Electronic Copy

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • 360-407-6300
Call 711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

December 19, 2019

Kip Summers, P.E. LEED
Project Engineer, Parks, Arts, and Recreation Department
City of Olympia
P.O. Box 1967
Olympia, WA 98507

Re: Comments on Remedial Investigation/Feasibility Study Report

- **Site Name:** Solid Wood Inc.
- **Site Address:** 700 W Bay Drive NW, Olympia, WA 98502-4838
- **Facility/Site No.:** 94656838
- **Cleanup Site ID:** 4228
- **Agreed Order No.:** DE-08-TCPSR-5415

Dear Kip Summers:

The Washington State Department of Ecology has reviewed the *Remedial Investigation/Feasibility Study Report* (RI/FS), dated October 5, 2015, and prepared by Pioneer Technologies Corporation and Parametrix.

Ecology has the following comments on the RI/FS:

1. Executive Summary, Footnote 1: Please rewrite this footnote. The agreed order simply identified the general area in which the site is located – it was not to be used as a limitation on RI investigation. Because the RI has not adequately investigated where contamination has come to be located, a Site boundary has not been established to Ecology's satisfaction. Accordingly, the RI and FS should not use the phrase "Site boundary". Ecology will require supplemental RI work to adequately characterize the Site before a draft Cleanup Action Plan can be created.

2. Section 1: Introduction, Footnote 3: Same comment as above.

3. Section 2.4, Potential Contaminant Sources: This section fails to describe what contaminants are associated with the "potential contaminant sources". As such, it is unclear to the reader what contamination may be encountered by potential receptors (e.g., cross reference in Section 2.7).

4. Section 2.7, conceptual site exposure model, page 2-6, last paragraph: The introductory sentence references Figure 2-6 and one footnote regarding pathways that are considered incomplete. It is not adequate to simply reference the figure because the figure does not contain an explanation of why these pathways are incomplete. Please add text (not footnotes) to describe this.

5. Section 3.1.1, soil: The vertical extent of carcinogenic polycyclic aromatic hydrocarbons (cPAHs) contamination along the railroad right-of-way (ROW) has not been determined. For example, samples at locations SB26, SB29, and SB30 were all collected at a depth of 4 feet below ground surface (bgs) and all of them exceeded the Model Toxics Control Act (MTCA) Method A Cleanup Level (0.10 milligrams per kilogram, mg/kg) and the maximum concentration was 0.31 mg/kg. No other depths were analyzed for cPAHs at these locations. It is important to know how the cPAH concentration varies with depth at these locations and what the maximum depth of contamination is. Also, what is the site conceptual model explanation for finding cPAH contamination at this depth? Likewise, cPAH screening level exceedances were found at locations SS03, SS05, SS06, and SS12 (0.5 feet bgs depth) but no deeper samples were collected or analyzed.

6. Section 3.1.3, sediment, 1st paragraph: It is not accurate to state that "no IAs [interim actions] were performed in sediment." As shown in Appendix C, Figure 1, portions of the Area D interim action (IA) area are below mean higher high water (MHHW). Please revise text accordingly. Also, this figure should be incorporated into the main figures of the document rather than only in an appendix.

7. Section 3.2.1.1, Direct Contact: It is confusing to write residential land use is not applicable to the Site. Unless a site qualifies for use of an industrial soil cleanup level (and this Site does not) then soil cleanup levels shall use a presumed unrestricted land use cleanup level in accordance with Washington Administrative Code (WAC) 173-340-740.

8. Section 3.2.2, groundwater screening levels: Ecology does not agree that groundwater at the site is not a feasible drinking water source due to its proximity to surface water. The RI/FS does not provide sufficient information to make a showing under WAC 173-340-720(2) that groundwater should not be classified as potable. The Ecology-approved Draft Final Closure Request Report (ARCADIS, 2018)[1] for the adjacent Industrial Petroleum Distributors (IPD) site states that the future installation of a drinking water well would not be prohibited by the city of Olympia and therefore, as a conservative estimate, it was assumed that groundwater use may include drinking water beneficial uses in the future. Potential beneficial uses for the Solid Wood Site should be consistent with the adjacent IPD site. Please revise the document to include potential drinking water beneficial uses of groundwater for the Solid Wood Site.

