCE)	0.056	0.005		1.5
Vinyl chloride	0.006	0.005		0.5
Polycyclic Aromatic Hydrocarbons (PAHs)				
Acenaphthene	5.2	0.26		3.3
Anthracene	71	3.5		9.6
Fluoranthene	52	2.6		3.3
Fluorene	7.4	0.37		3
Pyrene	330	16		15
1-Methylnaphthalene	35	35		--
2-Methylnaphthalene	320	320		--
Naphthalene	32	1.6		83
Benz(a)anthracene	1.4	0.12		0.02
Benzo(a)pyrene	0.14	0.14		0.02
Benzo(b)fluoranthene	1.4	0.38		0.02
Benzo(k)fluoranthene	7.7	0.38		0.02
Chrysene	2.6	0.13		0.02
Dibenzo(a,h)anthracene	0.14	0.14		0.02
Indeno(1,2,3-cd)pyrene	1.4	1.1		0.02
Total cPAHs (TEQ)[(2)]	0.14	0.14		0.02
Dioxins/Furans				
Total 2,3,7,8 TCDD (TEQ)	1.3E-05	1.3E-05		1.0E-05 [(3)]
Conventionals				
pH (in Standard pH Units)	>2.5 and <11.0	>2.5 and <11.0		>6.2 and <8.5

cPAH carcinogenic PAH
mg/kg milligrams per kilogram
TCDD tetrachlorodibenzodioxin
TEQ toxic equivalent
µg/L micrograms per liter

Notes:

1. Refer to Section 5 of the remedial investigation report (Aspect, 2013) for derivation of soil and groundwater screening levels that are adopted as cleanup levels and remediation levels for unrestricted land use.
2. The Total cPAHs (TEQ) is calculated from the concentrations of seven cPAHs using the toxicity equivalency factor method described in WAC 173-340-708. The groundwater cleanup level for Total cPAHs (TEQ) is the practical quantitation limit (PQL).
3. The groundwater cleanup level for dioxins/furans (Total 2,3,7,8 TCDD (TEQ)) is the PQL.

FIGURES



Note:
Refer to Section 1 discussion of the Remedial Action Unit boundaries.

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FIGURE NO.
1

GP West Site with Remedial Action Units
Bellingham, Washington

Basemap Layer Credits | | Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

GIS Path: T:\projects_8\Port_of_Bellingham\Working\RAU Feas Study\Pulp\Tissue Mill April 2014 CAP\1 Remedial Action Units.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 4/17/2014 || User: hlovelace || Print Date: 4/18/2014

Bunker C Subarea

Whatcom Waterway

Shoreline Cutback (Whatcom Waterway Cleanup)

Dioxin-Contaminated Debris Subarea

Acid Plant Subarea

Miscellaneous Dissolved Metals Exceedances

LP-MW01 Subarea

BNSF

MILL NORTH

TRUE NORTH

45°

0 75 150 300 450 600 Feet

- Property Boundaries from ALTA Survey (David Evans and Assoc., 2004)
- Bunker C Tank Interim Action Excavation (completed 2011; meets cleanup levels)
- Bunker C Subarea
- Soil Dioxin/Furans > Unrestricted Cleanup Level
- Soil Bunker C > Unrestricted Cleanup Level
- Soil Bunker C > 10,000 mg/kg
- Soil Acidic pH and Total Metals > Unrestricted Cleanup Levels
- Groundwater Miscellaneous Dissolved Metals Exceedances
- Groundwater Acidic pH and Dissolved Metals Exceedances
- Groundwater PCE/Vinyl Chloride Exceedance
- Soil Miscellaneous Contaminants > Unrestricted Cleanup Levels

Areas Exceeding Cleanup Levels

Pulp/Tissue Mill RAU Cleanup Action Plan
GP West Site, Bellingham, WA

Aspect CONSULTING	OCT-2014	BY: SJG / HRL	FIGURE NO. 2
	PROJECT NO. 070188	REVISED BY: DAH / HRL / RAA	

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Whatcom Waterway

Shoreline Cutback
(Whatcom Waterway Cleanup)

Interim action removed Bunker C contaminated soil to meet cleanup levels.

Removal of soil with Bunker C TPH > residual saturation limit. Includes contingent *in situ* solidification/stabilization if removal is impracticable.

Monitored Natural Attenuation for Acid Plant, LP-MW01, and Miscellaneous Dissolved Metals Subareas. Includes Contingent Actions if MNA remedy is insufficient.

RAU-wide soil capping to prevent human and terrestrial ecological exposure, and to prevent soil erosion. Capping can include the existing pavement and building foundations, in combination with future development capping (buildings, pavement, and/or soil cover). Development capping of areas that are not currently an impervious surface will proceed according to the Shoreline Master Program.

Stormwater collection and off-site conveyance will be required.

Institutional controls will ensure long-term integrity of the cap, define soil management protocols and associated worker safety requirements, and prohibit use of groundwater.

BNSF

MILL NORTH

TRUE NORTH

45

0 75 150 300 450 600 Feet

- RAU-Wide Cap
- Bunker C Tank Interim Action Excavation (no further action)
- Suspected Soil with Bunker C > Residual Saturation Limit
- Acid Plant Subarea Soil
- Acid Plant Subarea Groundwater
- LP-MW01 Subarea Groundwater
- Miscellaneous Dissolved Metals Exceedances
- Property Boundaries from ALTA Survey (David Evans and Assoc., 2004)

Selected Cleanup Action

Pulp/Tissue Mill RAU Cleanup Action Plan
GP West Site, Bellingham, WA

Aspect CONSULTING	OCT-2014	BY: SJG / HRL	FIGURE NO. 3
	PROJECT NO. 070188	REVISED BY: ---	

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Exhibit C

Exhibit C
Schedule of Deliverables
Consent Decree for Pulp/Tissue Mill RAU, Georgia-Pacific West Site

Deliverables/Milestone		Schedule
A. Administrative		
A.1	Lodge Consent Decree in Court (CD Effective Date)	Within 30 days of execution by Port and Ecology
A.2	Progress Reports to Ecology	For first three years following CD Effective Date, quarterly on the 15th of the month beginning after CD Effective Date. Thereafter, annually on the CD anniversary date.
B. Bunker C Subarea Soil Removal and RAU-wide Capping		
B.1	Draft Pre-Design Characterization Plan	Submit to Ecology within 60 days of CD Effective Date (A.1)
B.2	Final Pre-Design Characterization Plan	Submit to Ecology within 30 days following Ecology approval of draft (B.1)
B.3	Pre-Design Site Characterization	Complete within 90 days from Final Pre-Design Characterization Plan (B.2)
B.4	Draft EDR for Bunker C Subarea Soil Removal + RAU-Wide Capping	Submit to Ecology within 60 days following completion of pre-design characterization (B.3)
B.5	Final EDR for Bunker C Subarea Soil Removal + RAU-Wide Capping	Submit to Ecology within 30 days following Ecology approval of draft (B.4)
B.6	Draft CPS for Bunker C Subarea Soil Removal + RAU-Wide Capping	Submit to Ecology within 60 days of Final EDR for Bunker C Soil Removal (B.5)
B.7	Final CPS for Bunker C Subarea Soil Removal + RAU-Wide Capping	Submit to Ecology within 30 days following Ecology approval of draft (B.6)
B.8	Draft CMP for Bunker C Subarea Soil Removal + RAU-Wide Capping	Submit to Ecology with Draft CPS (B.6)
B.9	Final CMP for Bunker C Subarea Soil Removal + RAU-Wide Capping	Submit to Ecology with Final CPS (B.7)
B.10	Bunker C Subarea Soil Removal + RAU-Wide Capping Construction	Complete within 240 days from Final CPS (B.7)
B.11	Draft As-Built Report for Bunker C Soil Removal + RAU-Wide Capping	Submit to Ecology within 60 days of completion of construction (B.10)
B.12	Final As-Built Report for Bunker C Soil Removal + RAU-Wide Capping	Submit to Ecology within 30 days following Ecology approval of draft As-Built Report (B.11)
C. Environmental Covenants		
C.1	Draft Environmental Covenant(s) and Draft Cap IMP	Submit to Ecology with Final As-Built Report (B.12)
C.2	Final Environmental Covenant(s) and Final Cap IMP	Submit to Ecology within 30 days following Ecology approval of drafts (C.1)

C.3	Proof of recording of Environmental Covenant(s)	Submit to Ecology within 30 days following Final Environmental Covenant(s) and Cap IMP (C.2)
D. Groundwater MNA		
D.1	Draft Groundwater MNA Compliance Monitoring Plan	Submit to Ecology within 30 days of pre-design characterization (confirm groundwater quality) (B.3)
D.2	Final Groundwater MNA Compliance Monitoring Plan	Submit to Ecology within 30 days following Ecology approval of draft (D.1)
D.3	Groundwater MNA Compliance Monitoring Implementation	Start within 30 days of completing RAU-wide cap construction (B.10)
D.4	Draft Annual Groundwater MNA Report	Submit to Ecology annually within 60 days after receipt of current year's analytical data
D.5	Final Annual Groundwater MNA Report	Submit to Ecology within 30 days following Ecology approval of draft (D.4)

Notes:
Dates falling on weekends or holidays will be the following business day.

Abbreviations: CD: Consent Decree; CMP: Compliance Monitoring Plan; CPS: Constructions Plans & Specifications; EC: Environmental Covenant; EDR: Engineering Design Report; IMP: Inspection & Maintenance Plan; MNA: Monitored Natural Attenuation (for groundwater); RAU: Remedial Action Unit.

Exhibit D

CONTAMINATED MATERIALS MANAGEMENT PLAN

Pulp/Tissue Mill Remedial Action Unit, G-P West Site

Prepared for: Port of Bellingham

Project No. 070188-001-22 • June 19, 2014 Final

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earth + water

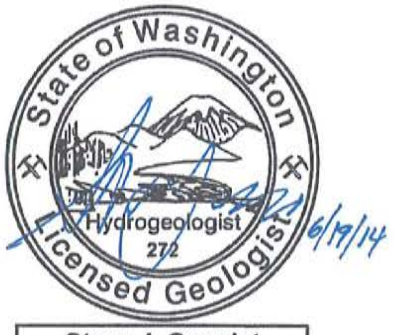
CONTAMINATED MATERIALS MANAGEMENT PLAN

Pulp/Tissue Mill Remedial Action Unit, G-P West Site

Prepared for: Port of Bellingham

Project No. 070188-001-22 • June 19, 2014 Final

Aspect Consulting, LLC



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1 Introduction

This Contaminated Materials Management Plan (CMMP) presents general procedures for handling and management of potentially contaminated materials (soil, debris, groundwater) generated by construction-related activities during redevelopment of the Pulp/Tissue Mill Remedial Action Unit (PTM RAU) within the Georgia-Pacific West Site (Site) in Bellingham, Washington (Figure 1).

The Site is being cleaned up under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D of the Revised Code of Washington, and the MTCA Cleanup Regulation, Chapter 173-340 of the Washington Administrative Code (WAC). Cleanup of the PTM RAU in accordance with MTCA is legally required under a Consent Decree between the Port of Bellingham (Port) and Washington Department of Ecology (Ecology). Ecology's selected cleanup action is defined in their Cleanup Action Plan (CAP) for the PTM RAU (Ecology, 2014), which is an exhibit to the Consent Decree (CD). The cleanup action includes an environmental covenant(s) which requires that future activities within the RAU not compromise the protectiveness of the cleanup action defined in the CAP.

The PTM RAU is located within the Bellingham Waterfront District master-planned redevelopment area. It is anticipated that the Port will sell and/or lease property within the PTM RAU to entities for redevelopment, subject to the Waterfront District Subarea Plan (Port of Bellingham and City of Bellingham, 2013) and its development regulations. The environmental covenant(s) required by the CAP is legally applicable to the future Owners of properties within the PTM RAU including the Port.

A property owner or tenant (hereafter collectively termed "Proponent") conducting redevelopment-related activities on property within the PTM RAU will be required to comply with this CMMP and all other provisions of the CD and environmental covenant(s) so as to not interfere with the effectiveness of Ecology's selected cleanup action. Therefore, Proponents must integrate the provisions of this CMMP into their design specifications and implementation for future redevelopment-related projects anywhere within the PTM RAU. Proponents will also be responsible for securing any and all permits required for their redevelopment projects.

1.1 Purpose of this Document

This CMMP describes the procedures for managing contaminated materials (soil, debris, and water) encountered during all post-cleanup redevelopment-related activities (construction, maintenance, etc.) within the PTM RAU. Proper management of contaminated materials is necessary to ensure that future redevelopment-related activities are consistent with Ecology's CAP. Additional requirements may also be imposed on future redevelopment to comply with other regulatory programs or contract requirements.

Specific objectives of this CMMP specific to the PTM RAU are to:

- Provide a brief overview of environmental conditions and the selected cleanup action, with reference to documents providing additional detail;
- Define regulatory requirements for health and safety when workers are conducting activities that will encounter contaminated subsurface materials; and
- Provide protocols for managing contaminated materials generated during redevelopment-related activities to meet requirements of the CAP and applicable laws, regulations, ordinances, and permits.

By incorporating this CMMP into the CD for cleanup of the PTM RAU, future redevelopment-related activities covered under the CMMP and conducted consistent with the requirements of the environmental covenant(s) will be considered pre-approved by Ecology. However, prior notification to Ecology and the Port is required for all redevelopment activities that will breach the CAP-required surface cap and disturb potentially contaminated materials beneath it (Section 3.1 defines notification requirements).

