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WHATCOM COUNTY  
WASHINGTON

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**STATE OF WASHINGTON  
WHATCOM COUNTY SUPERIOR COURT**

STATE OF WASHINGTON,  
DEPARTMENT OF ECOLOGY,

Plaintiff,

v.

CITY OF BELLINGHAM, a Washington  
municipal corporation,

Defendant.

NO.

15 2 02409 1

SUMMONS

TO: AMY B. KRAHAM, attorney for Defendant, City of Bellingham.

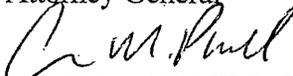
A lawsuit has been started against you in the above-entitled court by the State of Washington, Department of Ecology. Plaintiff's claim is stated in the written Complaint, a copy of which is served upon you with this Summons.

The parties have agreed to resolve this matter by entry of a Consent Decree, a copy of which is also attached. Accordingly, this Summons shall not require the filing of an Answer.

Further, all disputes arising under this cause shall be resolved under the terms of the Consent Decree.

DATED this 28<sup>th</sup> day of December 2015.

ROBERT W. FERGUSON  
Attorney General

  
ANNE M. POWELL, WSBA #42934  
Assistant Attorney General  
Attorneys for Plaintiff  
State of Washington, Department of Ecology  
(360) 586-4607

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WHATCOM COUNTY  
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STATE OF WASHINGTON  
WHATCOM COUNTY SUPERIOR COURT

STATE OF WASHINGTON,  
DEPARTMENT OF ECOLOGY,

Plaintiff,

v.

CITY OF BELLINGHAM, a  
Washington municipal corporation,

Defendant.

NO. 15 2 02409 1  
COMPLAINT

Plaintiff, State of Washington, Department of Ecology (Ecology), alleges as follows:

**I. DESCRIPTION OF ACTION**

1. This action is brought on behalf of the State of Washington, Department of Ecology to enter a settlement agreement known as a Consent Decree (Decree), which requires remedial action at a facility where there has been a release and/or threatened release of hazardous substances.

2. The Complaint and settlement are limited to the scope of the Decree. The facility, or Site, is referred to as Eldridge Municipal Landfill Site. The Site is generally located at the 3100 block of West Illinois Street and the exterior boundaries of Little Squalicum Park (Park) in Bellingham, Washington.

1 **II. JURISDICTION**

2 3. This Court has jurisdiction over the subject matter and over the parties pursuant  
3 to the Model Toxics Control Act (MTCA), RCW 70.105D. Venue is proper in Whatcom  
4 County, the location of the Site.

5 **III. PARTIES**

6 4. Plaintiff Ecology is an agency of the State of Washington responsible for  
7 overseeing remedial action at sites contaminated with hazardous substances under  
8 RCW 70.105D, the MTCA.

9 5. Defendant is the City of Bellingham (Defendant).

10 **IV. FACTUAL ALLEGATIONS**

11 6. The Site is generally located at the 3100 block of West Illinois Street and the  
12 exterior boundaries of Little Squalicum Park, Bellingham, Washington. The Site is defined by  
13 the extent of contamination caused by the release of hazardous substances at the Site. The Site  
14 consists of approximately 0.74 acres or 32,300 square feet. The Site is bounded by (within)  
15 Little Squalicum Park. The Site is located on property owned by Whatcom County (Parcel  
16 Number: 3802234732190000), which is currently leased by the Defendant for management of  
17 the Park. The remains of the landfill are located west of the Bellingham Technical College  
18 (BTC) campus

19 7. Defendant has accepted status as a potentially liable person (PLP) for the Site  
20 under MTCA.

21 8. Defendant is the current operator of the Site.

22 9. In the mid-to-late 1930s, the Site was used by the Defendant as a “sanitary  
23 landfill.” The landfill was operated for only a few years before operations ceased.  
24 Contamination at the Site is related to the burning and burying of local municipal waste hauled  
25 by a garbage collection contractor.

1 10. Ecology has determined that there has been a release or threatened release of  
2 hazardous substances at the Site. Ecology has further determined that contamination at the Site  
3 presents a threat to human health and the environment, and that a final cleanup is necessary to  
4 remedy contamination.

5 11. Ecology developed a draft Cleanup Action Plan (CAP) for the Site and  
6 negotiated a draft Consent Decree with Defendant for implementation of the CAP.

7 12. The draft CAP and Consent Decree were subject to public notice and comment  
8 between September 21 and October 20, 2015. Five comments were received.

9 13. After consideration of the comment received, Ecology issued a final CAP.

10 14. Ecology and Defendant have now entered into the final Decree requiring  
11 cleanup of the Site. The final CAP is an integral and enforceable exhibit to the Decree.

12 **V. CAUSES OF ACTION**

13 15. Ecology alleges all preceding paragraphs.

14 16. Ecology alleges that the Defendant is responsible, jointly and severally, for  
15 remedial action at the Site, pursuant to RCW 70.105D.

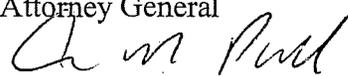
16 **VI. PRAYER FOR RELIEF**

17 17. Ecology requests that the Court approve and order entry of the proposed  
18 Consent Decree.

19 18. Ecology further requests that the Court retain jurisdiction to enforce the terms of  
20 the Consent Decree.

21 DATED this 28<sup>th</sup> day of December 2015.

22 ROBERT W. FERGUSON  
23 Attorney General



24 ANNE M. POWELL, WSBA #42934  
25 Assistant Attorney General  
26 Attorneys for Plaintiff  
State of Washington, Department of Ecology  
(360) 586-4607

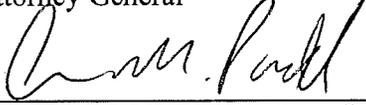


1 The Consent Decree has been signed by the parties to this action and has been the subject of  
2 public notice and comment as required by RCW 70.105D.040(4)(a).

3 DATED this 28<sup>th</sup> day of December 2015.

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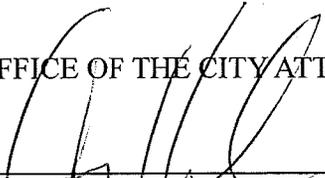
ROBERT W. FERGUSON  
Attorney General



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ANNE M. POWELL, WSBA #42934  
Assistant Attorney General  
Attorneys for Plaintiff  
State of Washington, Department of Ecology  
(360) 586-4607

OFFICE OF THE CITY ATTORNEY



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AMY B. KRAHAM, WSBA #19959  
Senior Assistant City Attorney  
Attorney for Defendant  
City of Bellingham  
(360) 778-8278

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WHATCOM COUNTY  
WASHINGTON

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STATE OF WASHINGTON  
WHATCOM COUNTY SUPERIOR COURT

STATE OF WASHINGTON,  
DEPARTMENT OF ECOLOGY,

Plaintiff,

v.

CITY OF BELLINGHAM, a Washington  
municipal corporation,

Defendant.

NO. 15 2 02409 1

DECLARATION OF  
MARY K. O'HERRON

I, Mary K. O'Herron, declare as follows:

1. I am over 21 years of age and am competent to testify herein. The facts set forth in this declaration are from my personal knowledge.

2. I am employed by the Washington State Department of Ecology as a Project Manager in Ecology's Toxics Cleanup Program and work out of the Bellingham Field Office. I am the designated Project Coordinator for, and am therefore knowledgeable about, matters relating to the Eldridge Municipal Landfill (Site).

3. The Site is located in Bellingham, Washington.

4. Ecology has determined that a release or threatened release of hazardous substances has occurred at the Site.

5. Investigations conducted at the Site indicate that hazardous substances from past operations on the Site are present in soil and groundwater.



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WHATCOM COUNTY  
WASHINGTON

BY \_\_\_\_\_

**STATE OF WASHINGTON  
WHATCOM COUNTY SUPERIOR COURT**

STATE OF WASHINGTON,  
DEPARTMENT OF ECOLOGY,

Plaintiff,

v.

CITY OF BELLINGHAM, a Washington  
municipal corporation,

Defendant.

NO. 15 2 02409 1

ORDER ENTERING CONSENT  
DECREE

RE: ELDRIDGE MUNICIPAL  
LANDFILL

[PROPOSED]

Having reviewed the Joint Motion for Entry of the Consent Decree, it is hereby  
ORDERED AND ADJUDGED that the Consent Decree in this matter is entered and that the  
Court shall retain jurisdiction over the Consent Decree to enforce its terms.

DATED this 30<sup>th</sup> day of Dec. 2015.



\_\_\_\_\_  
JUDGE/COMMISSIONER  
Whatcom County Superior Court

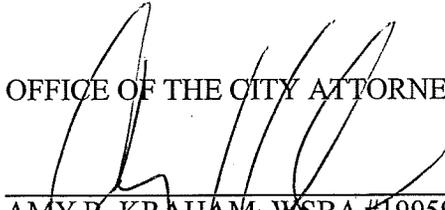
1 Presented by:

2 ROBERT W. FERGUSON  
3 Attorney General

4 

5 ANNE M. POWELL, WSBA #42934  
6 Assistant Attorney General  
7 Attorneys for Plaintiff  
8 State of Washington, Department of Ecology  
9 (360) 586-4607

10 OFFICE OF THE CITY ATTORNEY

11 

12 AMY B. KRAHAM, WSBA #19959  
13 Senior Assistant City Attorney  
14 Attorney for Defendant  
15 City of Bellingham  
16 (360) 778-8278

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**STATE OF WASHINGTON  
WHATCOM COUNTY SUPERIOR COURT**

STATE OF WASHINGTON,  
DEPARTMENT OF ECOLOGY,

Plaintiff,

v.

CITY OF BELLINGHAM,

Defendant.

NO.

15 2 02409 1

CONSENT DECREE RE:  
ELDRIDGE MUNICIPAL LANDFILL

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1 I. INTRODUCTION

2 A. The mutual objective of the State of Washington, Department of Ecology  
3 (Ecology) and the City of Bellingham (Defendant or City) under this Decree is to provide for  
4 remedial action at the Eldridge Municipal Landfill site (the Site), a facility where there has  
5 been a release or threatened release of hazardous substances. The Site location is shown on the  
6 Site Diagram, attached hereto as Exhibit A. This Decree requires Defendant to conduct a final  
7 cleanup action of the Site by implementing the Cleanup Action Plan (CAP) attached as Exhibit  
8 B, according to the schedule and other requirements identified in this Decree and all exhibits  
9 thereto.

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

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

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

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

24 F. This Decree shall not be construed as proof of liability or responsibility for any  
25 releases of hazardous substances or cost for remedial action nor an admission of any facts;  
26

1 provided, however, that Defendant shall not challenge the authority of the Attorney General  
2 and Ecology to enforce this Decree.

3 G. The Court is fully advised of the reasons for entry of this Decree, and good  
4 cause having been shown:

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

## 6 II. JURISDICTION

7 A. This Court has jurisdiction over the subject matter and over the Parties pursuant  
8 to the Model Toxics Control Act (MTCA), RCW 70.105D.

9 B. Authority is conferred upon the Washington State Attorney General by  
10 RCW 70.105D.040(4)(a) to agree to a settlement with any potentially liable person (PLP) if,  
11 after public notice and any required hearing, Ecology finds the proposed settlement would lead  
12 to a more expeditious cleanup of hazardous substances. RCW 70.105D.040(4)(b) requires that  
13 such a settlement be entered as a consent decree issued by a court of competent jurisdiction.

14 C. Ecology has determined that a release or threatened release of hazardous  
15 substances has occurred at the Site that is the subject of this Decree.

16 D. Ecology has given notice to Defendant of Ecology's determination that  
17 Defendant is a PLP for the Site, as required by RCW 70.105D.020(26) and WAC 173-340-500.

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

20 F. This Decree has been subject to public notice and comment.

21 G. Ecology finds that this Decree will lead to a more expeditious cleanup of  
22 hazardous substances at the Site in compliance with the cleanup standards established under  
23 RCW 70.105D.030(2)(e) and WAC 173-340.

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

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**III. PARTIES BOUND**

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**

Unless otherwise specified herein, all definitions in RCW 70.105D.020 and WAC 173-340-200 shall control the meanings of the terms in this Decree.

A. Site: The Site is referred to as Eldridge Municipal Landfill Site and is generally located at within the 3100 block of West Illinois Street and the exterior boundaries of Little Squalicum Park (Park) in Bellingham, Washington. The Site is more particularly described in the Site Diagram (Exhibit A). The Site constitutes a Facility under RCW 70.105D.020(8).