[1] *Closure Request Report, Industrial Petroleum Distributors Site, 1120 West Bay Drive*, dated May 2, 2018, prepared by ARCADIS.

9. Section 3.3.2, sediment screening levels: Since the draft RI/FS Report was prepared, Ecology has published regional background values for South Puget Sound (Michelsen et al, 2018)[2]. For Budd Inlet, this document included regional background values for cPAHs and dioxins/furans. Please incorporate these regional background values into the text and tables in the RI/FS Report.

10. Section 3.3.3, sediment contaminants of concern:

    a. Revise the document to include cPAHs as a sediment contaminant of concern (COC). Concentrations of cPAHs at several sediment sample locations (for example SD12, SD14, SD16, SD19, SD27, and SD28) exceed the regional background value of 78 micrograms per kilogram (µg/kg) toxic equivalent quotient (TEQ). The RI/FS Report needs to evaluate the potential for upland cPAHs contamination to impact sediments and discuss the site cPAH sediment data in the context of results from Budd Inlet.

    b. Sediment samples were not collected and analyzed for cPAHs and/or TPH in the vicinity of the north and south trestles. This is a data gap if the trestles are or were previously constructed with creosote-treated pilings.

    c. The discussion on total dioxins/furans as a sediment COC needs to be revised. Dioxins/furans are a sediment COC and were one of the key COCs for the Area D interim action (which included upland soil and sediments). Also, Table 3-6 is misleading because it apparently only includes “SD” labelled samples and; therefore, does not include the maximum detected dioxins/furans concentrations in Area D sediments (DSW02, 206 nanograms per kilogram, ng/kg). So, the question should not be whether or not total dioxins/furans are a COC, but whether there are any concentrations of them that exceed screening levels at the Site following the interim action.

11. Section 3.3.4.2, Terrestrial Ecological Evaluation: As indicated in the attached Ecological Risk Analysis Memorandum, it is recommended that a Site-Specific Terrestrial Ecological Evaluation (TEE) is conducted at the site as per the regulations found in WAC 173-340-7491(2)(a)(i). Please revise the text accordingly. Also, please consult with Ecology if you have any questions as you prepare the Site-Specific TEE.

12. Section 3.6, FS Site Boundary Determination: It is incorrect to write that the Site boundary may be limited to areas with screening level (SL) exceedances. A MTCA site boundary is “any site or area where a hazardous substance . . . has come to be located”. WAC 173-340-200. This is not limited to areas where the hazardous substance is present above a SL. Therefore the Site boundary must include sediment and groundwater plume areas where hazardous substance(s) have been identified. It is correct to identify that remedial action will only be required in an area of the Site where the hazardous substance is above the SL, and therefore the FS review of work is in the identified areas.

[2] Michelsen, T., W. Hafner, and L. Read, *South Puget Sound Regional Background*, Washington State Department of Ecology publication no. 18-09-117, May 2018

Additionally, the FS Alternatives need to review the IA work and determine if the CUL requirements have been met so that the interim action can be considered a final cleanup action. For example, IA excavation compliance monitoring results can be compared to CUL to determine no further excavation of soil is necessary. If IA resulted in containment, then the requirements of WAC 173-340-740(6)(f) should be reviewed to show that the cleanup action can be determined to comply with cleanup standards.

13. Section 4.1.2, Soil Cleanup Levels: Please rewrite your description of unrestricted land use. The Site does not qualify for use of an industrial soil cleanup level, and therefore unrestricted land use standards will be used. The fact that zoning prohibits single-family residential land use at the Site is not a factor.

14. Section 4.3, assembled cleanup action alternatives:

    a. Ecology does not agree with the combining of the cleanup of the small Oil Stain Area with the railroad right-of-way (RR-ROW) in the cleanup alternatives. Since there is a very large difference in scale/size and potential approaches for the cleanup of these, they need to be evaluated separately.

    b. There is also a significant difference in the risk to groundwater between the two areas. Lube oil range soil concentrations from Oil Stain Area samples SB48, 7 feet depth (12,000 milligrams per kilogram, mg/kg) and SB59, 6 feet depth (3,200 mg/kg) exceed the residual saturation screening level for heavy fuel oils (2,000 mg/kg) shown in WAC 173-340-900 Table 747-5). Grab groundwater sample results from downgradient location SB53 showed concentrations of total petroleum hydrocarbons – diesel range (TPH-D) of 460 micrograms per liter (µg/L) and TPH – lube oil range (TPH-O) of 480 µg/L. As per Ecology Implementation Memorandum #4 (IM-4)[3], since no prescreening or product matching was done the TPH-D and –O results for SB53 need to be summed together. This results in a TPH-O concentration of 940 µg/L which exceeds the TPH-O Method A Cleanup Level for groundwater of 500 µg/L.

