

February 12, 2024

Project No. 111451

Nikie Gagnon
Environmental Protection Specialist
Division of Reclamation, Mining and Safety
Department of Natural Resources
1313 N Sherman St
Denver, CO 80203

RE: Response to October 5, 2023 Masonville Stone, Permit No. M-1986-007, Technical Revision No. 3 (TR03), Adequacy Review No. 1

To Ms. Gagnon,

Please be advised that Engineering Analytics Inc. (EA) represents the Applicant, Masonville Stone. Masonville Stone is submitting this in response to the Adequacy Review No. 1 supplied by the Division of Reclamation, Mining and Safety.

General Requirements

General Requirements Comment 1. Both maps should be labeled Exhibit E, in accordance with Rule 6.3.5.

Response: Both maps have been edited to labeled as Exhibit E.

General Requirements Comment 2. The Mine I.D. written on the maps is incorrect. The Permit Number is M-1986-007.

Response: Mine I.D. on both maps has been updated to M-1986-007

General Requirements Comment 3. Please ensure the maps meet the minimum requirements of Rule 6.2.1(2), specifically the maps must be prepared and signed by a registered land surveyor, professional engineer, or other qualified person. The maps submitted with TR3 are not signed by the preparer.

Response: The maps have been reviewed and submitted to meet the minimum requirements of Rule 6.2.1(2).

General Requirements Comment 4. The permit boundary shown on the maps is consistent with a permit boundary map submitted in 2009 with Technical Revision 2 (TR2). However, in the spring of 2015, the Division required the Operator to demonstrate via a site survey by a

registered surveyor that the total existing disturbance is less than or equal to the permitted 9.4 acres. On June 19, 2015, Coffey Engineering conducted a site survey (See attached letter submitted to the Division on August 6, 2015). Per Rule 6.3.5(2) please revise the mining and reclamation maps to show the outline of the 2015 surveyed permit boundary and provide the geographic data points for each boundary marker installed.

***Response:** Mining map has been updated to the 2015 surveyed permit boundary. Additionally, we have included a pdf of the data points as Attachment C as well as emailing an excel spread sheet with the data.*

General Requirements Comment 5. The maps submitted appear to be photographs. Photos of maps distort the scale and cannot be accepted. Please mail the revised maps to the Division at the address listed at the bottom of this page.

***Response:** The maps have been updated and revised with aerial images to provide non-distorted scales.*

Mining Plan Map

Mining Plan Map Comment 1. Please label the location and ownership of any significant, valuable, and permanent man-made structures within two hundred (200) feet of the affected area. This includes the two county roads, a fence running along Co Rd. 27, and any utilities or permanent structures within 200 feet of the permit area.

***Response:** Locations and ownerships of manmade structures is identified in Exhibit E, Figure 1 Mining Plan Map.*

Mining Plan Map Comment 2. Please outline and label existing disturbance within and/or adjacent to the permit boundary (e.g., previously mined areas, roads or excavations resulting from utility construction). This includes any rock slabs, fencing, or rubble outside the boundary from current or historic mining

***Response:** Existing disturbances within and/or adjacent to the permit boundary have been outlined and labeled appropriately to match undisturbed locations and disturbance related to pre-1986 mining activities.*

Mining Plan Map Comment 3. Please clearly outline and label the seed bed and note on the map that this is an undisturbed area not included in the permitted acres.

***Response:** The seed bed has been outlined and labeled to illustrate it is not included in the permitted area. In addition, the seed bed is flagged is not accessed by any mining equipment or personnel.*

Reclamation Plan Map

Reclamation Plan Map Comment 1. Please remove all mining plan details from the reclamation map, specifically “future excavation area” and “quarry pits” and “product stockpiles”, since these will not remain once reclamation is complete.

***Response:** All mining plan details have been removed from the reclamation map.*

Reclamation Plan Map Comment 2. Show the gradient of all reclaimed slopes (horizontal: vertical) sufficient to describe the post mine topography on the map. Indicate if any terraces will be used to stabilize slopes.