An assumption inherent to this CMMP, consistent with the CAP, is that all subsurface materials within the entire PTM RAU are potentially contaminated, thus requiring an environmental surface cap across the entire RAU (RAU-wide cap) as a component of the cleanup action (described in Section 1.3). However, for a given redevelopment-related project, if supplemental environmental sampling and analysis performed by a Proponent demonstrates to Ecology's satisfaction that materials to be disturbed during the project are not contaminated relative to applicable cleanup standards, this CMMP's requirements for management of contaminated materials may not apply. However, any cleanup-related elements, including but not limited to the RAU-wide cap, that are disturbed by the Proponent's activities must be restored as needed to fully meet the remediation performance standards of the CAP (refer to Section 3.6). In addition, if an area is documented by a Proponent to be uncontaminated, contaminated materials from other areas cannot be placed there.

1.2 Description of PTM RAU

The Remedial Investigation (RI; Aspect, 2013) and Feasibility Study (FS; Aspect, 2014) for the Site identify low-level contamination throughout the entire PTM RAU, as well as the following localized contaminant areas (subareas) within the PTM RAU which are shown on Figure 1:

- Bunker C subarea;
- Dioxin-Contaminated Debris subarea (within the Bunker C subarea footprint);
- Acid Plant subarea; and
- LP-MW01 subarea.

Soils in the Bunker C subarea are impacted by carcinogenic polycyclic aromatic hydrocarbons (cPAHs) and total petroleum hydrocarbon (TPH) in the Bunker C oil range, including non-aqueous-phase liquid (NAPL). In addition, dioxins/furans are a contaminant of concern in soils within a small portion of this area, which is designated the Dioxin-Contaminated Debris subarea. In late 2011, the Port conducted an interim action in the Bunker C subarea, which involved the excavation and off-site disposal of greater than 5,000 tons of TPH-impacted soil and debris from beneath the former Bunker C oil tank (excavation area denoted on Figure 1).

Soils in the Acid Plant subarea contain acidic pH and metals (including arsenic, cadmium, copper, mercury, and lead) at concentrations exceeding cleanup levels. Shallow groundwater in the immediate vicinity and downgradient of these soils is acidic and impacted by dissolved metals at concentrations of concern based on marine protection (Site groundwater is non-potable). The RI data indicate that the dissolved metals are mobile due to the low groundwater pH, and that metals concentrations and low pH attenuate naturally before the groundwater reaches the shoreline.

In the LP-MW01 subarea, vinyl chloride and tetrachloroethene (aka perchloroethene or PCE) were detected in shallow groundwater from a single monitoring well at concentrations of concern based on vapor intrusion (VI) and marine protection. Soil contamination above cleanup levels was not detected in this subarea, and the extent of contaminant migration in groundwater is extremely limited due to natural attenuation.

The RI also identifies metals at concentrations of concern based on marine protection in shallow groundwater in the general vicinity of the LP-MW01 subarea. The estimated extent of these elevated concentrations is labeled Miscellaneous Dissolved Metals Exceedances on Figure 1.

In addition, soil at scattered locations throughout the PTM RAU was found to contain contaminant concentrations (e.g., cPAHs, heavy metals) exceeding soil cleanup levels for unrestricted land use. Although it is possible that not all subsurface materials within the PTM RAU are contaminated, it is assumed for purposes of the CAP and this CMMP that they are contaminated (unless demonstrated otherwise by chemical testing), thus requiring proper management if disturbed.

The depth to groundwater within the PTM RAU ranges from 1 to 10 feet below ground surface and it varies with season and, near the Waterway, with the tides.

Detailed information regarding subsurface conditions and contaminant distribution is presented in the Site RI (Aspect, 2013). Specifically, Section 7 of the RI presents the conceptual site model for each subarea, which discusses contaminants of concern and their historical source(s), nature and extent of contamination, contaminant fate and transport, and environmental exposure pathways and receptors. In addition, the Bunker C Tank Interim Action Report (Aspect, 2012) describes the methods and results from that interim action cleanup.

1.3 Summary of Ecology's Selected Cleanup Action

Ecology's selected cleanup action for the PTM RAU consists of the following elements, as illustrated on Figure 2:

Soil Removal from the Bunker C Subarea. In addition to soils that were removed from beneath the former Bunker C Tank during the completed interim action, the cleanup action includes removal of all remaining soils with TPH concentrations exceeding 10,000 mg/kg (subarea-specific remediation level) from the Bunker C subarea.

RAU-wide Capping. Capping to control soil direct-contact exposure and soil erosion pathways will consist of a combination of existing pavement and building foundations, new buildings and pavement, and new soil caps. Much of the PTM RAU is currently capped with pavement and building foundations that, subject to long-term, ongoing inspection and maintenance, should provide the required isolation of underlying contaminated soil to achieve environmental protection. Integration of the existing RAU surfaces - with repair, replacement, and installation of new cap materials and erosion controls as needed to achieve protectiveness - will constitute the RAU-wide cap. When redevelopment-related activities modify these conditions such that cap protectiveness is compromised, new capping would need to be implemented.

Specific capping design will be presented in an Engineering Design Report as required by the CD; however, it is anticipated that new hard caps will be composed of a minimum 3 inches of concrete, asphalt, paving blocks, or building foundations. New soil caps will be composed of a minimum 24 inches of uncontaminated soil cover over a geotextile separation layer to distinguish the capping material from the underlying soil. Soil in the cap may include RAU soil confirmed to meet applicable soil cleanup levels as well as imported, uncontaminated soil.

Beyond the CAP requirements, the redevelopment plans for the PTM RAU include increasing grade elevation to mitigate the impact of potential sea level rise and to reduce the grade separation with the downtown Bellingham Central Business District. PTM RAU grading will be designed to maintain the required remediation performance standards, and will be integrated with redevelopment aesthetics and site drainage. Impacted soil from development projects may be temporarily stockpiled for a time period of up to 2 years, with subsequent reuse beneath new capping constructed within the project area or as part of other projects within the Site, subject to the provisions of this CMMP. All soil to be stockpiled temporarily for reuse will be managed to ensure protectiveness.

Ecology must approve reuse of any material that is placed on Site outside of the project area from which it is generated, based on chemical testing data for that material. In addition, material removed from the source area of the Acid Plant subarea (low-pH, metals-contaminated soil; Figure 1), requires chemical testing and Ecology approval prior to on Site reuse of that material.

Monitored Natural Attenuation (MNA) of Groundwater. MNA will be applied to address residual contamination in groundwater that exceeds applicable groundwater cleanup levels. Based on the RI data, cleanup level exceedances include selected metals and acidic pH in the Acid Plant subarea, PCE and vinyl chloride in the LP-MW01 subarea, and selected metals in the Miscellaneous Dissolved Metals Exceedances area. Contaminants are expected to continue to naturally attenuate through a combination of sorption, bioattenuation, volatilization, dispersion, and tidal mixing. The RI data indicate

that natural attenuation is effectively reducing concentrations of groundwater contaminants in each of these areas.

Contingent actions will be considered for implementation if MNA fails to restore groundwater at a reasonable rate and is determined by Ecology to not be protective of human health and the environment.

Institutional Controls. Following completion of the CAP-required cleanup construction, the Port and Ecology will develop an Institutional Controls Plan for the PTM RAU that includes environmental covenants in accordance with WAC 173-340-440 and RCW 64.70. It is anticipated that institutional controls will:

- Notify Proponents of the presence of residual contaminated materials, and regulate the disturbance and management of those materials and the cleanup action components;
- Require project specific design to reduce risk of creating preferential pathways for contaminant migration or run-off and sediment impacts to Whatcom Waterway (e.g., utility excavations or site grading);
- Prohibit extraction of groundwater for drinking or any other use. Groundwater extraction for construction dewatering is allowed, but that is not a beneficial use of water;
- Provide for long-term monitoring and stewardship of the cleanup action; and
- Require that VI potential be evaluated and/or VI controls constructed beneath future buildings in the LP-MW01 subarea if groundwater compliance monitoring indicates that vinyl chloride and PCE concentrations have not naturally attenuated to below cleanup levels in that subarea.

1.4 Residual Contaminants of Potential Concern

Data collected within the PTM RAU indicate that, following completion of the active cleanup measures, contaminants of potential concern (COPC) that will remain in soil at concentrations exceeding MTCA unrestricted cleanup levels include (Figure 1):

- An estimated 4,600 cubic yards (CY) of TPH-contaminated soil will remain in the Bunker C subarea;
- An estimated 100 CY of dioxin-contaminated soil will remain in the Dioxin-Contaminated Debris subarea; and
- An estimated 3,700 CY of soil with acidic pH and metals contamination will remain in the Acid Plant subarea.

In addition, soils in areas scattered throughout the 31-acre PTM RAU contain COPC concentrations exceeding soil cleanup levels for unrestricted land use. These soils occur from the existing ground surface down to an estimated average depth of 12 feet. This equates to an RAU-wide impacted soil volume of approximately 600,000 CY. Contaminants are assumed to be present beneath the RAU-wide cap in subsurface materials anywhere outside of soil excavation areas (Bunker C subarea) within the PTM RAU.

Groundwater contamination exceeding cleanup levels at the beginning of cleanup implementation includes (Figure 1):

- Acidic pH and dissolved metals covering an estimated 2.1 acres in the Acid Plant subarea;
- Dissolved vinyl chloride and PCE covering an area estimated at less than 0.1 acre in the LP-MW01 subarea; and
- Dissolved metals covering an area estimated at 2.5 acres in the Miscellaneous Dissolved Metals Exceedances area.

1.4.1 Subsurface Debris and Structures

Excavation or grading below the RAU-wide cap may encounter subsurface debris and structures associated with the former pulp and tissue mill. Such material may include foundation elements (footings, slabs, grade beams, pile caps, piles, etc.), utilities (stormwater catch basins and pipelines, water supply pipelines, sewer pipelines, etc.), and/or process components (pipelines, utility corridors, etc.). Subsurface debris and structures should be presumed to be impacted by the same contaminants as the immediately surrounding soil, and must be handled and managed consistent with the procedures prescribed in this CMMP. Structures that appear to be process components should be handled with greater care, as they may contain higher concentrations of contaminants.

Section 3.7 addresses procedures to be followed if redevelopment-related excavation activities encounter a previously unknown occurrence of hazardous substances.

2 Worker Health and Safety Requirements

Contractors conducting subsurface work within the PTM RAU are solely responsible for all matters relating to the health and safety of their employees and subcontractors while working within the RAU.

It is known that residual contamination exists in subsurface materials (soil, debris, and groundwater) throughout the PTM RAU, beneath the RAU-wide cap, at concentrations that may pose a risk to worker safety. Therefore, any contractor(s) conducting work that will disturb subsurface materials within the PTM RAU must prepare a Site Health and Safety Plan in accordance with OSHA 29 CFR 1910.120 and other applicable federal, state, or local laws or regulations.

Contractors' workers that engage in activities which could expose them to potentially hazardous substances, dangerous conditions, or other health hazards, must comply with 29 CFR 1910.120 and applicable federal, state, and local laws and regulations; this includes but is not limited to having the necessary health and safety training and performing work in accordance with their Site Health and Safety Plan and applicable regulations.

3 Requirements for Management of Contaminated Materials

This section describes the requirements that apply to any post-cleanup activities which breach the PTM RAU-wide cap and disturb underlying potentially contaminated materials. As stated in Section 1.1, if a Proponent demonstrates to the satisfaction of Ecology that materials to be disturbed during a project are not contaminated relative to applicable cleanup standards, this section's requirements for management of contaminated materials may not apply. This may include projects that disturb only future imported fill (assumed not contaminated) that is placed above the existing Site soil for redevelopment-related purposes, after completion of the cleanup action. If an area is documented by a Proponent to be uncontaminated, contaminated materials from other areas cannot be placed there. Any cleanup-related elements that are disturbed by the Proponent's activities must be restored as needed to fully meet the remediation performance standards of the CAP (refer to Section 3.6). In addition, construction best management practices (BMPs) – as required by applicable federal, state, and local laws, regulations, ordinances, and permits - will be required for any redevelopment-related activity on the PTM RAU, irrespective of whether they involve handling of contaminated materials.

Figure 3 presents a decision flowchart for management of materials generated by future redevelopment-related activities, which corresponds to the requirements of this section.

3.1 Notification

The Proponents will notify Ecology and the Port within 45 days before the beginning of any activity that will disturb the RAU-wide cap or underlying materials within the PTM RAU, or potentially create pathways for the migration of contaminated groundwater as described in Section 3.4. If Ecology determines the activity is not appropriate to be managed under this Plan, Ecology will notify the Proponents and Port and require approval prior to commencing the activity or construction of the project. The notification will include a written document submitted for Ecology review that describes the planned scope of the project, including but not limited to: how material excavated or graded from the project area will be managed including whether such materials are intended to be reused on Site; how water generated will be managed; whether subsurface drilling will be conducted; and whether existing monitoring wells will be disturbed. The notification document will also include any chemical testing data proposed to characterize material for reuse on Site, in accordance with Section 3.2.4 of this CMMP.

At the time of this document, contact information for Ecology and Port representatives is as follows:

Department of Ecology Northwest Regional Office
Cleanup Site Manager
Brian Sato
425-649-7000
bsat461@ecy.wa.gov

Port of Bellingham
Environmental Site Project Manager
Brian Gouran
360-676-2500
briang@portofbellingham.com

3.2 Management of Contaminated Materials

As described in Section 1.3, Ecology's selected cleanup action for the PTM RAU involves permanent removal of contaminant sources that pose a risk to human health or the environment via contaminant migration, plus an RAU-wide surface cap that provides protection from direct contact with and erosion of contaminated materials.

Proponents have options for managing potentially contaminated materials generated during their project-specific activities. Any material generated during redevelopment activities may be disposed of at a licensed and approved off-site disposal facility. Alternatively, the material may be beneficially reused within two years, as backfill/regrade material within the Site, as long as that material would not pose a risk to groundwater quality and it is capped in accordance with the CAP's remediation performance standards (reiterated in Section 1.3). Stockpiled soils must be disposed of at a licensed and approved off-site disposal facility after two years. Reuse assumes that the physical (e.g., geotechnical) characteristics of the material generated are suitable to meet the Proponent's project-specific requirements. Suitable barricades, fencing, signing and other warning and safety devices will be provided to limit access and protect the public and site workers from contaminated materials.

