

STATE OF  
COLORADO

Zuber - DNR, Rob &lt;rob.zuber@state.co.us&gt;

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**DRMS's second adequacy for Bernhardt application**

1 message

**Zuber - DNR, Rob** <rob.zuber@state.co.us>

Wed, Apr 17, 2024 at 2:48 PM

To: JC York &lt;jcyork@j-tconsulting.com&gt;, Andy Carpenter &lt;acarpenter@wwclyde.net&gt;

Andy and J.C. -

Please see the attached review letter. We have several remaining adequacy items, but here is a summary of the larger items:

1. The groundwater memo (enclosure at end) has several items. Most notably, we still need to see the McGrane Groundwater Model documentation.
2. Based on feedback from CPW, we want you to perform another raptor survey prior to major disturbance at the site.
3. The Division is still reviewing the geotechnical stability analysis.
4. The Division is still working on the reclamation cost estimate.

Please email or call with questions.

Regards,  
Rob

Rob Zuber, P.E.  
Environmental Protection Specialist  
Active Mines Regulatory Program



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

***I am working remotely and can be reached by cell at 720.601.2276.***

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1313 Sherman Street, Room 215  
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**M2023025\_Second Adequacy\_with\_Enclosure.pdf**  
481K



April 17, 2024

Andy Carpenter  
WW Clyde & Company  
10303 East Dry Creek Road, #300  
Englewood, CO 80112

**Re: Bernhardt Sand and Gravel Pit, File No. M-2023-025,  
112c Permit Application, Second Adequacy Review**

Mr. Carpenter:

The Division of Reclamation, Mining and Safety (Division/DRMS) reviewed the contents of the 112c permit application for the Bernhardt Sand and Gravel Pit, File No. M-2023-025, and your responses (letter dated April 8, 2024) to our preliminary adequacy review from last year.

The following adequacy items remain to be addressed (**items in bold font**).

The Division's decision date for this application is set for April 30, 2024. It is clear to the Division that an extension will be required for all parties to address the remaining adequacy items. This will be discussed with you and/or J.C. York via email or phone.

### Comments

- 1) The Division received comments from three State agencies. The letters from these agencies are included as enclosures with this adequacy review letter. Please review the letters and provide responses accordingly.
  - a. History Colorado
  - b. The Division of Water Resources
  - c. Colorado Parks and Wildlife.

*No additional response is required related to History Colorado.*



## 1.6 Public Notice

- 2) Pursuant to Rule 1.6.2(e), please submit proof of the notice to all owners of record of surface and mineral rights of the affected land and the owners of record of all land surface within 200 feet of the boundary of the affected land including all easement holders located on the affected land and within 200 feet of the boundary of the affected land. Proof of notice may be return receipts of a Certified Mailing or by proof of personal service.

*No additional response required.*

## 6.4 Specific Exhibit Requirements - Regular 112 Operations

The following adequacy items must be addressed by the Applicant to satisfy the “Mineral Rules and Regulations of the Mined Land Reclamation Board for the Extraction of Construction Materials.” For items without specific rule citations, the requirement is based on the general intent of the rules, especially Rule 3.1 (Reclamation Performance Standards) and Rule 6.4.

### 6.4.3 Exhibit C - Pre-Mining and Mining Plan Maps of Affected Land

- 3) The South Platte River must be shown and labeled on maps C-1 and C-2, per Rule 6.4.3(b).

***No additional response required, but it is suggested that the symbology and legend on the maps in Exhibit C be improved. The same symbol is used for the dewatering trench and the edge of the river; this is confusing. Also, the term “Edge of River” is not clear; should it be “West Bank” instead? The 400-foot setback is not included in the legend.***

### 6.4.4 Exhibit D - Mining Plan

- 4) Please discuss if processing will entail washing of the product and if a pond or ponds will be included in the process area. If so, add a discussion to the text of Exhibit D and to Map C-2.

***The Direction of Mining arrows on Map C-2 imply that mining will occur in the area where the Sediment Pond and Clearwater Pond will be constructed. Please explain in Exhibit D if these ponds will be constructed after this area is mined and how that impacts the process of washing material. Will the ponds need to be constructed twice during the life of the mine?***

- 5) The Mining Plan should state that topsoil should be stripped and salvaged from areas where overburden material will be stockpiled (Rule 3.1.9(1)).

*No additional response required.*

- 6) Exhibit D needs to include a discussion of stabilization of topsoil stockpiles (Rule 3.1.9(3)).

***It does not appear that this text was added to Exhibit D. (It does appear that the text for Item #5 was added twice.) Please revise Exhibit D to discuss stabilization of topsoil stockpiles.***

- 7) Exhibit D should include a discussion of the structures that will be constructed for the mining operation, including buildings and roads. The discussion must include dimensions and general construction methods. (For example, will foundations include rebar reinforcement?)

