



10/5/2022

Brock Bowles
Environmental protection Specialist
Colorado Division of Mining Reclamation & Safety
1313 Sherman St., Room 215
Denver, Colorado 80202

Re: Goose Haven Reservoir M-2010-071 Response to Adequacy #2
Brock,

I have copied your comments from the Adequacy Review 1 letter dated August 2, 2022 below followed by my responses in italics.

Rule 1.6.2(1)(d) and 1.6.5(2) – Proof of Publication

1. Item Resolved.

Rule 1.6.2.(e) Notice of Land Owners –

2. Proof of notice to owners of record was not submitted for the following landowner (according to the Boulder County Assessor website):
 - a. Nancy Sisk (south of property)
 - b. Natalie and Jason Condon (south of property)
 - c. Despard (northwest of property)

Proof of Notice to Owners of Record of Surface Rights to the affected land and all owners of record of lands that are within 200 feet of the boundary of the affected land has been attached (ATTACHMENT II - Proof of Mailing Notice to Surface Owners within 200ft). More specifically ;

- a. Sisk on page 2 and 7 with tracking number ending in 7400***
- b. Condon on page 1 and 5 with tracking number ending in 7387***
- c. Despard on page 2 and 10 with tracking number ending in 7431***

Rule 6.2.1(2) Maps and Exhibits –

3. Item Resolved.

Rule 6.4 - Specific Exhibit Requirements - 112 Reclamation Operation

6.4.1 EXHIBIT A - Legal Description - Adequate as submitted.

6.4.2 EXHIBIT B - Index Map - Adequate as submitted.

6.4.3 EXHIBIT C - Pre-mining & Mining Plan Map(s) of Affected Lands

See #3 above.

6.4.4 EXHIBIT D - Mining Plan

4. The designs were submitted for the drainage swale in the July 22, 2022 adequacy response. The area map shows that the swale will divert the drainage of 145 acres around Reservoir 2A to the north with a potential flow of 54 cfs. The map shows the swale discharging onto the Boulder County agricultural field to the north of Reservoir 2A. This design will cause significant off-permit impacts to the Boulder County property. Please clarify where the water is being discharged, what structures will eliminate off-permit impacts and submit any agreements with Boulder County.

Historically, stormwater drainage from the Cell 2A combined with runoff from sub-basins to the south of Cell 2A would have drained across Cell 2A and onto land owned by Boulder County to the north. The developed reservoir site will remove approximately 38 acres (surface area of the reservoir) from the historical drainage area thereby reducing the overall stormwater runoff flowing north. The engineered swale will route the offsite stormwater flows from the south around the reservoir and discharge onto land to the north owned by Boulder County. The swale outlet on the northwest corner has been engineered (see Exhibit F Sheet HS-1, Sheet HS-2) to slow the velocity, depth and Froude number of the peak stormwater flow so that when it flows across the property boundary it will not cause damage due to erosion. Flow calculations utilizing spreadsheets developed by Urban Drainage & Flood Control were used to design the outlet channel and have been attached as Attachments HS-T1 & HS-T2. Flow at the property line is predicted to be 0.43 ft deep 150ft wide at .83 fps. Flow just over the property line is predicted to splay out to a width of 200 ft depth 0.15ft velocity 1.88 fps and Froude number .86. Additionally, during a meeting with personnel from Boulder County onsite in July of 2022, they indicated splaying out of stormwater flow from Cell 2A would be preferable to any channel development across their land. As a courtesy, we intend to share our plans with Boulder County, however since we are not discharging stormwater greater than historical peak flows and we are discharging at the approximate historical property boundary location, drainage law allows the City to do so without expressed or written consent.

5. The City of Lafayette has committed to submitting the final dam construction report, as-built plans and final certification for inclusion into the permit when the documents are obtained.

6.4.5 EXHIBIT E - Reclamation Plan - Adequate as submitted.

6.4.6 EXHIBIT F - Reclamation Plan Map - Adequate as submitted.

6.4.7 EXHIBIT G - Water Information -

7. Item Resolved.

8. The adequacy response states that a 6" perforated perimeter drain has been installed along the south boundary of Cell 2A. The structures that may be impacted by ground water are along the west boundary. a. What protections are in place for the structures along the west boundary?

Structures along the west boundary are not expected to be impacted by the placement of the reservoir in Cell 2A due to the fact that they are neither upstream or downstream of the reservoir with respect to groundwater flow. Exhibit G C-1 has been revised to show the groundwater flow vectors in this area. The water table contours are based on site data and regional groundwater elevations in the area published by the USGS Front Range Infrastructure Resources Project (FRIRP) Fact Sheet 113-98, GIS data.

b. Please submit designs for the drainage structure that was installed. Specification to include are: depth to 6" pipe, relation of pipe to clay liner and to bedrock, slope of drainage pipe, material pipe is embedded in and location of pipe discharge.

Exhibit G Sheets C-1 through C-7 have been revised to show this information. These drawings are 'as-built' with a revision to the alignment in the south east corner to allow adequate vertical separation from the proposed clay liner in that area

9. The Division will reconsider the need for ground water monitoring based on the information provided in #8 above.

This is understood

6.4.8 EXHIBIT H - Wildlife Information - Adequate as submitted.

6.4.9 EXHIBIT I - Soils Information - Adequate as submitted.

6.4.10 EXHIBIT J - Vegetation Information - Adequate as submitted.

6.4.11 EXHIBIT K - Climate- Adequate as submitted.

6.4.12 EXHIBIT L - Reclamation Costs – Adequate as submitted.

6.4.13 EXHIBIT M - Other Permits and Licenses (Statement Req'd) - Adequate as submitted.

6.4.14 EXHIBIT N - Source of Legal Right to Enter – Adequate as submitted.

6.4.15 EXHIBIT O - Owner(s) of Record of Affected Land and Substance to be Mined - Adequate as submitted.

6.4.16 EXHIBIT P - Municipalities Within Two Miles - Adequate as submitted.

Weiland, Inc. Page 3 of 3 August 2, 2022

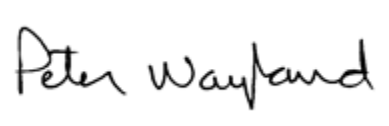
6.4.17 EXHIBIT Q - Proof of Mailing of Notices to Board of County - Adequate as submitted.

6.4.18 EXHIBIT R - Proof of Filing with County Clerk and Recorder - Adequate as submitted.

6.4.19 EXHIBIT S - Permanent Man-made Structures -

10. Item resolved.

Sincerely

A handwritten signature in black ink that reads "Peter Wayland". The signature is written in a cursive style and is enclosed within a thin black rectangular border.

Peter Wayland

President

Encl. ***Proof of Notice to Owners of Record of Surface Rights, Exhibit F Sheet HS-1 & Sheet HS-2, Attachments HS-T1 & HS-T2, Exhibit G Sheets C-1 through C7.***