Soil generated from a defined project area may be subsequently reused within two years, beneath a new capping system within the same project area without additional chemical testing. Conversely, Ecology must approve reuse of any material that is placed on Site outside of the project area from which it is generated, based on chemical testing data for that material as described in Section 3.2.4 or as agreed to with Ecology during the project notification process (Section 3.1). In addition, material removed from the source area of the Acid Plant subarea (low-pH, metals-contaminated soil; Figure 1), requires chemical testing and Ecology approval prior to any reuse of that material on Site. The chemical testing requirements for that material are outlined in Section 3.2.4.

The on-site relocation of excavated contaminated material within the PTM RAU does not constitute generation of waste.

When construction, maintenance, or other redevelopment-related activities will disturb the RAU-wide cap and potentially contaminated materials under the cap, then the procedures outlined in the following subsections must be followed.

Section 3.7 addresses procedures to be followed if redevelopment-related excavation activities encounter a previously unknown occurrence of hazardous substances.

Note that procedures in this section apply to the material comprising the PTM's RAU-wide cap (e.g., pavement) as well as materials underlying the cap. For purposes of this CMMP, it is reasonably assumed that the material comprising the cap is not contaminated. As such, removed cap materials can be reused on site consistent with

provisions of this CMMP, or can be disposed of at a facility permitted to accept inert debris (construction and demolition landfill). Concrete or other cementitious material may not be reused in the subsurface on Site below the depth of the seasonally high groundwater table.

3.2.1 Erosion, Sedimentation, and Dust Control

When contaminated material is excavated, stockpiled, and handled, temporary erosion and sedimentation control (TESC) practices compliant with applicable state and local laws, regulations, ordinances, and permits must be followed.

In addition, construction BMPs must be implemented to minimize generation of dust throughout all handling of contaminated materials, in accordance with applicable state and local laws, regulations, ordinances, and permits.

3.2.2 Materials Handling On Site

Excavated materials to be managed on site temporarily must be stockpiled or placed into appropriate containers (e.g., covered roll-off boxes) while on site to avoid dispersal of potentially contaminated material via water (erosion) or wind. If material will be disposed of offsite, it may be directly loaded for transport to a permitted disposal facility. As required by the CAP, material generated by excavation or grading within the PTM RAU must either be placed beneath the RAU-wide cap or properly disposed of offsite within 2 years of its excavation/grading.

Stockpile Management

Stockpiles of potentially contaminated material must be constructed and maintained to prevent erosion, contact with stormwater runoff, dust generation, and worker contact. The water content of material to be stockpiled must be minimized to the extent practical prior to stockpiling to minimize drainage of free liquids from the stockpile.

Each stockpile must be underlain by a low-permeability liner with a minimum thickness of 10 millimeters (mil), and adjacent sheets of liner must be continuously overlapped by a minimum of 3 feet. The ground surface on which the liner will be placed must be free of any objects that could damage the liner. Alternatively, a layer of geotextile or plywood may be placed beneath the liner to protect it in locations containing rocks or debris on the ground surface, or in areas through which vehicular traffic will travel. A berm must be constructed around each stockpile or stockpile area. The berm must contain sufficient area and volume to allow for ponding and control of liquids within it.

Stockpiles must be covered when not in use. Stockpile covers must have a minimum thickness of 10 mils, and must be anchored as needed (e.g., sandbags) to prevent being removed by wind or other disturbance. Tears or discontinuities in the stockpile cover must be fixed immediately. Stockpiles must be inspected at least once per week to ensure they remain properly covered.

Water or other liquids accumulating within the stockpile area must be collected and disposed of in accordance with applicable federal, state, and local laws, regulations, ordinances, and permits (see Section 3.3).

3.2.3 Off-Site Disposal of Excavated Materials

Materials excavated from the PTM RAU may be disposed of at a permitted off-site facility. The disposal facility will have specific permit requirements for profiling the waste materials (through sampling and chemical analysis) that must be complied with before off-site transport and disposal is allowed. Note that, based on extensive characterization conducted during the RI, no environmental media within the PTM RAU have been identified as hazardous waste/dangerous waste under the state Dangerous Waste Regulations (Chapter 173-303 WAC).

Transport and off-site disposal of all waste materials generated from the PTM RAU must be conducted in accordance with Chapter 173-303 WAC and other applicable federal, state, and local laws, regulations, ordinances, and permits.

The property owner will be the generator for all waste materials generated on their property, in accordance with Chapter 173-303 WAC.

3.2.4 Chemical Testing Protocols and Criteria for On Site Material Reuse

As stated above, soil generated from a defined project area may be subsequently reused within two years, beneath a new capping system within the same project area without additional chemical testing. Conversely, chemical testing is required prior to on Site reuse of material generated from the source area of the Acid Plant subarea (Figure 1) or material that will be placed outside of the project area from which it is generated, based on chemical testing data. Chemical data used to characterize such material can include existing (RI/FS) data if representative of the location and material and/or new representative sampling and chemical analysis as described in this section.

To generate new chemical testing data, one representative 5-point composite sample must be collected for each 100 cubic yards of material, using industry-standard sampling practices for the material being sampled and the contaminants being analyzed for (listed below). The material may be sampled *in situ* (before excavation/grading) or sampled from a stockpile after excavation/grading. Each sample must have a unique identification number and, for each sample, the correlation between the identification number and the location from which it was collected must be recorded. The characterization soil samples must be submitted under chain-of-custody protocol to an analytical laboratory accredited by Ecology for the chemical analyses to be conducted.

New soil samples will be analyzed for contaminants of concern based on groundwater protection for the PTM RAU (addressing vapor intrusion and marine protection). Since all soil must be reused beneath a new cap, it is not necessary to test for contaminants that pose a risk only via soil direct contact (e.g., cPAHs). If new chemical testing is required as described above, the new soil samples must be analyzed for following groundwater contaminants of concern defined in the RI/FS:

- Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc);
- Soil pH; and
- Chlorinated solvent volatile organic compounds (VOCs).

Table 1 presents soil screening levels[1] to assess suitability for on-Site reuse of material that requires additional chemical testing (described above). In accordance with MTCA, the groundwater-protection-based soil reuse screening levels for some contaminants are different for material located above the water table (unsaturated) versus below the water table (saturated) (Table 1).

Based on the chemical testing data, material with measured concentrations less than the soil reuse screening levels in Table 1 will be acceptable for reuse beneath a cap on Site.

Based on the chemical testing data, materials with detected concentrations greater than the soil reuse screening levels will be disposed of offsite in accordance with Section 3.2.3. However, if concentrations detected in the material are greater than the soil reuse screening levels, the Proponent may determine and present for Ecology approval alternative area-specific soil concentrations protective of groundwater by applying the other MTCA methods presented in WAC 173-340-747 (e.g., use of leaching tests, calculation of a dilution/attenuation factor to apply in the 3-phase leaching model, and use of empirical groundwater data). Materials determined to be protective of groundwater by these methods are acceptable for reuse beneath the RAU-wide cap.

The chemical testing information must be submitted to Ecology for their review and written opinion regarding suitability of the tested material for its intended reuse purpose (e.g., above or below the water table etc.). No excavated material for which chemical testing is required may be placed on Site without Ecology written approval regarding its reuse suitability.

3.3 Water Management

Redevelopment-related activities generating water include but are not limited to construction dewatering (groundwater withdrawal), stormwater runoff from work areas including soil stockpile areas, drainage from stockpiles, and water from cleaning equipment. All water generated by redevelopment–related activities must be characterized, handled (captured, pumped, stored, treated, conveyed, etc.), and discharged in compliance with federal, state, and local laws, regulations, ordinances, and permits. Water generated during redevelopment-related activities may not be discharged or allowed to flow onto the ground surface, to the Whatcom Waterway, or off the site, except as allowed by permit.

3.4 Preventing Groundwater Contaminant Migration

The Proponent's redevelopment-related activity must not create or facilitate migration of contaminated groundwater within or from the areas depicted on Figure 1 (Acid Plant subarea, LP-MW01 subarea, Miscellaneous Dissolved Metals area). Specific redevelopment-related activities that would require additional design considerations if planned within those areas include but are not limited to:

[1] Soil reuse screening levels are soil concentrations based on leaching to groundwater applying MTCA-default assumptions and adjusted for background metals concentrations and analytical practical quantitation limits (PQL); refer to Section 5 of RI for details regarding screening level derivation.

- Construction of subsurface utilities extending beneath the water table. Any such utility corridors would need to backfilled in a manner so as to not serve as a preferred pathway for groundwater migration (e.g., backfill with low-permeability material such as controlled density fill [CDF]); and
- Construction of stormwater infiltration facilities that create focused groundwater recharge and thus change the local groundwater flow directions or velocity. Diffuse infiltration that would not substantively change groundwater flow directions or velocity in those areas is acceptable and would not require specialized design measures.

The required prior notification to the Port and Ecology (Section 3.1) must describe any such redevelopment-related features activities considered within the defined areas of groundwater contamination, along with the design measures to be implemented to prevent migration of contaminated groundwater.

3.5 Subsurface Drilling and Well Decommissioning

Drilling into materials beneath the RAU-wide cap may be necessary for geotechnical or environmental characterization of subsurface conditions in support of future redevelopment projects within the PTM RAU. All drilling within the PTM RAU is subject to applicable state and local laws, regulations, ordinances, and permits. Drinking water supply wells are not allowed to be installed or operated within the PTM RAU under the CAP-required environmental covenant.

The Port and Ecology contacts identified in Section 3.1 must be notified if redevelopment-related activities will disturb any monitoring wells within the PTM RAU.

Any monitoring well rendered inoperable by redevelopment-related activities must be properly decommissioned in accordance with the state's Minimum Standards for Construction and Maintenance Wells (Chapter 173-160 WAC). Any monitoring well that needs to be disturbed for redevelopment-related activities but is required to remain operable to meet CAP requirements as determined by Ecology, must be repaired or replaced to restore its pre-existing function and meet requirements of Chapter 173-160 WAC.

Any CAP-required cleanup element, including but not limited to the RAU-wide cap, that is disturbed by drilling or well decommissioning activities must be restored in accordance with Section 3.6. In no case may the portion of a decommissioned boring or monitoring well that penetrates the RAU-wide cap be of a quality inferior to that of the cap prior to disturbance. In addition, the surface finish for any subsurface exploration (whether an operable monitoring well or decommissioned boring/well) must match the surrounding finish grade unless otherwise approved by Ecology.

Drill cuttings, water, or other materials produced from subsurface drilling or monitoring well decommissioning within the RAU are subject to the same requirements as other potentially contaminated materials and water produced in the RAU as specified in this CMMP and subject to applicable regulations.

3.6 Restoration of CAP-Required Cleanup Elements

Any cleanup element required by the PTM RAU CAP, including but not limited to the RAU-wide cap, which is disturbed by future investigation, construction, maintenance, or other activities must be restored to fully meet the remediation performance standards of the CAP (reiterated in Section 1.3) as soon as possible after the disturbance. Written documentation of disturbance and restoration of CAP-required cleanup elements must be provided to Ecology for review and approval that the CAP requirements are met.

3.7 Management of Material with Previously Unknown Hazardous Substances

If the Proponent encounters a previously unknown occurrence of hazardous substances at concentrations greater than applicable cleanup levels and those materials possess field-screening indications of gross contamination (e.g., odor or presence of visible non-aqueous phase liquid (NAPL)), then the Proponent must notify Ecology and the Port contacts in Section 3.1 of the occurrence within 3 business days. Hazardous substances known to exceed cleanup levels within soil or groundwater of the PTM RAU include petroleum hydrocarbon, metals, VOCs, PAHs, dioxins/furans, and acidic pH. Aspect (2013) and Aspect (2014) provide additional details regarding hazardous substances within the PTM RAU, and are incorporated here by reference.

After notifying the Port and Ecology, such materials excavated for project purposes must be segregated and managed separately from materials without indications of gross contamination. Excavated materials with indications of gross contamination must be either: (1) properly profiled and disposed of off site in accordance with procedures identified in Section 3.2.3; or (2) sampled to characterize the contamination as described below, and the information presented to Ecology for their determination on its suitability for on-site reuse beneath the RAU-wide cap.

To chemically characterize material containing gross contamination for potential on-site reuse, one representative 5-point composite sample will be collected for each 20 cubic yards of material with indications of gross contamination, using industry-standard sampling practices for the material being sampled and the contaminants being analyzed for (listed below). The material may be sampled *in situ* (that is, before excavation/grading) or sampled from a stockpile after excavation/grading. Each sample must have a unique identification number and, for each sample, the correlation between the identification number and the stockpile or *in situ* location from which it was collected must be recorded. Characterization soil samples must be submitted under chain of custody to an Ecology-accredited analytical laboratory for the following chemical analyses:

- Diesel-range and oil-range petroleum hydrocarbons (by NWTPH-Dx method with silica gel pretreatment);
- VOCs by EPA Method 8260; and
- The metals arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc (by EPA Methods 6000 and 7000).

The list of analyses may be revised based on field screening or other information.

Based on the chemical testing data, excavated material with measured concentrations less than the soil reuse screening levels in Table 1 will be acceptable for reuse beneath a cap on Site.

Based on the chemical testing data, excavated materials with detected concentrations greater than the soil reuse screening levels will be disposed of offsite in accordance with Section 3.2.3. However, if concentrations detected in the material are greater than the soil reuse screening levels, the Proponent may determine and present for Ecology approval alternative area-specific soil concentrations protective of groundwater by applying the other MTCA methods presented in WAC 173-340-747 (e.g., use of leaching tests, calculation of a dilution/attenuation factor to apply in the 3-phase leaching model, and use of empirical groundwater data). Materials determined to be protective of groundwater by these methods are acceptable for reuse beneath the RAU-wide cap.

