STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

October 25, 2021

Sent via email and hard copy

Alec M. Danielson, PE, PG
Barr Engineering
4300 MarketPointe Drive
Suite 200
Minneapolis, MN 55435

RE: Ecology comments on agency review draft, Revised Draft Remedial Investigation Report: Yakima Mill Site (aka Boise Cascade Mill Site) (Barr, 2021).

- **Site Name:** Boise Cascade Mill
- **Site Address:** 805 North 7th Street, Yakima
- **Facility Site ID No.:** 450
- **Cleanup Site ID No.:** 12095
- **Agreed Order No.:** DE 13959

Dear Alec Danielson:

Thank you for submitting the above-referenced document in accordance with Agreed Order No. DE 13959. Below are the Department of Ecology's (Ecology) comments on the Draft Remedial Investigation Report. Ecology welcomes a discussion of the comments.

Ecology Comments/Discussion/Resolution

Comment 1: Ditches –Ecology considers the three ditches (North First Lateral Drain [NFLD], Spring Diversion Ditch [SDD], and River Water Intake / aka East Waterway) at the Site to be surface water as defined in WAC 173-340-200.

Discussion: The consultant agrees to treat the ditches as surface water for purposes of devising an approach to addressing this pathway.

The surface water pathway for each ditch is expected to be addressed through 1) characterization of the nature and extent of contamination, or 2) implementation of an engineering control in the dCAP.

The parties propose to identify the surface water pathway in the RI Addendum and indicate that this pathway will be addressed through further characterization or an engineering control with further details provided in the FS. I interpret it appropriate to allow additional time to consider the potential challenges with an engineering control before committing to an approach to address this pathway for the three ditches. Additionally it is also important to inform the ditch company of this issue and the proposed remedies.

There are three migration pathways to consider with respect to the surface water / ditches:

Ditch bottoms – It appears that the samples collected from the NFLD were below Freshwater Sediment Cleanup Screening Levels. We believe this is significant for this ditch as it provided empirical evidence that the other two pathways (i.e., groundwater to surface water (and soil to GW to SW) and soil erosion to surface water) are not causing contamination of this ditch.

Soil erosion to surface water – Soil samples collected from soil at 25 locations, consisting of 50 individual samples, were below the Freshwater Sediment Cleanup Screening Levels for metals and SVOCs at all locations near the ditches. Soil samples with total petroleum hydrocarbon (TPH) concentrations above the Freshwater Sediment Cleanup Screening Levels were identified during the RI in some locations. The locations with TPH concentrations above the Freshwater Sediment Cleanup Screening Levels are also above the soil PCULs presented in the Revised Draft RI Report and will be addressed in the FS.

Groundwater to surface water – Groundwater samples collected from monitoring wells MW-1 & MW-19 (upgradient of the NFLD), MW-10 & MW-21 (upgradient of the SDD), and MW-20 (upgradient of the reach of the NFLD/River Water Intake that flows east toward the Interstate) were above SW CULs in many of the samples analyzed for the redox sensitive metals - arsenic, iron, and manganese, consistent with the overall site characterization. Addressing the mobilization of these metals from groundwater redox conditions is identified in the Revised Draft RI Report. Cleanup alternatives will be evaluated in the FS to address groundwater redox conditions, including a geochemical evaluation to assess the timeframe to meet GW to SW PCULs. Only one sample collected from MW-20 (during the November 2019 sampling event) had a low organic concentration (bis-2-ethylhexylphthalate) above a GW to SW PCUL. The GW to SW PCUL for bis-2-ethylhexylphthalate is the practical quantitation limit (PQL; see Table 5 in the Revised Draft RI Report). No other organic constituent was detected above a GW to SW PCUL in samples collected from these wells. The dissolved lead concentration was detected at a concentration above the GW to SW PCUL in samples from MW-1 during the May 2019 and November 2019 sampling events; however, the total lead concentration was not detected during either event, indicating a potential influence from the filter media. The other samples collected from MW-1 were non-detect for total and dissolved lead during the other sampling events.

