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

August 23, 2021

Kathy Junglen
Tetra Tech, Inc.
1900 S Sunset, Suite 1-E
Longmont, CO 80501

RE: Home Office Mine, M-1977-439
Amendment 4 (AM4) Applicaton
Notice of Comments and Objections Received

Ms. Junglen:

The Division of Reclamation, Mining and Safety (Division) has received timely comment letters and 1 objection letter on the Home Office Mine, AM4 application, File No. M-1977-439. The comment and objection letters were received within the public comment period which closed on February 26, 2022. The letters are enclosed for your review.

Comments received:

1) January 24, 2022 – Comment received from Division of Water Resources
2) February 1, 2022 – History Colorado, State Historic Preservation Office
3) February 25, 2022 – Loveland Ready Mix Concrete, Inc.

Timely objections received:

1) February 24, 2022 – Objection received from William Seaworth

Please inform the Division of how the applicant intends to address the jurisdictional issues raised by timely objectors and any concerns identified by agencies. This information can be submitted during the adequacy review process.

If you have any questions, you may contact me by telephone at 720-774-0040, or by email at brock.bowles@state.co.us.

Sincerely,

Brock Bowles
Environmental Protection Specialist

Encls: Comment letters from: DWR, HC, LRM and Seaworth

COLORADO
Division of Water Resources
Department of Natural Resources

Response to Construction Materials Reclamation Permit Amendment Application Consideration

DATE: January 24, 2022

TO: Brock F. Bowles, Environmental Protection Specialist

FROM: Sarah Brucker, Water Resources Engineer

RE: Home Office Pit, File No. M-1977-439 – AM04
Applicant/Operator: Martin Marietta Materials, Inc., (970) 227-4041
Section 34, Twp 8 North, Rng 69 West, 6th P.M., Larimer County
Water Division 1, Water District 3

COMMENTS: The subject amendment seeks to change the final reclamation plan for Stage G of the Home Office Pit, located in the northeastern portion of the site, from one open water lake to two sealed water storage reservoirs. Mining and dewatering of Stage G began in the spring of 2016 and is still underway. Once mining is complete, compacted clay liners will be installed sequentially in two phases.

A perimeter drain is proposed to be installed along the west side of Phase I and the north side of Phase II to mitigate an observed rise in groundwater levels. Water from the drain is proposed to be discharged to an unlined pond tributary to the Cache la Poudre RIver. The applicant must obtain a dewatering system well permit from this office for the construction and operation of the proposed perimeter drain.

Depletions from past and present mining operations at the site are currently replaced pursuant to the Home Office Pit Substitute Water Supply Plan (Plan ID 2998) approved on December 27, 2021 for operations through December 31, 2022. Depletions associated with mining operations at the Home Office Pit will continue to impact the river beyond the end of this plan period and must continue to be replaced until there is no longer an effect on stream flow. Martin Marietta Materials, Inc. must maintain a substitute water supply plan for the Home Office Pit until the State Engineer's Office approves each of the constructed reservoir liners and all lagged depletions have been fully replaced, or until the Tri-Districts and/or the City of Greeley have taken over augmentation responsibilities for the site.

Subject to the above-stated requirements, this office has no concerns regarding the requested amendment. The Division of Reclamation, Mining and Safety and/or the applicant may contact the State Engineer's Office with any questions.

History Colorado

Brock F. Bowles
Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, Colorado 80203

Re: Home Office Mine – File No. M-1977-439, Martin Marietta Materials, Inc. Amendment Application (AM-4) (HC#48372)

Dear Mr. Bowles:

We received your letter dated January 11, 2021 initiating consultation with our office on the subject action pursuant to the Colorado State Register Act – Colorado Revised Statute (CRS) 24-80.1 et. seq.

A search of our database indicates that five historic are located within or adjacent to the permit area (see table below).

Site ID	Assessment	Assessment Date
5LR.863.1	Eligible	5/1994
5LR.789	Officially eligible	12/09/1983
5LR.1829.4	Does not support the eligibility of the entire linear resource	8/23/2013
5LR.1824.1	Not eligible	5/1994
5LR.1813	Not eligible	5/1994
5LR.12398.1	Officially needs data	3/10/2011
5LR.12399.1	Officially needs data	3/10/2011
5LR.750	Not eligible	8/1/1982
5LR.775	Needs Data	8/1/1982

As there are no properties of historical significance included or nominated for inclusion in the state register within the proposed permit area, a finding of no adverse effect is appropriate. As most of Colorado has not been inventoried for cultural resources, our files contain incomplete information. Consequently, there is the possibility that as yet unidentified cultural resources exist within the proposed permit area. The requirements under CRS 24-80 part 13 apply and must be followed if human remains are discovered during ground disturbing activities.

