

# MEMORANDUM

Project No. 100094

January 24, 2022

**To:** Jerome Cruz, Washington State Department of Ecology

**cc:** David Herrington, Bremerton School District

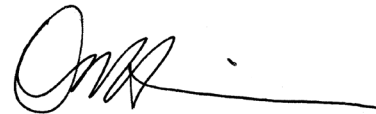
**From:**



1/24/2022

MATTHEW M. LEWIS

**Matthew M. Lewis, LHG**  
Project Hydrogeologist  
mlewis@aspectconsulting.com



**Doug Hillman, LHG, RG**  
Principal Hydrogeologist  
dhillman@aspectconsulting.com

**Re: Crownhill Elementary School Site: Garden Inspection**

Aspect Consulting, LLC (Aspect) produced this memorandum on behalf of the Bremerton School District (BSD) at the request of the Washington State Department of Ecology (Ecology) to document the installation of a fence around a new garden area at Crownhill Elementary School (Crownhill). The fence was constructed by digging holes (all less than 1 foot deep) in the clean soil cover and cementing the wooden posts in place with concrete. Performing invasive soil work of less than 1 foot requires written notice to Ecology prior to beginning work as detailed in the Inspection & Maintenance Plan.<sup>1</sup> However, due to a miscommunication with a volunteer, these requirements were not met. Aspect conducted a site inspection on November 11, 2021, which is summarized below.

- The garden area and fence are partially located in South Landfill Area and entirely within the bounds of the Environmental Covenant Area as defined by Agreed Order<sup>2</sup> (see Figure 1). The fence posts were installed on October 16 and 17, 2021.

<sup>1</sup> Aspect Consulting, LLC (Aspect), 2015c, Cover System Inspection and Maintenance Plan, Crownhill Elementary School Site, prepared for Bremerton School District, December 17, 2015.

<sup>2</sup> Agreed Order No. DE11107 between Ecology and BSD.

- All fence-post holes were dug to less than 1 foot deep within the clean soil cover. They do not fully penetrate the cover, nor was any geotextile encountered, and the posts were installed outside of the geotextiled areas constructed during the 2013 Interim Action.
- The soil cuttings from the clean soil cover were mixed with other soils at the volunteer's home and are not recoverable.
- The garden area is covered with wood chips and consists of raised garden beds, tables, and garden hoses. No part of the garden was observed to penetrate the clean soil cap.
- There are no prohibitions against growing vegetables in the Agreed Order.

Ecology issued its decision on the garden area on December 22, 2021, which is attached for reference. It recommends that the garden fence posts be removed, the soil cap restored to its original condition, and the garden beds replaced with containers that prevent contact with the ground (pending approval by Ecology).

### **Interview and Inspection**

A new garden area is being installed at Crownhill and consists of several raised garden beds, tables, garden hoses, and a layer of woodchips (See Photograph 1). On Monday, October 18, 2021, Teneka Morley (Principal at Crownhill Elementary School) first observed the fence posts, notified David Herrington, and Garth Steedman with BSD, who then interviewed the volunteer who installed the fence posts. The garden area is located within the Environmental Covenant Area, therefore invasive soil work is prohibited according to Agreed Order No. DE11107.

According to the interview, the volunteer installed the fence posts on October 16 and 17 without knowing about prohibitions on invasive soil work and wasn't informed of them because the fence posts were not part of the original garden area plans. No geotextile or plastic was observed during the digging, which did not exceed 1 foot in depth. The soil removed from the clean soil cover was described as topsoil and gravel and was mixed with other soil at the volunteer's house and is considered unrecoverable.



**Photograph 1. Fence posts and garden area, facing northeast.**

Aspect conducted a site investigation on November 11, 2021, to document the fence construction and the conditions of the garden area. An Aspect field representative dug down to the base of each fence post with a shovel to confirm the installation depth with a measuring tape. There were six fence posts installed and all of them were observed to be installed to depths ranging from 0.7 to 0.85 feet below ground surface (bgs). Each 4x4-inch wooden post appears to have been installed by digging a hole about 6 inches in diameter and cementing in place using concrete. All soils dug up during this inspection were briefly stored on plastic sheeting and replaced immediately afterwards before moving to the next post. Disturbed soils were tamped down and woodchips were replaced on top.