B. Parties: Refers to the State of Washington, Department of Ecology and the City of Bellingham (City).

C. Defendant: Refers to the City.

D. 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. The terms "Consent Decree" or "Decree" shall include all exhibits to this Consent Decree.

**V. FINDINGS OF FACTS**

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

1 A. The Site is located in Bellingham, Washington, and consists of  
2 approximately 0.74 acres or 32,300 square feet. The Site is bounded by (within) Little  
3 Squalicum Park. The Site is located on property owned by Whatcom County (Parcel  
4 Number: 3802234732190000), which is currently leased by the City for management of the  
5 Park. The remains of the landfill are located west of the Bellingham Technical College (BTC)  
6 campus. A diagram of the Site is attached as Exhibit A.

7 B. In the mid-to-late 1930s, the Site was used by the City as a "sanitary landfill."  
8 The landfill was operated for only a few years before operations ceased. Contamination at the  
9 Site is related to the burning and burying of local municipal waste hauled by a garbage  
10 collection contractor. The types of municipal garbage observed consisted of glass bottles,  
11 metal scraps, ash, ceramics, construction debris, and various indiscernible rusted materials.

12 C. The landfill was identified and delineated in January 2006 as part of a Remedial  
13 Investigation (RI) conducted by the City under Agreed Order No. DE 2016 (no longer in  
14 effect) for the larger Little Squalicum Park Site (the Park Site). The draft Little Squalicum  
15 Park RI documented a separate and distinct area of contamination within the Park Site, which  
16 included the presence of low levels of polycyclic aromatic hydrocarbons (PAHs), benzoic acid,  
17 phthalates, and pentachlorophenol in surface soil samples collected in the landfill area, as well  
18 as elevated concentrations of some heavy metals (e.g., lead). Higher levels of metals were  
19 detected in subsurface soils. When the investigation showed contamination along Little  
20 Squalicum Creek was associated with the adjacent Oeser federal Superfund site, the U.S.  
21 Environmental Protection Agency took over the regulatory lead for cleanup of the creek area.

22 D. In November 2009, Ecology listed the landfill area as a separate site. Ecology  
23 named both the City and Whatcom County as potentially liable persons (PLPs).

24 E. In September 2010, the Environmental Protection Agency (EPA) uncovered  
25 additional landfill material during excavations at the Oeser/Little Squalicum Creek site. In  
26 order to allow the EPA's work to continue, the City undertook an independent remedial action

1 to investigate, analyze, relocate and secure most of the contaminated  
2 soil that was left in-place was addressed, along with the relocated material, as part of the larger  
3 landfill cleanup.

4 F. On November 19, 2010, the City and Ecology entered into Agreed Order  
5 No. DE 8073 (Agreed Order) to prepare a Remedial Investigation and Feasibility Study  
6 (RI/FS) report, plus a draft cleanup action plan (DCAP), for the Site.

7 G. An initial draft RI/FS report was completed for the Site in February 2011, and  
8 after review by Ecology and further discussion between parties, the City agreed to conduct an  
9 interim action for the Site.

10 H. In July 2011, the Agreed Order was amended to require the City to perform an  
11 interim action to remove municipal solid waste plus contaminated soils at the Site that exceed  
12 specific remediation levels and to dispose of them in an approved upland landfill.

13 I. An Engineering Design Report was finalized by the City in June 2011, for  
14 implementing the interim action. Remedial activities were conducted from August 22 to  
15 October 7, 2011. About 4,290 tons of landfill debris and contaminated soil were excavated  
16 from the Site and disposal at a Subtitle D landfill located in Roosevelt, Washington. Soils  
17 containing arsenic, cadmium, copper, lead, mercury, and zinc above the remediation levels  
18 were removed from the Site except for locations on steep, unstable slopes and within or  
19 adjacent to an existing wetland.

20 J. A Performance Monitoring and Contingency Plan was finalized in November  
21 2011 which confirmed the cleanup of landfill debris and contaminated soil. The City  
22 submitted an Interim Action Construction Completion Report in December 2011, which  
23 summarized the interim action construction activities and performance monitoring.

24 K. After the interim action was completed, the City produced a groundwater  
25 sampling and analysis plan in April 2012, for conducting additional soil and groundwater  
26

1 characterization at the landfill Site to determine the effectiveness of the interim action. This  
2 work was completed in May 2012.

3 L. A public review draft RI/FS was prepared by the City and provided to Ecology  
4 on April 8, 2014. The public review and comment period is concurrent with this Decree.

5 M. The contaminants of concern remaining at the Site that exceed MTCA cleanup  
6 levels are arsenic and iron in groundwater and lead, zinc, copper, and mercury in soil.

7 N. As documented in the Cleanup Action Plan (CAP) (Exhibit B), the cleanup  
8 action to be implemented at the Site includes monitoring, wetland restoration, and  
9 implementation of institutional controls.

## 10 VI. WORK TO BE PERFORMED

11 This Decree contains a program designed to protect human health and the environment  
12 from the known release, or threatened release, of hazardous substances or contaminants at, on,  
13 or from the Site.

14 A. The interim action performed in 2011 is incorporated as part of the CAP.

15 B. The Defendants shall perform all tasks set forth in the CAP (Exhibit B) and  
16 implement the CAP in accordance with the Schedule of Work and Deliverables (Exhibit C).

17 The CAP requires:

18 1. At least two years of compliance monitoring to measure arsenic and iron  
19 concentrations in groundwater. Should monitoring indicate that groundwater  
20 concentrations continue to be present above cleanup levels, additional monitoring or other  
21 steps may be required.

22 2. Wetland restoration in Wetland B.

23 3. Designation of Especially Valuable Habitat for Area 1 and Wetland A.

24 4. As described in more detail in Section XX, an environmental covenant will be  
25 recorded that will, among other requirements: prohibit groundwater use and restrict any  
26 uses or practices that would damage or reduce the effectiveness of the cleanup action.

1 C. Defendant agrees not to perform any remedial actions outside the scope of this  
2 Decree unless the Parties agree to modify the Schedule of Work and Deliverables (Exhibit C)  
3 to cover these actions. All work conducted by Defendant under this Decree shall be done in  
4 accordance with WAC 173-340 unless otherwise provided herein.

5 **VII. DESIGNATED PROJECT COORDINATORS**

6 The project coordinator for Ecology is:

7 Mary O'Herron  
8 Department of Ecology  
9 Bellingham Field Office  
10 1440 10<sup>th</sup> Street, Suite 102, Bellingham, WA 98225  
11 (360) 715-5224

12 The project coordinator for Defendant is:

13 Renee LaCroix  
14 City of Bellingham  
15 Assistant Public Works Director - Natural Resources Division  
16 2221 Pacific Street, Bellingham, WA 98229  
17 (360) 778-7800

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

26 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.

1 **VIII. PERFORMANCE**

2 All geologic and hydrogeologic work performed pursuant to this Decree shall be under  
3 the supervision and direction of a geologist or hydrogeologist licensed by the State of  
4 Washington or under the direct supervision of an engineer registered by the State of  
5 Washington, except as otherwise provided for by RCW 18.220 and 18.43.

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

9 All construction work performed pursuant to this Decree shall be under the direct  
10 supervision of a professional engineer or a qualified technician under the direct supervision of  
11 a professional engineer. The professional engineer must be registered by the State of  
12 Washington, except as otherwise provided for by RCW 18.43.130.

13 Any documents submitted containing geologic, hydrologic, or engineering work shall  
14 be under the seal of an appropriately licensed professional as required by RCW 18.220 and  
15 18.43.

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

19 **IX. ACCESS**

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

1 data submitted to Ecology by Defendant. Defendant shall make all reasonable efforts to secure  
2 access rights for those properties within the Site not owned or controlled by Defendant where  
3 remedial activities or investigations will be performed pursuant to this Decree. Ecology or any  
4 Ecology authorized representative shall give reasonable notice before entering any Site  
5 property owned or controlled by Defendant unless an emergency prevents such notice. All  
6 Parties who access the Site pursuant to this section shall comply with any applicable health and  
7 safety plan(s). Ecology employees and their representatives shall not be required to sign any  
8 liability release or waiver as a condition of Site property access.

9 **X. SAMPLING, DATA SUBMITTAL, AND AVAILABILITY**

10 With respect to the implementation of this Decree, Defendant shall make the results of  
11 all sampling, laboratory reports, and/or test results generated by it or on its behalf available to  
12 Ecology. Pursuant to WAC 173-340-840(5), all sampling data shall be submitted to Ecology  
13 in both printed and electronic formats in accordance with Section XI (Progress Reports),  
14 Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any  
15 subsequent procedures specified by Ecology for data submittal.

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

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

#### 4 **XI. PROGRESS REPORTS**

5 Defendant shall submit to Ecology written monthly Progress Reports that describe the  
6 actions taken during the previous month to implement the requirements of this Decree. The  
7 Progress Reports shall include the following:

- 8 A. A list of on-site activities that have taken place during the month;
- 9 B. Detailed description of any deviations from required tasks not otherwise  
10 documented in project plans or amendment requests;
- 11 C. Description of all deviations from the Schedule of Work and Deliverables  
12 (Exhibit C) during the current month and any planned deviations in the upcoming month;
- 13 D. For any deviations in schedule, a plan for recovering lost time and maintaining  
14 compliance with the schedule;
- 15 E. All raw data (including laboratory analyses) received by Defendant during the  
16 past month and an identification of the source of the sample; and
- 17 F. A list of deliverables for the upcoming month if different from the schedule.

18 All Progress Reports shall be submitted by the tenth (10th) day of the month in which  
19 they are due after the effective date of this Decree. Unless otherwise specified, Progress  
20 Reports and any other documents submitted pursuant to this Decree shall be sent by certified  
21 mail, return receipt requested, to Ecology's project coordinator.

#### 22 **XII. RETENTION OF RECORDS**

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

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

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

10 **XIII. TRANSFER OF INTEREST IN PROPERTY**

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

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

22 **XIV. RESOLUTION OF DISPUTES**

23 A. In the event a dispute arises as to an approval, disapproval, proposed change, or  
24 other decision or action by Ecology's project coordinator, or an itemized billing statement  
25 under Section XXIV (Remedial Action Costs), the Parties shall utilize the dispute resolution  
26 procedure set forth below.

1           1. Upon receipt of Ecology's project coordinator's written decision, or the  
2 itemized billing statement, Defendant has fourteen (14) days within which to notify  
3 Ecology's project coordinator in writing of its objection to the decision or itemized  
4 statement.

5           2. The Parties' project coordinators shall then confer in an effort to resolve the  
6 dispute. If the project coordinators cannot resolve the dispute within fourteen (14) days,  
7 Ecology's project coordinator shall issue a written decision.

8           3. Defendant may then request regional management review of the decision. This  
9 request shall be submitted in writing to the Northwest Region Toxics Cleanup Program  
10 Section Manager within seven (7) days of receipt of Ecology's project coordinator's  
11 written decision.

12           4. Ecology's Regional Section Manager shall conduct a review of the dispute and  
13 shall endeavor to issue a written decision regarding the dispute within thirty (30) days of  
14 Defendant's request for review.

15           5. If Defendant finds Ecology's Regional Section Manager's decision  
16 unacceptable, Defendant may then request final management review of the decision. This  
17 request shall be submitted in writing to the Toxics Cleanup Program Manager within  
18 seven (7) days of receipt of the Regional Section Manager's decision.

19           6. Ecology's Toxics Cleanup Program Manager shall conduct a review of the  
20 dispute and shall endeavor to issue a written decision regarding the dispute within thirty  
21 (30) days of Defendant's request for review of the Regional Section Manager's decision.  
22 The Toxics Cleanup Program Manager's decision shall be Ecology's final decision on the  
23 disputed matter.

24           B. If Ecology's final written decision is unacceptable to Defendant, Defendant has  
25 the right to submit the dispute to the Court for resolution. The Parties agree that one judge  
26 should retain jurisdiction over this case and shall, as necessary, resolve any dispute arising

1 under this Decree. In the event Defendant presents an issue to the Court for review, the Court  
2 shall review the action or decision of Ecology on the basis of whether such action or decision  
3 was arbitrary and capricious and render a decision based on such standard of review.

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

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

#### 11 XV. AMENDMENT OF DECREE

12 The project coordinators may agree to minor changes to the work to be performed  
13 without formally amending this Decree. Minor changes will be documented in writing by  
14 Ecology.

15 Substantial changes to the work to be performed shall require formal amendment of this  
16 Decree. This Decree may only be formally amended by a written stipulation among the Parties  
17 that is entered by the Court, or by order of the Court. Such amendment shall become effective  
18 upon entry by the Court. Agreement to amend the Decree shall not be unreasonably withheld  
19 by any party.