***Response:** The gradient of reclaimed slopes will be maintained at 3:1 and terraces will be used to stabilize slopes in areas where terraces are already installed and in use. Terraces have been identified to be used northeast of the seed bed to address the current cutoff slopes that cannot be graded to a 3:1 slope. The areas north, west and east of the seed bed will be filled with overburden to meet the 3:1 slope.*

Reclamation Plan Map Comment 3. Amendment 2, approved in November 2000, states that overburden will be replaced to depths anywhere from 2 to 15 feet as needed to fill in extraction sites. Please clearly label the average thickness of replaced overburden by reclamation area or phase on the map.

***Response:** The overburden will be placed at an average depth of approximately 8.5 feet. Due to changes in elevations, overburden can be as shallow as 2 feet and as deep as 15 feet.*

Reclamation Plan Map Comment 4. Amendment 2 states that topsoil will be replaced to a depth of 1-6”. The Division requires a minimum of 6” of topsoil for reclamation. Please show the thickness of replaced topsoil by reclamation area or phase on the map.

***Response:** To meet the divisions minimum requirement, topsoil will be replaced at a minimum of 6” across reclaimed areas.*

Reclamation Plan Map Comment 5. Please indicate on the map area where vegetation will not be established.

***Response:** Vegetation will be established in all reclaimed areas excluding access roads.*

Reclamation Plan Map Comment 6. The reclamation map shows a network of roads in the mining area. Amendment 2 states the existing access road will remain after reclamation. Please clarify on the map which access road will remain and remove all other roads in the permit area.

Response: The reclamation map plan has been updated to outline access roads that will remain after reclamation.

Exhibit C Mining Plan

Exhibit C Mining Plan Comment 1. Please update the Mine Plan to discuss the seed bed in the upper portion of the permit area and how this area will be protected from mining and/or disturbance. The Division would like to remind the Operator that this area cannot be disturbed without amending the permit area. If the Operator would like to mine through this area, an Amendment application must be submitted to expand the permit boundary to incorporate the seed bed into the permitted disturbance area.

Response: The mine plan is updated to identify that the seed bed will not be mined and its boundaries will remain flagged to identify areas that are inaccessible.

Exhibit C Mining Plan Comment 2. Amendment 2 states “Topsoil for plant growth will be salvaged for use in reclamation when possible. Per Rule 6.3.3 (b), please update the Mine Plan to describe how/where the topsoil is stored and stabilized during the mining phase.

Response: The mine plan has been updated to describe topsoil storage and stabilization.

Exhibit D Reclamation Plan

Exhibit D Reclamation Plan Comment 1. Amendment 2 states feedlot manure and shredded mulch will be hauled and applied at a rate of 30 tons per acre. During a phone call with the Division on October 5, 2023, Mr. Southwick indicated he no longer owns an adjacent feed lot and does not plan to haul manure to the site for reclamation. Per Rule 3.3.4 (c), please update the Reclamation Plan to describe the measures that will be taken to revegetate the site.

Response: The reclamation plan has been updated. Mr. Southwick plans to source manure and shredded mulch from nearby farms and local sources including state sponsored tree trimming.

Exhibit D Reclamation Plan Comment 2. Sufficient soil must be salvaged to meet the vegetation establishment criteria of Rule 3.1.10, Please update the Reclamation Plan to describe if sufficient topsoil is stored on site, or if topsoil will be imported for reclamation and state the thickness of plant growth medium to be replaced (minimum 6”).

Response: *The reclamation plan has been updated. If needed during reclamation, sufficient topsoil will be imported onsite to provide a reclamation thickness, at a minimum, of 6".*

Exhibit D Reclamation Plan Comment 3. Amendment 2 states only the existing access road will remain after reclamation. The Reclamation Plan shows several road segments in the mining area. Per Rule 6.3.4 (c), please update the Reclamation Plan to specify which road will remain after reclamation and expand on how the interior haul roads will be reclaimed.

Response: *The access road that will remain is outlined in Exhibit E, Figure 2 Reclamation Plan Map. Access roads will be reclaimed in the same manner as other reclamation areas on site and will have sufficient topsoil to provide a minimum thickness of 6".*

CONCLUSION

EA is proposed update to the mining plan are provided in Attachment A EA's proposed updates are represented as bolded text.