The chemical testing information must be submitted to Ecology for their review and written opinion regarding suitability of the tested material for its intended reuse purpose (e.g., above or below the water table etc.). No excavated material for which chemical testing is required may be placed on Site without Ecology written approval regarding its reuse suitability.

4 References

Aspect, 2012, Bunker C Tank Interim Action Report, Georgia-Pacific West Site, Bellingham, Washington, February 24, 2012.

Aspect, 2013, Remedial Investigation, Georgia-Pacific West Site, Bellingham, Volume 1 of RI/FS, August 5, 2013.

Aspect, 2014, Feasibility Study, Pulp/Tissue Mill Remedial Action Unit, Vol. 2a of RI/FS, Georgia-Pacific West Site, Bellingham, Washington, May 2, 2014.

Ecology, 2014, Cleanup Action Plan, Pulp/Tissue Mill Remedial Action Unit, Georgia-Pacific Site, Bellingham, Washington, June 2014.

Port of Bellingham and City of Bellingham, 2013, The Waterfront District Draft Sub-Area Plan, 2013.

TABLE

Table 1 - Soil Screening Levels for Reuse of Material

Contaminated Materials Management Plan, Pulp/Tissue Mill RAU, GP West Site

Contaminant of Concern	Soil Reuse Screening Level Based on Groundwater Protection (mg/kg)	
	Unsaturated Soil (above water table)	Saturated Soil (below water table)
Metals		
Arsenic	20	20
Cadmium	1.2	1
Chromium (Total)	5,200	260
Copper	36	36
Lead	250	81
Mercury	2	0.1
Nickel	48	48
Zinc	100	85
Volatile Organic Compounds (Chlorinated Solvents)		
cis-1,2-Dichloroethene (DCE)	2.5	0.14
Tetrachloroethene (PCE)	0.3	0.015
Trichloroethene (TCE)	0.056	0.005
Vinyl chloride	0.006	0.005
Conventionals		
pH (in Standard pH Units)	<2.5 or >11.0	<2.5 or >11.0

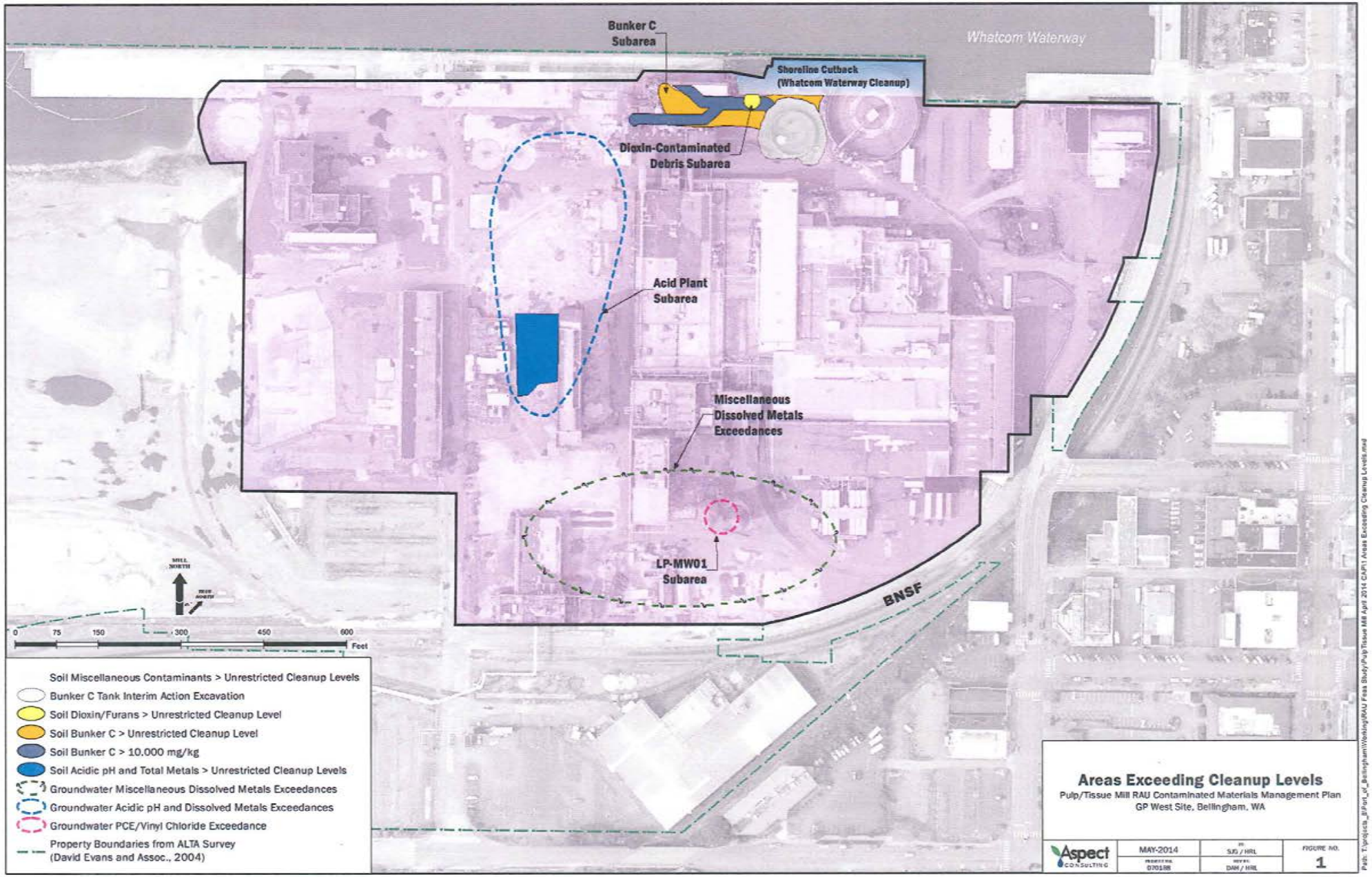
Notes:

mg/kg: milligrams per kilogram.

These screening levels apply to material that is either (1) generated from the source area of the Acid Plant subarea and intended for reuse anywhere on Site, or (2) intended for reuse on Site outside of the project area from which it is generated.

If detected concentrations in material intended for reuse exceed these screening levels, alternative methods for determining concentrations protective of groundwater (per WAC 173-340-747) may be applied for reuse suitability assessment (see Section 3.2.4).

FIGURES

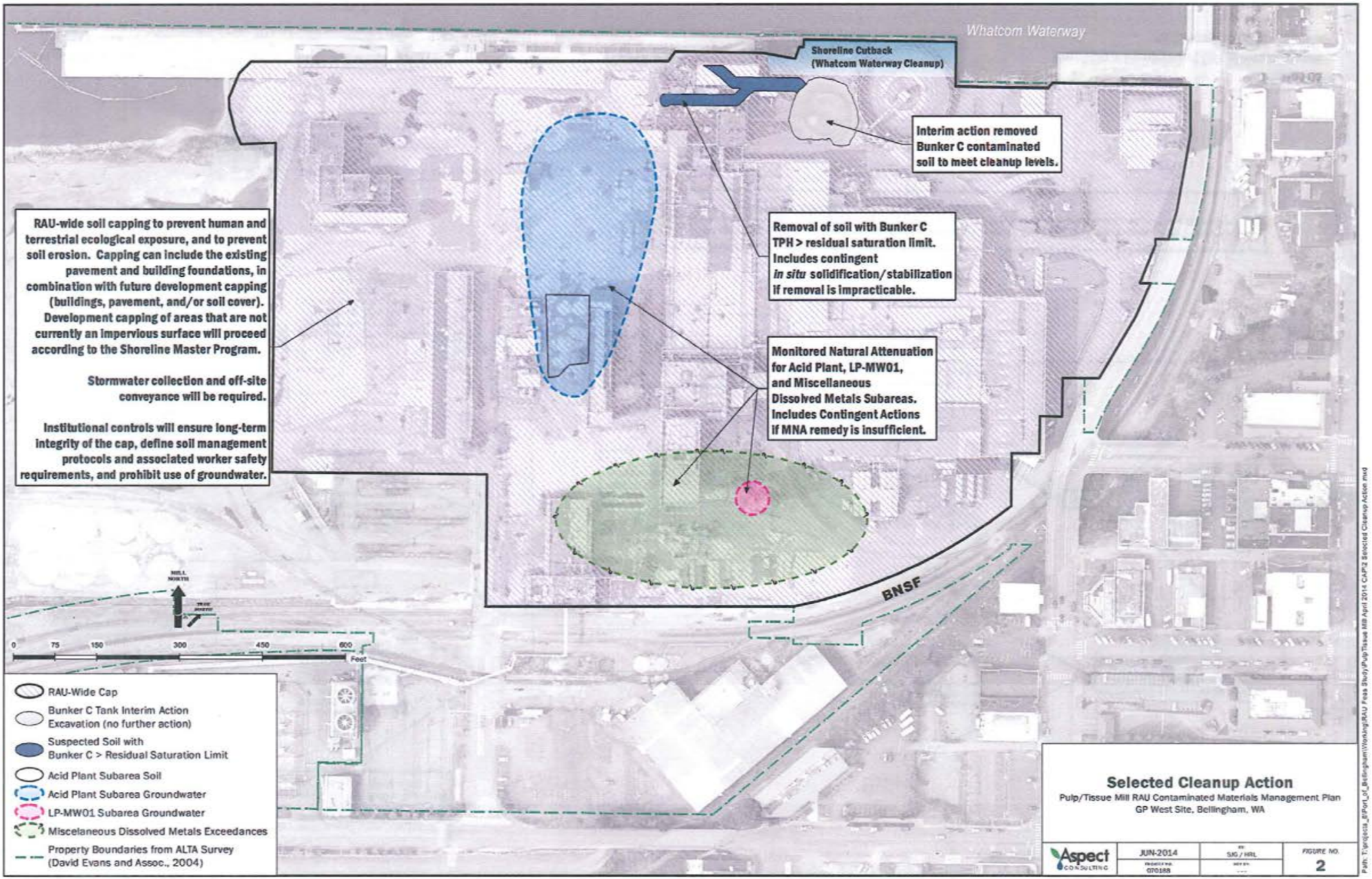


Areas Exceeding Cleanup Levels

Pulp/Tissue Mill RAU Contaminated Materials Management Plan
GP West Site, Bellingham, WA

Aspect Consulting	MAY-2014	BY: SJS / HRL	FIGURE NO. 1
	PROJECT NO. 070188	QC BY: DAH / HRL	

Path: T:\projects_jl\Port_of_Bellingham\Working\RAU Feas Study\Pulp\Tissue Mill April 2014 CAP\1 Areas Exceeding Cleanup Levels.mxd



Selected Cleanup Action

Pulp/Tissue Mill RAU Contaminated Materials Management Plan
GP West Site, Bellingham, WA

Aspect Consulting	JUN-2014	SJG / HRL	FIGURE NO.
	Project No. 070188		2

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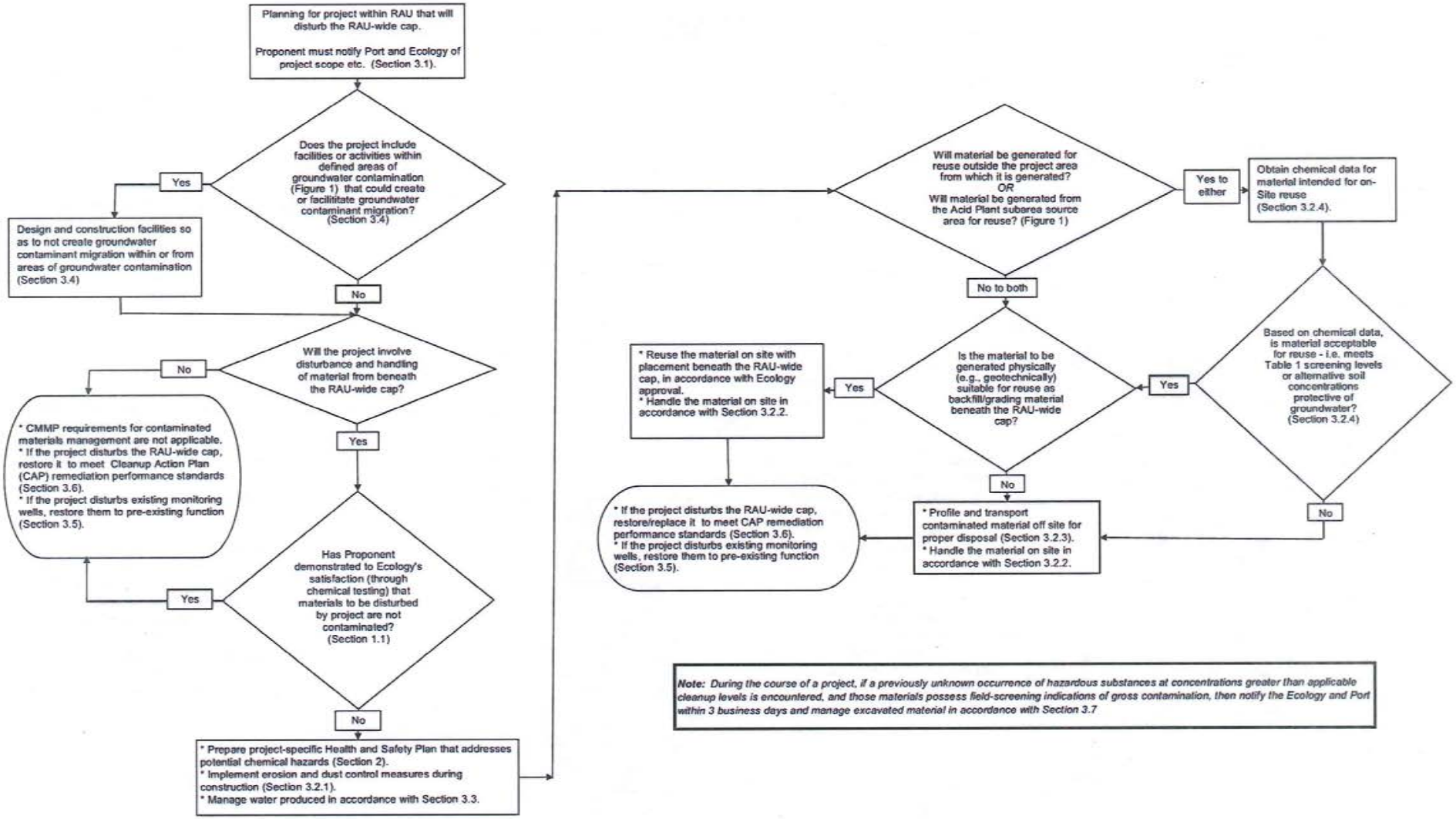

Figure 3
Decision Flowchart for Management of Excavated Materials

Exhibit E

EXHIBIT E
LIST OF REQUIRED PERMITS OR APPROVALS

APPLICABLE PERMITS OR APPROVALS & REQUIREMENTS

The cleanup action to be performed at the Site requires the following permit and environmental review process:

NPDES Construction Stormwater General Permit

The cleanup action will require a National Pollution Discharge Elimination System (NPDES) Construction Stormwater General Permit. Ecology administers the federal NPDES regulations in Washington State. All construction permits that disturb more than 1 acre during construction must obtain a NPDES construction stormwater permit. The NPDES permit program is delegated to Washington State by the federal Environmental Protection Agency under the federal Clean Water Act, § 1251 et seq. Pursuant to RCW 70.105D.090(2), Ecology has determined that the procedural requirements of an NPDES permit are not exempt for MTCA actions. The Cleanup Action will be conducted under the requirements of an NPDES Construction Stormwater General Permit issued separately by Ecology.