20 Defendant shall submit a written request for amendment to Ecology for approval.  
21 Ecology shall indicate its approval or disapproval in writing and in a timely manner after the  
22 written request for amendment is received. If the amendment to the Decree is a substantial  
23 change, Ecology will provide public notice and opportunity for comment. Reasons for the  
24 disapproval of a proposed amendment to the Decree shall be stated in writing. If Ecology does  
25 not agree to a proposed amendment, the disagreement may be addressed through the dispute  
26 resolution procedures described in Section XIV (Resolution of Disputes).



1 by the Court. Unless the extension is a substantial change, it shall not be necessary to amend  
2 this Decree pursuant to Section XV (Amendment of Decree) when a schedule extension is  
3 granted.

4 D. An extension shall only be granted for such period of time as Ecology  
5 determines is reasonable under the circumstances. Ecology may grant schedule extensions  
6 exceeding ninety (90) days only as a result of:

- 7 1. Delays in the issuance of a necessary permit which was applied for in a timely  
8 manner;
- 9 2. Other circumstances deemed exceptional or extraordinary by Ecology; or
- 10 3. Endangerment as described in Section XVII (Endangerment).

#### 11 XVII. ENDANGERMENT

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

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

24 If Ecology concurs with or orders a work stoppage pursuant to this section, Defendant's  
25 obligations with respect to the ceased activities shall be suspended until Ecology determines  
26 the danger is abated, and the time for performance of such activities, as well as the time for any

1 other work dependent upon such activities, shall be extended, in accordance with Section XVI  
2 (Extension of Schedule), for such period of time as Ecology determines is reasonable under the  
3 circumstances.

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

#### 6 **XVIII. COVENANT NOT TO SUE**

7 A. Covenant Not to Sue: In consideration of Defendant's compliance with the  
8 terms and conditions of this Decree, Ecology covenants not to institute legal or administrative  
9 actions against Defendant regarding the release or threatened release of hazardous substances  
10 covered by this Decree.

11 This Decree covers only the Site specifically identified in the Site Diagram (Exhibit A)  
12 and those hazardous substances that Ecology knows are located at the Site as of the date of  
13 entry of this Decree. This Decree does not cover any other hazardous substance or area.  
14 Ecology retains all of its authority relative to any substance or area not covered by this Decree.

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

- 16 1. Criminal liability;
- 17 2. Liability for damages to natural resources; and
- 18 3. Any Ecology action, including cost recovery, against PLPs not a party to this  
19 Decree.

20 If factors not known at the time of entry of this Decree are discovered and present a  
21 previously unknown threat to human health or the environment, the Court shall amend this  
22 Covenant Not to Sue.

23 B. Reopeners: Ecology specifically reserves the right to institute legal or  
24 administrative action against Defendant to require it to perform additional remedial actions at  
25 the Site and to pursue appropriate cost recovery, pursuant to RCW 70.105D.050 under the  
26 following circumstances:

1           1. Upon Defendant's failure to meet the requirements of this Decree, including,  
2 but not limited to, failure of the remedial action to meet the cleanup standards identified in  
3 the Cleanup Action Plan (CAP) (Exhibit B);

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

7           3. Upon the availability of new information regarding factors previously unknown  
8 to Ecology, including the nature or quantity of hazardous substances at the Site, and  
9 Ecology's determination, in light of this information, that further remedial action is  
10 necessary at the Site to protect human health or the environment; or

11           4. Upon Ecology's determination that additional remedial actions are necessary to  
12 achieve cleanup standards within the reasonable restoration time frame set forth in the  
13 CAP.

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

17                           **XIX. CONTRIBUTION PROTECTION**

18           With regard to claims for contribution against Defendant, the Parties agree that  
19 Defendant is entitled to protection against claims for contribution for matters addressed in this  
20 Decree as provided by RCW 70.105D.040(4)(d).

21                           **XX. LAND USE RESTRICTIONS**

22           In consultation with Defendant, Ecology will prepare the Environmental (Restrictive)  
23 Covenant consistent with WAC 173-340-440 and RCW 64.70. After approval by Ecology,  
24 Defendant shall record the Environmental (Restrictive) Covenant with the office of the  
25 Whatcom County Auditor within ninety (90) days of the effective date of this Decree. The  
26 Environmental (Restrictive) Covenant shall restrict future activities and uses of the Site as

1 | agreed to by Ecology and Defendant. Defendant shall provide Ecology with the original  
2 | recorded Environmental (Restrictive) Covenant within thirty (30) days of the recording date.

3 | **XXI. INDEMNIFICATION**

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

12 | **XXII. COMPLIANCE WITH APPLICABLE LAWS**

13 | A. All actions carried out by Defendant pursuant to this Decree shall be done in  
14 | accordance with all applicable federal, state, and local requirements, including requirements to  
15 | obtain necessary permits, except as provided in RCW 70.105D.090. The permits or other  
16 | federal, state, or local requirements that the agency has determined are applicable and that are  
17 | known at the time of entry of this Decree have been identified in the CAP (Exhibit B).

18 | B. Pursuant to RCW 70.105D.090(1), Defendant is exempt from the procedural  
19 | requirements of RCW 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 and of any laws requiring  
20 | or authorizing local government permits or approvals. However, Defendant shall comply with  
21 | the substantive requirements of such permits or approvals. The exempt permits or approvals  
22 | and the applicable substantive requirements of those permits or approvals, as they are known at  
23 | the time of entry of this Decree, have been identified in the CAP (Exhibit B).

24 | Defendant has a continuing obligation to determine whether additional permits or  
25 | approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial  
26 | action under this Decree. In the event either Ecology or Defendant determines that additional

1 permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the  
2 remedial action under this Decree, it shall promptly notify the other party of this determination.  
3 Ecology shall determine whether Ecology or Defendant shall be responsible to contact the  
4 appropriate state and/or local agencies. If Ecology so requires, Defendant shall promptly  
5 consult with the appropriate state and/or local agencies and provide Ecology with written  
6 documentation from those agencies of the substantive requirements those agencies believe are  
7 applicable to the remedial action. Ecology shall make the final determination on the additional  
8 substantive requirements that must be met by Defendant and on how Defendant must meet  
9 those requirements. Ecology shall inform Defendant in writing of these requirements. Once  
10 established by Ecology, the additional requirements shall be enforceable requirements of this  
11 Decree. Defendant shall not begin or continue the remedial action potentially subject to the  
12 additional requirements until Ecology makes its final determination.

13 C. Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the  
14 exemption from complying with the procedural requirements of the laws referenced in  
15 RCW 70.105D.090(1) would result in the loss of approval from a federal agency that is  
16 necessary for the state to administer any federal law, the exemption shall not apply and  
17 Defendant shall comply with both the procedural and substantive requirements of the laws  
18 referenced in RCW 70.105D.090(1), including any requirements to obtain permits.

### 19 **XXIII. REMEDIAL ACTION COSTS**

20 Defendant shall pay to Ecology costs incurred by Ecology pursuant to this Decree and  
21 consistent with WAC 173-340-550(2). These costs shall include work performed by Ecology  
22 or its contractors for, or on, the Site under RCW 70.105D, including remedial actions and  
23 Decree preparation, negotiation, oversight, and administration. These costs shall include work  
24 performed both prior to and subsequent to the entry of this Decree. Ecology's costs shall  
25 include costs of direct activities and support costs of direct activities as defined in  
26 WAC 173-340-550(2). Ecology has accumulated \$119,979.72 in remedial action costs related

1 to this facility as of June 30, 2015. Payments have been made on this amount totaling  
2 \$116,676.59. The remaining balance of \$3,303.13 shall be submitted within thirty (30) days of  
3 the effective date of this Decree. For all costs incurred subsequent to June 30, 2015, Defendant  
4 shall pay the required amount within thirty (30) days of receiving from Ecology an itemized  
5 statement of costs that includes a summary of costs incurred, an identification of involved staff,  
6 and the amount of time spent by involved staff members on the project. A general statement of  
7 work performed will be provided upon request. Itemized statements shall be prepared  
8 quarterly. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs within ninety (90)  
9 days of receipt of the itemized statement of costs will result in interest charges at the rate of  
10 twelve percent (12%) per annum, compounded monthly.

11 In addition to other available relief, pursuant to RCW 70.105D.055, Ecology has  
12 authority to recover unreimbursed remedial action costs by filing a lien against real property  
13 subject to the remedial actions.

#### 14 **XXIV. IMPLEMENTATION OF REMEDIAL ACTION**

15 If Ecology determines that Defendant has failed without good cause to implement the  
16 remedial action, in whole or in part, Ecology may, after notice to Defendant, perform any or all  
17 portions of the remedial action that remain incomplete. If Ecology performs all or portions of  
18 the remedial action because of Defendant's failure to comply with its obligations under this  
19 Decree, Defendant shall reimburse Ecology for the costs of doing such work in accordance  
20 with Section XXIV (Remedial Action Costs), provided that Defendant is not obligated under  
21 this section to reimburse Ecology for costs incurred for work inconsistent with or beyond the  
22 scope of this Decree.

23 Except where necessary to abate an emergency situation, Defendant shall not perform  
24 any remedial actions at the Site outside those remedial actions required by this Decree, unless  
25 Ecology concurs, in writing, with such additional remedial actions pursuant to Section XV  
26 (Amendment of Decree).

1 **XXV. PERIODIC REVIEW**

2 As remedial action, including groundwater monitoring, continues at the Site, the Parties  
3 agree to review the progress of remedial action at the Site, and to review the data accumulated  
4 as a result of monitoring the Site as often as is necessary and appropriate under the  
5 circumstances. At least every five (5) years after the initiation of cleanup action at the Site the  
6 Parties shall meet to discuss the status of the Site and the need, if any, for further remedial  
7 action at the Site. Ecology reserves the right to require further remedial action at the Site under  
8 appropriate circumstances. This provision shall remain in effect for the duration of this  
9 Decree.

10 **XXVI. PUBLIC PARTICIPATION**

11 Ecology shall maintain the responsibility for public participation at the Site. However,  
12 Defendant shall cooperate with Ecology, and shall:

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

18 B. Notify Ecology's project coordinator prior to the preparation of all press  
19 releases and fact sheets, and before major meetings with the interested public and local  
20 governments. Likewise, Ecology shall notify Defendant prior to the issuance of all press  
21 releases and fact sheets, and before major meetings with the interested public and local  
22 governments. For all press releases, fact sheets, meetings, and other outreach efforts by  
23 Defendant that do not receive prior Ecology approval, Defendant shall clearly indicate to its  
24 audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored  
25 or endorsed by Ecology.

26

1 C. When requested by Ecology, participate in public presentations on the progress  
2 of the remedial action at the Site. Participation may be through attendance at public meetings  
3 to assist in answering questions, or as a presenter.

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

- 6 1. Bellingham Public Library  
210 Central Avenue, Bellingham, WA 98227
- 7
- 8 2. Department of Ecology's  
Bellingham Field Office  
1440 10<sup>th</sup> Street, Suite 102, Bellingham, WA 98225
- 9

10 At a minimum, copies of all public notices, fact sheets, and documents relating to public  
11 comment periods shall be promptly placed in these repositories. A copy of all documents  
12 related to this Site shall be maintained in the repository at Ecology's Regional Office in  
13 Bellingham, Washington.

#### 14 **XXVII. DURATION OF DECREE**

15 The remedial program required pursuant to this Decree shall be maintained and  
16 continued until Defendant has received written notification from Ecology that the requirements  
17 of this Decree have been satisfactorily completed. This Decree shall remain in effect until  
18 dismissed by the Court. When dismissed, Section XVIII (Covenant Not to Sue) and  
19 Section XIX (Contribution Protection) shall survive.

#### 20 **XXVIII. CLAIMS AGAINST THE STATE**

21 Defendant hereby agrees that it will not seek to recover any costs accrued in  
22 implementing the remedial action required by this Decree from the State of Washington or any  
23 of its agencies; and further, that Defendant will make no claim against the State Toxics Control  
24 Account or any local Toxics Control Account for any costs incurred in implementing this  
25 Decree. Except as provided above, however, Defendant expressly reserves its right to seek to  
26

1 recover any costs incurred in implementing this Decree from any other PLP. This section does  
2 not limit or address funding that may be provided under WAC 173-322.