On behalf of the applicant, we respectfully request a review of the addressed comments. Please feel free to contact me at 970-488-3111 should you have any questions or concerns regarding the application.

Respectfully Submitted,

Engineering Analytics, Inc.
Jason Andrews, P.E.
Project Manager
Attachments:



Attachment A – EA's Proposed Updates to the 2015 Amendment
Attachment B – Masonville Quarry's Original 2015 Amendment
Attachment C – Exhibit E, Mining Plan Map and Reclamation Plan Map
Attachment D – Mine and Seed Bed Boundary Points (Excel spreadsheet separate)

ATTACHMENT A
EA'S PROPOSED UPDATES TO 2015
AMENDMENT

Glenn Southwick
Masonville Stone
13800 Silver Springs Rd
Jay Em, WY 82219

RE: Proposed Updates to the Masonville Quarry 2015 Amendment

Dear Mr. Southwick

Engineering Analytics, Inc. (EA) is proposing Attachment A – EA’s Proposed Updates to the 2015 Amendment. **EA’s proposed updates are represented as bolded text:**

EXHIBIT A – Legal Description

The Northwest Quarter of the Southwest Quarter of Section 26, Township 6 North, Range 70 West of the 6th P.M. Except those tracts of land conveyed in Warranty Deeds recorded in Book 1502 at page 447 and in Book 1511 at page 65, County of Larimer, State of Colorado.

EXHIBIT B – Site Description

1. Soils of the area are stony sand loam, sandy loam, and rock outcrop. Vegetation common to the area include grasses such as big bluestem, Griffith wheatgrass, little bluestem, sideoats grama, needle and thread, mountain muhly, prairie junegrass, yellow indiangrass, and blue grama. Shrubs commonly present are fringed sagebrush, skunkbrush, sumac, and mountain mahogany. Many varieties of shrubs are commonly found.

EXHIBIT C – Mining Plan

1. Mining is ongoing in the quarry at this time. We do not anticipate ending the quarry operation in the foreseeable future. The end date of the mining is indefinite.
2. **Topsoil suitable for plant growth will be salvaged and used for reclamation. Additional topsoil will be transported to the site from within Larimar County as needed to provide a minimum depth of 6 inches. The imported material will be processed and placed to prevent erosion and seeded according to Exhibit D, Item 2 and 3.**

Due to the nature of the outcropping, the topsoil on site is extremely limited. Thus, it is proposed to process topsoil on site. The mined material is sieved to separate out flagstone and other undesirables from the finer grained soils. The topsoil stockpile and processing area will move with mining operations to not inhibit any mining operations. Before placement of topsoil material, mulch received from local state sponsored tree trimming, will be mixed in to increase organic content and bioactivity. Additionally, small rip raff from the quarry will be mixed with the top soil as it is recovered to be used as erosion control.

The topsoil pile identified in Exhibit E Figure 1 Mining Plan Map is a proposed stockpile source. It is left over topsoil material from previous reclamation activities. This topsoil material will need to be processed with mulch and larger grain sizes before placement. It is referenced as “proposed” because the material will need to be re-evaluated before reclamation activities. Additionally, the material could be useful in the future as additive material in topsoil to increase grain size which will help prevent erosion.

3. There is minimal overburden which must be removed to access the sandstone. **Natural, undisturbed** overburden onsite varies in **thickness** from 1”-6”.
4. It is not possible to determine the exact thickness of the deposit, we estimate 3 feet to 15 feet.

5. There are no permanent buildings located at the quarry site. There is one dirt access road. **Exhibit E Figure 1 Mining Plan Map outlines any manmade structures within 200' of permitted area.**
6. Significant disturbances include – quarry benches and waste rock disposal areas. **On August 15, 2005, CDRMS provided approval for release of approximately 0.5 acres from the original mining permit. This area is identified in Exhibit E, Figure 1 under Note 5. The area that was affected was stabilized and reclaimed prior to its release.**
7. No new roads are proposed.
8. No water is used in this operation.
9. There is no ground water or surface water to be encountered by this operation.
10. There are no applicable water laws associated with this operation.
11. No refuse or toxic materials are produced or exposed as a result of the mining operation.
12. The water run-off is minimal due to the gentle slope of the terrain. In the reclaimed area large rocks will be incorporated through out the soil to stabilize the soil and slow any water run-off.
13. The stone is not processed on site.
14. Sandstone is the only commodity quarried at this site.
15. No explosives are used at this site.
16. **There is a seed bed that is inside the permitted area but is not included in the mining permit. This seed bed is not included in the scope of the mining boundaries and will remain undisturbed for the duration of mining operations. The seed bed is staked and flagged around its entire perimeter. Please refer to Exhibit E, Figure 1, Mining Plan Map to get visual boundaries of the seed bed as an undisturbed area. Additionally, mining operations around the seed bed have been found to not be financially productive and, as such, mining operations have moved east.**