       Ecology does not agree with the conclusion in Parametrix (2014)[4] that it is appropriate to use the re-analyzed result using silica-gel cleanup to remove naturally-occurring organics. Groundwater in the area does not seem to be affected by organic material because TPH-D and –O results in the grab groundwater sample from nearby boring SB52 were below the laboratory reporting limit. Please revise the text, figures, and tables accordingly.

15. Section 4.3.2, Alternative 2: Please rewrite this alternative, as institutional controls and engineering controls are not a remedy. It appears that Alternative 2 is using a soil containment remedy, which requires use of controls as part of that remedy.

[3] *Determining Compliance with Method A Cleanup Levels for Diesel and Heavy Oil*, Department of Ecology Implementation Memorandum #4, June 17, 2004.
[4] *Technical Memorandum: Draft Data Gap Sampling Report*, dated February 27, 2014, prepared by Parametrix.

16. Section 4.3.3, Alternative 3 – limited soil excavation, cover, and controls: It is not clear to Ecology the rationale for the excavation of one foot of soil "within the TPH-HO [total petroleum hydrocarbons – heavy oil range] constituent delineation…since the vertical extent of TPH-HO contamination is unknown." Since the Oil Stain Area release has caused an exceedance of the Method A Cleanup Level for groundwater, this alternative is not adequate for the Oil Stain Area.

    Please revise this alternative accordingly. It is not clear if this alternative will be using a containment remedy for some areas where soil above a CUL is not excavated. Please be clear if all contaminated soil above a CUL will be removed or not. Additional explanation is needed as to why compliance monitoring would not be necessary. If you are planning to use containment, then compliance monitoring and periodic review will both be part of the remedy [see WAC 173-340-740(6)(f)(v)]. If you are planning on just using excavation, then compliance monitoring is still required to show soil cleanup levels post-excavation have been met.

17. Section 5, Recommended Remedial Alternative: Please revise the statement included as a "Note" – any additional sampling and revision to excavation and cover area will need to be included and approved by Ecology as part of the Cleanup Action Plan. The City cannot conduct additional sampling and make changes to the remedy on an independent basis. Additionally, as noted above, it is not clear if this remedy is using a containment approach to meeting soil cleanup standards.

18. Oil Stain Area Figures: The existing figures do not show adequate detail for the Oil Stain Area. Ecology recommends that versions of Figures 2 and 4 from Parametrix (2014) be included to provide this detail. Ecology also recommends that Figure 1 from Parametrix (2014) be included as this figure shows better detail of the portion of the site south of West Bay Park.

19. Figures 1-1 through 5-1: To improve ease of readability, in the paper copies of the document, please reproduce the figures on 11 x 17 inch paper.

20. Figure 2-5: Please revise the legend to include the descriptions/designations of the interim action areas.

21. Figure 2-6: Post-remediation soil exposures to ecological, recreator, and landscape/utility worker are listed as "potentially complete." Please explain in the figure and/or text what is meant by that term and how unacceptable exposures to these receptors will be controlled and prevented.

22. Figures 3-1 through 3-5: Please add labels with the interim action area designation (for example "Area A") to each of the detail panes in the figures.

23. Figure 3-11, comparison of historic operations with in-place soil total cPAHs results: This figure is incomplete because it does not include the exceedance at SS-12. Please also add the sediment exceedances at SD-12, SD-14, SD-16, SD-27, and SD-28.