3 **XXIX. EFFECTIVE DATE**

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

5 **XXX. WITHDRAWAL OF CONSENT**

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

10 STATE OF WASHINGTON  
11 DEPARTMENT OF ECOLOGY

12 

13 JAMES PENDOWSKI  
14 Program Manager, Toxics Cleanup Program  
(360) 407-7177

15 Date: 12/22/15

ROBERT W. FERGUSON  
Attorney General

16 

17 ANNE M. POWELL, #42934  
18 Assistant Attorney General  
(360) 586-4607

19 Date: 12-28-15

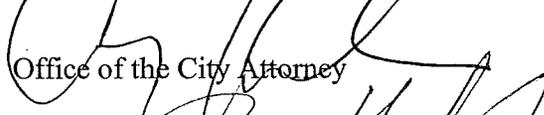
20 CITY OF BELLINGHAM

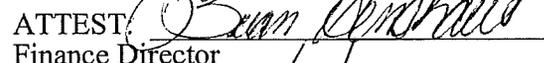
21 

22 KELLI LINVILLE  
23 Mayor, City of Bellingham  
(360) 778-8100

24 Date: 12/11/15

25 APPROVED AS TO FORM

26   
Office of the City Attorney

ATTEST: 

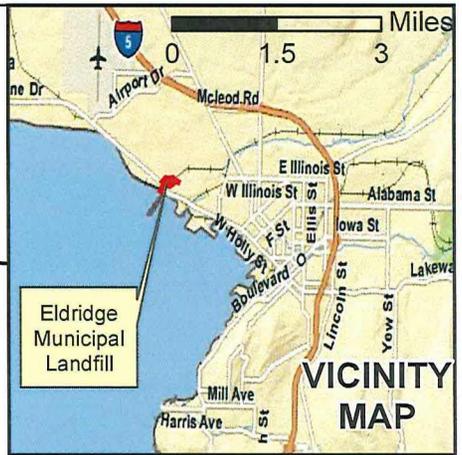
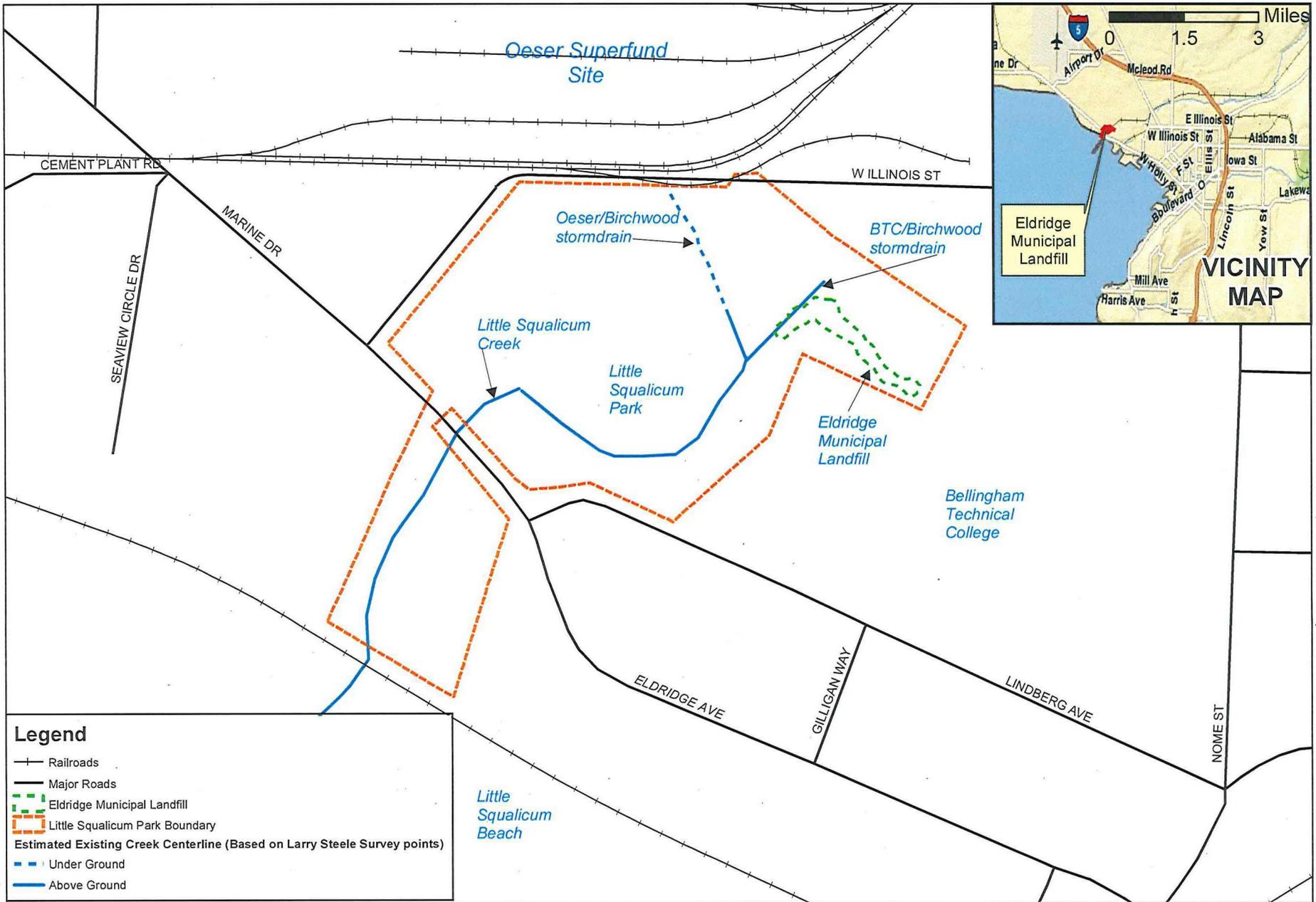
Finance Director  
Date Signed: 12/11/15

ENTERED this 30<sup>th</sup> day of Dec 20 15.

  
JUDGE  
Whatcom County Superior Court

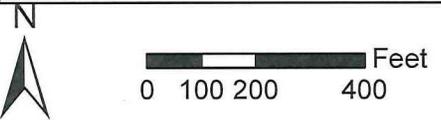
# EXHIBIT A

# EXHIBIT A



**Legend**

- +— Railroads
- Major Roads
- Eldridge Municipal Landfill
- Little Squalicum Park Boundary
- Estimated Existing Creek Centerline (Based on Larry Steele Survey points)
- Under Ground
- Above Ground



# Exhibit A: Site Diagram

Figure 1  
Eldridge Municipal Landfill  
Site and Vicinity  
Bellingham, WA

# EXHIBIT B



**EXHIBIT B TO CONSENT DECREE**

**CLEANUP ACTION PLAN**

**ELDRIDGE MUNICIPAL LANDFILL  
BELLINGHAM, WASHINGTON**

*Prepared by*

Washington State Department of Ecology  
3190 160<sup>th</sup> Avenue Southeast  
Bellevue, Washington 98008-5452

December 2015

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## ACRONYMS AND ABBREVIATIONS

BTC	Bellingham Technical College
City	City of Bellingham
Creek	Little Squalicum Creek
CUL	cleanup level
cy	cubic yard
DCAP	draft Cleanup Action Plan
Ecology	Washington State Department of Ecology
EDR	engineering design report
EML	Eldridge Municipal Landfill
EPA	U.S. Environmental Protection Agency
IHS	indicator hazardous substance
MTCA	Model Toxics Control Act
mg/kg	milligrams per kilogram
Oeser	Oeser Company
PAH	polycyclic aromatic hydrocarbon
Park	Little Squalicum Park
PLP	potentially responsible person
RI/FS	remedial investigation and feasibility study
RL	remediation level
SAP	sampling and analysis plan
SL	screening level
TCP	Toxics Cleanup Program
µg/L	micrograms per liter
WAC	Washington Administrative Code



# 1 INTRODUCTION

This cleanup action plan (CAP) describes the cleanup action selected by the Washington State Department of Ecology (Ecology) for the Eldridge Municipal Landfill site (Site). The CAP is based on a Remedial Investigation/Feasibility Study (RI/FS, Herrenkohl Consulting and Integral Consulting 2014) prepared in accordance with an agreed order between Ecology and the city of Bellingham (City) as follows:

Site Name:	Eldridge Municipal Landfill
Site Location:	East end of Little Squalicum Park, Bellingham, WA
Facility Site Identification No.:	16195
Agreed Order No.:	DE 8073
Effective Date of Order:	November 19, 2010, amended July 18, 2011
Potentially Liable Parties:	City of Bellingham, Whatcom County
Parties to the Order:	Ecology, City of Bellingham
Current Property Owner:	Whatcom County
Current Property Lessee:	City of Bellingham

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 (RCW), and the MTCA Cleanup Regulation, Chapter 173-340 of the Washington Administrative Code (WAC). The Site cleanup action will be conducted under a consent decree between Ecology and the City. The City and Whatcom County (County) have been identified as potentially liable parties (PLPs) for the Site.

As specified in WAC 173-340-380, this CAP:

- Identifies Site cleanup standards
- Describes the selected cleanup action
- Summarizes the rationale for selecting the cleanup alternative for the Site
- Identifies institutional controls required as part of the cleanup action, if applicable
- Identifies applicable state and federal laws
- Provides the schedule for implementation of the cleanup action
- Specifies the types, levels, and amounts of hazardous substances remaining on site, and the measures that will be used to prevent migration and contact with those substances.

## 1.1 SITE DESCRIPTION

The Site comprises a former City landfill within and at the east end of Little Squalicum Park (Figure 1). The Site is located on property owned by the County and leased to the City. The park occupies the sides and floor of a small ravine, which extends from shortly east of the Site to

the Bellingham Bay shoreline. Little Squalicum Creek drains the ravine and discharges into the bay. The stream originates from two storm water outfalls. One, the outfall for the BTC/Birchwood storm drain, is located within and at the west end of the Site (Figure 1).

Land use around the park is principally residential, except for the Bellingham Technical College (BTC) campus on the south, and a small industrial area, including the Oeser Company wood treating facility on the north.

The Site is approximately 32,000 square feet in plan area, and extends approximately 450 feet along the edge of the ravine. The Site width over this length varies from 30 to 120 feet (refer to Figure 5). The Site is defined by the extent of landfill debris and contaminated soil.

The Site is contained within a larger MTCA cleanup site known as Little Squalicum Park (Park site) Facility Site ID#7551533. Contamination within the larger Park site is associated with releases from the Oeser Company Superfund site, which is located immediately to the north (see Figure 1) and is geographically separate from the landfill.

## **1.2 SITE BACKGROUND**

The Eldridge Municipal Landfill was initially discovered while the City was performing a remedial investigation (RI) of the Park site under a separate order with Ecology (Agreed Order No. DE 2016)<sup>1</sup>. In the mid- to late-1930s, the City had used this portion of the Park as a “sanitary landfill” for burning and burying local municipal waste hauled by a garbage collection contractor. The landfill operated for only a few years before operations ceased.

The initial boundaries of the landfill were delineated in January 2006 as part of the Park RI, through the excavation of reconnaissance test pits in which evidence of municipal garbage was found within various fill materials (see Figure 2). The types of municipal garbage observed included glass bottles, metal scraps, ash, ceramics, construction debris, and various indiscernible rusted materials. A draft Park RI report documented the presence of low levels of polycyclic aromatic hydrocarbons (PAHs), benzoic acid, phthalates, and pentachlorophenol in surface soils in the landfill area, as well as elevated concentrations of some heavy metals (e.g., lead). Higher levels of metals were detected in subsurface soils (Integral 2008).

The original Park site Agreed Order (DE 2016) was terminated on October 30, 2009. In November 2009, Ecology listed the landfill area as a separate site and named both the City and County as potentially liable persons (PLPs). Soon after, the City and Ecology began negotiating a new Agreed Order for completing an RI/FS and draft cleanup action plan (DCAP) for the landfill Site. This Agreed Order (DE 8073) became effective on November 19, 2010.

In September 2010, EPA uncovered additional landfill material during their Little Squalicum Creek Removal Action (see Figure 2). The EPA work involved a complete habitat restoration

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<sup>1</sup> The Agreed Order for the Little Squalicum Park site is no longer in effect. The City and Ecology agreed to terminate the original Little Squalicum Park Agreed Order in October 2009. Oversight of most of the non-landfill Little Squalicum Park site was transferred to the United States Environmental Protection Agency (EPA) to become the Little Squalicum Creek Removal Action site.

effort throughout the length of the Park, construction of a new Little Squaticum Creek channel to handle local storm drainage, and re-construction of the two major storm drain outfalls.

In order to allow the EPA work to continue, the City undertook an independent action to excavate the contaminated landfill material within the EPA work area and stockpile it outside that work area. The area of excavation and the location of the stockpile are shown on Figure 2. The EPA completed their removal action in 2011 (CH2M Hill 2012).

