



Oregon

Kate Brown, Governor

Department of Environmental Quality

Northwest Region Portland Office

700 NE Multnomah St Ste 600

Portland, OR 97232-4100

(503) 229-5263

FAX (503) 229-6957

TTY 711

October 31, 2022

Kelly Madalinski (via email to kelly.madalinski@portofportland.com)
Harbor Environmental Manager
Port of Portland
Portland, OR

Re: DEQ Comments on *Basin K1 Bioinfiltration Basin Annual Report*
Terminal 4 Slip 3 Upland Facility
ECSI No. 272

Dear Mr. Madalinski:

The Department of Environmental Quality (DEQ) has reviewed the document entitled *Basin K1 Bioinfiltration Basin Annual Report* dated September 30, 2022, prepared by Maul Foster Alongi (MFA) on behalf of Kinder Morgan, Inc. (Kinder Morgan) for the bulk storage and transfer facility at the Port of Portland Terminal 4 Slip 3. The report and associated appendices describe system performance, inspections, and maintenance performed for the Basin K1 stormwater infiltration system in general accordance with the DEQ-approved O&M Manual. DEQ offers the following comments on the report:

General Comments

- 1) DEQ is encouraged by the conclusion by Kinder Morgan and MFA that the Basin K1 infiltration basin is operating as designed, although preliminary data suggests apparent infiltration rates higher than rates used to design the basin. DEQ recommends that the Port revisit the groundwater mounding and groundwater gradient evaluation performed as part of the 30% design deliverable to ensure that groundwater does not exacerbate the lateral or vertical migration of the plume (and NAPL) associated with the historical pipeline release. See Specific Comment 4b.

Specific Comments

- 2) Section 1.2 Reporting Schedule – Under the second bullet item, it is stated that the installation depth of the transducer in the flow-control manhole was corrected in January 2022 and that the overflow records from this period are not accurate. DEQ assumes “this period” refers to July 1, 2021, through January 7, 2022, and the overflow data for the remainder of the monitoring period (i.e., through June 30, 2022) is accurate. Please clarify.
- 3) Section 3.1 Summary of Available Data – It appears there was an unsuccessful attempt to insert a hyperlink into this section. Please revise accordingly.
- 4) Section 3.2 Data Interpretation –
 - a. DEQ understands the minimum and maximum infiltration rates were not calculated because the ponding depth above the media bed never reached 12 inches or greater. However, DEQ agrees with MFA that meaningful information can be gleaned from calculating “non-standard” infiltration rates based on the observed ponding and the

- estimated drawdown times. Was the calculated infiltration rate of 45 inches/hour representative of likely maximum conditions? Please clarify.
- b. A technical memorandum included as Appendix D to the Preliminary Engineer's Report (December 2019) predicted minimal mounding at a distance of 300 feet from the K1 infiltration basin, corresponding to the distance to the groundwater plume and LNAPL near the head of Slip 3. However, the maximum infiltration recharge calculated from the assumed design storms was 19.2 ft/day. DEQ has concerns about the implications of the *apparent* infiltration rate of 45 inches/hour (i.e., 90 feet/day) on the underlying water table. What magnitude of mounding is expected based on these higher apparent infiltration rates and what is the resulting effect on groundwater gradients at the critical distance? See General Comment 1.
 - c. The sixth bullet under Section 2.1 suggests the installation of the transducer 1.5 inches too high prevented accurate recording of conditions potentially resulting in bypass until January 7, 2022, when the error was corrected. Based on precipitation data during the period July 1, 2021, to January 7, 2022, please provide additional discussion regarding the anticipated occurrence/frequency of bypass events.
 - d. Please provide a narrative summary of the basin conditions, including evidence of erosion and plant health.
 - e. The report of sheen observed at the surface in the area of the flow control manhole is concerning, although DEQ appreciates the precautionary measure of installing an oil absorbent boom at this location. The field inspection forms for May 27, 2022, noted the presence of dead algae, although the significance of this observation is not discussed in the text of the report. Please provide an additional approach for future inspections to determining the origin of sheen (i.e., if observed) within the system, similar to what was observed on January 25 and April 27-28, 2022, in the flow control manhole.
- 5) Chart 1 Manhole Water Level Above the Overflow Weir Elevation – Please confirm whether or not the high precipitation event in late May 2022 resulted in bypass which is not visible in the chart due to being obscured by the blue lines representing precipitation.
- 6) Appendix B Inspection Records – The inspection forms for the flow control manhole on January 25 and April 27- 28, 2022, noted the presence of sheen and an oil-absorbent boom was added to the manhole. Was any testing/inspection performed to distinguish whether the sheen was biologic vs. petroleum origin? Was the absorbent boom subsequently removed or is it still in the manhole? If the boom was removed, please provide information on disposal of wastes associated deployment of the absorbent boom.

Please provide a Response to Comment and revise the report in accordance with the comments herein provided. DEQ appreciates the continued efforts of Kinder Morgan and the Port to meet source control obligations and will continue to work collaboratively with the parties to ensure timely review of future submittals. Please contact me at by phone (503) 229-5024 or email (jeff.schatz@deq.oregon.gov) if you have questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jeff K. Schatz". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Jeff K. Schatz, R.G.
Project Manager and Hydrogeologist
Northwest Region Cleanup Program

cc: Benjamin Leake, Remedial Project Manager, EPA Region 10
Josie Clark, Remedial Project Manager, EPA Region 10
Heidi Nelson, Environmental Engineer, DEQ
Wes Thomas, Portland Harbor Coordinator, DEQ
David Lacey, Source Control Coordinator, DEQ
Brooke Harmon, Project Engineer, MFA
ECSI 272 File

(jks:JKS)