Resolution: Please include the comment and discussion in an attachment to the RI.

Comment 2: Pipe leaving the Site – further evaluation of the location and what it conveys is required.

Discussion: Under WAC 173-340-350(7) (c) (i) The RI requires all utilities and subsurface structures to be adequately described.

Resolution: Include the pipe in all future maps and include what it conveyed in the FS. This must be completed prior to any work on site. Please include this comment and discussion in an attachment to the RI.

Comment 3: Proposal to leave buildings on site – Any buildings that are proposed to remain on site will require additional sampling including (but not limited to) sub-slab vapor sampling.

Discussion: It has been reported that the Owners' Group redevelopment plans for the property are ongoing and repurposing of existing buildings is being considered. Soil gas will be evaluated for buildings that are intended to remain with future development.

Resolution: This approach will be documented in the RI Addendum and a strategy for dealing with this issue as development occurs will be included in the FS. Please include this comment and discussion in an attachment to the RI.

Comment 4: Cultural Resources – It is my interpretation that the Boise Cascade Cleanup Site should be interpreted as "high risk" for containing cultural resources.

Discussion: it is strongly recommended that the consultant hire an archeologist for a survey and monitoring of the site, that an Independent Discovery Plan is developed for the site, and any (and all) field staff are trained in the event that cultural resources are discovered.

Resolution: Please include this comment and discussion in an attachment to the RI.

Comment 5: I have included as an enclosure, comments from the Yakama Nation Fisheries (represented by Laura Klasner Shira, PE), and Landau Associates (represented by Piper Roelen, PE, CHMM).

Discussion: It appears that the Yakama Nation has concerns regarding protection of surface water and the protection of cultural resources. Ecology shares those same concerns. Please see Comment 1 for a discussion regarding surface water, and Comment 4 for a discussion regarding cultural resources.

Resolution: Please include these comment letters in the attachment to the RI.

Comment 6: I have included as an enclosure, comments from Landau Associates (represented by Piper Roelen, PE, CHMM).

Discussion: It appears the primary concerns that Landau Associates have involve the contamination that is up-gradient to the cleanup site that they are currently working on. They want to ensure that the Boise Cascade Cleanup Site considers the effectiveness of the cleanup solutions (in relation to the Yakima Landfill Cleanup Site), that will be described in the FS. Ecology shares these same concerns.

Resolution: Please include these comment letters in the attachment to the RI.

You can reach me at (360) 628-4415 or Arthur.Buchan@ecy.wa.gov if you require any clarification of these comments or have further questions.

Sincerely,

Arthur Buchan
Toxicologist
Toxics Cleanup Program
Headquarters Office

Enclosures: 1. Landau Associates, Inc. Memorandum – Review Comments on Revised Draft RI
2. Yakama Nation – Preliminary comments on the August 2021 Revised Draft RI

Enclosures

Memorandum DRAFT

TO: Arthur Buchan, Washington State Department of Ecology

FROM: Piper Roelen, PE

DATE: October 13, 2021

RE: **Review Comments—Remedial Investigation Report**
Yakima Mill Site (aka Boise Cascade Mill Site)
Yakima, Washington

Summary of Pertinent Remedial Investigation Report Results

Per request of the Washington State Department of Ecology (Ecology), and on behalf of the City of Yakima (City), Landau Associates, Inc. (LAI) has reviewed and is providing comments regarding the Revised Draft Remedial Investigation (RI) Report for the Yakima Mill Site (Mill Site), dated August 2021. The following provides information and comments specifically pertaining to findings from the RI report that are pertinent to the adjacent Yakima Landfill Site (Landfill Site) for which the City is responsible for cleanup.