An Ecology review draft RI/FS report was completed for the Site in February 2011 (Herrenkohl Consulting and Integral Consulting 2011a). The report identified a number of organic and inorganic contaminants in soil at the Site including: metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc); semivolatiles (benzoic acid, various phthalates, retene, 2,3,4,6-tetrachlorophenol, pentachlorophenol); polycyclic aromatic hydrocarbons (PAHs); and diesel- and motor oil-range petroleum hydrocarbons. After review by Ecology and further discussion between parties, the City chose to delay completion of the RI/FS and instead focus on conducting an interim action.

An amendment to the Agreed Order for the interim action was negotiated and signed by the City and Ecology on July 18, 2011. The scope of work was described in an interim action work plan (Exhibit B of the amended Agreed Order) (Herrenkohl Consulting and Integral Consulting 2011b). Essentially, the proposed work consisted of excavating landfill refuse and contaminated soil, disposing of them and the stockpile material off-property, and backfilling the excavation with clean soil.

The City completed an engineering design report (EDR) on June 24, 2011, for implementing the interim action (Herrenkohl Consulting and Wilson Engineering 2011a). The EDR included engineering design plans and specifications for the interim action, and ancillary documents (e.g., monitoring plan, wetland restoration plan).

Construction work for the interim action was conducted from August 22 to October 7, 2011, and included the excavation of about 4,290 tons of landfill debris and contaminated soil from the Site and disposal at a Subtitle D landfill located in Roosevelt, Washington. The excavation was stabilized, backfilled with clean soil, and vegetated by hydroseeding. In addition, a 750 ft<sup>2</sup> depressional wetland (Wetland B)<sup>2</sup> was created within the project area (Figure 3).

The cleanup of landfill debris and contaminated soil on the Site was confirmed by the collection and testing of soils as described in the performance monitoring and contingency plan (Herrenkohl Consulting and Wilson Engineering 2011a). Based on the testing results and performance evaluation, soils containing pentachlorophenol and metals above the remediation levels (RLs) were removed from the Site except for locations on steep, unstable slopes and within or adjacent to an existing wetland (Wetland A) (Figure 3). The interim action construction activities and performance monitoring were summarized in a construction completion report (Herrenkohl Consulting and Wilson Engineering 2011b).

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<sup>2</sup> Before the interim action, there were two existing wetlands (designated A and B) within the landfill Site. Wetland B was remediated as part of the interim action with a new wetland created in its place. Wetland A was not remediated as part of the interim action.

In April 2012, the City completed a sampling and analysis plan for conducting additional soil and groundwater characterization at the landfill Site to determine the effectiveness of the interim action (Herrenkohl Consulting 2012). The additional Site characterization was completed in May 2012 (Figure 4).

An RI/FS report and this CAP were then prepared. The RI/FS report describes the environmental setting for the Site, identifies the nature and extent of contamination, summarizes the results of the interim action, evaluates the protectiveness of post-interim action conditions, and proposes no further active cleanup measures for the Site.

## 2 CLEANUP STANDARDS

This section discusses Site cleanup standards for indicator hazardous substances (IHSs) detected in affected Site media, specifically soil and groundwater. Cleanup standards consist of:

1) cleanup levels (CULs) defined by regulatory criteria that are protective of human health and the environment and 2) the points of compliance at which the cleanup levels must be met.

### 2.1 CLEANUP LEVELS

#### 2.1.1 Soil

A variety of compounds and metals were detected at the Site as summarized in Section 1.2. Of these, a smaller group of chemicals were determined to be IHSs because they exceeded screening levels or were potentially indicative of an Oeser-related impact. For soil, the final IHSs consisted of: cadmium, copper, lead, mercury, zinc, and pentachlorophenol.<sup>3</sup>

Soil cleanup levels for the IHSs have been established for the Site based on its' current and anticipated future use as a park. The soil CULs are protective of the following exposure pathways and receptors:

- Direct contact/ingestion – human health
- Direct contact/ingestion - terrestrial species (plants, soil biota, wildlife)
- Entrainment in stormwater runoff – freshwater sediment benthic species
- Leaching to ground water – surface water beneficial uses

The final CUL value for each IHS was selected to be the higher of natural background, the practical quantitation limit (PQL), or risk-based values established for each of the applicable exposure pathways in accordance with MTCA, except for the leaching pathway. Explicit CULs were not set for the leaching pathway. Instead, groundwater sampling data was used to demonstrate that Site groundwater already meets cleanup levels for the soil IHSs, so the existing soil concentrations are already protective of groundwater. When risk-based values for the other exposure pathways were higher than natural background or the PQL, the lowest of the risk-based values was selected. Final soil cleanup levels are as follows:

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<sup>3</sup> Soil remediation levels (RLs) that were developed as part of the interim action were set conservatively because the FS had not been written and soil cleanup levels (CULs) had not yet been established. (See RI/FS, Appendix D). The interim action was then incorporated as part of the final cleanup action and CULs were developed during the FS. These CULs have been subject to an ecological assessment to evaluate terrestrial species protection based on that pathway at the site. As a result, the final soil CULs established for copper, lead, and zinc are higher than the original interim action RLs.

Analyte	CUL (mg/kg)	Basis
Copper	70	Terrestrial species protection (Eco SSL <sup>1</sup> )
Lead	118	Terrestrial species protection (MTCA Table 749-3 <sup>2</sup> )
Mercury	0.1	Terrestrial species protection (MTCA Table 749-3 <sup>3</sup> )
Zinc	120	Terrestrial species protection (Eco SSL <sup>4</sup> )
Pentachlorophenol	2.5	Human health protection (MTCA Method B)

[Applicable footnotes]

- (1) Based on EPA SSL protection of plants (**70 ppm**), EPA SSL protection of soil invertebrates (80 ppm), and MTCA (Table 749-3) protection of wildlife (217 ppm).
- (2) Based on EPA SSL protection of plants (120 ppm), EPA SSL protection of soil invertebrates (1700 ppm), and MTCA protection of wildlife (**118 ppm**).
- (3) Based on MTCA (Table 749-3) protection of plants (0.3 ppm), protection of soil biota (**0.1 ppm**), and protection of wildlife (5.5 ppm).
- (4) Based on EPA SSL protection of soil invertebrates (**120 ppm**), EPA SSL protection of plants (160 ppm), and MTCA (Table 749-3) protection of wildlife 360 ppm).

The ecological soil screening levels (Eco SSLs) are alternative values developed by EPA to be protective of plants, soil biota and wildlife. The Eco SSLs for wildlife are not suitable as alternatives for the wildlife indicator soil concentrations presented in Table 749-3 of MTCA because they were derived for receptors other than the vole, shrew, and robin. However, the plant and soil biota Eco SSL values were considered as suitable alternative soil cleanup levels for this specific Site under WAC 173-340-7493(6) – *New scientific information*. The alternative SSLs proved to be the lowest of the applicable risk values for copper<sup>1</sup> and zinc<sup>4</sup>, and were therefore used as the final cleanup levels for these metals, as noted above.

A potential soil exposure pathway that wasn't considered applicable to the site was impacts to ambient air via contaminant volatilization. The contaminants in soil at this Site have low volatility and are not considered a risk for this pathway.

### 2.1.2 Groundwater

A select group of analytes was chosen for confirmatory sampling based on their presence in soil or presence in typical landfill leachate. These analytes included: metals (arsenic, cadmium, copper, lead, mercury, zinc), conventionals (calcium, iron, manganese, magnesium, nitrite, nitrate, ammonia), pentachlorophenol, and PAHs.

Groundwater cleanup levels have now been established for all of these analytes, except for pentachlorophenol and PAHs which were not detected in groundwater. The cleanup levels are based on protection of the following exposure pathways and receptors:

- Groundwater potable use – human health
- Groundwater discharge to surface water – human health/aquatic species

The final cleanup level value for each analyte was selected to be the higher of natural background or risk-based values established for each of the applicable exposure pathways in accordance with MTCA or other applicable, relevant, and appropriate requirements (ARARs)– When risk-based values were higher than natural background, the lowest of the risk-based values was selected. Final groundwater cleanup levels are as follows:

<u>Analyte</u>	<u>CUL (µg/l)</u>	<u>Basis</u>
Arsenic	5	Natural background (MTCA Table 720-1)
Cadmium	0.25	Surface water protection (EPA WQC)
Copper	9	Surface water protection (EPA WQC)
Lead	2.5	Surface water protection (EPA WQC)
Mercury	0.012	Surface water protection (WA WQC)
Zinc	100	Surface water protection (NTR)
Iron	300	Groundwater protection (Secondary MCL)
Manganese	50	Groundwater protection (Secondary MCL)
Nitrite	1 (mg -N/L)	Groundwater protection (Secondary MCL)
Nitrate	10 (mg -N/L)	Groundwater protection (Secondary MCL)
Ammonia	7.3 (mg/l TAN)	Surface water protection (EPA WQC)

EPA WQC - U.S. EPA ambient water quality criteria

NTR - National Toxics Rule

MCL - Maximum contaminant level (for drinking water)

TAN – total ammonia nitrogen

Other potential exposure pathways not considered applicable at this Site include:

- Impacts to ambient air via contaminant volatilization - the contaminants at this Site have low volatility and are not considered a risk for soil vapor intrusion.
- Impacts to benthic species in stream sediment –arsenic was found to exceed cleanup levels in groundwater but is expected to decline to background levels (see Section 5.2.2),

## 2.2 POINTS OF COMPLIANCE

### 2.2.1 Soil

The point of compliance for soil, based on WAC 173-340-740(6), is throughout the Site. MTCA recognizes that for those cleanup actions that involve containment of hazardous substances, the soil cleanup levels will typically not be met throughout the Site [WAC 173-340-740(6)(f)]. However, MTCA also recognizes that such cleanup actions may still comply with cleanup standards. The determination of the adequacy of soil cleanup is based on the ability for the remedial action to comply with groundwater cleanup standards for the Site, to meet performance standards designed to minimize human or environmental exposure, and to provide practicable treatment of effected soil. Performance standards to minimize human and environmental

exposure to effected soil include institutional controls that limit activities that interfere with the protectiveness of the cleanup action, as well as compliance monitoring and periodic reviews to ensure the long-term integrity of the containment system [WAC 173-340-740(6)(f)(i-vi)].

### **2.2.2 Groundwater**

The point of compliance for groundwater is throughout the Site.

### **3 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS**

Cleanup actions conducted under MTCA must comply with applicable state and federal laws [WAC 173-340-710(1)]. MTCA defines applicable state and federal laws to include legally applicable requirements and those requirements that are relevant and appropriate (collectively referred to as the ARARs).

The Minimum Functional Standards for Solid Waste Handling (Chapter 173-304 WAC) and Criteria for Municipal Solid Waste Landfills (Chapter 173-351 WAC) were considered during evaluation of the cleanup action. These regulations provide for closure and post-closure care generally in accordance with the following:

- The facility shall be closed in a manner that minimizes the need for further maintenance, and controls, minimizes, or eliminates threats to human health and the environment from post-closure escape of solid waste constituents, leachate, landfill gases, contaminated rainfall, or waste decomposition products to the ground, groundwater, surface water, and the atmosphere.
- Post-closure activities include groundwater monitoring; surface water monitoring; gas monitoring; and maintenance of the facility, facility structures, and monitoring systems for their intended use for a period of 20 years or as long as necessary for the facility to stabilize (i.e., little or no settlement, gas production, or leachate generation) and to protect human health and the environment; and until monitoring of groundwater, surface water, and gases can be safely discontinued.

In accordance with MTCA, the cleanup action will be exempt from the procedural requirements of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW, and of any laws requiring or authorizing local government permits or approvals. However, the substantive requirements of such permits or approvals (WAC 173-340-520) must be met.

After consideration of the need for permits (or the need to meet the substantive requirements of such permits) in order to conduct cleanup actions, it was determined that no permits will be needed because no active cleanup measures will be undertaken. Under the CAP, only passive cleanup activities will occur.

## **4 INTERIM ACTION**

As described previously, approximately 4,290 tons of landfill debris and contaminated soil were removed from the Site as part of the interim action and transported to Roosevelt Regional Landfill in Washington State for proper disposal. This mass represented the bulk of the contaminated soil/debris comprising the Site. The excavation was stabilized, backfilled with clean soil, and vegetated by hydroseeding. In addition, a 750 ft<sup>2</sup> depressional wetland (Wetland B) was created within the project area (Figure 3).

Performance monitoring conducted during the interim action showed most of the landfill materials had been removed from the Site except for a few locations either on steep, unstable slopes, encroaching into Site wetlands or within the root system of a large tree.

