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July 17, 2019

Allison Geiselbrecht, Ph.D.
Floyd | Snider
601 Union Street, Suite 600
Seattle, WA 98101

Re: Western Port Angeles Harbor Sediment Cleanup Unit Remedial Investigation/Feasibility Study Public Review Draft Comments

- **Site Name:** Western Port Angeles Harbor, Port Angeles, Clallam County, WA
- **Facility/Site No.:** 18898
- **Cleanup Site ID No.:** 11907

Dear Allison Geiselbrecht, Ph. D.:

Thank you for submitting the *Western Port Angeles Harbor Sediment Cleanup Unit Remedial Investigation /Feasibility Study Public Review Draft* report (RI/FS), dated 2019 Draft. The Department of Ecology (Ecology) has the following comments on this document.

General Comments

Disproportionate Cost Analysis and Evaluation of Alternatives:

The final Cleanup Action Plan will be an Ecology document. Ecology may interpret the results of the disproportionate cost analysis differently and may choose a different remedial alternative based on the information provided and the results of the public comment period.

Specific Comments

Section 2.2.4, Paragraph 1, Human Consumption of Seafood:

Ecology's previous comment #37 was addressed by removing the reference to commercial fishing in Port Angeles Harbor from Section 2.2.4; however, similar statements still exist in the Summary of Section 2, Bullet 4 and in the Executive Summary – Biological Communities and Fisheries, Paragraph 2. The references to commercial fishing in these sections should also be removed.

Section 8.1.1.3, Paragraph 6, Comparison of Surface-Weighted Average Concentrations (SWACs) with Cleanup Screening Levels:

“Based on the types of gravely to cobble-sized sediments present in the inner harbor and eastern/southeastern areas of the lagoon, with low/no fine content, combined with the tendency of contaminants to adhere to fines and/or organic-rich sediments, these SWACs likely overestimate actual concentrations.”

Based on Figure 7-19 most of the inner harbor and lagoon is 39 to 69% fines. Though this statement is in a section discussing intertidal areas, it is not clear whether this statement is limited to the intertidal areas. Unless there is additional data presented in this report to show that the intertidal areas in the inner harbor and eastern/southeastern areas of the lagoon are composed of gravely to cobble-sized sediments, this statement should be removed. If the data is available, reference the data and clarify the sentence to specify intertidal areas.

Section 13.1.7, 13.2.6, and Table 13.1

Alternatives 1-G and 2-F do not address the 45-cm intertidal point of compliance and restoration timeframes are not calculated. The text acknowledges that a sediment recovery zone (SRZ) would likely be necessary in Section 13.1.7. Based on the similar remedial action considered in Section 13.2.6, a SRZ would also likely be necessary for alternative 2-F, though the text does not mention this. Table 13.1 lists “No” in the SRZ column for both alternatives 1-G and 2-F. Please correct Table 13.1 by placing “Yes” or “Likely” in the SRZ column for alternatives 1-G and 2-F.

Appendix I, Section 1.0 and Appendix J, Section 1.0

Please remove the word “draft” from two places in paragraph 1 of Appendix I, Section 1.0, and one place in the paragraph 1 of Appendix J, Section 1.0. These appendices cannot remain draft in the approved RI/FS. These frameworks will be approved as part of the RI/FS and expanded into full plans during design.

Appendix I, Construction Quality Assurance and Adaptive Management Plan Framework:

Expand the third blue box of Figure I.1 to clarify that “Conduct Performance Monitoring” includes the initial comparison of the 0 to 10 cm concentrations to the subtidal cleanup standards. If the cleanup standards are met, additional analyses of the archived samples are not performed and the flow chart should not continue into the adaptive management evaluation. Instead, it should show a continuation of the current enhanced natural recovery (ENR) construction and monitoring plan. If the cleanup levels are not met, then the archived samples for 0 to 2 and 2 to 10 cm are analyzed, and adaptive management is considered.

Appendix J, Section 4.1.2, Sampling Scheme

Delete the exact number of samples provided in the summary sampling scheme in Section 4.1.2 and include an estimated range of 50 to 80 samples with exact locations and division between areas to be determined during design.

Appendix J, Section 4.2, Benthic Indicator Hazardous Substances

Delete the exact number of samples stated for evaluating compliance with benthic sediment cleanup levels (SCLs) and replace with a range of 10 to 25 with exact locations to be determined during design.