EXHIBIT D – Reclamation Plan

1. Overburden will be replaced to depths anywhere from 2 foot to 15 foot, **with a site average of 8.5 feet**, to fill in extraction sites. Due to the open face nature of this quarry, overburden will not be replaced until all extraction is complete in a given area. When an area is completely mined it is backfilled with overburden from a new excavation site. This is an ongoing process which has been in practice for several years.
2. Grade of reclaimed slopes **will be 3H: 1V. Masonville Quarry will consider benching, as needed, to achieve this grade. Terraces outside permitted area are from pre-1986 mining activities. The terraces will remain through reclamation activities. Please review Exhibit E, Figure 1 Reclamation Map Plan for exact location locations of pre-1986 mining disturbances.**

For reclamation of areas around the seed bed, terraces will be used to stabilize the slopes on the north-east side of the seed bed boundary. Mining activities surrounding the seed bed have ceased as the area is not financially productive. The face and cuts surrounding the seed bed will remain as is until reclamation.

3. a) **Topsoil will be placed at a minimum depth of 6 inches. At many locations this will be a greater thickness than what was naturally present onsite prior to mining.**

Any material onsite that is stockpiled that cannot be used for topsoil reclamation will be graded out and used as overburden material for reclamation.

b, c) The following grasses will be planted sometime after January 1 and before April 30, whenever weather permits. No shrubs or forbes will be replanted, as they will reseed themselves naturally. Feedlot manure as fertilizer and mulch (leftover cuttings from state sponsored tree trimming) will be hauled in, **as needed**, and applied at a rate of ½" per acre. Seed will be broadcast and raked. Seed will be applied as follows:

sideoats grama	3.2 lb/acre
streambank wheatgrass	3.3 lb/acre
big bluestem	2.2 lb/acre
yellow indiagrass	1.5 lb/acre

4. **The access roads shown on Exhibit E, Figure 2 Reclamation Plan Map will remain after reclamation.**

5. Rubble piles will be covered with topsoil and manure, and seeded as described in Exhibit D #3 a, b, c, d.

6. Reclamation costs are estimated as follows:

Topsoil @ \$20.00/cubic yard delivered	\$35,000.00 half of soil is stored on site
390 cubic yards / acre	

Seed @ \$176/ acre	\$1760.00
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Fertilizer/mulch (manure)	\$0 provided by local feedlot
@ 67 cubic yards / acre	

Trucking for manure – 55 loads	\$11,550.00
@ 3.5/ mile	

Seeding Labor – 2 people, 1 day	\$200.00
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Backfilling Labor

Grading Labor

Subtotal

5% Office Admin

Total

EXHIBIT E – Site Plan Maps

Two figures are included with this exhibit. They are the Mining Plan Map and the Reclamation Plan Map.

EXHIBIT F – No other permits or licenses need to be obtained for this expansion.

EXHIBIT H – There are no municipalities within a 2 mile radius of this operation.

EXHIBIT L - There are no permanent man-made structures within 200 feet of the affected area.

ATTACHMENT B
MASONVILLE QUARRY'S ORIGINAL 2015
AMENDMENT

EXHIBIT A – Legal Description

The Northwest Quarter of the Southwest Quarter of Section 26, Township 6 North, Range 70 West of the 6th P.M. Except those tracts of land conveyed in Warranty Deeds recorded in Book 1502 at page 447 and in Book 1511 at page 65, County of Larimer, State of Colorado.