Groundwater was monitored after completion of the interim action to evaluate the soil leaching pathway for the Site.

A variety of wetland plants were planted in the constructed 750 ft<sup>2</sup> depressional Wetland B created as part of the interim action. Some plants did not survive after the first year due to drought and other unforeseen conditions.

## 5 DESCRIPTION OF PROPOSED CLEANUP ACTION

### 5.1. BASIS FOR SELECTION OF THE PROPOSED CLEANUP ACTION

As described previously, an interim action was completed at the Site in 2011. The interim action consisted of excavating 4,290 tons of landfill materials and contaminated soils and disposing of them at a permitted disposal facility. However, implementation of the interim action resulted in contaminated soils being left in a few locations around the periphery of the former landfill, including steep, unstable slopes and within an existing wetland area (see Section 5.2 below). An addendum to the RI/FS provides the basis for selection of the proposed final cleanup action for the Site (Herrenkohl Consulting and Wilson Engineering 2015).

Two cleanup action alternatives were evaluated in the FS. Alternative 1 included wetland planting, compliance monitoring, and institutional controls. Alternative 2 included shoring, excavation and off-site transport and disposal. Alternative 1 was identified as the preferred alternative and is the selected cleanup action for the site.

The two cleanup alternatives presented in the FS were evaluated with respect to their ability to adequately achieve compliance with MTCA threshold criteria [WAC 173-340-360(2)(a)], including each alternative's ability to protect human health and the environment, comply with cleanup standards, comply with state and federal laws, and provide for compliance monitoring. The alternatives were further evaluated for their ability to use permanent solutions to the maximum extent practicable and satisfy these threshold criteria within a reasonable time frame while addressing public concerns [WAC 173-340-360(2)(b)]. The two alternatives were determined to meet these requirements.

MTCA provides for the costs and benefits associated with alternatives to be evaluated through a disproportionate cost analysis (DCA), which compares the relative environmental benefits of each alternative against the most permanent alternative. Costs are disproportionate to benefits if the incremental cost of the most permanent alternative exceeds the incremental degree of benefits achieved over the lower cost alternative [WAC 173-340-360(3)(e)(i)]. Alternatives that exhibit disproportionate costs are considered "impracticable", and that alternative is eliminated from further consideration. The six evaluation criteria for the DCA are:

- Protectiveness
- Permanence
- Long-term effectiveness
- Short-term risk management
- Implementability
- Considerations of public concerns

Based on the results of the DCA, Alternative 1 was determined to be permanent to the maximum extent practicable. More detailed information on the alternative evaluation and the DCA process is included in the Site RI/FS (Herrenkohl Consulting and Wilson Engineering 2015).

As a result of this evaluation, a remedial alternative was selected that includes additional measures of wetland planting, compliance groundwater monitoring, and institutional controls to address these areas of residual soil contamination. The restoration time frame for the cleanup action following the finalization of the CAP is expected to be:

- 1 year: Construction of fencing and signage and recorded environmental covenant
- 2 years: Determination of wetland replanting success
- 2 years: Achievement of ground water cleanup standards

Ecology is choosing the cleanup action for this Site as being the completed interim action and these additional measures, as described in Section 5.3. Implementation of these additional measures is expected to result in the cleanup action meeting the requirements of WAC 174-340-360.

## **5.2 AREAS SUBJECT TO ADDITIONAL CLEANUP**

### **5.2.1 Soil**

Figure 5 shows the boundary of the Site and the areas with residual soil contamination labeled 1 through 4. These are identified as follows:

- Area 1: Soils under existing wetland A and the cottonwood tree.
- Area 2: Soils at the base of the steep slope in the southwestern corner of the Site
- Area 3: Soils at the base of the steep slope along the southeastern edge of the Site
- Area 4: Soils at the eastern end of the Site

Prior to the interim action, the entire area within the Site boundary required cleanup. Following the interim action, certain areas still contained soils with metals concentrations exceeding remediation levels. The contaminated soils were typically present beneath 2 to 7 feet of clean imported soil. Because remediation levels for many of the IHSs were based on protection of terrestrial life (i.e., were lower than corresponding values protective of human health), an ecological risk-assessment was undertaken to evaluate whether the residual soil contamination represented a risk to terrestrial life.

As presented in Section 8.3.2 of the RI/FS, a stepwise approach was used to address potential ecological risks from the residual metal concentrations that exceeded remediation levels after

completion of the interim action. The specific metals involved consisted of copper, lead, mercury, and zinc. This stepwise approach involved first calculating depth-weighted soil concentrations, then developing alternative ecological soil cleanup levels, and finally developing exposure-adjusted soil concentrations. The results are described in the following paragraphs.

Step 1: Depth-weighted soil concentrations were estimated for soil within the conditional point of compliance (POC) which extends from the surface to a depth of 6 ft below ground surface (bgs). The 90<sup>th</sup> percentile natural background concentration for Puget Sound (Ecology, 1994) was used to represent metals concentrations in the clean cover layer, and the residual site soil concentration was used to represent the concentration in the soil below the cover layer. Please see Equation 1 in Section 8.3.2 of the RI/FS for the formula that was used. Results were that:

- Copper exceeded the remediation level of 50 mg/kg in 1 of 10 stations.
- Lead exceeded the remediation level of 50 mg/kg in 6 of 17 stations.
- Mercury exceeded the remediation level of 0.1 mg/kg in 6 of 17 stations.
- Zinc exceeded the remediation level of 86 mg/kg in 4 of 10 stations.

Step 2: Alternative ecological soil screening levels (Eco SSLs) were developed for copper, lead, and zinc as described in Section 2.1.1. After the Eco SSLs were identified, they were compared to the depth-weighted soil concentrations derived in step 1. Results from that comparison were as follows:

- Copper concentrations were below the Eco SSL concentration (determined to be protective of plants) of 70 mg/kg in the 10 confirmation stations.
- Lead concentrations exceeded the Eco SSL concentration (determined to be protective of plants) of 120 mg/kg at 2 stations
- Zinc concentrations exceeded the Eco SSL concentration (determined to be protective of plants) of 160 mg/kg at 2 stations.
- Zinc concentrations exceeded the Eco SSL concentration (determined to be protective of soil biota) of 120 mg/kg at 3 stations.

Step 3: Because ecological receptors are not homogeneously exposed to soil within the conditional point of compliance (i.e. 0 – 6ft), exposure adjusted soil concentrations were calculated to provide an improved estimate of ecological exposures. Please see Equation(s) 2 and 3 in Section 8.3.2 of the RI/FS for the formula that were used. Plant rooting depths for grasses, shrubs, and trees were based on empirical data obtained from a comprehensive review of scientific literature. For soil biota, literature reviews were conducted to estimate the normal burrowing depths of soil macroinvertebrates likely to inhabit the Site. Results indicate that residual levels of contaminants should not pose a risk to plants and soil biota.

Based on the results of this evaluation, Ecology determined that the post interim action ecological risk assessment provides sufficient information to conclude that ecological receptors

should not be at risk from residual soil metals concentrations present on the landfill site. This determination is based on the clean cover soils and underlying contaminated soils remaining undisturbed. Long-term care is therefore required to maintain these existing conditions in the following specific areas:

Area 1: Contaminated soils under existing wetland A and the cottonwood tree are below a depth of 0.5 ft to 1.0 ft and contain copper, lead, mercury, and zinc concentrations exceeding the CULs protective of terrestrial species, and lead exceeding a value protective of human direct contact.

Area 2: Contaminated soils at the base of the steep slope in the southwestern corner of the Site are below a depth of 0 ft to 5.5 ft, and contain lead, mercury, and zinc concentrations exceeding cleanup levels protective of terrestrial species.

Area 3: Contaminated soils at the base of the steep slope along the southeastern edge of the Site are below a depth of 3.0 ft to 4.0 ft and contain copper, lead, mercury and zinc concentrations exceeding cleanup levels protective of terrestrial species, and lead exceeds a value protective of human direct contact.

Area 4: Contaminated soils at the eastern end of the Site are below a depth of 4.5 ft to 6.0 ft and contain copper, lead, mercury, and zinc concentrations exceeding cleanup levels protective of terrestrial species, and lead exceeds a value protective of human direct contact.

## 5.2.2 Groundwater

As indicated in the RI/FS, the uppermost groundwater potentially impacted by landfill leachate occurs as an unconfined water-bearing zone extending from near land surface to a depth of about 10 feet. The saturated thickness in this water-bearing zone is typically between 6 and 8 feet, and the groundwater in it is separated from deeper aquifers by a silty clay aquitard.

None of the compounds or metals analyzed in groundwater samples obtained following the interim action exceeded cleanup levels or were higher than background levels, except for the metals: arsenic and iron. Specific issues associated with these metals are as follows:

- Iron is commonly elevated in landfill leachate, but was not expected to be elevated above background because the landfill debris had been replaced almost entirely with imported pit run fill. However, iron was slightly elevated in the three wells completed in the footprint of the former landfill with respect to the upgradient well. These results may indicate a residual impact from the former landfill, a variation in subsurface geochemical conditions unrelated to the landfill, or a variation in natural geochemical conditions related to the new pit run fill or surface soil amendments placed to help with revegetation. Because the source of the elevated concentrations is

not fully understood, Ecology does not consider the ground water as currently meeting cleanup levels with respect to iron.

- Arsenic concentrations can sometimes be elevated in landfill leachate, but can also be quite variable in an un-impacted aquifer due to natural variations in subsurface geochemical conditions. The sampling showed an elevated arsenic detection in one well (MW-03) completed in the footprint of the former landfill with respect to the upgradient well. Two other wells completed in the former landfill footprint had arsenic concentrations below the CUL and also slightly lower than the upgradient well. These contradictory data could represent an artifact related to sampling methods for MW-03, a residual impact from the former landfill, or a natural or recent geochemical variation in the uppermost water-bearing zone (as described above). There is, in fact, some data from other wells in the area suggesting that arsenic concentrations in the uppermost water-bearing zone vary within the range observed at the Site. However, because the source of the elevated concentration is not fully understood, Ecology does not consider the groundwater as currently meeting cleanup levels with respect to arsenic.

In conclusion, arsenic and iron in groundwater do not currently meet their cleanup levels, and need to be addressed further as part of the cleanup action.

## 5.3 CLEANUP ACTION DESCRIPTION

### 5.3.1 Wetland planting

A variety of wetland-type plants were initially planted in the created Wetland B as part of the interim action. Successful species include Salmonberry (*Rubus spectabilis*), Pacific willow (*Salix lasiandra*), Pacific dogwood (*Cornus nuttallii*), and slough sedge (*Carex obnupta*). Although the plant species that have survived should continue growing in the following years, the overall survival rate is considered below normal for a wetland restoration (Herrenkohl Consulting and Wilson Engineering 2011a)<sup>4</sup>.

Additional wetland restoration is required for Wetland B using the following guidelines (from Herrenkohl Consulting and Wilson Engineering 2011a):

- Replanting a combination of the shrub species Salmonberry, Pacific willow, and Pacific dogwood; a minimum of 10 plants each.

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<sup>4</sup> Based on best professional judgment, an overall survival rate of between 70-90% is desirable for successful wetland restoration. The survival rate for Wetland B was estimated at 50-60%.

- After planting, watering will take place at least once per month during the driest part of the year (July, August, September) for two consecutive years.
- Installation of a boundary fence (wooden, two-rail) and signs labeled “Native Growth Protection Area” for both wetland areas (Wetlands A and B) and the adjacent large cottonwood tree.

### **5.3.2 Compliance monitoring for groundwater**

Ecology expects that elevated arsenic and iron concentrations in groundwater within the former landfill footprint will decline and meet background conditions with the passage of time. For arsenic, the decline may occur immediately if the initial elevated concentration was due to a sampling artifact. Otherwise, the decline for both arsenic and iron should occur within two years, due either to the flushing of residual contamination, if present, or the establishment of equilibrium between the new pit run fill and the surrounding native soils. There is also a possibility that iron, in particular, will remain elevated over background due to natural differences in the geochemistry of the new fill versus the native soils outside the new fill, or to leaching of surface fertilizers placed to help revegetation.

To track and confirm the expected decline, groundwater samples will be collected during the wettest season (December – March) over two years of monitoring. The samples will be obtained from wells EML-SB-01, -02, -03, and -04, and analyzed for arsenic and iron (dissolved only) following methods described in the sampling and analysis plan (SAP, Herrenkohl Consulting 2012). Standard field parameters (pH, temperature, conductivity, and the redox potential) will also be measured during each sampling event.