NPDES Waste Discharge Permit

The Port currently operates the Aerated Stabilization Basin (ASB) under an individual NPDES Waste Discharge Permit (Permit No. WA0001091). It is anticipated that management of Site stormwater and construction-related dewatering water will be routed to the ASB for treatment. The Port will comply with all requirements of the NPDES Waste Discharge permit and any subsequent modifications.

State Environmental Policy Act Integrated Compliance (RCW 43.21C.036 and WAC 197-11-250 through 259)

Compliance with SEPA, Chapter 43.21C RCW, will be achieved by conducting SEPA review in accordance with applicable regulatory requirements, including WAC 197-11-268, and Ecology guidance as presented in Ecology Policy 130A (Ecology 2004). SEPA review will be conducted concurrent with public review of the Cleanup Action Plan. The Department of Ecology will act as the SEPA lead agency and will coordinate SEPA review.

Exhibit F

EXHIBIT F
APPLICABLE SUBSTANTIVE REQUIREMENTS OF PROCEDURALLY EXEMPT PERMITS OR APPROVALS

APPLICABLE PERMITS OR APPROVALS & REQUIREMENTS

The cleanup action to be performed at the Site is exempt from the procedural requirements of the following permits and approvals but must meet the substantive requirements:

City of Bellingham Shoreline Substantial Development Permit (Bellingham Municipal Code Title 22)

Pursuant to the City of Bellingham Shoreline Master Program (Bellingham Municipal Code [BMC] Title 22), the cleanup action must meet the requirements of a City Shoreline Substantial Development Permit (SMP). The cleanup action will occur within the regulated shoreline area designated by BMC Title 22 as Waterfront District – Shoreline Mixed Use. The substantive requirements include meeting the general conditions for a SMP, requirements and conditions of the Waterfront District – Shoreline Mixed Use shoreline designation, and applicable general regulations and use activity policies.

City of Bellingham Fill and Grade Permit (BMC Title 16.70.070)

Pursuant to the City of Bellingham Grading Ordinance (BMC 16.70), a Major Grading permit is required from the City for grading projects that involve more than 500 cubic yards of grading. The City grading ordinance identifies a number of standards and requirements for obtaining a grading permit. The City standards and requirements will be integrated into the construction plans and specifications where applicable for the cleanup action to insure it complies with the substantive requirements of the City grading ordinance. Those substantive requirements include: staking and flagging property corners and lines when near adjacent properties, location and protection of potential underground hazards, proper vehicle access point to prevent transport of soil off-site, erosion control, work hours and methods compatible with weather conditions and surrounding property uses, prevention of damage or nuisance, maintaining a safe and stable work site, compliance with noise ordinances and zoning provisions, development of a traffic plan when utilizing City streets and written permission when grading from legal property owner.

City of Bellingham Critical Area Ordinance (BMC Title 16.55.420)

Critical Area Ordinance substantive requirements are applied to land development activities in the City of Bellingham. The cleanup action will occur on land designated by the City of Bellingham as having “erosion” and “landslide” hazards as well as a range of seismic hazards from “very high” to “low”. The substantive requirements associated with BMC 16.55.420 include an assessment or characterization of the hazard areas which may include a hazard analysis and geotechnical engineering report by a licensed professional.

City of Bellingham Construction Stormwater Permit (BMC Title 15.42)

Pursuant to the City of Bellingham Stormwater Management ordinance (BMC 15.42), the cleanup action must meet the requirements of a City Stormwater Permit. The substantive requirements include preparation of a stormwater site plan, preparation of a construction stormwater pollution prevention plan, source control of pollution, preservation of natural drainage systems and outfalls, on-site stormwater management, run off treatment, flow control, and system operations and maintenance.

Exhibit G

CLEANUP ACTION PLAN
LIGNIN OPERABLE UNIT

Chlor-Alkali Remedial Action Unit of
Georgia-Pacific West Site
Bellingham, Washington

Facility Site ID: 14
Site Cleanup ID: 2279

August 2022

Contents

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List of Figures

1 Introduction and Background

This Cleanup Action Plan (CAP) defines the cleanup action selected by the Washington State Department of Ecology (Ecology) for the portion of the Georgia-Pacific (G-P) West Site (Site) referred to as the Lignin Operable Unit (OU) of the Chlor-Alkali Remedial Action Unit (RAU). The Site is being cleaned up under the authority of the Washington State Model Toxics Control Act (MTCA), Chapter 70A.305 of the Revised Code of Washington (RCW), and the Model Toxics Control Act Cleanup Regulation, Chapter 173-340 of the Washington Administrative Code (WAC).

The Port of Bellingham (Port) acquired the former G-P Mill property located at 300 West Laurel Street in Bellingham, Washington, in January 2005. In August 2009, Ecology and the Port entered into Agreed Order No. DE 6834 (Order), which required the Port to perform a Remedial Investigation (RI) and a Feasibility Study (FS) for the Site. The Site is defined by the extent of contamination caused by the release of hazardous substances from the former mill facility, which included a Chlorine Plant[1] and a Pulp and Tissue Mill, and associated facilities.

In August 2013, a Site-wide RI was completed (Aspect, 2013) and an amendment to the Order separated the Site into the Pulp/Tissue Mill and Chlor-Alkali RAUs, which are shown on Figure 1. The amended Order established independent timelines for cleanup of the two RAUs, which allowed for expedited cleanup and redevelopment at the Pulp/Tissue Mill RAU.

For the Pulp/Tissue Mill RAU, Ecology issued the final Cleanup Action Plan (CAP) in October 2014 (Ecology, 2014). In December 2014, the Port and Ecology executed Consent Decree No. 142027008 requiring cleanup of the Site, which included the Pulp/Tissue Mill RAU CAP as Exhibit C. Cleanup construction for the Pulp/Tissue Mill RAU was completed in 2016. Since then, monitoring of groundwater natural attenuation and inspection and maintenance of the environmental cap have been ongoing.

For the Chlor-Alkali RAU, Ecology issued the final CAP in September 2021 (Ecology, 2021). Since then, the Port has been conducting remedial design for cleanup of the Chlor-Alkali RAU under the Order.

The Lignin OU is an approximately 4-acre property located within the Chlor-Alkali RAU and at the corner of Cornwall and Laurel Streets (Figure 1). During G-P's operation of the pulp and paper mill, lignin, a byproduct of pulping, was converted into commercial lignin-containing products.[2] No historical pulp/paper production processes occurred on the Lignin OU, although lignin waste liquors were stored in several aboveground storage tanks near the north[3] edge of the property. G-P used the Lignin Warehouse B, which

[1] The terms "Chlor-Alkali Plant" and "Chlorine Plant" are used interchangeably.

[2] Including artificial vanilla flavoring, animal feeds, adhesives, pharmaceuticals, dust retardants, fuel pellets, solvents, ferromagnetic liquids, oil well drilling mud thinners, and other products.

[3] For consistency with previous environmental reports for the GP West Site, this document uses the former Georgia-Pacific mill's "Mill north" as its directional reference, with "Mill-north" approximately 45 degrees west of true north (see north arrows on figures).

occupied much of the Lignin OU (Figure 2), for storage of the finished lignin-containing commercial products until 2007. The Port demolished the Lignin Warehouse B in 2020.

The Chlor-Alkali RAU CAP-selected cleanup action for the Lignin OU included hard capping to contain soils contaminated with carcinogenic polycyclic aromatic hydrocarbons (cPAHs) that pose a direct contact risk for an unrestricted land use,[4] plus monitored natural attenuation (MNA) for dissolved chromium concentrations in groundwater.

Since 2019, the Port has been working with local development partners Mercy Housing Northwest and Millworks LLC to evaluate the feasibility of developing affordable/workforce housing and other mixed uses at the Lignin OU. In early 2019, Ecology selected the Port as a recipient of a Toxics Cleanup Healthy Housing Integrated Planning Grant (IPG) to fund early planning efforts for the integrated cleanup and redevelopment of the Lignin OU. In November 2021, Ecology issued a grant to the Port to support remedial design and construction for the Lignin OU Affordable Housing Project. The preliminary plans for the Mercy Housing Northwest Affordable Housing Project will redevelop a portion of the Lignin OU with a total of 83 affordable housing units and childcare facility.

In March 2022, Ecology issued a minor modification to the Order, amending the Schedule of Deliverables to include preparation of a draft CAP and completion of a pre-remedial design investigation (PRDI) for the Lignin OU, in addition to conducting remedial design for the Chlor-Alkali RAU outside of the Lignin OU.

2 Summary of Contaminant Nature and Extent

The Site-wide RI and Chlor-Alkali RAU FS identified the following contaminants of concern and impacted media within the Lignin OU:

- cPAHs in soil exceeding a cleanup level based on unrestricted human direct contact
- Chromium in groundwater exceeding cleanup levels that are protective of discharge to marine surface water and sediment[5]

Subsequent sampling and analysis conducted in 2022 confirmed those contaminants of concern and impacted media, and also identified the following:

- Zinc in soil exceeding a cleanup level based on unrestricted human direct contact
- Copper in groundwater exceeding a cleanup level that is protective of discharge to marine surface water and sediment

[4] Assuming a child's incidental ingestion of soil for a lifetime.

[5] Groundwater throughout the GP West Site, including the Lignin OU, is deemed non-potable in accordance with MTCA.

The following sections further describe soil and groundwater contamination present within the Lignin OU.

2.1 Soil Contamination

Figure 2 depicts the estimated extents of soil contamination at the Lignin OU posing an unacceptable risk for soil direct contact under an unrestricted (residential) land use. This collective area encompasses predominantly shallow soils (upper 2 feet) contaminated by cPAHs, but it also includes one small area containing high zinc concentrations to an estimated depth of 6 feet. While all portions of the historical railroad spur alignments were not sampled, they included treated railroad ties and, where shallow soil samples were collected from them, the soils contained cPAH concentrations greater than the cleanup level; it is therefore inferred that shallow soils along the entire railroad spur alignments contain cPAH exceedances.

The data also confirm that fill soils throughout most of the Lignin OU (at 30 of 37 soil sampling locations) contain concentrations of one or more metals (predominantly copper and zinc) exceeding concentrations predicted by the MTCA three-phase partitioning model (WAC 173-340-747(3)(a)) to contaminate groundwater by leaching. Figure 3 depicts the distribution of sampling locations where detected soil metals concentrations exceed and do not exceed the leaching-based cleanup levels (purple and green symbols, respectively).

2.1.1 Exclusion for Terrestrial Ecological Evaluation

The Lignin OU qualifies for an exclusion from conducting a terrestrial ecological evaluation (TEE) under MTCA based on the types of contamination present on the OU and its proximity to ecological receptors. Specifically, the Lignin OU is not contaminated by chlorinated chemicals and there is less than 1.5 acres of contiguous undeveloped land located anywhere within 500 feet of the OU. Therefore, in accordance with MTCA (WAC 173-340-7491(1)(c)), no further terrestrial ecological evaluation is required for the Lignin OU.

2.2 Groundwater Contamination

Despite the widespread distribution of soil metals exceeding leaching criteria, the empirical groundwater data collected within the Lignin OU indicate that metals contamination in groundwater has declined over time and is currently not extensive in space or of high magnitude concentration. Figure 4 illustrates the generalized groundwater flow direction, and locations of monitoring wells with and without metals exceedances during the 2022 groundwater sampling within the Lignin OU.

The gradual improvement in groundwater metals concentrations is indicated by sampling data from well LW-MW01 located along the property's northern boundary (Figure 4), in which dissolved chromium concentrations declined from an average of about 700 µg/L when measured in 2009-2010 to an average of about 30 µg/L when measured in 2022. Despite the gradual improvement over time, low-level metals exceedances persist in

groundwater at the Lignin OU. During one of the two 2022 sampling events,[6] dissolved chromium was detected at a concentration exceeding its cleanup level in newly installed monitoring well LW-MW02 located upgradient[7] of LW-MW01 (Figure 4). In addition, dissolved copper was detected at concentrations exceeding its cleanup level in wells LW-MW02 and LW-MW03 during one of the two 2022 sampling events. No dissolved metals exceedances were detected in wells LW-MW01 and LW-MW04 located generally downgradient of wells LW-MW02 and LW-MW03.