Appendix J, Section 6.2, Post-year 10 Episodic Physical Integrity Monitoring

Capped areas need long-term monitoring (LTM) as long as contamination remains under the cap, not just for ten years. Major storms should be included in the list of potential disturbance events. Provide additional details about how potential disturbance events (such as a tsunami, a seismic event, or a 100-year storm) will be defined and identified.

Appendix J, Figure J.1, Bioaccumulative Compliance Monitoring Decision Tree

Understanding why the 0 to 10 cm SWAC is failing to meet the SCL will require a weight-of-evidence approach. If the 0 to 10 cm SWAC fails, the 0 to 2 cm and 2 to 10 cm samples should both be analyzed and evaluated before deciding on next steps. Please adjust the flow chart to show the second and third row pathways are evaluated when the SWAC does not comply with the SCL and/or projected trends.

The second row of the flow chart appears to reach an endpoint when a 0 to 2 cm SWAC fails to comply with SCL. This endpoint could be reached in year 0 post-construction. This should not be an endpoint until sufficient data and trends indicate the failure is only related to regional background or source control-related activities. Adjust the flow chart to show that LTM continues after row 2 also.

Appendix K, Preliminary Cap Design

This appendix describes a preliminary cap design based on chemical isolation, bioturbation, and erosion protection. The erosion protection analysis considers wind wave forces and propeller wash forces, but does not appear to consider tidal currents. Add details of how tidal currents are considered in this preliminary design.

Editorial Comments

Section 8.3.2, Page 8-9, Last Paragraph on Page:

“Construction of a large-scale subtidal remediation that will only temporarily achieve the SCO’s for the bioaccumulative IHSs would extend over decades due to the size of the area to be addressed (approximately 1,780 acres). This extended construction period would result in extensive adverse environmental impacts on natural resources as well as on the harvest of such resources from the SCU. The SCO’s and CSLs for the final bioaccumulative IHSs for mobile seafood species are...” Delete this fragment of a paragraph. The full paragraph follows starting at the top of page 8-10 in the final PDF. This error also occurs in the hard copies, but does not occur in the redline version.

Section 12.3, Paragraph 3:

“Figure 12.2 also depicts some of the site conditions that require consideration during remedial design.” This sentence should refer to Figure 12.1 instead of 12.2. Also, remove the word “and” from the sentence, *“The preliminary design provides an initial estimate of the required engineered cap layer thicknesses and material specifications needed to achieve protective long-term chemical isolation ~~and~~ under reasonable worst-case future conditions for specific areas of the SCU, including considerations of potential climate change.”*

Hard Copies:

The hard copies provided to Ecology had several minor errors. When page replacements are prepared to address the comments in this letter, these issues should also be corrected:

- Pages 6 and 7 are missing from the Executive Summary.
- In Sections 4 and 9, the initial section summary also replaces the figure title pages. The figure title pages are missing.
- The Total TEQ memo is missing from Appendix A of Appendix A.
- Delete the partial paragraph in Section 8.3.2. See the editorial comments for Section 8.3.2 above.

Next Steps

Please revise the RI/FS to resolve the comments above and submit a revised electronic version of the RI/FS and all hard-copy page changes necessary to update the six copies of the document previously delivered to Ecology within 30 calendar days from the date of this letter. Ecology will begin preparing for a public comment period.

For efficiency, Ecology would like hold a public comment period for an Agreed Order amendment to prepare the preliminary draft cleanup action plan at the same time as the PRD RI/FS comment period. All of the current Agreed Order PLP's would need to be willing to negotiate an amendment to move forward in this manner. Otherwise, we will need a new Agreed Order. Due to the time needed to negotiate a new agreed order, we would hold the comment period for the new agreed order later. Please let me know as soon as possible which way you would like to proceed.

If you have any questions about this comment letter, please contact me at (360) 407-6234 or connie.groven@ecy.wa.gov.

Sincerely,



Connie Groven, P.E.
Toxics Cleanup Program
Southwest Regional Office

CGG: tam

By certified mail: 9489 0090 0027 6066 6677 95

cc: Karen F. Goschen, Port of Port Angeles
Nathan West, City of Port Angeles
David Massengill, Georgia-Pacific LLC
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Ecology Site File