After the last sampling round is conducted, the results will be evaluated to determine if the arsenic and iron concentrations have reached or are reaching background conditions. Additional sampling, or other steps, may be required depending on the results of that evaluation.

### **5.3.3 Designation of especially valuable habitat**

As part of the cleanup action, Area 1 will be designated as “especially valuable habitat”. The designation is warranted since Wetland A is considered a critical area based on the results of previous wetland delineations for the Site (Herrenkohl Consulting and Integral Consulting 2014). This designation will allow the wetland and the cottonwood tree to remain in place and be protected; however, the area will require institutional controls as described in section 5.3.4.

The designation process will be based on a net environmental benefit analysis, as outlined in a 2012 draft Ecology document – Terrestrial Evaluation Technical Assistance. This analysis is, in turn, based on the MTCA requirement that overall environmental protectiveness be considered in the selection of a cleanup alternative that is permanent to the maximum extent practicable (WAC 1730-340-360(3)(f)(i)).

### **5.3.4 Institutional controls**

Institutional controls will be required as part of the cleanup action, and will include an environmental covenant, an operations and maintenance plan for the Site, and special boundary fencing and signage. The purpose of these institutional controls will be to protect especially valuable habitat, to prevent human exposure to residual soil contamination, and to protect terrestrial wildlife at the Site.

The environmental covenant will be recorded with Whatcom County and limit human activity (e.g., intrusive activities such as digging) in the areas of residual contamination at the Site. It will also identify and protect the area designated as “especially valuable habitat” - Area 1. The restrictive environmental covenant will be subject to Ecology’s approval before being recorded, and the special operating procedures will also be subject to Ecology approval.

A wooden two-rail, boundary fence and signs will be installed around the Wetland A and B areas and the cottonwood tree.

The operations and maintenance plan will include special procedures for accessing, working in, and maintaining the Site by the parks department or other city departments.

## 6 IMPLEMENTATION OF THE CLEANUP ACTION

The design and implementation of the cleanup action for the Site will be completed over a period of approximately one year, with additional time to complete compliance monitoring, as necessary. The expected schedule for design and implementation of the cleanup action is described below.

- **Wetland Planting** – Additional wetland planting and installation of a boundary fence and signage will be completed in the fall/winter of 2015. Upon completion of the planting, the plants will be watered once per month during the summer months (July, August, September) over two consecutive years.
- **Compliance Monitoring** – Groundwater monitoring will be performed as described in Section 5 and with methods presented in the SAP (Herrenkohl Consulting 2012). The monitoring is planned for the 2015-2016 and the 2016-2017 seasons.
- **Designation of Especially Valuable Habitat** - The designation process is expected to take place by the end of 2015.
- **Recording of Environmental Covenant** – An environmental covenant restricting property use and protection of Wetland A and the cottonwood tree will be recorded upon finalization of the Consent Decree. These controls will remain in place indefinitely unless removal is approved by Ecology. Recording is expected to occur by the end of 2015.
- **Preparation of Operations and Maintenance Plan**– Preparation of this document will be completed by the end of 2015.

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# FIGURES

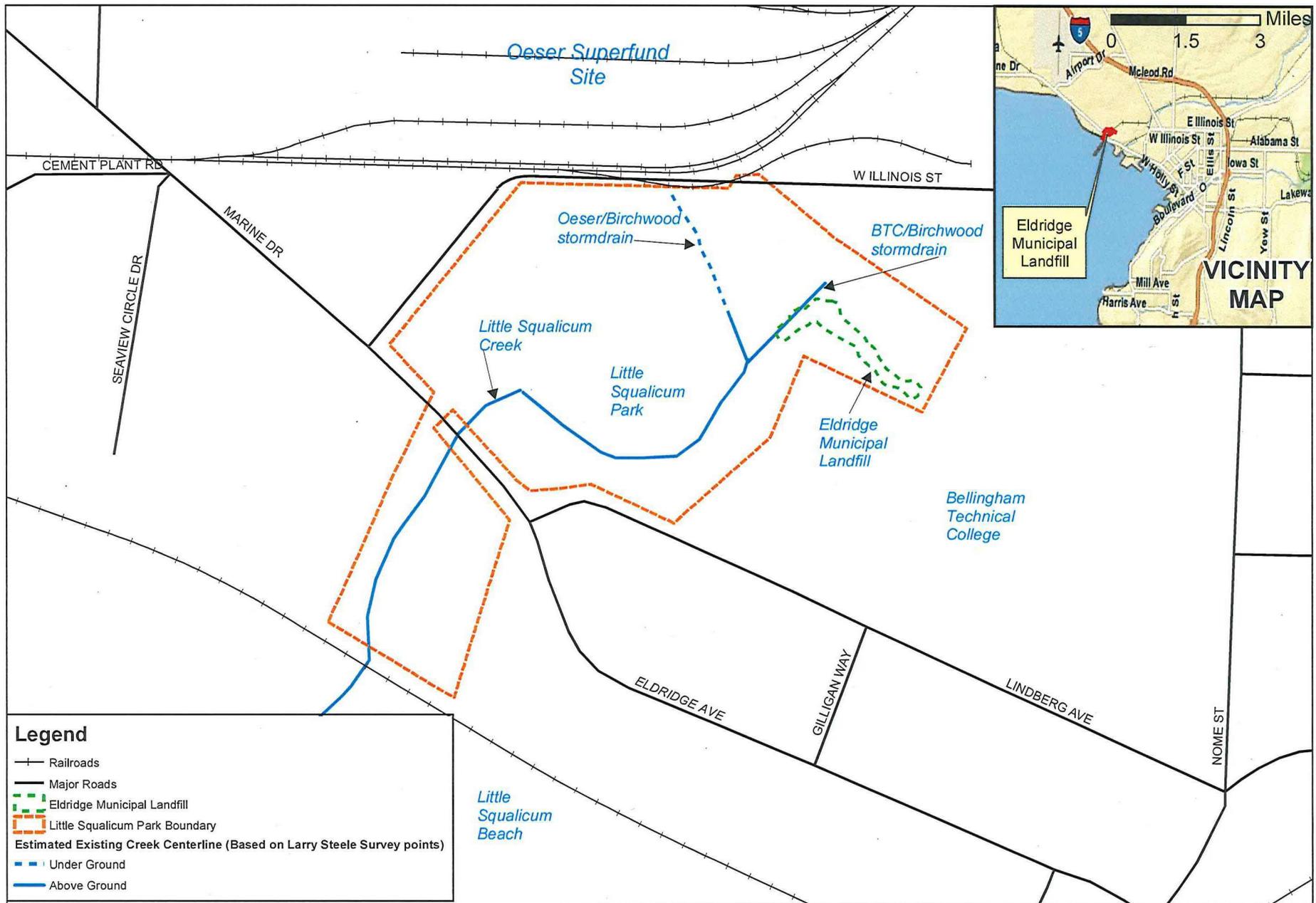
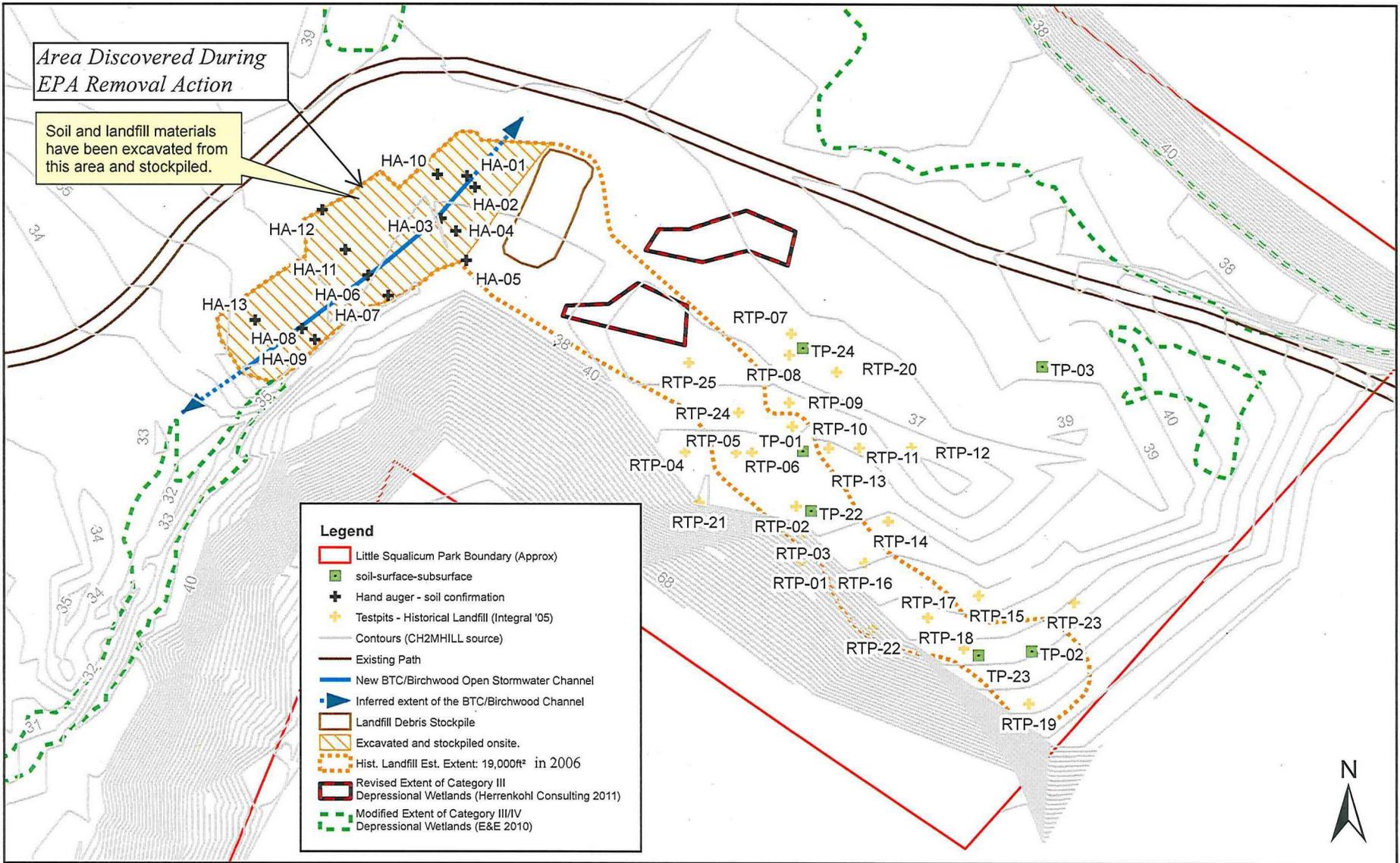