**Photograph 2. Depth of post holes and concrete.**

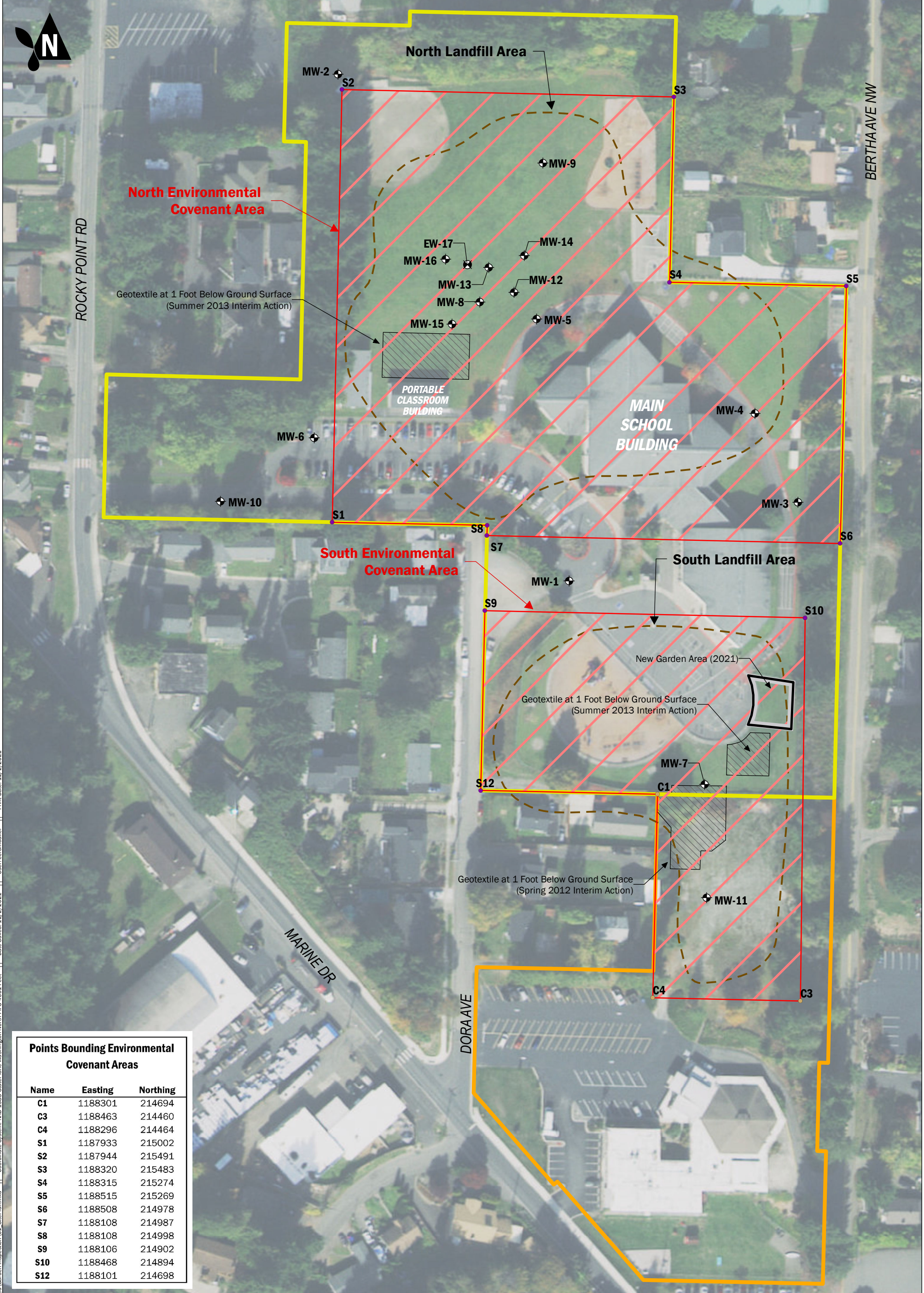
## **Limitations**

Work for this project was performed for the Bremerton School District (Client), and this memorandum was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This memorandum does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Attachments: Figure 1 – Site Plan  
Appendix A – Ecology Decision Letter

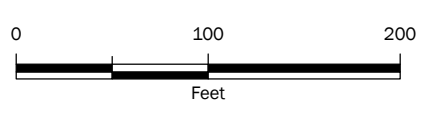




**Points Bounding Environmental Covenant Areas**

Name	Easting	Northing
C1	1188301	214694
C3	1188463	214460
C4	1188296	214464
S1	1187933	215002
S2	1187944	215491
S3	1188320	215483
S4	1188315	215274
S5	1188515	215269
S6	1188508	214978
S7	1188108	214987
S8	1188108	214998
S9	1188106	214902
S10	1188468	214894
S12	1188101	214698