EXHIBIT B – Site Description

1. Soils of the area are stony sand loam, sandy loam, and rock outcrop. Vegetation common to the area include grasses such as big bluestem, Griffith wheatgrass, little bluestem, sideoats grama, needle and thread, mountain muhly, prairie junegrass, yellow indiagrass, and blue grama. Shrubs commonly present are fringed sagebrush, skunkbrush, sumac, and mountain mahogany. Many varieties of forbes are commonly found.

EXHIBIT C – Mining Plan

1. Mining is ongoing in the quarry at this time. We do not anticipate ending the quarry operation in the foreseeable future. The end date of the mining is indefinite.
2. Topsoil suitable for plant growth has been salvaged as removed and suitable plant growth is in place to stabilize the pile so it is ready for use in reclamation. Half of the soil will be transported to the site to provide a 1”-6” depth overall.
3. There is minimal overburden which must be removed to access the sandstone. Overburden varies from 1”-6”.
4. It is not possible to determine the exact thickness of the deposit, we estimate 3 foot to 15 foot.
5. There are no permanent buildings located at the quarry site. There is one dirt access road. There are no man made structures within 200 feet of the permit boundaries.
6. Significant disturbances include – quarry benches and waste rock disposal areas.
7. No new roads are proposed.
8. No water is used in this operation.
9. There is no ground water or surface water to be encountered by this operation.
10. There are no applicable water laws associated with this operation.
11. No refuse or toxic materials are produced or exposed as a result of the mining operation.
12. The water run-off is minimal due to the gentle slope of the terrain. In the reclaimed area large rocks will be incorporated through out the soil to stabilize the soil and slow any water run-off.
13. The stone is not processed on site.
14. Sandstone is the only commodity quarried at this site.
15. No explosives are used at this site.

EXHIBIT D – Reclamation Plan

1. Overburden will be replaced to depths anywhere from 2 foot – 15 foot as needed to fill in extraction sites. Due to the open face nature of this quarry, overburden will not be replaced until all extraction is complete in a given area. When an area is completely mined it is backfilled with overburden from a new excavation site. This is an ongoing process which has been in practice for several years.

2. Grade of reclaimed slopes will not exceed 3H: 1V. If any benching is required to achieve this grade, the area will be benched as needed.

3. a) Topsoil will be replaced at a depth of 1” – 6”. This is consistent with existing ground cover.

b, c) The following grasses will be planted sometime after January 1 and before April 30, whenever weather permits. No shrubs or forbes will be replanted, as they will reseed themselves naturally. The seedbed will be disked as needed. Feedlot manure as fertilizer and mulch will be hauled and applied at a rate of ½” per acre. Seed will be broadcast and raked. Seed will be applied as follows:

sideoats grama	3.2 lb/acre
streambank wheatgrass	3.3 lb/acre
big bluestem	2.2 lb/acre
yellow indiagrass	1.5 lb/acre

Masonville Stone Limited Impact (110) Operation Amendment Application
June 6, 2015

4. The access road shown on Exhibit E Map will remain after reclamation.
5. Rubble piles will be covered with topsoil and manure, and seeded as described in Exhibit D #3 a, b, c, d.
6. Reclamation costs are estimated as follows:

Topsoil @ \$20.00/cubic yard delivered	\$35,000.00	half of soil is stored on site
390 cubic yards / acre		

Seed @ \$176/ acre	\$1760.00
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Fertilizer/mulch (manure)	\$0 provided by local feedlot
@ 67 cubic yards / acre	

Trucking for manure – 55 loads	\$11,550.00
@ 3.5/ mile	

Seeding Labor – 2 people, 1 day	\$200.00
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Backfilling Labor

Grading Labor

Subtotal

5% Office Admin

Total

EXHIBIT F – No other permits or licenses need to be obtained for this expansion.