We thank you for the opportunity to comment. If we may be of further assistance, please contact Holly McKee-Huth, Cultural Resource Information/Section 106 Compliance at (303) 866-4670/holly.mckee@state.co.us.

Sincerely,

Dawn DiPrince
State Historic Preservation Officer

February 25, 2022
Via Electronic Mail

Mr. Brock Bowels
Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, Colorado 80203

Subject: Home Office Mine, File No. M-1977-439
Amendment 4 (AM-4), Exhibit G Comments

Dear Mr. Bowels:

On behalf of Loveland Ready-Mix Concrete, Inc., Telesto Solutions, Inc., (Telesto) submits the enclosed comments on Martin Marietta Materials, Inc. (Martin Marietta) 112c Permit Amendment Application for their Home Office Mine. We appreciate the Colorado Division of Reclamation, Mining and Safety's (DRMS's or Division's) consideration in this matter.

LRM holds agricultural property to the north and east of Stage G, Phase 1 as described in the application materials and in particular, Exhibit G. Our main concern is the lack of groundwater analysis to support the claim that the proposed plan will maintain the hydrologic balance, no information related to the claim by adjacent landowners to the west of frequent summer flooding after construction of the Stage G, Phase 1 Pit, and the uncertainty posed by the plan on LRM's adjacent farm fields.

Based on documentation from the Division's laser fiche file, AM-4, and Google Earth historical aerial photography, our understanding of Martin Marietta's timeline in developing the Stage G pit is as follows:

- Groundwater level monitoring begins near future Stage G in 2015 (3 wells)
- Mining and associated dewatering began spring 2016 for Phase 1
- Between October 2017 and October 2018, dewatering and mining at Phase 2 begins
- Installation of HO-01 and HO-06 monitoring wells in May 2018
- Decommission recharge ponds (near Taft Hill Road) and establish new recharge pond (southeast side of Phase 2 pit) sometime between July 2019 and October 2020
- Reclamation of Phase 1 pit by October 2020 (confirmed by photos in inspection report July 2021)
- HO-11 through HO-14 installed May 2021

- Currently mining Phase 2

Specific comments and questions for Exhibit G follow:

SECTION 1–INTRODUCTION AND BACKGROUND

Paragraph 2 indicates that "*This Groundwater Monitoring and Mitigation Plan presents the methods for monitoring groundwater during mining and reclamation, and for mitigating any potential groundwater impacts associated with permitted mining at the site.*" How can monitoring of groundwater during mining and reclamation be completed when monitoring wells were not installed between LRM's property and the Phase 1 pit until after reclamation was complete?

Paragraph 3 states that the discussion is limited to potential changes in the hydrologic balance resulting from the installation of the compacted clay liners. The paragraph refers to Figure G-1, which shows conceptual groundwater flow directions before mining and after reclamation. The focus of the paragraph and Exhibit G is on Stage G, yet the Stage G area is confined to the northeast corner of Figure G-1. It should be central to the figure to show areas surrounding the pit. With lined pits, the potential disruption to the hydrologic balance is "mounding" upgradient of the lined area and "shadow" of the down-gradient areas. Please provide projections of the anticipated changes up- (especially to the north) and down-gradient of the pit area. Also,

- What is the basis of the green flow arrows?
- How do you depict groundwater flow directions (they may be correct) without a potentiometric surface?
- Why are there no projections of the pre-pit groundwater flows through the pit area and to the north?
- Where does the water from the north go?
- How large will the mounding be on the north side of the Phase 1 pit?

SECTION 1.1–HISTORICAL USE

From our understanding of the timeline and information from site inspections, it appears that Phase 1 is complete with liner installed. It is unclear from the section title if Martin-Marietta plans to go back in and install liner over what appears to be a reclaimed and final Phase 1 (See photographs in July 2021 inspection report). What is the timeframe for installing liners and perimeter drains?

This section identifies a potential issue with rising water table west of Stage G, and points to Section 2.1 for the mitigation solution. There are no analyses in Section 2.1 confirming the reason for the issue, or the solution. Please provide such analyses.

SECTION 1.2

The first paragraph describes monitoring wells installed in 2005. Which wells are these? Where are they located? Where are the data? These would be very useful in helping LRM understand potential impacts. Please provide a plan view map of their locations and historical data.