***The text needs to include dimensions for the concrete pads that will serve as foundations for the scale and scale house.***

- 8) This exhibit needs to include an appendix that includes a detailed slurry wall design report.

*No additional response required.*

#### **6.4.5 Exhibit E - Reclamation Plan**

- 9) The text states that reclamation will be concurrent with mining. Exhibit E should provide a commitment to a maximum un-reclaimed disturbance area and length of un-reclaimed highwall.

*No additional response required.*

- 10) The text states that auger holes will not be left on the property. Please clarify if there are/were auger holes and add a discussion on how these holes will be filled or were filled in the past (Rule 3.1.5(6)).

*No additional response required.*

- 11) The text should state that no structural fill shall be imported from outside the permit area, or the Reclamation Plan must include all of the requirements of Rule 3.1.5(9).

*No additional response required.*

- 12) The text should state that topsoil will be re-handled as little as possible and that a Technical Revision will be submitted before topsoil stockpiles are relocated (per Rule 3.1.9(4)).

*No additional response required.*

- 13) The text should state that topsoil will be placed in a way to prevent erosion of this resource (per Rule 3.1.9(5)) and a discussion added regarding the practices to stabilize slopes. One option is to roughen slopes prior to placement of topsoil.
- a. The text for revegetation needs to include details for seed bed preparation and the time of seeding (Rule 6.4.5(2)(f)).

*No additional response required.*

- 14) The weed control paragraph should reference a more detailed plan in Exhibit J.

*No additional response required.*

#### **6.4.7 Exhibit G - Water Information**

- 15) The text must include a discussion regarding the use of water for processing gravel. If no products will be washed onsite, this should be stated in Exhibit G.

*No additional response required.*

- 16) The McGrane report and associated conclusions will be reviewed by a groundwater hydrologist with the Division, and an additional adequacy letter will be sent in October or November 2023.

***Please see the enclosure with a review by a Division Groundwater Hydrologist, Patrick Lennberg.***

- 17) To ensure that the Bernhardt Pit does not impact the hydrologic balance of the river, the application needs to include a water quality monitoring plan, specifically for the alluvium. The groundwater monitoring plan should be developed in accordance with Rule 3.1.7(7)(b) and should include a Quality Assurance Project Plan (QAPP) for the collection of groundwater samples. The plan should provide mitigation steps if there is an exceedance at a groundwater or surface water monitoring location. Potential impacts to quality and/or quantity of nearby domestic wells should also be addressed. A copy of the Division's

“Groundwater Monitoring and Protection Technical Bulletin” has been included as an enclosure to this letter for your reference.

***Please see the enclosure with a review by a Division Groundwater Hydrologist, Patrick Lennberg.***

18) For protection of the riverbank, perform one of the following:

1. Revise the extraction and reclamation plans to include a 400-foot setback from the top of the riverbanks to the top of the pit side slope of the planned pit. This size of setback is based on guidance from the Mile High Flood District (MHFD). The document, “Technical Review Guidelines for Gravel Mining and Water Storage Activities Within or Adjacent to 100-year Floodplains,” is available upon request. A smaller setback will be considered by the Division if rationale from this guideline (or similar reference) is given.
2. Design inlet and outlet structures (aka, side-channel spillways) that will allow floodwaters to pass through the site with considerably less risk of destroying the banks (aka, riverside berms). The design should include any necessary analysis to illustrate that the structures will prevent the loss of riverside berms during a 100-year flood.
3. Perform an analysis to illustrate that riverside berm failure is unlikely during a 100-year flood event. This analysis should be done using standard methodology, such as a two-dimensional HEC-RAS model.

(If option 2 or 3 is used, be certain to address the comments below regarding setbacks for wildlife protection in your Exhibit H responses.)

*One possible option for this application: The 400-foot buffer could be adopted at this time, and a hydrologic analysis or structure design could be performed later, as part of a Technical Revision, to possibly relax this requirement.*

*No additional response required.*

#### **6.4.8 Exhibit H Wildlife Information**

19) The applicant must address the comments of the Colorado Parks and Wildlife Division (CPW), which are enclosed with this review letter. Each of the comments must be directly addressed in your response letter, and, as applicable, comments must also be addressed by revising Exhibit H. Where necessary, add commitments for future studies or other actions. Note that CPW recommends a setback from the river of 500 feet. While this would be preferable in the context of wildlife protection, the Division believes that the 400-foot

setback described in Exhibit G, above, is sufficient. Please consider the 400-foot option to protect wildlife as well as protect the riverbanks from erosion.