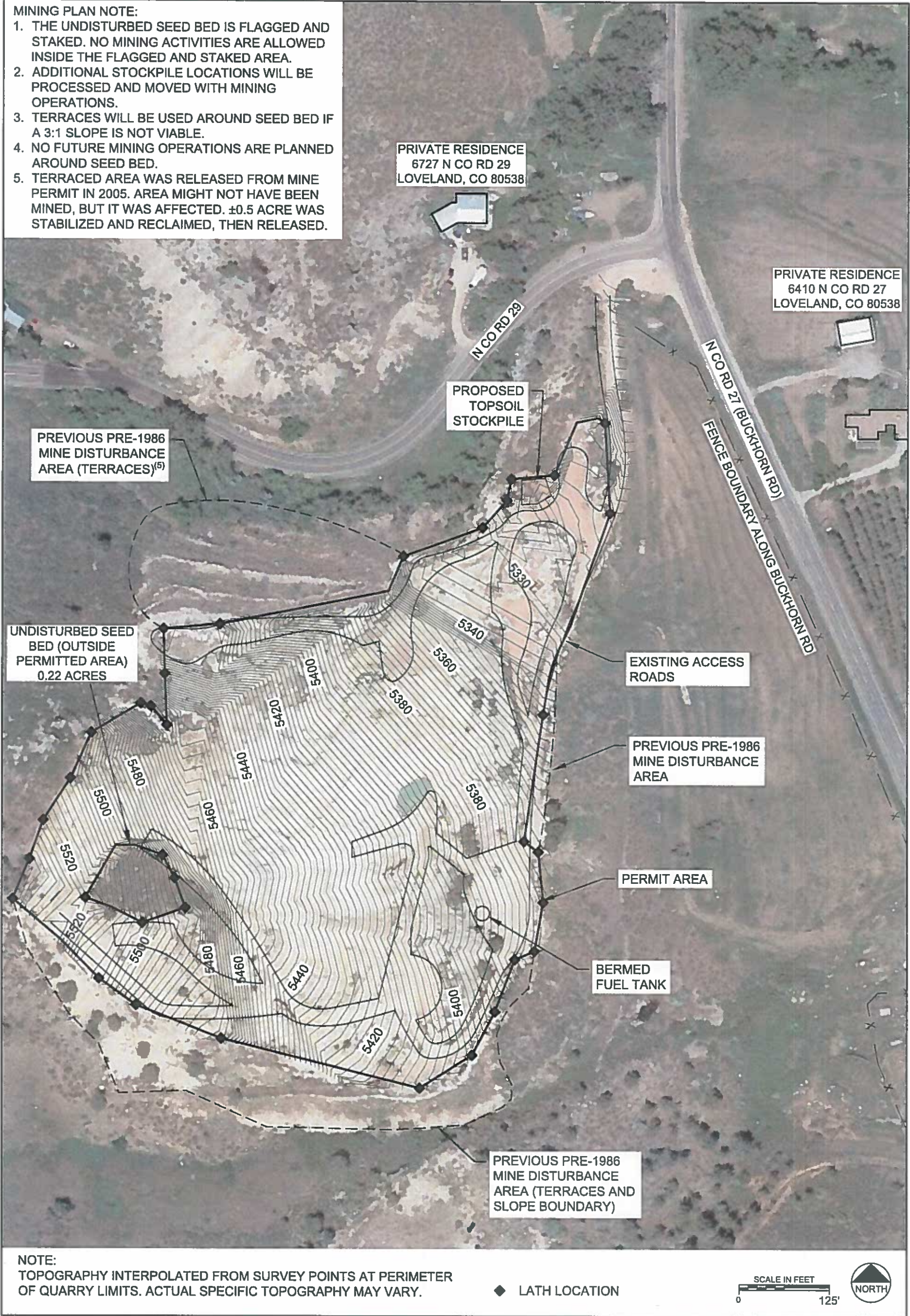
EXHIBIT H – There are no municipalities within a 2 mile radius of this operation.

EXHIBIT L - There are no permanent man-made structures within 200 feet of the affected area.

ATTACHMENT C
EXHIBIT E, FIGURE 1 AND FIGURE 2

MINING PLAN NOTE:

- 1. THE UNDISTURBED SEED BED IS FLAGGED AND STAKED. NO MINING ACTIVITIES ARE ALLOWED INSIDE THE FLAGGED AND STAKED AREA.
- 2. ADDITIONAL STOCKPILE LOCATIONS WILL BE PROCESSED AND MOVED WITH MINING OPERATIONS.
- 3. TERRACES WILL BE USED AROUND SEED BED IF A 3:1 SLOPE IS NOT VIABLE.
- 4. NO FUTURE MINING OPERATIONS ARE PLANNED AROUND SEED BED.
- 5. TERRACED AREA WAS RELEASED FROM MINE PERMIT IN 2005. AREA MIGHT NOT HAVE BEEN MINED, BUT IT WAS AFFECTED. ±0.5 ACRE WAS STABILIZED AND RECLAIMED, THEN RELEASED.