Groundwater elevations shown in Charts 1, 2 and 3 are helpful when combined with the location map to help understand groundwater gradients, but do little to explain how close the groundwater is to ground surface, and what the potential impacts could be to landowners. Please provide depth to water information for these wells.

Chart 1 shows a steep rise that correlates in time to the end of mining in Phase 1. There is almost a 7.25 foot between July 2020 and July 2021 in well HO-01, and the trend is upward. What is the cause of this? Will the trend continue upward? This could be an issue for LRM's ability to farm the field to the north of Phase 1. Could it explain the issue raised by the neighbor?

SECTION 2.1

This is the paragraph referred by Section 1.1 as mitigation for the observed rising water table west and north of Stage G Phases 1 and 2, respectively. The paragraph references a perimeter drain being designed by Deere and Ault. Anecdotal information from neighbors indicate that Martin Marietta already installed the drain. Given the rising water level in HO-01 and the fact that Martin Marietta is actively dewatering Phase 2 (and thus, lowering the head at the drain outlet creating a large gradient to increase flows), does not bode well for the mitigation solution purposed in the document. Please explain how this is a mitigation solution for rising water levels on the north side of the Phase 1 pit, and how LRM is protected from flooding caused by groundwater rising to flow around the pit liner.

It is not clear whether the "underdrain" shown in Figure F-3 is the "perimeter drain," or if another drain is planned. Please provide design details (or as-built drawings) for the perimeter drain. Include:

- Plan and profile along the proposed alignment
- An effective hydraulic conductivity analysis
- Hydraulic analysis

These should show the combination of the perimeter drain and liner is equivalent to the pre-mining condition in terms of its carrying capacity. Also, include the area north of the Phase 1 pit in this analysis to show the potential impact to LRM property.

The plan view on Figure F3 labels an "underdrain" perforated pipe skirting the west side of the Phase 1 pit, passing between Phases 1 and 2, turning solid and emptying into the recharge pond on the southeast side of Phase 2. The perforated drainpipe and trench bottom are roughly 5.4 and 6.4 feet, respectively, below the top of the liner, which is essentially at natural grade. Based on water levels taken on LRM's property, the bottom of the drain might intersect the top of the natural water table, and thus, it appears the drains are not planned deep enough. It is our experience that French drains that extend over at least half of the saturated thickness are necessary to efficiently move groundwater around impermeable structures. Please provide an analysis regarding the drain sizing, depth, and location (horizontal and vertical) that efficiently and effectively moves groundwater around the lined pit on all sides and maintains the hydrologic balance. Related, provide methods and infrastructure design to maintain (e.g., cleanouts) and ensure the drain has a long life.

SECTION 2.3

The mitigation plan is reactive: 1) wait for complaints by neighboring well owners, and 2) then rely on baseline data to determine if there is an effect and develop a mitigation strategy. There is no up-front planning presented to provide an inkling that a workable plan is in place to maintain the hydrologic balance. Please ensure the plan is proactive by providing projections of problem areas, and potential mitigation strategies before something happens.

Mitigation in this section talks solely about impacts to wells. Please elaborate on the mitigation strategy for flooding neighboring properties (e.g,, eliminating problematic groundwater in crawl spaces, saturating farm ground or crop root zones with a water table that is too high).

SUMMARY

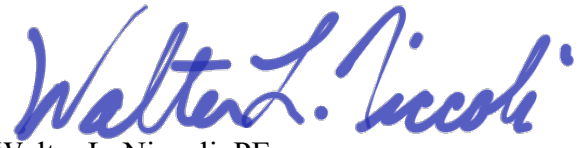
To ensure the applicant's amendment meets the requirement to maintain the hydrologic balance and not harm LRM's (and neighbor's) properties, LRM humbly requests that the DRMS requires the applicant to be pro-active in revision to the current AM-4 submittal, and provide the requested analyses, engineering plans, clarifications, and address the questions raised in this review, particularly:

- Clarifying the timing of mining, lining and perimeter drain installation
- Providing baseline information from the monitoring wells installed in 2005
- Providing elevational information and/or depth to groundwater information when presenting all monitoring well information

- Describe the observed trends in groundwater elevations, their estimated causes, and considerations for the proposed reclamation plan to maintain the hydrologic balance
- Providing detailed analysis on the function of the proposed drain and liner combination
- Show and justify projected groundwater levels after reclamation including how the perimeter drain will function efficiently long-term
- Extend the perimeter drain to include the north side of Phase 1 and include appropriate discharge

We appreciate your time and consideration of these comments, questions, and suggestions. If you have any questions, or need clarification on any information presented herein, please do not hesitate to contact me at the numbers in the letterhead or via email at wniccoli@telesto-inc.com.