None of the groundwater metals exceedances were reproducible in the two rounds of 2022 sampling and none were greater than two times the cleanup level. The dissolved metals exceedances are largely attributable to natural geochemically reducing conditions that enhance the mobility of metals in the shallow water-bearing unit, as is observed throughout the entire Site.

3 Remedial Action Objectives

Remedial action objectives (RAOs) are specific goals for protecting human health and the environment assuming an unrestricted (non-industrial) land use within the Lignin OU. RAOs for the Lignin OU are as follows:

- Permanently remove cPAH- and zinc-contaminated soils to achieve cleanup levels for unrestricted soil direct contact. This will eliminate the need for engineering and institutional controls with respect to soil direct contact exposure for the planned residential redevelopment.
- Remove additional metals-impacted soil to accelerate the restoration timeframe for natural attenuation of metals contamination in groundwater.
- Prevent discharge of metals-contaminated groundwater from the Lignin OU to the Whatcom Waterway.

4 The Selected Cleanup Action

4.1 Description of Selected Cleanup Action

The selected cleanup action for the Lignin OU consists of the following elements as illustrated on Figure 5:

Remove Contaminated Soils Posing a Direct Contact Risk. The cleanup will include the Port's excavation and disposal at a permitted off-Site landfill of an estimated 5,600 tons of soils containing concentrations of cPAHs and/or zinc greater than soil cleanup levels for unrestricted direct contact. This includes soils in the following areas:

- cPAH-contaminated soils extending to an estimated depth of 2 feet in areas north of the historical warehouse including the rail spur there, at the west end of the

[6] Conducted in January and February 2022.

[7] The groundwater flow direction is to the northwest, toward Laurel Street, as depicted on Figure 4.

warehouse, beneath a portion of the warehouse, and along the rail spur extending northeastward from the warehouse (purple crosshatched areas on Figure 5).

- A localized occurrence of zinc-contaminated soils in the southwest portion of the OU extending to the fill-native soil contact at an estimated depth of approximately 6 feet (dark blue crosshatched area on Figure 5).

Once the post-excavation, performance-monitoring sampling demonstrates that direct contact cleanup levels have been achieved for the OU, the excavation areas will be backfilled with suitable clean fill to the design grades within the subsequent affordable housing redevelopment and to existing grades outside of that redevelopment area.

Remove Structural Obstructions and Metals-Impacted Soils. The cleanup will also include the Port's removal and off-Site disposition of: (a) an estimated 8,400 tons of remnant structures (e.g., concrete foundation elements including the large floor slab of the former Lignin Warehouse B, asphalt pavement, and railroad spurs) located on top of and adjacent to contaminated soils being removed, and (b) an estimated 10,400 tons of metals-impacted soils requiring excavation to accelerate the restoration timeframe for natural attenuation of metals contamination in groundwater. The excavation depth for most of those soils is 4 feet or less, with a localized excavation as deep as 7 feet (green-shaded areas on Figure 5). Because the metals concentrations in those soils exceed leaching-based soil cleanup levels, removing them will permanently reduce the mass of metals contamination remaining within the Lignin OU soils and thereby accelerate the restoration timeframe for metals concentrations in the OU's groundwater.

The excavation areas will be backfilled as needed with suitable clean fill to meet the design grades for the subsequent redevelopment. All recyclable structural materials (e.g., concrete, asphalt, metal) removed during the cleanup will be transported to permitted facilities for recycling.

Monitored Natural Attenuation (MNA) of Groundwater. The cleanup will include MNA to address residual dissolved chromium and copper concentrations that exceed groundwater cleanup levels based on protection of discharge to the Whatcom Waterway. The dissolved metals concentrations are expected to continue to attenuate through a combination of sorption/complexation and dispersion.

The Port will prepare a Compliance Monitoring Plan for Groundwater MNA as a deliverable for cleanup of the Lignin OU. The MNA Compliance Monitoring Plan will identify monitoring locations, analytes, and frequency. The Port will decommission all existing monitoring wells at the start of the Lignin OU soil removal action and will install new monitoring wells for the MNA monitoring program after completion of the soil removal project. The MNA monitoring wells will be positioned along the downgradient edge of the Lignin OU which, based on a groundwater flow direction toward the northwest, would be along the north and northwestern boundaries of the OU as indicated on Figure 4. Specific locations for the new wells will be identified in the MNA Compliance Monitoring Plan and will consider location of utilities or other access considerations following completion of the soil removal action.

The Port will implement a contingent groundwater cleanup action if it is determined that groundwater MNA within the Lignin OU is not sufficient to prevent migration of groundwater exceeding cleanup levels to the Whatcom Waterway (e.g., if a statistically significant increasing trend for concentrations is measured at the downgradient edge of the OU).

Institutional Controls. The Port and Ecology will develop environmental covenants for the Lignin OU that restrict certain activities and uses of the property to protect the integrity of the selected cleanup action and thereby protect human health and the environment. It is anticipated that institutional controls for the Lignin OU will:

- Prohibit interference with the completed cleanup action
- Prohibit use of groundwater
- Provide for long-term monitoring and stewardship of the cleanup action

The Port intends to sell Mercy Housing Northwest a parcel of land encompassing the southern portion of the Lignin OU within which the affordable housing redevelopment will occur. The Port will retain ownership of the remaining northern parcel within the Lignin OU. The Port and Mercy Housing Northwest will seek separate environmental covenants for their respective parcels within the Lignin OU. The two parties will work with Ecology and the Attorney General's Office to define each covenant's specific restrictions and requirements applicable to each parcel prior to the covenants being legally recorded with Whatcom County.

4.2 Contamination Remaining in the Lignin OU

The selected cleanup action requires the removal of all contaminated soils posing a potential risk for unrestricted soil direct contact. Therefore, no soil posing a direct contact risk under any future land use will remain following the completion of the cleanup action. Fill soils throughout most of the Lignin OU contain concentrations of one or more metals greater than cleanup levels based on leaching to groundwater. Following the removal of roughly 16,000 tons of soil during the cleanup, an estimated 48,000 tons of fill soil containing metals exceedances of leaching-based soil cleanup levels will remain in the OU.

Groundwater containing residual metals concentrations exceeding cleanup levels based on protection of discharge to the Whatcom Waterway is generally located within the eastern half of the Lignin OU. Groundwater monitoring data indicate that the groundwater cleanup levels are currently achieved at the downgradient edge of the OU, which is approximately 1,000 feet from the point of groundwater discharge to the Whatcom Waterway.

The Groundwater MNA Compliance Monitoring Plan discussed in Section 4.1 will also define requirements for data evaluation and reporting, including a decision process for adjusting the monitoring program over time and ultimately ceasing it. It will also include provisions for implementation of a contingent action if it is determined that groundwater MNA within the Lignin OU is not sufficient to prevent migration of groundwater exceeding cleanup levels to the Whatcom Waterway (e.g., statistically significant increasing trend for concentrations at the downgradient edge of the OU). Contingent

actions the Port may need to perform could include groundwater treatment and/or control. Selection and design of a contingent action would be conducted if potential failure of MNA is indicated based on groundwater compliance monitoring results. At that time, substantial information would be available to determine the causes of failure and, therefore, the most effective and practicable means to remedy it.

4.3 Other Remedial Alternatives Evaluated

The FS for Chlor-Alkali RAU evaluated eight remedial alternatives (Alternatives 1 through 8). Specific to the Lignin OU portion of the RAU, each of the eight alternatives included groundwater MNA for metals and institutional controls. Alternatives 1 through 6 included capping to contain the cPAH-contaminated soils and Alternatives 7 and 8 included excavation and landfilling of the cPAH-contaminated soils. Refer to Section 7 of the Chlor-Alkali FS (Aspect, 2018) for more detailed descriptions of the eight remedial alternatives evaluated.

4.4 Rationale for Selecting Cleanup Action

The Chlor-Alkali RAU FS determined that each of the eight remedial alternatives considered would meet the following MTCA threshold requirements and other requirements in accordance with WAC 173-340-360(2):

Threshold Requirements

- Protection of human health and the environment
- Compliance with cleanup standards and applicable state and federal laws
- Provision for compliance monitoring

Other Requirements

- Use of permanent solutions to the maximum extent practicable
- Provision for a reasonable restoration time frame
- Consideration of public concerns

The FS included a disproportionate cost analysis (DCA) to assess the extent to which the remedial alternatives would use permanent solutions to the maximum extent practicable. The DCA quantified the environmental benefits of each alternative, and then compared incremental benefits versus costs between alternatives. Under MTCA, costs are disproportionate to benefits if the incremental cost of a more permanent alternative over that of a lower-cost alternative exceeds the incremental benefits achieved by the more permanent alternative. Based on the results of the DCA, Alternative 4 was identified as the alternative that is permanent to the maximum extent practicable for the Chlor-Alkali RAU. Refer to Section 8.3 of the Chlor-Alkali RAU FS for more a detailed description of the DCA for the eight remedial alternatives. Ecology's CAP for the Chlor-Alkali RAU selected Alternative 4 as the cleanup action (Ecology, 2021).

For the Lignin OU portion of the Chlor-Alkali RAU, Alternative 4 included capping (containment) of cPAH-contaminated soils, MNA for metals in groundwater, and institutional controls.

Since completion of the Chlor-Alkali CAP, the redevelopment planning for the Lignin OU has advanced to include residential use and a child-care facility. Consistent with that future use, Ecology is increasing the permanence, protectiveness, and long-term effectiveness of the Lignin OU cleanup action to include full removal (instead of capping) of contaminated soils that pose a risk due to direct contact with soil under the future land use. The Chlor-Alkali RAU CAP anticipated completing a more permanent cleanup action for capped areas when justified to support redevelopment, by including the following language:

> *"As redevelopment of the RAU occurs, the redevelopment project proponent may choose to permanently remove (excavate/properly dispose), instead of cap, residual contaminated soils if such an action is completed in consultation with, and with approval from, Ecology. Excavation of soils undertaken as part of future redevelopment at the Site may require a formal amendment to this Cleanup Action Plan and any associated future Consent Decree, depending on the contaminant levels of the soil to be excavated and the depth or location of the excavation."*

MNA for metals in groundwater and institutional controls remain in the selected cleanup action for the Lignin OU.

4.5 Compliance with WAC 173-340-360

The cleanup action selected for the Lignin OU complies with the provisions of WAC 173-340-360. It will be protective of human health and the environment, comply with cleanup standards and applicable state and federal laws, and provide for compliance monitoring.

Contaminated soils that pose a direct-contact risk will be excavated and properly disposed of at a landfill permitted to receive and manage the soils. Additional metals-impacted soils will also be excavated and disposed of, and thereby reduce the restoration timeframe for metals in groundwater. MNA will address residual metals contamination in groundwater that exceeds applicable groundwater cleanup levels, and a groundwater MNA Compliance Monitoring Plan will specify identification and implementation of a contingency action if groundwater contaminant migration to the Whatcom Waterway is indicated based on the monitoring information. Institutional controls in the form of an environmental covenant for the Lignin OU will prohibit activities that would interfere with the completed cleanup action, prohibit use of groundwater, and provide for long-term monitoring and stewardship of the cleanup action.

Ecology determines that the selected cleanup action uses permanent solutions to the maximum extent practicable and provides for a reasonable restoration time frame.

5 Cleanup Standards

A cleanup standard consists of a cleanup level for a hazardous substance present at a site, combined with the location where the cleanup level must be met (point of compliance), and other regulatory requirements that apply to the site ("applicable state and federal laws"). The soil and groundwater cleanup standards for the Lignin OU are described below.

5.1 Soil

Table 1 lists soil cleanup levels for the contaminants of concern within the Lignin OU. Soil cleanup levels are provided for the soil direct contact (soil ingestion) and soil-leaching-to-groundwater pathways. In accordance with MTCA, soil cleanup levels based on groundwater protection are different for soils located above the water table (unsaturated soil) versus soils below the water table (saturated soil), as presented in Table 1. The exception is total cPAHs (TEQ), for which the values are the same and are based on an empirical demonstration using groundwater quality data in accordance with MTCA (WAC 173-340-747(9)). Soil cleanup levels based on unrestricted direct contact are the same value for unsaturated and saturated soils.

The point of compliance for soil cleanup levels based on groundwater protection is all depths within the corresponding unsaturated or saturated soil zone. The point of compliance for the direct-contact exposure pathway is from the ground surface to 15 feet below ground surface (bgs).

5.2 Groundwater

Table 2 lists groundwater cleanup levels for the contaminants of concern within the Lignin OU. As described in the Chlor-Alkali CAP (Ecology, 2021), the highest beneficial use of groundwater throughout the Site, including the Lignin OU, is discharge to marine sediment and water—not potable use.

In the Chlor-Alkali RAU CAP, Ecology established conditional points of compliance for achieving groundwater cleanup levels in the sediment bioactive zones of the Log Pond within the Whatcom Waterway and Bellingham Bay based on an evaluation of reasonable restoration timeframes for the mercury plumes in those areas, as presented in Section 9 of the Chlor-Alkali RAU FS (Aspect, 2018). The FS evaluation did not consider metals in Lignin OU groundwater. Therefore, groundwater cleanup levels apply to groundwater throughout the Lignin OU (i.e., a standard point of compliance) in accordance with WAC 173-340-720(8)(b). The fact that Lignin OU groundwater cleanup levels are established to be protective at the point of groundwater discharge to the Whatcom Waterway may be considered in any future assessment for implementation of a contingency action for groundwater MNA as described in Section 4.1.

6 Applicable State and Federal Laws

Cleanup standards established for the Lignin OU of the Chlor-Alkali RAU incorporate applicable state and federal laws and regulations in the form of chemical-specific regulatory criteria for soil and groundwater. In addition, there may be location- and action-specific requirements for completing a cleanup action.

