



COLORADO
Division of Reclamation,
Mining and Safety
Department of Natural Resources

February 10, 2023

Garrett Varra
Raptor Materials LLC
8120 Gage Street
Frederick, CO 80516

**Re: Two Rivers Sand, Gravel and Reservoir Project (TRP), File No. M-2022-013,
112c Permit Application, Third Adequacy Review, Additional Items for the Liner**

Dear Mr. Varra:

As I look closer at the clay liner design and respective costs, I have identified some details that should be added to the exhibits of the TRP application. These could be included in Exhibit E or Exhibit L. These items complement the liner-related request in Item #51 in my letter dated February 9, 2023.

1. Add a discussion of the anticipated soils available for liner material, including parameters such as plasticity, percentage of fines, and percentage of gravel. Also discuss how these parameters relate to hydraulic conductivity.
2. Add a discussion of the material blending process for liner construction, if applicable.
3. Discuss requirements for and construction procedures related to moisture content. Can you estimate the amount of water that may be used to adjust moisture content?
4. Add a discussion on lifts, including the height of lifts and the number of compaction passes per lift. What equipment will be used for compaction? How will bonding between lifts be achieved (e.g., scarification)?
5. The Division assumes that the liner will be covered with subsoil and topsoil. Please state that in the exhibit and provide some detail such as depth. Inclusion of a figure illustrating the design would be helpful, but not necessary.

Please know that I intend for these to be the final adequacy items related to the TRP application.

Please be advised that the TRP application may be deemed inadequate, and the application may be denied unless the above-mentioned adequacy review items are addressed to the satisfaction of the Division. If more time is needed to complete the reply, the Division can grant an extension to the decision date. This will be done upon receipt of a written waiver of the Applicant's right to a decision by February 15, 2023 and a request for additional time. This must be received no later than the decision date.



If you have any questions, please contact me at rob.zuber@state.co.us or (720) 601-2276.

Sincerely,

A handwritten signature in blue ink, appearing to read "Robert D. Zuber".

Robert D. Zuber, P.E.
Environmental Protection Specialist

Cc: Brad Janes, RM; Kevin Jeakins, RM;
Peter Christianson, RESPEC;
Michael Cunningham, DRMS