24. Figure 4-1:

    a. This Figure shows that SS03, SS05, SS06, SB26, SB29, SB30, and SB48 are in-place soil cleanup level exceedance locations. However, this figure does not indicate which constituents are exceeded at these locations; please indicate this. Also, there is a text box that contains several sentences regarding SB47 but this location is not shown on the figure and so it is unclear what the text box is referring to. It is recommended that instead of trying to explain these details in a text box that these details are discussed in the text of the document.

    b. Please add the missing cPAH exceedance locations for soil and sediment that are mentioned above.

25. Table 3-1:

    a. Some of the groundwater screening levels for protection of surface water have changed since the table was prepared. For example, the table shows the screening level for antimony as 640 micrograms per liter (µg/L) but the lowest value currently shown in Ecology's Cleanup Levels and Risk Calculation (CLARC) database is 90 µg/L (40 CFR 131.45, marine waters, human health). Please check CLARC for the lowest values and modify the table accordingly.

    b. As per Ecology IM-4, since no prescreening or product matching was done the soil and groundwater TPH-D and –O screening levels need to be combined values (2,000 mg/kg and 500 µg/L, respectively).

    c. Please provide more detail on how the soil-to-surface water screening levels were calculated.

26. Table 3-11: Please add a footnote indicating that the industrial or commercial land use values shown in the table for diesel and gasoline range organics are allowed except that the concentrations shall not exceed residual saturation at the soil surface (as per WAC 173-340-900, Table 749-2).

27. Table 3-12: This table only shows the SB59 averaged result (1,810 mg/kg) for TPH-O of the sample and duplicate (3,200 mg/kg and 420 mg/kg, respectively). It is not acceptable to use averaged values in the table. Please revise all tables in the RI/FS report to show each individual value. Also, please note that for decision-making purposes, maximum values shall be used rather than averaged values.

28. Tables 3-12 and 3-13: Please revise these tables to include soil concentrations for samples removed during the IAs. These results can be footnoted or highlighted as removed but, they still need to be included in the table. These sample locations are shown on Figure 3-2 so it makes sense to allow the reader to see the values for these in the tables.

29. Appendix E, data tables of analytical laboratory results: Please add a designation to the sample results in the tables (such as bold type or shading) to indicate if the detected concentration and/or laboratory reporting limit exceeds screening and/or cleanup levels.

30. Appendix E, Table E-1: The total cPAH result for sample SB04 does not match Table 3-13. Please check this and make the appropriate changes to show the correct result.

31. Electronic file size limit: The maximum size file that can be uploaded to Ecology's Document Storage and Retrieval System (DSARS) is 100 megabytes (MB). The electronic copy of the document that was provided was 226 MB. Please provide an electronic copy of the original document and any future documents in a reduced file size format and/or in portions that are less than 100 MB.

32. Submittal of electronic data to Ecology's Environmental Information Management System database: We appreciate your work in submitting Site data to Ecology's Environmental Information Management System (EIM) database as required by Agreed Order section VIII.G. However, some RI/FS data appear to be missing from EIM (for example sediment samples from SD34 through SD41, soil samples SB33 through SB41, and grab groundwater samples SB52 and SB53. Please ensure that all data are entered into EIM as per Toxics Cleanup Program Policy 840 (Data Submittal Requirements).

Sincerely,

Steve Teel, LHG
Department of Ecology
Toxics Cleanup Program, Southwest Regional Office

Enclosure: Solid Wood Inc. Ecological Risk Analysis Memorandum

cc: Jonathon Turlove, City of Olympia (by email)
Chris Waldron, Pioneer Technologies Corporation (by email)
Ivy Anderson, Office of the Attorney General (by email)
Rebecca S. Lawson, Ecology (by email)
Nick Acklam, Ecology (by email)
Ecology Site File

Solid Wood Inc. Ecological Risk Analysis

Memorandum

To: Steve Teel, Site Manager
Toxics Cleanup Program
Southwest Regional Office

From: Arthur Buchan, Toxicologist
Information & Policy Section
Toxics Cleanup Program

Date: September 25, 2019

This memorandum represents a Department of Ecology analysis and recommendation regarding the Terrestrial Ecological Evaluation section (3.3.4.2) of the document: *Remedial Investigation/Feasibility Study Report:* Solid Wood Incorporated Site, Olympia, Washington – Agreed Order No. DE-08-TCPSR-5415 (Pioneer Technologies 2016) (Facility Site ID No. 94656838).