***The Division has consulted with Colorado Parks and Wildlife, and we are requiring that another raptor survey be conducted prior to mobilization of earth-moving equipment or excavation at the site. In Exhibit H, please commit to conduction this survey and providing the results to the Division. These results need be submitted to the Division as a Technical Revision and submitted at least 30 days prior to mobilization of earth-moving equipment or excavation.***

20) In the body of Exhibit H, the applicant should discuss the presence of (or lack of) critical habitat for such things as elk calving or other activities that require special consideration (per Rule 3.1.8(1)).

*No additional response required.*

21) In the body of Exhibit H, the applicant should discuss seasonal use of the permit area. For example, is the permit area used for winter habitat by deer or other species? Also, will noise from the operation impact any wildlife? These items are required per Rule 6.4.8(1).

*No additional response required.*

#### **6.4.10 Exhibit J Vegetation information**

22) Per Rule 3.1.10(6), a Weed Management Plan should be included in this exhibit, and it should discuss the list of State of Colorado noxious weeds and should state that List A species will be eradicated, and List B Species will be controlled. The plan should also describe the efforts that will be made to control List C species, including field bindweed, a focus in Weld County.

*No additional response required.*

#### **6.4.19 Exhibit S - Permanent Man-made Structures**

23) The Division requires the Applicant to demonstrate that they attempted to obtain notarized structure agreements with all owners of the structures within 200 feet of the affected area of the proposed mine site, pursuant to Rule 6.4.19. This attempt must be made prior to the Division's consideration of a stability analysis. Please provide this demonstration; this can be in the form of certified mailing receipts or similar documentation.

*No additional response required.*

## 6.5 Geotechnical Stability Exhibit

DRMS is reviewing the geotechnical analysis and our comments will be sent in October or November 2023.

***DRMS is reviewing the geotechnical analysis and responses. Our comments will be sent under separate cover.***

Also, the Division will be working on the reclamation cost estimate in the near future and will be in touch with questions.

Please be advised that this application for the Bernhardt Sand and Gravel Pit 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. Also, please allow the Division time to perform another review of your additional responses. This **request for an extension must be received no later than the decision date of April 30, 2024.**

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

Sincerely,



Robert D. Zuber  
Environmental Protection Specialist

Enclosure

Copied via e-mail: Amy Eschberger, DRMS  
J.C. York, P.E., J&T Consulting, Inc.



**ENCLOSURE**

**Date:** April 17, 2024

**To:** Rob Zuber, DRMS

**From:** Patrick Lennberg, DRMS

**RE: Bernhardt Sand and Gravel Pit, New Permit Application,  
Groundwater Review Memo No. 2, File No. M-2023-025**

On April 15, 2024, I was requested to review the Applicant's responses to the Division's Groundwater Adequacy Review dated October 23, 2023 for the Bernhardt Sand and Gravel Pit new permit application, file no. M-2023-025. Below are follow-up questions that should be addressed.

1. The Applicant proposes to only collect groundwater samples from two locations, one downgradient and one upgradient. The Applicant will need to expand groundwater sampling to include all four monitoring well locations to demonstrate that existing and reasonably potential future uses of groundwater are protected (Rule 3.1.7(8)) and no unauthorized release of pollutants to groundwater shall occur from any materials mined, handled, or disposed of within the permit area (Rule 3.1.5(11)).
2. Pursuant to Rule 3.1.7(7)(b)(ii) and (iv), please provide the method of well sampling and a description of the quality control and quality assurance methods (e.g., duplicate samples, rinsate samples) to be used during groundwater sampling.
3. Please commit to providing the quarterly groundwater monitoring results along with the monthly groundwater level measurements by the following deadlines:
  - First quarter report due by May 1st of every year.
  - Second quarter report due by August 1st of every year.
  - Third quarter report due by November 1st of every year.
  - Fourth quarter report due by February 1st of the following year.

The report should, at a minimum, include a site map with well locations, tabulated data for all parameters, graphs/plots of selected parameters, a narrative analysis of the data with any trends and/or anomalies identified, and graphs and tables of measured groundwater levels for all locations. The Applicant should be prepared to submit field sheets that demonstrate monitoring wells were purged and sampled according to the approved plan.



At the end of five quarters, the Applicant may submit a Technical Revision to reduce the analyte list and frequency of monitoring with sufficient justification.

4. Please commit to establishing a point(s) of compliance following five (5) quarters of baseline monitoring in accordance with Rule 3.1.7(6).
5. Exhibit G needs to be updated with a discussion of mitigation measures regarding groundwater mounding approaching the surface. Include in the discussion triggers for the initiation of mitigation measures.
6. Please clarify whether or not the results presented in the SGS table are total or dissolved.

**Groundwater Model Review**

7. The Division was not able to review Attachment 11 - McGrane Groundwater Model Update and Responses, as it appears it was not included with the adequacy review responses. Please submit the missing attachment.

If you need additional information or have any questions, please let me know.

Sincerely,



Patrick Lennberg  
Environmental Protection Specialist

cc: Jared Ebert, DRMS