

**From:** [Graham, Joseph R - DNR](#)  
**To:** [Christian Zuidmulder](#); [Gross, Stu](#); [Lennie, Brian](#); [Cull, Whitney](#)  
**Cc:** [Saari, Christopher A - DNR](#); [Fassbender, Judy L - DNR](#); [Hunt, John T - DNR](#); [Sager, John E - DNR](#); [Endsley, Erin A - DNR](#); [Linnemanstons, Leo](#); [Elias, Kim](#); [Graham, Joseph R - DNR](#)  
**Subject:** Additional Questions - MMP for C. Reiss Company, Superior, WI, 02-16-589248  
**Date:** Friday, December 23, 2022 4:04:00 PM

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Christian, Brian, and Stu:

Thank you for providing your 02 December 2022 submittal in response to our request for additional information on the material management plan (MMP) for the C. Reiss site in Superior, WI. The information was responsive to our questions and concerns, though we have additional questions following our review.

We value our partnership with C. Reiss in the broader AOC efforts and are doing our best to turn a “No” into a “Yes” for locating a landfill to manage material on-site in perpetuity. However, DNR also must ensure environmental regulations are applied appropriately and that our decisions will be protective in the long term. We are under no obligation to grant the requested exemptions from the locational criteria in NR 718. We have additional questions, many of which relate to long-term protectiveness, that need to be addressed to our satisfaction for approval of the materials management plan. The questions are based on DNR’s review of the additional information and input from AECOM, the DNR’s consultant, following their review of the project files. Please respond in writing to the items listed below.

Geotechnical Review Comments:

- Need an evaluation of the global stability of the proposed soil and sediment management berm at the site. The evaluation should at a minimum consider:
  - Construction phase stability of the proposed fill placement.
  - End of construction condition considering the undrained strength parameters measured in the borings. Particular focus should be given to the medium to stiff layers encountered at the south end of the footprint.
  - Long term stability of the berm considering drained parameters.
  - Evaluation of circular and block type failure surfaces.
  - Evaluation of the stability at the maximum fill placement height.
  - Evaluation of the stability accounting for the effects of the cut for the proposed rail alignment on the east side of the berm.
  - Veneer stability of the proposed cover system.
- Provide details of the construction phase testing which will be performed to verify the sediment and fill soils meets the strength requirements assumed in the global stability analysis.
- Settlement of the foundation soils below the berm is estimated to range from 0 to 18 inches. Additional settlement of the cap will also occur due to consolidation of the soils and sediment disposed of in the berm. Confirm that the cap system has been designed to accommodate this magnitude of settlement and that the cap integrity will not be compromised with the predicted total settlement of the capping system.
- The native clay soils encountered in the soil borings are indicated to be high plasticity clays which are prone to volume change with changes in moisture content and are susceptible to cracking during dry periods of the year. Has shrinkage and desiccation cracking been accounted for in the design of the capping system?
- Consideration of stability of saturated soils at the base of railroad cut subjected to railroad traffic (i.e., subgrade fluidization).

Hydrogeological/Contaminant Fate Review:

- Demonstrate consideration of the increase potentiometric pressures based on the increased

loading from the construction of the berm and potential displacement of LNAPL. Describe plan for monitoring potentiometric changes, potential LNAPL movements, and contingency for LNAPL recovery, if mobilized.

- Demonstrate accounting for liquids placed in the berm (i.e., wet sediments, precipitation, moist berm materials, cap infiltration) and consider the formation of potentiometric mounding due to the construction of the berm or stormwater pond. Provide discussion regarding the consideration of internal drainage for the berm to drain liquids from placed materials or infiltration.
- Provide more discussion on the management (or contingency for) of contaminated groundwater/LNAPL seeping into excavation cuts through the confining layer and below the potentiometric surface. Although the applicant does not expect that contaminated groundwater or LNAPL to be present, the occurrence of contaminated groundwater and LNAPL throughout the project area should suggest that caution be exercised in general.

Let me know if you have any questions.

If you want to discuss we can schedule a call for the week of 03 January 2023, when I return to work after the holidays. Tuesday and Thursday afternoons work best for me.

Sincerely,

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Joe Graham

Contaminated Sediment Expert

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