Figure 1  
 Eldridge Municipal Landfill  
 Site and Vicinity  
 Bellingham, WA



**Herrenkohl Consulting LLC**



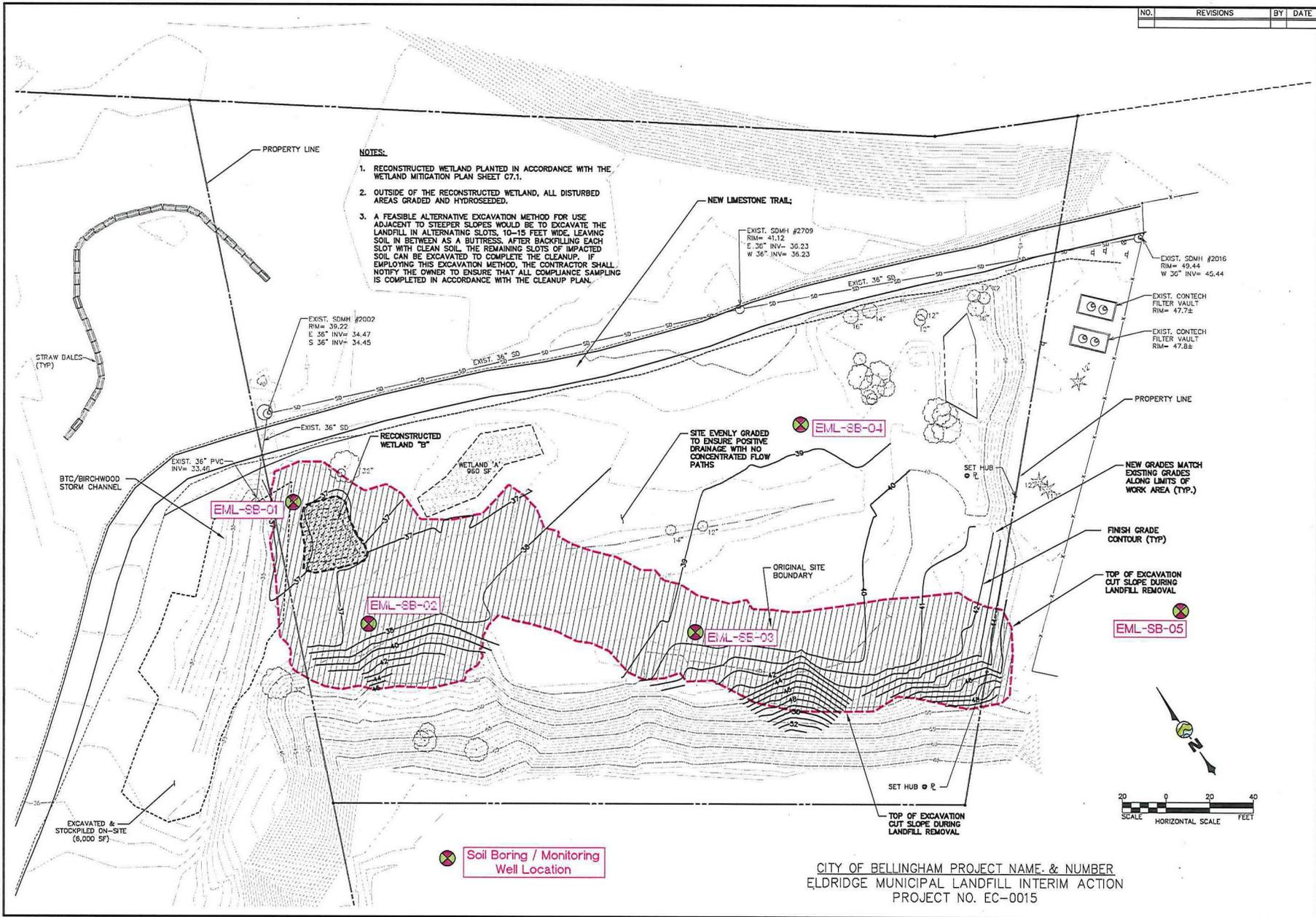
1 in = 60 ft

Figure 2  
Eldridge Municipal Landfill  
Historical Site Map

\*Survey data horizontal datum is WA State Plane 1983, WA-North, NAD83-HARN, US Feet  
 \*Survey data vertical datum is NAVD88  
 \*Topographic contour lines were provided by CH2M Hill from the Little Squalicum Park Topographic Survey completed by White Shield, Inc dated August 21, 2008.  
 \*Wetlands delineation completed by Ecology and Environment 2010 for CH2M Hill and EPA in support of Little Squalicum Creek removal action.  
 \* Revised wetland delineation completed by Herrenkohl Consulting Feb 2011.



NO.	REVISIONS	BY	DATE



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DESIGNED BY: EAS  
 DRAWN BY: JOE JOHNSON  
 CHECKED BY:

CITY OF BELLINGHAM  
 BELLINGHAM  
 ELDRIDGE MUNICIPAL LANDFILL R/I/F/S  
 SOIL BORING/MONITORING WELL LOCATIONS

DATE: FEBRUARY 2014  
 SCALE: AS SHOWN  
 PER NUMBER: 2014-016

SHEET: FIG 4

NO.	REVISIONS	BY	DATE

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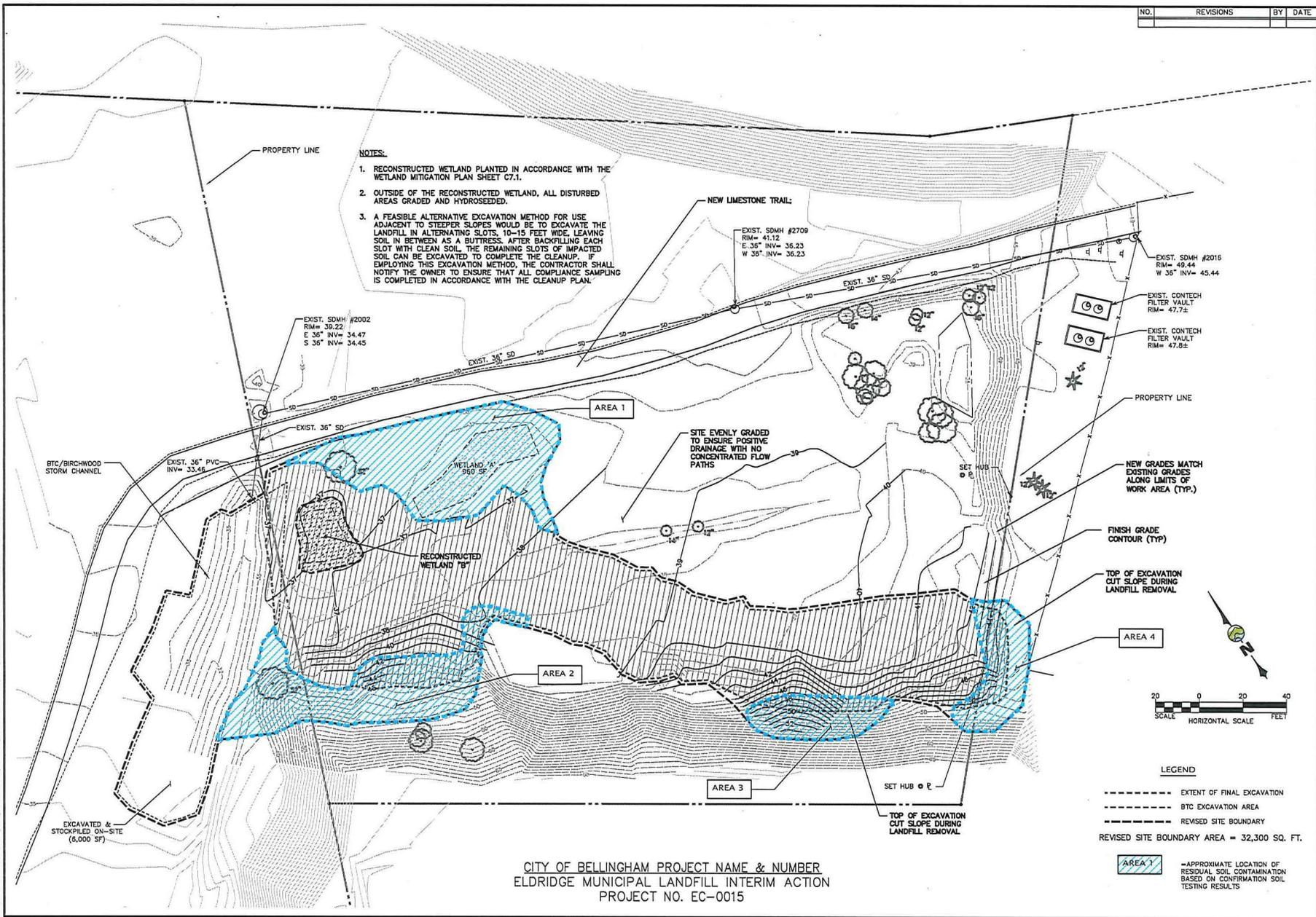


DESIGNED BY: EAS  
 DRAWN BY: JOSHON  
 CHECKED BY:

CITY OF BELLINGHAM  
 WASHINGTON  
 ELDRIDGE MUNICIPAL LANDFILL CAP  
 REVISED SITE BOUNDARY & AREAS WITH  
 RESIDUAL CONTAMINATION

DATE: DECEMBER 2015  
 SCALE: AS SHOWN  
 JOB NUMBER: 2014-016  
 SHEET: FIG 5 OF 1

- NOTES:**
1. RECONSTRUCTED WETLAND PLANTED IN ACCORDANCE WITH THE WETLAND MITIGATION PLAN SHEET C7.1.
  2. OUTSIDE OF THE RECONSTRUCTED WETLAND, ALL DISTURBED AREAS GRADED AND HYDROSEEDDED.
  3. A FEASIBLE ALTERNATIVE EXCAVATION METHOD FOR USE ADJACENT TO STEEPER SLOPES WOULD BE TO EXCAVATE THE LANDFILL IN ALTERNATING SLOTS, 10-15 FEET WIDE, LEAVING SOIL IN BETWEEN AS A BUTTRISS. AFTER BACKFILLING EACH SLOT WITH CLEAN SOIL, THE REMAINING SLOTS OF IMPACTED SOIL CAN BE EXCAVATED TO COMPLETE THE CLEANUP. IF EMPLOYING THIS EXCAVATION METHOD, THE CONTRACTOR SHALL NOTIFY THE OWNER TO ENSURE THAT ALL COMPLIANCE SAMPLING IS COMPLETED IN ACCORDANCE WITH THE CLEANUP PLAN.



- LEGEND**
- EXTENT OF FINAL EXCAVATION
  - BTC EXCAVATION AREA
  - REVISED SITE BOUNDARY
  - REVISD SITE BOUNDARY AREA = 32,300 SQ. FT.
  - AREA 1 (shaded) = APPROXIMATE LOCATION OF RESIDUAL SOIL CONTAMINATION BASED ON CONFIRMATION SOIL TESTING RESULTS

CITY OF BELLINGHAM PROJECT NAME & NUMBER  
 ELDRIDGE MUNICIPAL LANDFILL INTERIM ACTION  
 PROJECT NO. EC-0015

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# EXHIBIT C

# Exhibit C

## Schedule of Work and Deliverables

### Consent Decree for Eldridge Municipal Landfill Site

	<u>Deliverables/Milestones</u>	<u>Schedule</u>
<b>A. Administrative</b>		
A.1	Lodge Consent Decree in Court (CD Effective Date)	Within 30 days of execution by City and Ecology
A.2	Progress Report to Ecology	For the first 2 years following CD Effective Date, monthly on the 10 <sup>th</sup> of the month beginning after CD Effective Date. Thereafter, annually on the CD anniversary date unless additional sampling is needed or circumstances require otherwise. (C. Compliance Monitoring)
<b>B. Environmental (Restrictive) Covenants</b>		
B.1	Draft Environmental Covenant	Submit to Ecology within 10 days of CD Effective Date. Include identification and protection of area designated as Especially Valuable Habitat
B.2	Final Environmental Covenant	Submit to Ecology within 10 days following Ecology approval of draft (C.1)
B.3	Environmental Covenant recorded	Record the covenant with Whatcom County Auditor within 90 days of CD Effective Date (A.1)
B.4	Proof of recording of Environmental Covenant	Submit to Ecology within 30 days following recording of covenant.

### C. Compliance Monitoring

- |     |   |  |
|-----|---|--|
| C.1 | Sampling and Analysis Plan Addendum                             | Submit to Ecology within 10 days of CD Effective Date (A.1)  |
| C.2 | Compliance Monitoring Implementation                            | For the first year, start within 90 days of CD Effective Date (A.1). Thereafter, annually for a minimum of one additional year to be conducted during the wettest season (December – March). |
| C.3 | Draft Annual Groundwater Monitoring Report                      | Submit to Ecology annually within 60 days after receipt of current year's analytical data  |
| C.4 | Final Annual Groundwater Report                                 | Submit to Ecology within 30 days following Ecology approval of draft (C.3)   |
| C.5 | Draft Evaluation of need for additional sampling or Other Steps | Submit to Ecology within 60 days following second Final Annual Groundwater Report (C.4)  |
| C.6 | Final Evaluation of need for additional sampling or Other Steps | Submit to Ecology within 30 days following Ecology approval of draft (C.5)   |

### D. Wetland Planting

- |     |  |   |
|-----|--|---|
| D.1 | Replant wetland plants in Wetland B                  | Start within 90 days of CD Effective Date (A.1).  |
| D.2 | Install Boundary Fence & Signage                     | Construct fence within 30 days of replanting of wetland plants (D.1) for both wetland areas and adjacent cottonwood tree. Install required signs. |
| D.3 | Water Wetland B                                      | At least once per month during the driest season (July – September) for two consecutive years.  |
| D.4 | Draft Evaluation of need for additional wetland work | Submit to Ecology within 60 days following the end of the second post-planting dry season.  |
| D.5 | Final Evaluation of need for additional wetland work | Submit to Ecology within 30 days following Ecology approval of draft (D.4)  |

**E. Operations and Maintenance Plan**

- |     |   |   |
|-----|---|---|
| E.1 | Draft Operations and Maintenance (O & M) Plan | Submit to Ecology within 60 days of CD Effective Date describing procedures for city staff working in and near the site (A.1) |
| E.2 | Final O & M Plan                              | Submit to Ecology within 30 days following Ecology approval of draft (E.1)  |