In accordance with MTCA, the Lignin OU cleanup action would be exempt from the procedural requirements of RCW Chapters 70A.15, 70A.205, 70A.300, 77.55, 90.48, and 90.58, and of any laws requiring or authorizing state or local government permits or approvals. However, the Port must still comply with the substantive requirements of such

permits or approvals (WAC 173-340-520). The cleanup action must also comply with any applicable federal regulations and obtain any required federal permits.

7 Cleanup Implementation Schedule

The March 2022 amended Schedule of Deliverables for the Order identifies milestones for completing this CAP and preparing a Project Plan for and then implementing the PRDI. The subsequent components of the Lignin OU cleanup process are as follows:

- Cleanup design (Engineering Design Report, Construction Plans and Specifications, and Compliance Monitoring Plan for Soil Removal)
- Cleanup construction
- As-Built Report for the cleanup construction
- Environmental covenant
- Groundwater MNA (MNA Compliance Monitoring Plan preparation, initiation of MNA monitoring, and Annual Reports for the MNA monitoring program).

Design and construction of the Lignin OU cleanup are planned to be completed in 2022. Thereafter, groundwater MNA compliance monitoring will continue until the requirements for terminating the monitoring program, as defined in the MNA Compliance Monitoring Plan, have been met.

Any schedule changes agreed to by Ecology and the Port will be formally documented in writing, pursuant to the terms of the Consent Decree's Extension of Schedule section.

8 References

Aspect Consulting, LLC (Aspect), 2013, Remedial Investigation, Georgia-Pacific West Site, Bellingham, August 5, 2013, Volume 1 of RI/FS.

Aspect Consulting, LLC (Aspect), 2018, Feasibility Study, Chlor-Alkali Remedial Action Unit, Vol. 2b of RI/FS, Georgia-Pacific West Site, Bellingham, Washington, June 2018.

Washington State Department of Ecology (Ecology), 2014, Cleanup Action Plan, Pulp /Tissue Mill Remedial Action Unit, Georgia-Pacific West Site, Bellingham, Washington, October 30, 2014.

Washington State Department of Ecology (Ecology), 2021, Cleanup Action Plan, Chlor-Alkali Remedial Action Unit, Georgia-Pacific West Site, Bellingham, Washington, September 7, 2021.

TABLES

Table 1. Soil Cleanup Levels for Contaminants of Concern

Lignin Operable Unit, Chlor-Alkali RAU Cleanup Action Plan, GP West Site

Constituent of Concern	Soil Cleanup Level (mg/kg)		
	Based on Unrestricted Direct Contact	Based on Leaching to Groundwater	
		Unsaturated Soil	Saturated Soil
Heavy Metals			
Cadmium	80	1	1
Chromium (Total)	120,000	5,200	260
Copper	3,200	36	36
Zinc	24,000	100	85
Polycyclic Aromatic Hydrocarbons (PAHs)			
Total cPAHs (TEQ)	0.19	0.19*	0.19*

Abbreviations: cPAH: carcinogenic PAH. mg/kg: milligrams per kilogram. TEQ: toxic equivalent concentration of benzo(a)pyrene.

Notes:

Cleanup levels are from the Chlor-Alkali Remedial Action Unit Cleanup Action Plan (Ecology, 2021), with distinction made here for levels based on soil direct contact versus those based on leaching to groundwater.

*: Determined based on empirical demonstration of soil concentrations protective of groundwater in accordance with WAC 173-340-747(9).

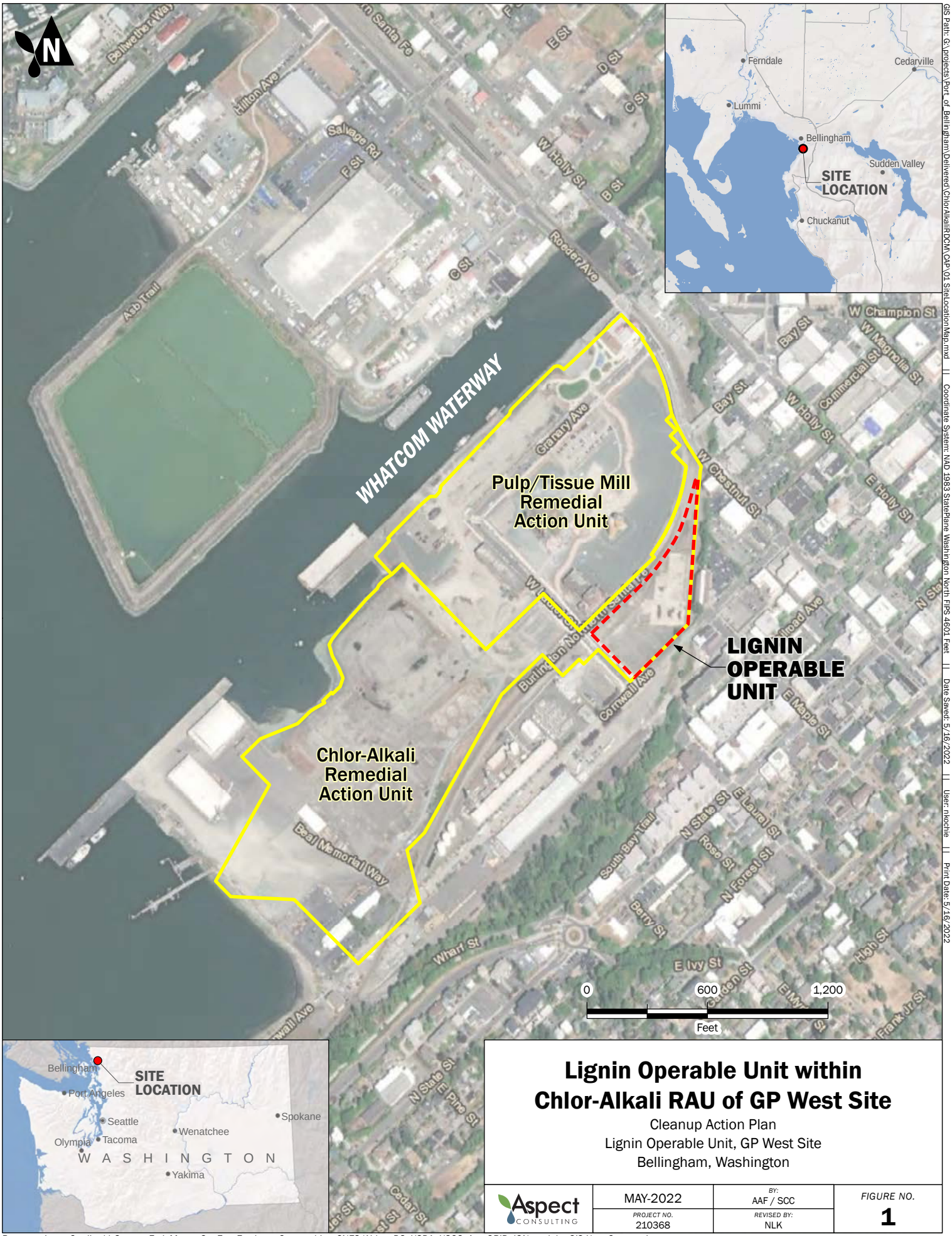
Table 2. Groundwater Cleanup Levels for Contaminants of Concern

Lignin Operable Unit, Chlor-Alkali RAU Cleanup Action Plan, GP West Site

Constituent of Concern	Groundwater Cleanup Level (µg/L)
Heavy Metals	
Chromium (Total)	260
Copper	3.1
Zinc	81

Note: Cleanup levels are from the Chlor-Alkali Remedial Action Unit Cleanup Action Plan (Ecology, 2021).

FIGURES



Lignin Operable Unit within Chlor-Alkali RAU of GP West Site

Cleanup Action Plan
Lignin Operable Unit, GP West Site
Bellingham, Washington

Aspect CONSULTING	MAY-2022	BY: AAF / SCC	FIGURE NO. 1
	PROJECT NO. 210368	REVISED BY: NLK	

GIS Path: G:\projects\Port_of_Bellingham\Delivered\ChlorAlkaliRDCMA\CAP\01_SiteLocationMap.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 5/16/2022 || User: nlochie || Print Date: 5/16/2022

Basemap Layer Credits || Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
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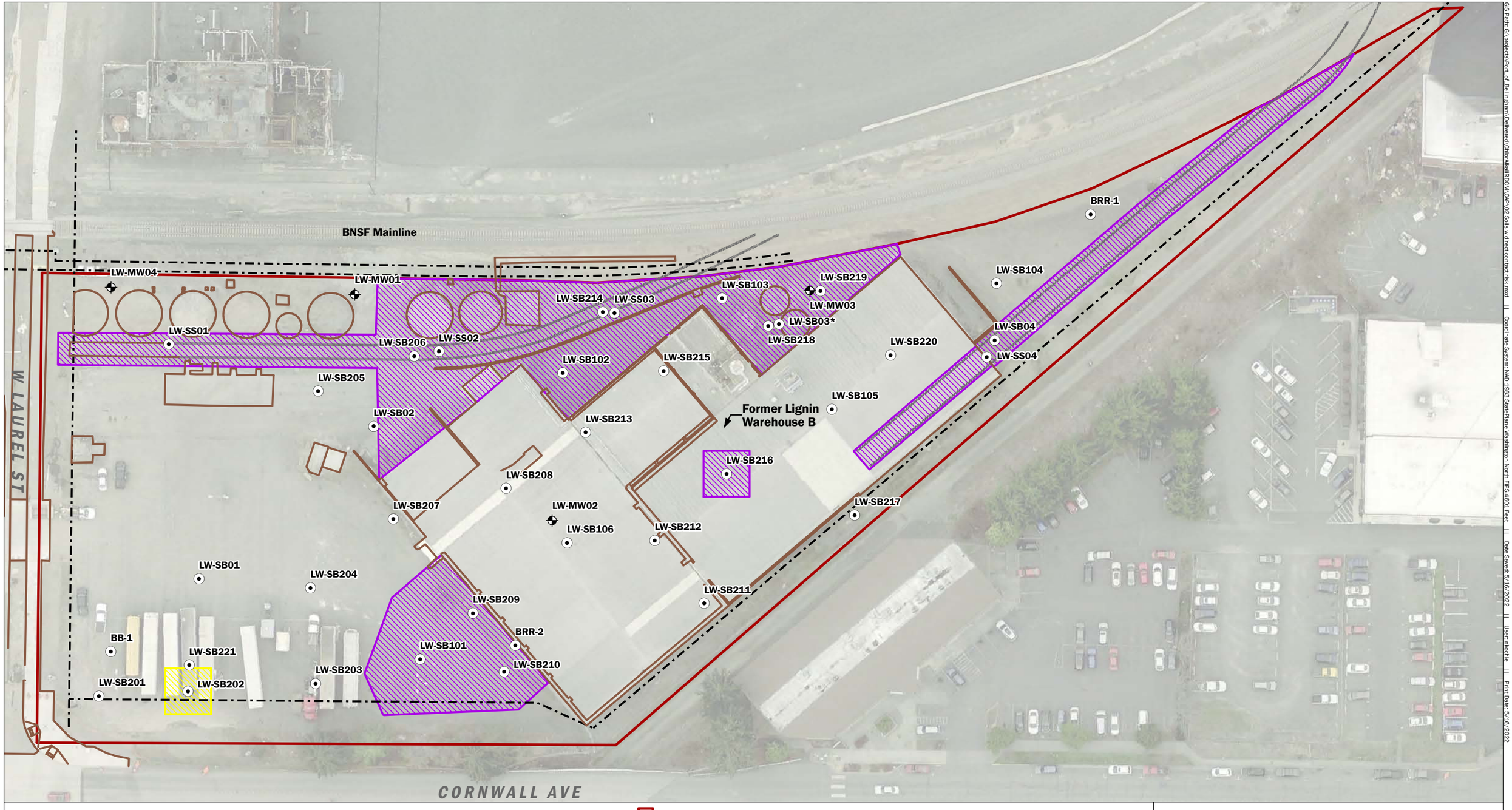


Explorations

- Soil Boring
- Monitoring Well

Soil Contamination Posing Direct Contact Risk

- Zinc
- Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

- Remnant Concrete Structure to be Removed
- Railroad Spur
- Lignin Operable Unit
- Existing Easement

MILL NORTH

TRUE NORTH

45°

0 30 60

Feet

Note:
1. Existing features and Lignin operable unit from Millworks survey NOV-2021.

