



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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May 2, 2025

Tom Graham
Director EHS, North America
JELD-WEN, Inc.
2645 Silver Crescent Drive
Charlotte, NC 28273

Re: Ecology Comments on the Pre-Remedial Design Investigation Report - Uplands

Site Name:	Jeld Wen
Site Address:	300 W Marine View Drive, Everett, WA 98201-1030
Cleanup Site ID:	4402
Facility Site ID:	2757
Agreed Order No.	DE 5095

Dear Tom Graham:

Thank you for submitting the Draft Pre-Remedial Design Investigation Data Report – Upland Areas of Jeld Wen Site, dated April 15, 2025 (hereinafter referred to as the Uplands PRDI report). The following are Ecology’s comments on that report.

Comment #1 – Section 4.4.2.4 – Summary of Findings – Groundwater Non-potability

The report stated: *“Supplementing field measurements of conductivity with laboratory analysis of TDS appears unnecessary going forward to support the exclusion of the drinking water pathway due to the brackish nature of the groundwater bearing unit.”* Ecology notes that the non-potability of groundwater at the Site was determined by Ecology within the August 2023 Cleanup Action Plan, which stated: *“Groundwater at the Site does not meet the definition of potable water as outlined in WAC 173-340-720(2) based on the following factors: a) the groundwater does not serve as a current source of drinking water; and b) the groundwater is not a potential future source of drinking water given the Site’s proximity to surface water that is not suitable as a domestic water supply.”* Ecology considers the groundwater at the Site to be non-potable based on WAC 173-340-720(2)(d) – the TDS results presented in this section are well below the non-potability threshold of 10,000 mg/L presented within WAC 173-340-720(2)(b)(ii).

No revision of the Uplands PRDI report is required for this comment.

Comment #2 – Units in Tables and Figures

Ecology noted at least one table that did not include units for presented concentrations. We did not perform a global review, but rather request that SLR check each figure and table to ensure that units are included. Ecology notes that units for DFs were expressed as ppt or ng/kg, whereas the units in the Cleanup Action Plan (CAP) were expressed as pg/g. Please avoid use of “ppt” in the future.

Please revise tables and figures, as needed, and resubmit the final Uplands PRDI report incorporating such revisions.

Comment #3 – DF Area Characterization

Based on the data presented within the PRDI, the full extent of DFs above the cleanup level (CUL) of 5.2 ng/kg has not been delineated to the north, east, and south. To the east, Ecology understands that excavation will be limited to the west side of West Marine Drive. However, sidewall confirmation soil samples should be collected at the excavation extent at depths corresponding to exceedances presented in the PRDI report. To the north and south, excavation should continue to the extent possible, and sidewall confirmation soil samples should be collected at the excavation extent at depths corresponding to exceedances presented in the PRDI report. It may be advisable to collect soil samples to constrain the southern extent of DFs in soil prior to performing the excavation work.

No revision of the Uplands PRDI report is required for this comment.

Comment #4 – Creosote Area – Table for Product Observations in Soil Samples

Please prepare and submit a table that lists the product observations by depth in the soils collected in the creosote area. Ecology suggests that the classifications in the requested table be color coded to more easily allow spatial and depth correlations:

- i) Product Saturated Soil - red
- ii) Some Product Present in Soil Matrix (i.e., blebs) - orange
- iii) Significant Grain Staining (>50% soil particles coated with product) - yellow
- iv) Some Grain Staining (<50% soil particles coated with product) - green
- v) No indications of product - pale blue

Note these colors are requested to facilitate Ecology's review and are consistent with the color scheme used in Figures 9a-h. Please include this requested table within the final Uplands PRDI report.

Comment #5 – Product in Soil Figures

Ecology notes that the product in soil figures (Figures 9a through 9h) include color dots for two categories of product observations only; product saturated, and some product (blebs). Inclusion of color dots for the other categories of product observations discussed under comment #4 would also be appropriate. Including these other categories may facilitate identification of excavation areas within the EDR report.

Please include these requested revised figures within the final Uplands PRDI report.

Ecology is currently awaiting a submittal proposing to alter the depth of excavation cleanup defined within the CAP based on the PRDI findings. The updated Figures 9a through 9h are recommended to be included in that submittal.

Comment #6 – Discussion of “Hot Spot” Soils

Section 4.4.1.4, Summary of Findings, stated:

“As observed in the field, the presence of NAPL in varying degrees denoting Hot Spot soils is not a continuous block of uninterrupted mass-- as was envisioned during development of the soil removal component in the FS. Hot Spot soils are, rather, a discontinuous ganglion of free product (Figure 8a and Figure 8b). With the exception of 3 soil sample locations, the top 4 feet of the soil column in the Hot Spot area did not contain the presence of NAPL and therefore are not considered Hot Spot soils. The presence of Hot Spot soils increased with depth and the areas with the thickest interval of Hot Spot soils were at the on-property portion adjacent to West Marine View Drive (Figure 9a to Figure 9h).”