Summary of Pertinent Remedial Investigation Results

The revised draft RI report presented results from the investigation of soil, groundwater, surface water, and soil gas (methane) associated with 27 identified areas of concern (AOCs) at the Mill Site. The investigation identified contamination at 23 of the AOCs that was above Mill Site preliminary cleanup levels (PCULs) or otherwise warranted inclusion in the future evaluation of remedial alternatives. The primary contaminants of concern were identified as total petroleum hydrocarbons (TPH), metals (primarily arsenic, cadmium, copper, lead, and zinc), and semivolatile organic compounds (SVOCs; such as pentachlorophenol, bis[2-ethylhelxy]phthalate, and carcinogenic polycyclic aromatic hydrocarbons [cPAHs]) in soil and/or groundwater, and methane in soil gas. The decomposition of large quantities of wood debris and degradation of petroleum hydrocarbons has also resulted in an extensive area of reducing conditions in groundwater that contributes significantly to the mobilization and migration of dissolved metals in groundwater.

The Mill Site is located immediately north of the Landfill Site. Based on the proximity and upgradient location of the Mill Site to the Landfill Site, there are potential impacted environmental media at the Mill Site that may also impact the media at the Landfill Site. Specific areas at the Mill Site that may have implications for the Landfill Site included around eight identified Mill Site AOCs with identified contamination above PCULs that may be directly or indirectly impacting the Landfill Site. The primary contaminants and pathways of concern that could impact the Landfill Site are:

1) TPH in groundwater and smear zone soil from historical Mill Site releases (e.g., at the Plywood Plant/Barker Building, Fuel Distribution System, Log Yard Shop, and Settling Pond areas) that may be migrating toward and onto the Landfill Site. For example, TPH concentrations as high as 3,050 micrograms per liter (µg/L) were detected in monitoring well MW-12, located

approximately 175 feet (ft) upgradient to the northwest of the Landfill Site boundary. This is likely directly impacting only a relatively small area in the northwestern portion of the Landfill Site.

2) Dissolved metals in groundwater that are either naturally occurring or potentially leaching from anthropogenic sources in soil, which are being mobilized by reducing conditions (caused by decomposition of wood debris and degradation of TPH) and migrating onto the Landfill Site. This migration is contributing to and/or exacerbating the magnitude and extent of dissolved metal at the Landfill Site that are also being mobilized by reducing conditions resulting from decomposition of municipal solid waste (MSW) and wood debris. This is further illustrated by the table below, which is an annotated excerpt from the Mill Site RI (RI report, Figure 36).

Parameter [ug/l]	Arsenic	Cadmium	Copper	Iron	Lead	Manganese	Nickel	Zinc
PCUL (Surface Water)	2.5	0.72	11	1000	2.5	50	52	100
FPP-MW-1-AOC25	11.2	< 0.2	6.6	56000	2.22	5680	53	30.3
FPP-MW-3-AOC25	< 2.5	< 0.2	50.6	15200	2.96 b	790	4.31	22.8
MW-100-AOC25	< 2.5	< 0.2	6.8	4780	< 1	359	5.05	16.8
MW-101-AOC25	3.93	< 0.2	48.6	22100	1.94 j	2610	12.5	21.9
MW-10-AOC25	9.76	< 0.2	195	9830	2.55	5930	2.65	44.5
MW-12-AOC25	< 2.5	< 0.2	6.7	25400	2.55 b	3480 e	25	3.92
MW-18-AOC25	8.86	< 0.2	4.1	41700	5.69	4310	3.21	5.51

Mill Site monitoring wells identified in the RI report that are both proximate (within approximately 200 ft) and upgradient (north or northwest) of the Landfill Site with metals concentrations above the Mill Site PCULs (based on the groundwater to surface water pathway) are highlighted in yellow on the table. Metals concentrations above the Landfill Site groundwater PCULs are highlighted in orange. From this table, it is evident that elevated dissolved arsenic, iron, and manganese concentrations are in groundwater at the southern end of the Mill Site that are migrating onto the Landfill Site.

3) Methane in soil gas generated by decomposing wood debris and degrading TPH potentially migrating onto the Landfill Site and contributing to and/or exacerbating the magnitude and extent of methane at the Landfill Site (generated from the decomposition of MSW and wood debris). For example, methane has been measured at concentrations as high as 29.2 percent at soil gas well GP-11. However, it should be noted that this location is immediately adjacent to the Landfill Site boundary where MSW tends to have a higher methane generation capacity than wood debris. Therefore, methane measurements in this area could reflect both wood debris and/or MSW decomposition. Additionally, a large quantity of both wood debris and MSW have been recently excavated and removed from this area as part of the Landfill Site interim action associated with the City's roadway project.