RECLAMATION NOTES:

1. VEGETATION WILL BE ESTABLISHED OVER ALL AREAS IN THE PERMITTED AREA EXCLUDING EXISTING ACCESS ROADS THAT WILL REMAIN AFTER RECLAMATION.
2. ALL TOPSOIL WILL BE REPLACED TO A MINIMUM DEPTH OF 6". THE INTENT IS TO FLATTEN THE RECLAIMED AREA TO LIMIT EROSION.
3. SLOPES WILL BE CONSTRUCTED TO 3H:1V SLOPES. TERRACES WILL BE USED IN AREAS WHERE TERRACES ARE ALREADY CONSTRUCTED.
4. DUE TO THE NATURE OF SURFACE SLOPE INSIDE THE MINING AREA, THE AVERAGE DEPTH OF FILL WILL BE APPROXIMATELY 8.5' WITH AREAS AS SHALLOW AS 2' AND AS DEEP AS 15' WHERE NEEDED.
5. OVERBURDEN WILL BE USED TO CONSTRUCT TERRACES AROUND SEED BED AS NEEDED.



NOTE:
TOPOGRAPHY INTERPOLATED FROM SURVEY POINTS AT PERIMETER
OF QUARRY LIMITS. ACTUAL SPECIFIC TOPOGRAPHY MAY VARY.

◆ LATH LOCATION

SCALE IN FEET
0 100'



Project No. 111451

January 2024

ATTACHMENT D
MINE AND SEED BED BOUNDARY POINTS
INCLUDED IN EXCEL SPREADSHEET

Easting (X)	Northing (Y)	Description
1409791.92	3081694.226	CHK 110
3081447.318	1409209.504	LATH
3081421.342	1409034.042	LATH
3081441.15	1409019.346	LATH
3081447.877	1408949.275	LATH
3081435.936	1408881.945	LATH
3081408.741	1408870.455	LATH
3081380.473	1408795.82	LATH
3081349.796	1408737.653	LATH
3081277.404	1408692.026	LATH
3081003.644	1408760.479	LATH
3080886.036	1408806.674	LATH
3080834.849	1408843.549	LATH
3080782.328	1408897.312	
3080715.934	1408953.508	LATH
3080739.035	1409009.1	LATH
3080758.113	1409062.891	LATH
3080795.631	1409120.434	LATH
3080824.441	1409183.844	LATH
3080892.366	1409224.454	LATH
3080906.311	1409220.445	LATH
3080928.374	1409194.382	LATH
3080925.434	1409265.634	LATH
3080923.507	1409328.047	LATH
3081001.208	1409334.636	LATH
3081233.735	1409380.771	
3081254.184	1409428.852	LATH
3081363.368	1409468.721	LATH
3081397.05	1409506.503	LATH
3081402.905	1409536.282	LATH
3081462.389	1409541.735	0 LATH
3081492.794	1409615.274	INSIDE ROCK
3081522.517	1409621.31	INSIDE ROCK
3081531.957	1409614.281	LATH
3081539.562	1409489.302	LATH
3081496.277	1409366.517	INSIDE ROCK
3081484.949	1409333.501	INSIDE ROCK
3081465.374	1409293.056	INSIDE ROCK
3081459.069	1409275.074	INSIDE ROCK
3081455.44	1409260.631	INSIDE ROCK
3081447.318	1409209.504	CLOSE
3080857.865	1409027.843	
3080883.958	1409028.089	TREE
3080922.701	1409014.551	LATH
3080939.371	1408982.634	LATH

3080954.05	1408941.464	LATH
3080894.68	1408920.524	LATH
3080852.355	1408942.03	
3080816.111	1408955.294	LATH
3080857.865	1409027.843	CLOSE