Determination:

It is recommended that a Site-Specific Terrestrial Ecological Evaluation (TEE) is conducted at this site as per the requirements found in WAC 173-340-7491(2)(a)(i): The site is located on, or directly adjacent to, an area where management or land use plans will maintain or restore native or semi-native vegetation (e.g., green-belts, protected wetlands, forestlands, locally designated environmentally sensitive areas, open space areas managed for wildlife, and some parks or outdoor recreation areas. This does not include park areas used for intensive sport activities such as baseball or football).

For any questions or concerns regarding this memorandum, please contact:

Arthur Buchan, Toxicologist
Toxics Cleanup Program, Headquarters Office
Information and Policy Section
Phone: (360) 407-7146
Email: abuc461@ecy.wa.gov

Comments/Recommendations

Determination of Simplified or Site-Specific Criteria:

WAC 173-340-7491(2) (a) describe requirements for determination if a simplified TEE evaluation is sufficient, or if a site-specific TEE is necessary. It states "Sites that do not qualify for an exclusion under subsection (1) of this section shall conduct a site-specific terrestrial ecological evaluation if any of the following criteria apply:"

WAC 173-340-7491(2)(a)(i): The site is located on, or directly adjacent to, an area where management or land use plans will maintain or restore native or semi-native vegetation (e.g., green-belts, protected wetlands, forestlands, locally designated environmentally sensitive areas, open space areas managed for wildlife, and some parks or outdoor recreation areas. This does not include park areas used for intensive sport activities such as baseball or football).

Discussion: Under the MTCA Concise Explanatory Statement (Ecology 2001), it is stated that the purpose of this first criterion is to identify those sites that are located on, or adjacent to, areas that provide long-term habitat and for which ecological value will therefore increase over time with the loss of other habitat in the region. The criterion is based on the criterion developed during the Policy Advisory Committee (PAC) process, which provided as follows:

> The site is located on, or directly adjacent to, property where management or land use objectives will preserve natural or semi natural habitat. Examples include parks, greenbelts forestlands, military reservations, locally designated environmentally sensitive areas, or areas used for outdoor recreational activities.

In applying this criterion, the issue is whether there is information indicating that an area will provide long-term habitat. In such a case, a site within or directly adjacent to the area may not use the simplified evaluation procedures, which are based on a higher level of acceptable risk and assumes that the consequences of an under-protective cleanup are limited. The rule language indicates that the criterion applies to "an area where management [plans] or land use plans will maintain or restore native or seminative vegetation." Such plans are likely to be in public records and provide a reasonable expectation concerning future management of the area in question.

As a result, it is recommended that a site-specific TEE is conducted at this site, unless the consultant/site owner can verify that there are no future land use plans to preserve this area as a park.

WAC 173-340-7491(2) (a) (ii): The site is used by a threatened or endangered species; wildlife species classified by the Washington State Department of Fish and Wildlife as a "priority species" or "species of concern" under Title 77 RCW; or a plant species classified by the Washington State Department of Natural Resources Natural Heritage Program as "endangered," "threatened," or "sensitive" under Title 79 RCW. For plants, "used" means that a plant species grows at the site or has been found growing at the site. For animals, "used" means that individuals of a species have been observed to live, feed or breed at the site.

Discussion: It does not appear that any of the species listed are present at the site. In addition, the RI/FS that was reviewed states "No endangered or threatened terrestrial species were identified (Parametrix 2008) – (Pioneer Technologies 2015).