As we have previously discussed, with respect to the excavation cleanup discussed within the CAP, the objective for excavation was to both remove contaminant mass (i.e. hot spot cleanup) and to address the direct contact pathway. While less contamination was found in the top four feet than was evidently anticipated, Ecology considers eliminating or mitigating the direct contact pathway to be the overriding concern driving excavation cleanup in this area. Hence, Ecology would suggest de-emphasizing “hot spot” cleanup in this area and emphasize exposure pathway elimination or mitigation.

Ecology understands that you will be submitting a proposal to alter the depth of excavation cleanup defined within the CAP based on the PRDI findings. Ecology will be pleased to review that submittal once we have received it.

No revision of the Uplands PRDI report is required for this comment.

Comment #7 – Naphthalene in Groundwater Maps

Please add an isoconcentration area delineation on Figures 10 and 11, showing the extent of naphthalene in groundwater contamination above the cleanup level of 8.9 µg/L. Ecology assumes that these isoconcentration areas would be the target area for air sparge (AS) treatment of groundwater and the soil vapor extraction (SVE) system. Additional naphthalene isoconcentration lines may be warranted if there may be potential to apply a remediation level for defining the AS area.

Please include these requested revised figures within the final Uplands PRDI report.

Ecology notes that the drawing of isoconcentration lines on Figures 10 and 11 could result in the identification of data gaps for AS/SVE system lateral extent. If so, then additional data acquisition prior to final design may be warranted. Please see also comment #10 on this subject.

Comment #8 – Attachment 7 - Hydrograph

Ecology requests a version of the hydrograph from Attachment 7 that focuses on the creosote area (wells MW-8A, MW-5, and MW-10A only) to assess seasonal water level trends in this area. Large spikes apparently indicating infiltration were noted in MW-10A on the east side of West Marine View Drive. These spikes were mirrored in a more muted manner in MW-8A and MW-5. Please make the date axis labels easier to read and add the ground surface elevation inside the building (approximately 11.8 ft amsl).

This hydrograph can be provided as a separate pdf document, though it should be considered in developing the design for the AS/SVE system in the creosote area.

Comment #9 – Figure 12 - SVE Schematic

Figure 8 shows the pilot horizontal SVE well at a depth of approximately 2-3 ft bgs. This SVE well was flooded by deep AS well mounding. Ecology highly recommends a more significant setback between the water table and SVE wells. This can be accomplished either by adding fill soil and re-paving or potentially setting SVE well depths as shallow as possible beneath the paved surface. The requested hydrograph under Comment #8 should be relevant to this assessment.

No revision of the Uplands PRDI report is required for this comment.

Comment #10 – Radius of Influence of AS and SVE wells

The layout of AS and SVE wells will presumably be based on a combination of the areas of naphthalene (NAP) in groundwater above the cleanup level (8.9 µg/L) and the estimated radius of influence of the AS and SVE wells. Ecology recommends the preparation and submittal to Ecology of preliminary AS and SVE layouts, along with the NAP isoconcentration areas, prior to submittal of the Engineering Design Report (EDR). If estimated radius of influences of such layouts result in a conservative coverage of areas of NAP extent uncertainty, this may have potential to eliminate the need for additional data acquisition to define the extent of NAP in groundwater exceeding the cleanup level. Such maps could be provided as a separate pdf document. Ecology notes that any such layout should include AS and SVE wells to the maximum extent practicable, as close to West Marine Drive as possible in order maximum contamination recovery from under the street.

Comment #11 – Climate Change Resiliency

Ecology would highly encourage the addition of several feet of clean fill at the creosote area to enhance climate resiliency. As mentioned in the Uplands PRDI report, the SVE well flooded during the deep AS testing, and this was not likely during a worst-case water level scenario. Addition of clean fill may also facilitate meeting excavation objectives (Ecology is waiting for a submittal on this subject). We recognize that this would result in the need for repaving a function SVE system. We anticipate the potential cost-savings for excavation work resultant from adding fill may offset the costs for the fill materials and paving, to some degree.

Closing

Ecology appreciates the ongoing efforts of the Jeld Wen team to clean up the Site.

Sincerely,

A handwritten signature in blue ink that reads "Frank P. Winslow". The signature is fluid and cursive, with the first name "Frank" being more prominent.

Frank P. Winslow, LHG
Toxics Cleanup Program
Headquarters Section

cc: Scott Miller, SLR Consulting
Nathan Soccorsy, Anchor QEA, LLC