Sincerely,
Telesto Solutions, Inc.



Walter L. Niccoli, PE
Principal/Senior Engineer

WLN:sfe
Enclosure
cc:

STATE OF COLORADO

Bowles - DNR, Brock <brock.bowles@state.co.us>

Fwd: M1977439 Permit

1 message

Temp - DNR, DRMS <drms.temp@state.co.us> Mon, Mar 14, 2022 at 11:04 AM
To: Brock Bowles - DNR <brock.bowles@state.co.us>, Michael Cunningham - DNR <michaela.cunningham@state.co.us>

Hello Brock and Michael - I just looked in this email account for something (it's not routinely monitored) and found this.

---------- Forwarded message ---------
From: **William Seaworth** <seaworthsafesales@hotmail.com>
Date: Thu, Feb 24, 2022 at 6:13 PM
Subject: M1977439 Permit
To: drms.temp@state.co.us <drms.temp@state.co.us>

To whom it may concern,

Here is my response to Amendment to the Martin Marietta Home Base, M1977439 Permit

My information is

William Seaworth

Physical address:

2400 north Taft hill road

Fort Collins Colorado, 80524

Mailing address:

Seaworth Properties

PO Box 320

Laporte Colorado 80535

Office (970) 482-8469

Cell (970) 481-4769

Concerns over Amendment to the Martin Marietta Home Base, M1977439 Permit. Specifically Exhibit G, Water Information. The amended reclamation plan has directly impacted the Seaworth property to the west and our ability to farm this property as it has been done historically.

The reclamation plan originally called for the Stage G pits to be open water, ground fed ponds.

1. Ground water monitoring to establish existing ground water conditions and patterns was not done.

    a. The Phase I, Stage G Pit was dewatered, mined, and the compacted liner installed before monitoring wells HO-12 and HO-13 were installed.

    b. The Phase I, Stage G Pit was dewatered for mining before monitoring well HO-1 was installed.

    c. The absence of accurate documentation of historical ground water levels prior to mining makes it impossible for engineers to insure their targeted ground water levels are accurate.

    d. The absence of accurate documentation of historical ground water levels prior to mining makes it impossible for Martin Marietta's engineers to insure their mitigation drain is adequately sized or installed.

2. The Seaworth property has been historically farmed and irrigated for decades, prior to the mining of Stage G Pit.

   a. The historic tailwater ditch was removed without consultation of owners with farm lands to the west and to the north.

   b. The absence of accurate documentation of historical groundwater levels and water flows through the historical tailwater ditch makes it impossible for MM's engineers to insure their mitigation drain will adequately handle the required returns from the tailwater ditch.

3. The mitigation plan proposed by MM does not address the impacts to farming, flooding of properties, or rise in groundwater that could be caused by placement of the Stage G pit liner and/or insufficient design capacity and placement of the drain.

   a. MM mitigation plan only addresses water rights of registered well owners.

   b. There is no mention of redesign and repair of drain if water table is impacted, or if flooding again occurs due to irrigation of Seaworth farm land.

4. The amendment reads as if the liner in Phase 1 G Pit has yet to be installed, and that the drain has yet to be installed.

   a. The liner has been installed, and we believe the placement of this liner, prior to installing a drain, resulted in the property flooding.

   b. The drain has been installed, and appears to be approximately 3 feet below ground level. Because there is no historical data that provides accurate information on the historical ground water levels, there is no assurance that this drain will prove to be adequate to protect our ability to farm the land.

5. The amendment as submitted does not provide any recourse for Seaworth Properties to obtain relief should the drain that is installed prove not to work.

   a. We would like to see provisions that require MM to replace, relocate, resize, the drain if any flooding occurs during irrigation season, if the ground water level reaches a level less than 3' beneath the surface.

   b. We would like to see provisions that require MM to replace lost crops due to flooding caused by inability of drain to carry tailwater from any irrigation of lands to the west and the north of the Stage G pits.

   c. We would like to see provisions that require MM provide proof to DRMS that the drain design is working properly and that groundwater levels on Seaworth property have not been impacted prior to release of the Reclamation Bond.

Thank you,

William Seaworth

Vice President

Seaworth Properties

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

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