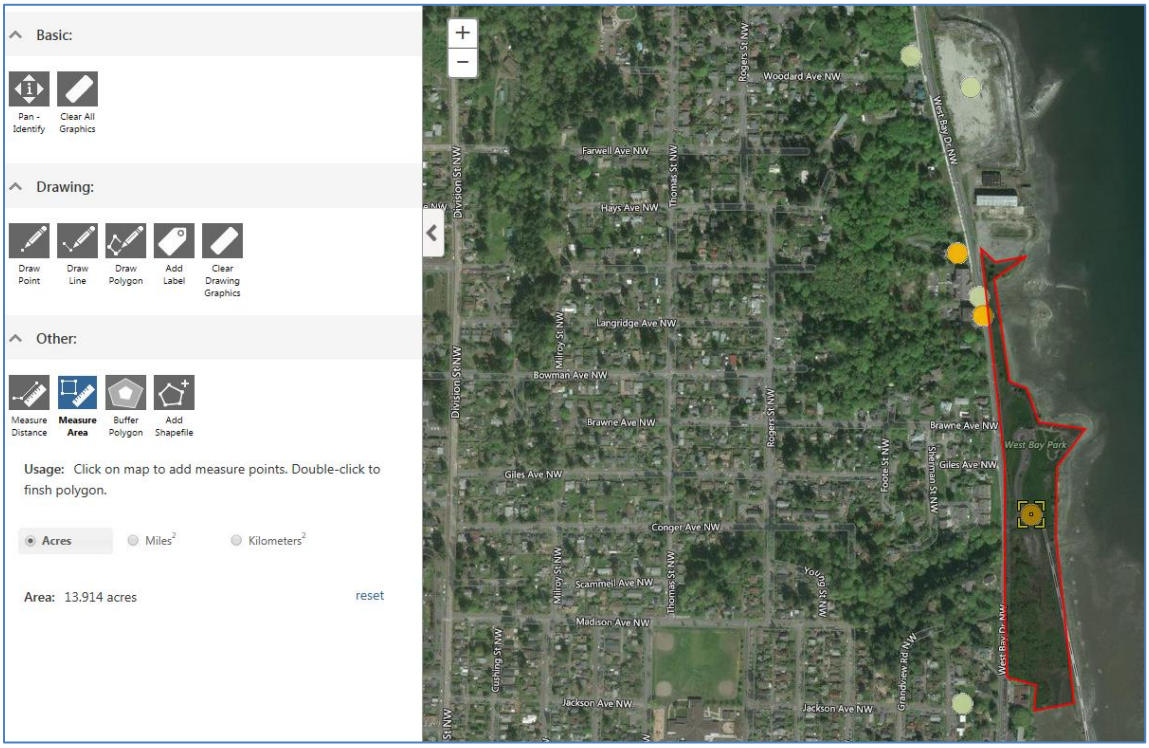
As a result, it does not appear that this regulation would apply at this site.

WAC 173-340-7491(2)(a)(iii): The site is located on a property that contains at least ten acres of native vegetation within 500 feet of the site, not including vegetation beyond the property boundaries.

Discussion: I have enclosed a table that indicates that while the area outlined is approximately 14 acres, a significant portion of the property appears to not be native. I am unclear if the native vegetation is greater than 10 acres, but I doubt it.

As a result, it does not appear that this regulation would apply at this site.

Figure 1: Approximate area of land within the site.



WAC 173-340-7491(2) (a) (iv): The department determines that the site may present a risk to significant wildlife populations.

Discussion: I does not appear that the site may present a risk to significant wildlife populations.

As a result, it does not appear that this regulation would apply at this site.

Summary:

As indicated above in this memorandum, the MTCA Regulation clearly states that "Sites that do not qualify for an exclusion under subsection (1) of this section shall conduct a site-specific terrestrial ecological evaluation if any of the following criteria apply:" Because this is a park, and that it does not appear to be used for intensive sport activities such as baseball or football, it is reasonable to assume that WAC 173-340-7491(2) (a) (i) applies. As such, it is recommended that a site-specific TEE is conducted at this site, unless the consultant/site owner can verify that there are no future land use plans to preserve this area as a park.

References Cited

Ecology. (2001). *Concise Explanatory Statement for the Amendments to the Model Toxics Control Act Cleanup Regulation, Chapter 173-340 WAC.* (Ecology Publication No. 01-09-043). Lacey, WA: Washington State Department of Ecology, Toxics Cleanup Program.

Ecology. (2013). *Model Toxics Control Act Regulation and Statute, Chapter 173-340 WAC.* (Ecology Publication No. 94-06). Lacey, WA: Washington State Department of Ecology, Toxics Cleanup Program.

Pioneer Technologies Incorporated. (2015). *Remedial Investigation/Feasibility Study Report.* Solid Wood Incorporated Site. Olympia, Washington. Agreed Order No. DE-08-TCPSR-5415. Facility Site No. 94656838.