- Monitoring Well
- Extraction Well
- Area of Environmental Covenant Soil and Structure Prohibitions
- Interpreted Extent of Landfill Activity
- Bremerton School District Property Boundary
- Bremerton United Methodist Church Property Boundary



**Site Plan**  
Crownhill Elementary School Site  
Garden Inspection  
Bremerton, Washington

	DEC-2021	BY: PPW	FIGURE NO. <b>1</b>
	PROJECT NO. 100094-H	REV BY: EAC / ML	

GIS Path: T:\projects\_8\CrownhillElementary\Delivered\Garden Inspection\01\_SitePlan.mxd | Coordinate System: NAD\_1983\_StatePlane\_Washington\_North\_FIPS\_4601\_Feet | Date Saved: 12/2/2021 | User: ecumbaker | Print Date: 12/2/2021



# **APPENDIX A**

## **Ecology Decision Letter**



Electronic Copy

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

Northwest Regional Office • PO Box 330316 • Shoreline, Washington 98133-9716 • (206) 594-0000  
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

December 22, 2021

David Herrington  
Director of Facilities and Operations  
Bremerton School District  
200 Bruenn Avenue  
Bremerton, WA 98312-3108  
([david.herrington@bremertonschools.org](mailto:david.herrington@bremertonschools.org))

**Re: Crownhill Garden and Fence Posts**

- **Site Name:** Bremerton School District Crownhill Elementary School Site
- **Site Address:** 1500 Rocky Point Road NW, Bremerton, WA 98312-2652
- **Cleanup Site ID:** 4487
- **Facility/Site ID:** 99722456

Dear David Herrington:

Thank you for reporting the unauthorized installation of fence posts in a garden at the South Landfill Area of the site, and for working to provide the Washington State Department of Ecology (Ecology) the additional information I requested to verify the details of the incident.

This letter provides Ecology's conclusions based on the additional details provided to me in an email dated November 22, 2021 from your environmental consultant Matthew M. Lewis with Aspect Consulting, LLC. Ecology assessed the specific activities and locations that were reported (gardening and fence post installation) with respect to the terms of the environmental covenant recorded for the site.

**Use of the property for gardening**

Section 2a of the environmental covenant states that the following restrictions shall apply within the north and south landfill and surrounding areas (*italics mine*): "Any activity on the Property that will compromise the integrity of the cap including: drilling, *digging*; piercing the cap with sampling device, *post, stake or similar device*; grading; excavation, etc.". It also states, "In addition, the Grantor shall not alter or remove the existing structures on the Property in any manner that would expose contaminated soil and waste materials, result in a release to the environment of contaminants, or *create a new exposure pathway, without prior written approval of Ecology*". See also Section 1b.

Ecology believes the gardening and post installation activities have the potential to disturb or breach the soil cap. Gardening activities over the soil cap area have the potential to create a new exposure pathway unintentionally or inadvertently.

### **Installation of fence posts around the garden**

No notification was provided to Ecology that a garden and fence posts would be built in the area of concern. The fence posts were verified to have been installed within one foot of the land surface, and did not penetrate further below the soil cap or through the geotextiles installed as part of the site remedy.

However, Ecology believes the fence posts are not an authorized activity under the terms of the environmental covenant as explained above, and by not notifying Ecology of the activities to the soil cap, Ecology was not provided an opportunity to assess the risks and legal requirements of this activity under the cleanup.

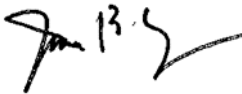
### **Next Steps**

Ecology recommends that the garden beds and fence posts be removed to ensure the original containment portion of the remedy (soil cap with institutional controls) remains protective of human health and the environment. The raised beds should be removed and the original soil cap restored to bring it back to its original condition before the garden was cultivated. The fence posts should be removed and clean soil returned to the post holes. The school district may propose alternatives for the garden such as a container garden, in which plants are grown in soil that is completely contained, where neither garden soil nor roots will contact the ground.

Please understand that Ecology understands the benefits of gardens to the well-being of its users and to the community. However, the portion of land where the activities occurred is still subject to the land use restrictions of the environmental covenant, which is part of the agreed-upon remedy to address the contamination issues of the site.

Please do not hesitate to contact me by phone at (425) 466-8732 or by email at [jerome.cruz@ecy.wa.gov](mailto:jerome.cruz@ecy.wa.gov).

Respectfully yours,



Jerome B. Cruz  
Site Manager  
Toxics Cleanup Program, NWRO

cc: Matthew Lewis, LHG, Aspect Consulting, LLC ([mlewis@aspectconsulting.com](mailto:mlewis@aspectconsulting.com))  
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Ecology Site File