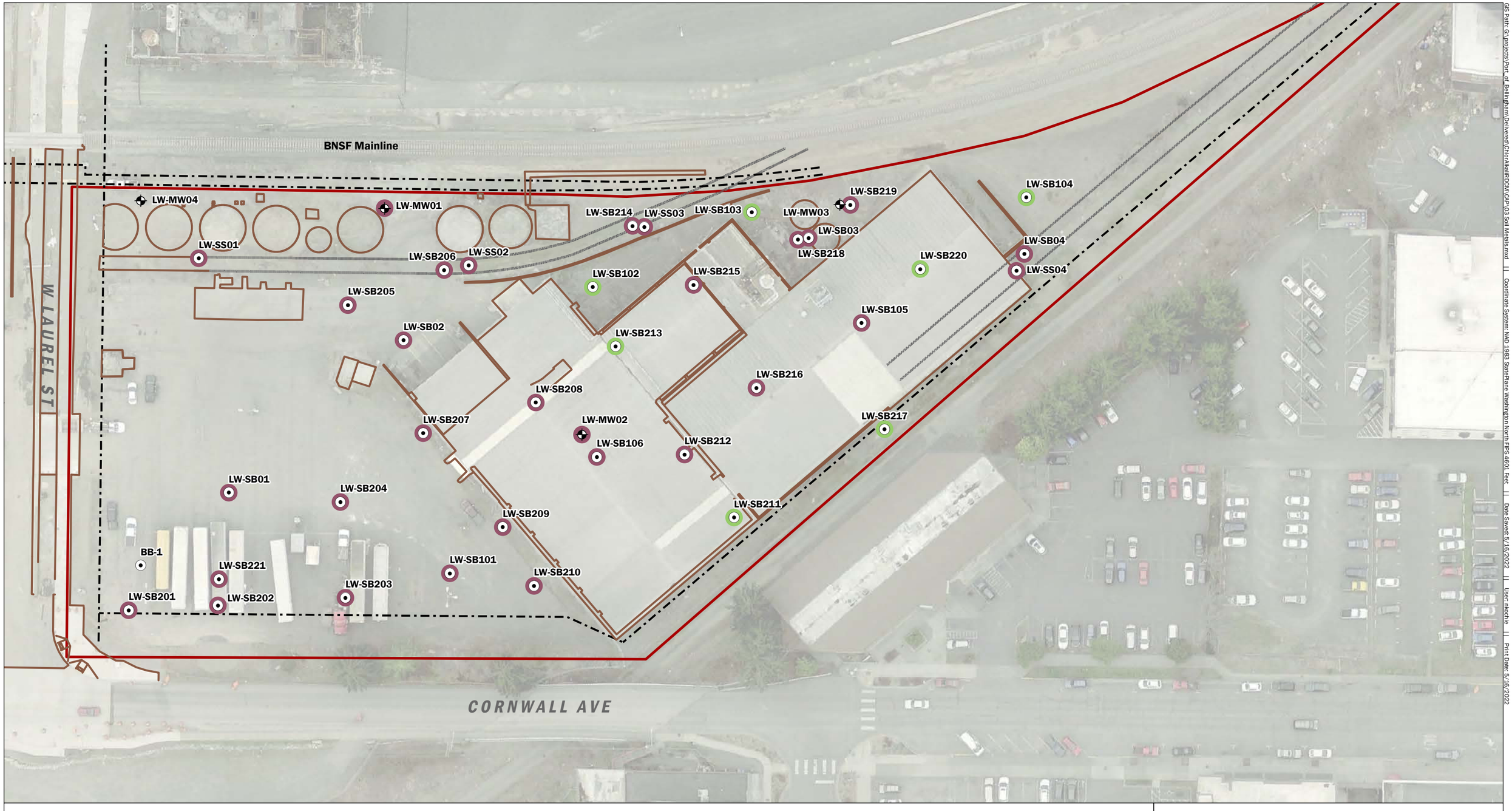
Basemap Layer Credits || Whatcom County

Areas of Soil Contamination Posing Direct Contact Risk

Cleanup Action Plan
Lignin Operable Unit, GP West Site
Bellingham, Washington

Aspect Consulting	MAY-2022	BY: SJG / AAF	FIGURE NO. 2
	PROJECT NO. 210368	REVISED BY: NLK	

GIS Path: G:\projects\Port_of_Bellingham\Delivered\Chlor-Alkali\ROM\CAP\02 Soils w direct contact risk.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 5/16/2022 || User: nkoch|e || Print Date: 5/16/2022



Explorations

- Soil Boring
- Monitoring Well

Soil Metals Concentrations

- Exceeds concentration modeled to be protective of leaching
- Less than concentration modeled to be protective of leaching

- Remnant Concrete Structure to be Removed
- Railroad Spur
- Lignin Operable Unit
- Existing Easement

MILL NORTH
TRUE NORTH
45°

0 30 60
Feet

Note:
1. CUL = soil cleanup level,
2. Existing features and Lignin operable unit from Millworks survey NOV-2021.

Basemap Layer Credits || Whatcom County

Distribution of Soil Metals Concentrations Relative to Leaching-Based Cleanup Levels

Cleanup Action Plan
Lignin Operable Unit, GP West Site
Bellingham, Washington

Aspect Consulting	MAY-2022	BY: SJG / AAF	FIGURE NO. 3
	PROJECT NO. 210368	REVISED BY: NLK	

GIS Path: G:\projects\Port_of_Bellingham\Delivered\Chlor-Alkali\RDM\CAP\03 Soil Metals.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 5/16/2022 || User: nkochie || Print Date: 5/16/2022

Explorations

- Monitoring Well
- CUL exceedance in January and/or February 2022 groundwater samples. Exceeding constituent is listed.
- No CUL exceedances in January or February 2022 groundwater samples
- Anticipated General Area for Future Groundwater MNA Monitoring Wells
- Water table elevation, NAVD88 1/24/2022
- Generalized Groundwater Flow Direction
- Remnant Concrete Structure to be Removed
- Existing Easement
- Railroad Spur
- Lignin Operable Unit

Note:
1. Existing features, Lignin operable unit, and utility lines from Millworks survey NOV-2021.
2. City raw water lines from Georgia-Pacific CAD file.

MILL NORTH
TRUE NORTH
45°

0 30 60
Feet

Groundwater Flow Direction and Metals Exceedances

Cleanup Action Plan
Lignin Operable Unit, GP West Site
Bellingham, Washington

Aspect Consulting	JUN-2022	BY: SJG / AAF	FIGURE NO. 4
	PROJECT NO. 210368	REVISED BY: NLK	

Basemap Layer Credits || Whatcom County

GIS Path: G:\projects\ChlorAlkaliRAU_210368\Delivered\CAP\04 Groundwater.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 6/2/2022 || User: nkochle || Print Date: 6/2/2022

Soils to be Removed
Soil Exceeding Direct Contact CULs

- Metals > direct contact CUL (6-ft excavation)
- cPAH > direct contact CUL (2-ft excavation)

Soils to be Removed
Additional Metals-Impacted Soils*

- 0.5- to 4-foot deep excavation
- 7-foot deep excavation

- Remnant Concrete Structure to be Removed
- Railroad Spur to be Removed
- Pavement to be Removed
- Lignin Operable Unit

Notes:
1. CUL = cleanup level
2. Existing features and Lignin operable unit from Millworks survey NOV-2021.
*: Because the affordable housing redevelopment subgrade design is in process, the excavation depths may change somewhat by the time that the cleanup construction plans and specifications are finalized. All excavation depths are approximate.

MILL NORTH
TRUE NORTH
45°

0 30 60
Feet

Selected Cleanup Action

Cleanup Action Plan
Lignin Operable Unit, GP West Site
Bellingham, Washington

Aspect Consulting	MAY-2022	BY: SJG / AAF	FIGURE NO. 5
	PROJECT NO. 210368	REVISED BY: NLK	

GIS Path: G:\projects\Chlor-Alkali\RAU_210368\Delivered\CAP\05 Selected Cleanup Action.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 5/31/2022 || User: nkochie || Print Date: 5/31/2022

Exhibit H

Exhibit H
Schedule of Deliverables
Lignin Operable Unit, Chlor-Alkali RAU, Georgia-Pacific West Site

Deliverable/Milestone		Schedule
A. Administrative		
A.1	Lodge Consent Decree (CD) Amendment in Court (CD Amendment Effective Date)	Within 30 days of Execution by Port and Ecology
A.2	Progress Reports to Ecology	For first three years following CD Amendment Effective Date, quarterly on the 15th of the month beginning after Effective Date. Thereafter, annually in the CD Amendment anniversary month.
B. Soil Removal		
B.1	Draft Engineering Design Report (EDR)	Submit to Ecology within 30 days of CD Effective Date (A.1)
B.2	Final EDR	Submit to Ecology within 30 days following Ecology review comments on draft (B.1)
B.3	Draft Construction Plans and Specifications (CPS)	Submit to Ecology within 30 days of Final EDR (B.2)
8.4	Final CPS	Submit to Ecology within 30 days following Ecology review comments on draft (B.3)
B.5	Draft Compliance Monitoring Plan (CMP) for Soil Removal	Submit to Ecology with Draft CPS (B.3)
B.6	Final CMP for Soil Removal	Submit to Ecology within 30 days following Ecology review comments on draft (B.5)
B.7	Cleanup Construction (Soil Removal)	Complete within 90 days from Final CPS
B.8	Draft As-Built Report for Soil Removal	Submit to Ecology within 60 days of completion of construction
B.9	Final As-Built Report for Soil Removal	Submit to Ecology within 30 days following Ecology review comments on draft (B.8)
C. Environmental Covenants (ECs)		
C.1	Draft Environmental Covenant (EC) for Mercy Parcel	Submit to Ecology within 45 days of CD Amendment Effective Date
C.2	Final EC for Mercy Parcel	Submit to Ecology within 10 days following Ecology review comments on draft (C.1)
C.3	Proof of Recording of EC for Mercy Parcel	Submit to Ecology within 10 days followng Final EC (C.2)
C.4	Draft EC for Port Phase 2 Parcel	Submit to Ecology within 45 days of CD Amendment Effective Date
C.5	Final EC for Port Phase 2 Parcel	Submit to Ecology within 10 days following Ecology review comments on draft (C.4)
C.6	Proof of Recording of EC for Port Phase 2	Submit to Ecology within 10 days followng Final EC (C.5)

Exhibit H

Schedule of Deliverables

Lignin Operable Unit, Chlor-Alkali RAU, Georgia-Pacific West Site

Deliverable/Milestone		Schedule
D. Groundwater Monitored Natural Attenuation (MNA)		
D.1	Draft Groundwater MNA Compliance Monitoring Plan (MNA CMP)	Submit to Ecology within 90 days of Final CMP for Soil Removal (B.6)
D.2	Final Groundwater MNA CMP	Submit to Ecology within 30 days following Ecology review comments on
D.3	Groundwater MNA Compliance Monitoring Implementation	Start within 30 days from Final As-Built Report for Soil Removal (B.9)
D.4	Draft Annual Groundwater MNA Report	Submit to Ecology within 60 days after validation of the year's analytical data
D.5	Final Annual Groundwater MNA Report	Submit to Ecology within 30 days following Ecology review comments on draft (D.4)

Notes:

Schedule assumes 30-day Ecology review periods for draft deliverables. Dates falling on weekends or holidays will be the following business day.
Abbreviations : CD: Consent Decree; CMP: Compliance Monitoring Plan; CPS: Constructions Plans & Specifications; EC: Environmental Covenant; EDR: Engineering Design Report; MNA: Monitored Natural Attenuation (for groundwater).

Exhibit I

EXHIBIT I
LIST OF REQUIRED PERMITS OR APPROVALS

APPLICABLE PERMITS OR APPROVALS & REQUIREMENTS

The cleanup action to be performed at the Lignin Operable Unit requires the following environmental review process:

State Environmental Policy Act Integrated Compliance (RCW 43.21C.036 and WAC 197-11-250 through 259)

Compliance with SEPA, Chapter 43.21C RCW, has been achieved for cleanup of the Chlor-Alkali Remedial Action Unit, including the Lignin Operable Unit, by conducting SEPA review in accordance with applicable regulatory requirements, including WAC 197-11-268, and Ecology guidance as presented in Ecology Policy 130A (Ecology, 2004). Ecology conducted SEPA review concurrent with public review of the Cleanup Action Plan for the Chlor-Alkali Remedial Action Unit and issued the SEPA Determination of Non-Significance on July 6, 2021.

The cleanup action to be performed at the Lignin Operable Unit requires one or both of the following permits:

NPDES Waste Discharge Permit

If construction-generated stormwater and/or dewatering water is conveyed to the Port of Bellingham's Aerated Stabilization Basin (ASB), that process would need to comply with the Port's individual National Pollution Discharge Elimination System (NPDES) Waste Discharge Permit No. WA0001091 and any subsequent modifications.

NPDES Construction Stormwater General Permit

If construction-generated stormwater and/or dewatering water is discharged to surface waters of the state, the cleanup action would require a NPDES Construction Stormwater General Permit with Administrative Order issued by Ecology. The federal NPDES permit program is delegated to Washington State by the federal Environmental Protection Agency under the federal Clean Water Act, § 1251 et seq. Pursuant to RCW 70.105D.090(2). Ecology has determined that the procedural requirements of an NPDES permit are not exempt for MTCA actions.

Exhibit J

EXHIBIT J

APPLICABLE SUBSTANTIVE REQUIREMENTS OF PROCEDURALLY EXEMPT PERMITS OR APPROVALS

APPLICABLE PERMITS OR APPROVALS & REQUIREMENTS

The cleanup action to be performed at the Lignin Operable Unit is exempt from the procedural requirements of the following permits and approvals but must meet the substantive requirements:

City of Bellingham Major Grading Permit (BMC Title 16.70.070)

Pursuant to the City of Bellingham (City) Grading Ordinance (BMC 16.70.070), a Major Grading permit is required from the City for grading projects that involve more than 500 cubic yards of grading. The City grading ordinance identifies a number of standards and requirements for obtaining a grading permit. The City standards and requirements will be integrated into the construction plans and specifications where applicable for the cleanup action to ensure it complies with the substantive requirements of the City grading ordinance. Those substantive requirements include: staking and flagging property corners and lines when near adjacent properties, location and protection of potential underground hazards, proper vehicle access point to prevent transport of soil off-site, erosion control, work hours and methods compatible with weather conditions and surrounding property uses, prevention of damage or nuisance, maintaining a safe and stable work site, compliance with noise ordinances and zoning provisions, development of a traffic plan when utilizing City streets and written permission when grading from legal property owner.

City of Bellingham Critical Area Ordinance (BMC Title 16.55.420)

Critical area substantive requirements are applied to land development activities in the City. The cleanup action will occur on land designated by the City as having a medium-high seismic hazard. The substantive requirements associated with BMC 16.55.420 include an assessment or characterization of the hazard areas, which may include a hazard analysis and geotechnical engineering report by a licensed professional.

City of Bellingham Construction Stormwater Permit (BMC Title 15.42)

Pursuant to the City Stormwater Management ordinance (BMC 15.42), the cleanup must meet the requirements of a City Stormwater Permit. The cleanup action does not include construction of any improvements, and the substantive requirements will be met by preparation of and compliance with a TESC Plan to infiltrate construction stormwater and prevent its runoff offsite, control sources of pollution, and preserve natural drainage systems and outfalls.