Implications for Landfill Site Cleanup

The primary implication of the Mill Site RI results summarized above is that there is TPH-contaminated groundwater from the Mill Site that may be migrating onto and impacting the Landfill Site, metals-

contaminated groundwater that is migrating onto the Landfill Site and contributing to and/or exacerbating groundwater contamination, and potentially methane in soil gas that may also migrating onto the Landfill Site. The Mill Site feasibility study will need to evaluate and determine to what degree these impacts to the Landfill Site from the Mill Site will be addressed by the Mill Site cleanup action, and accordingly consider how the Landfill Site cleanup approach and effectiveness could be affected by the Mill Site contamination and cleanup approach.

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LAI and the City appreciate the opportunity to provide comments on the Mill Site draft RI report, and we look forward to further discussions with Ecology regarding the issues identified herein.

LANDAU ASSOCIATES, INC.

Piper Roelen, PE
Principal – Environmental Engineer

PMR/ljl
[P:\1148\008\T\BOISE CASCADE AREA\DRAFT_LAI COMMENTS ON 2021 MILL SITE DRAFT RI 101121.DOCX]

Confederated Tribes and Bands of the Yakama Nation

Established by the
Treaty of June 9, 1855

October 15, 2021

Via Electronic Mail – Abuc461@ecy.wa.gov

Washington Department of Ecology
c/o Arthur Buchan
P.O. 2946, 333 SW 1st Avenue
Portland, Oregon 97208-2946

RE: Yakama Nation preliminary comments on the August 2021 Revised Draft Remedial Investigation Report: Yakima Mill Site (aka Boise Cascade Mill Site) by Barr (for OfficeMax Inc., LeeLynn, Inc, Wiley Mt. Inc., Yakima Resources, LLC, Dunollie Enterprises, LLC)

Dear Mr. Buchan:

The Yakama Nation (YN) submits the following preliminary comments regarding the above-referenced Remedial Investigation (RI) for the Boise Cascade Mill Site (site). Our response efforts related to this site are currently unfunded and, as a result, our review has been limited. We are therefore highly dependent on the Washington Department of Ecology to ensure the investigation and site activities are protective of Tribal resources. We are grateful for the site overview and tour you provided on October 5, 2021.

Protection of surface water, including porewater used by aquatic receptors, is a key technical concern for the Yakama. Site surface water and groundwater discharge to the Yakima River, which is listed as critical habitat for several threatened and endangered species. Contaminated groundwater exceeding aquatic toxicity-based criteria is likely in communication with surface water at irrigation and “spring” ditches, which flow directly into the Yakima River. Exposed contaminated surface soils are at risk of eroding and being transported into surface water ditches. In addition, dust generating site activities (ex. driving, excavating) are likely to deposit contaminated soils into surface water. These pathways must be adequately investigated in order to evaluate, select, and design a remedy permanently protective of all receptors.

The Yakama Nation also has serious concerns with potential ground disturbances’ probable significant impacts on cultural resources. The Boise Cascade Mill is within the Yakama Nation's ceded territory, and close, if not within, Yakama cultural sites. The entire project area is identified as "high risk" for containing archaeological resources. For example, plans for inadvertent discovery are often needed prior to ground disturbances of native soils. Yakama Nation’s Cultural Program should be contacted with any questions. In the future, please contact Noah

Oliver (509.865.5121 Ext. 4756) or Jerry Meninick (509.865.5121 Ext. 6060) with the Yakama Nation's Cultural Resources Program. Jon Shellenberger was our previous contact, but he has moved on to another position.

Please do not hesitate to contact me with questions. I can be reached at (509) 985.3561 or shil@yakamafish-nsn.gov

Sincerely,

Laura K. Shira

Laura Klasner Shira, P.E.
Yakama Nation Fisheries