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

Interoffice Memorandum

To: Ben Hammar
From: Rob Zuber RDZ
Cc: Amy Eschberger and Zach Trujillo
Date: January 7, 2025
Subject: Application for Limon Sand & Gravel Resource (M-2024-053), Adequacy review related to surface water hydrology

Hi, Ben -

I reviewed the application with a focus on Exhibit G and surface water hydrology. The following adequacy items must be addressed by the applicant:

Exhibit G

1. The discussion on the floodplain and floodway needs more detail. Given that Big Sandy Creek flows through the middle of the site, how is the site not in the floodway? Should the text state that the affected area is not in the floodway? Also, provide more detail on the "upstream data" referenced in the Floodplain section (Section 3.).
2. The text appears to contain a contradiction related to storage of diesel fuel and oil. On the first page of Exhibit G, the text states that there will be no storage, but on the third page there is a discussion of secondary containment and related practices. The text needs to be revised to address this contradiction.
3. In Section 6.1, the text states that reclamation will return the flows to pre-mining conditions. However, for three of the basins, Table G-3 indicates that post-mining flows will be higher than baseline flows. The applicant needs to add a discussion addressing this apparent contradiction between the text and table. This is related to a more general issue: the text needs to provide more explanation as to how the modeling shows that the applicant will comply with Rule 3.1.6 of the Division's Construction Materials rules.
4. Section 6.1.2 includes text regarding a "reclaimed reservoir." Please elaborate on where this reservoir is located. It is not apparent on the Reclamation Map, Exhibit F-1. Also not mentioned in post mining land use.
5. At the bottom of the third page, a reference is made to the Mile High Flood District. This appears to be a reference to a manual or other document. Please revise the text as appropriate.
6. In the text for Appendix G-1, there is a reference to six drainage basins. Is that correct or are there only five basins? Please revise the text as necessary.

7. In the text for Appendix G-1, there is a reference to a "Lockhart surface hydrology model." Please provide a detailed reference for this model.
8. On G-1 Drainage Map, the scale appears to be incorrect. Please revise this map.
9. More details are needed to illustrate how intensity values were determined; Exhibit G should be revised accordingly. Describe the methodology, assumptions, and inputs used and provide examples. Is the middle table on page 32 of Appendix G-1 used? If so show sample calculations to illustrate how it is used. Finally, how does the methodology correspond to Chapter 5 of the Urban Storm Drainage Criteria Manual of the Mile High Flood District?
10. More details are needed to illustrate how runoff coefficients were determined; Exhibit G should be revised accordingly. What percentage of imperviousness are assumed for different conditions (baseline, mining, reclamation) and each of the basins? What soil groups are assumed for mining and reclamation (post-mining) conditions? Furthermore, the Division calculates different coefficients than in Appendix G-1. For example, for Drainage Basin 4, Baseline condition, the application uses a runoff coefficient of 0.24. From Table 6-4 in Volume 1 of the Urban Storm Drainage Criteria Manual, the Division calculates that the runoff coefficient should be 0.49 for a 100-year storm, D-group soils, and an impervious area of two percent.

Also, Ben, please use commitments or another method to insure that in the future the applicant provides the necessary permits from the USACE, CDPHE, and DWR.