



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

1313 Sherman Street, Room 215
Denver, CO 80203

April 14, 2017

Mr. Jared Drains
Applegate Group, Inc.
1490 W. 121st Ave., Suite 100
Denver, CO 80234

**Re: Martin Marietta Materials, Inc.; Duckworth Pit; File No. M-2003-091;
112c Permit Amendment (AM-01) Application Adequacy Review**

Mr. Drains:

The Division of Reclamation, Mining and Safety (Division/DRMS) has reviewed the content of the Martin Marietta Materials, Inc. 112c permit amendment (AM-01) application for the Duckworth Pit, File No. M-2003-091 and submits the following comments. The Division is required to make an approval or denial decision no later than May 24, 2017 therefore; a response to the following adequacy review concerns should be submitted to the Division as soon as possible.

The review consisted of comparing the amendment application content with the specific requirements of Rules 1, 3, 6.1, 6.2, 6.4 and 6.5 of the Minerals Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials. Any inadequacies are identified under the respective exhibit heading along with suggested actions to correct them.

1.6 Public Notice

1. As required by Rule 1.6.2(d) and 1.6.5(2), please submit proof of publication in a newspaper of general circulation in the locality of the proposed mining operation.

The Division received proof of publication in the Longmont Times-Call newspaper via email from the Applicant on April 4, 2017. No response is required from the Applicant.

2. As required by 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.

3. The Division received comments from the Colorado Division of Water Resources and History Colorado. The letters are attached for review. Please address the comments noted in the letters and make any changes to the application as needed.

6.4 Specific Exhibit Requirements - Regular 112 Operations

The following items must be addressed by the Applicant in order to satisfy the requirements of C.R.S. 34-32.5-101 et seq. and the Mineral Rules and Regulations of the Mined Land Reclamation Board:

6.4.5 Exhibit E - Reclamation Plan

4. The Applicant states weed control practices will be implemented as required. Pursuant to Rule 3.1.10(6), methods of weed control shall be employed for all prohibited noxious weed species, and whenever invasion of a reclaimed area by other weed species seriously threatens the continued development of the desired vegetation.

Please provide a Noxious Weed Management Plan with the following information:

- a. A list of potential noxious weed species (target species).
- b. The control methods and treatment window for each target species.
- c. A monitoring plan and follow-up plan for the site (i.e. when the "local weed control expert" will inspect the property during the year and how follow-up treatments will be implemented following the inspection).

The Division recommends the Applicant contact the appropriate local weed control authority to assist with the weed control plan.

5. The Applicant states the Duckworth Pit is located within the 100-year floodplain as defined in the Federal Management Agency's National Flood Hazard Layer. In the event of a significant flood event it is likely the pit will be damaged by the St. Vrain River and/or Idaho Creek. Please describe how the pit slopes will be protected from the potential flood impacts as part of final reclamation activities.

6.4.7 Exhibit G - Water Information

6. The Applicant states the nearest structure which will be most impacted by groundwater mounding will be the residence at 2719 Weld County Road 20.5, owned by Michael and Elizabeth Gerhardt. The amount of mounding at this structure is expected to be between three and four feet, which could potentially cause flooding issues of low areas at the residence such as the basement.

The Applicant must explain all mitigation measures to be implemented and trigger points which would put mitigation measures into effect for the potential mounding impacts on the surrounding landowners and structure owners. The mitigation measures must include a scenario for the installation of a French drain to direct groundwater around the clay liner and restore groundwater levels to the historic elevation in the area of groundwater mounding.

7. The Applicant states the nearest well which will be impacted by groundwater shadowing will be an irrigation well owned by Barrett Ward under Permit No. 668-WCB. The amount of shadowing at this well is expected to be between one and 1.5 feet. Please verify the Applicant is pursuing agreements with the existing well owners within 600 feet of the site for possible groundwater impacts associated with the installation of the clay liners. Please provide signed copies of the agreements, if available or provide evidence the appropriate notice was provided to the well owners.

If the Applicant is not able to obtain agreements with all existing well owners within 600 feet of the site, the Applicant must explain the mitigation measures to be implemented and trigger points which would put mitigation measures into effect for the potential shadowing impacts on the surrounding groundwater wells.

8. The Applicant states Martin Marietta operates three active monitoring wells located around the periphery of the Duckworth Pit and will continue to collect data from these monitoring wells for a period of two years following the completion of the liner to compare actual groundwater level changes with the changes anticipated by the groundwater model. Please commit to collecting groundwater elevation data from the three monitoring wells until the site is fully released by the Division. Additionally, please commit to providing the monthly monitoring well data to the Division with the annual report for the site.
9. Please update the Exhibit F- Reclamation Plan Map to indicate the location of the three monitoring wells.
10. On Page 2, Results section of the "Mounding and Shadowing Around Duckworth Gravel Pit Liner" by Miller Groundwater Engineering, LLC dated November 21, 2016 there are two references to Indian Creek. Please verify the report should reference Idaho Creek which bisects the site, not Indian Creek.

6.4.12 Exhibit L - Reclamation Costs

11. The Division estimated the cost to reclaim the site based on the information submitted by the Applicant at \$60,900.00. A copy of the bond estimate is attached for review.

6.4.18 Exhibit R - Proof of Filing with County Clerk and Recorder

12. Please provided an affidavit or receipt indicating the date on which the revised application information required to address this adequacy letter was placed with the Weld County Clerk and Recorder for public review, pursuant to Subparagraph 1.6.2(1)(c).

6.5 Geotechnical Stability Exhibit

13. The Applicant submitted a stability analysis for the Duckworth Pit compacted clay liners prepared by Tetra Tech dated February 27, 2014. The Tetra Tech calculated factor of safety of 1.2 for the rapid drawdown scenario is below the Division's 1.3 minimum factor of safety requirement. Please provide copies of all the stability analysis models for Division review and verification using Clover Technology's Galena software.

Please be advised the Duckworth Pit amendment application may be deemed inadequate, and the application may be denied on May 24, 2017, 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 May 24, 2017 and request for additional time. This must be received no later than the deadline date.

If you have any questions, please contact me at peter.hays@state.co.us or (303) 866-3567 Ext. 8124.

Sincerely,



Peter S. Hays
Environmental Protection Specialist

Enclosures - Colorado Division of Water Resources and History Colorado comment letters,
DRMS Reclamation Costs Estimate

Ec: Wally Erickson; Division of Reclamation, Mining & Safety
Julie Mikulas; Martin Marietta Materials, Inc.