



STATE OF
COLORADO

Gagnon - DNR, Nikie <nikie.gagnon@state.co.us>

Colorado Gravel LLC Pit M2022053 Third Adequacy Review

1 message

PFM Consulting <pfmconsultingcompany@gmail.com>

Thu, Aug 10, 2023 at 4:41 PM

To: "Gagnon - DNR, Nikie" <nikie.gagnon@state.co.us>

Cc: Ron Peterson <ron@rocktran.com>

Good afternoon, Nikie.

Please see attached the Third Adequacy Review, Updated Reclamation Map, and Updated Mining and Reclamation Plans.

If I have overlooked anything, please let me know and I will get it to you ASAP.

Thank you!

Jodi Schreiber, Owner

PFM Consulting LLC

719-529-0916

pfmconsultingcompany@gmail.com

[PFM Consulting Website](#)

"Success is stumbling from failure to failure with no loss of enthusiasm."

-Winston Churchill

3 attachments



Third Adequacy Review Response 8.7.2023.pdf

103K



Updated DRMS Narrative Pages 8.9.2023.pdf

285K



Reclamation Map R5.pdf

840K



PFM Consulting LLC

Colorado Division of Reclamation, Mining and Safety
Attn: Nikie Gagnon
1313 Sherman Street, Room 215
Denver, CO 80203

RE: Colorado Gravel LLC Pit M2022-053, Third Adequacy Review Response
August 9, 2023

Ms. Gagnon,

Thank you for taking the time to review the Special Operations 112 Reclamation permit package for the Colorado Gravel LLC Pit M2022-053.

1. The total permit boundary is 54.5 acres. Of that, 9 acres will be unaffected and 6.3 will be un-mined. This leaves a total of 39.2 acres for active mining.
2. The actual acreage of total disturbance at any given time is a maximum of 39.2 acres. Of that, only 10 acres will have disturbance that will expose water and need to be backfilled to two feet above water.
3. In reviewing this adequacy item, an error was found in the original mining application. The amount of overburden onsite is not 4-12 inches, but instead approximately 10 feet in depth. I apologize for this oversight. Additionally, 75% of the material mined will be waste material that will not be sold and will be used for backfill. The following is the calculation for the above conditions and show that there is enough material onsite for the reclamation without the need for importation.

Summary of Quantities 8/18/23

Colorado Agg. Pit

30 acres	40' Depth Total Cubic Yards	1,936,000 cy
	10' Overburden	484,000 cy
	30' of Mineable Material	1,452,000 cy
	75% waste	1,089,000 cy
	25% Usable Material	363,000 cy

Backfill of the Pit

	Water level according to well information	16' below natural ground
	Back fill level after mining to 2' above water	
30 acres	14' lower than natural ground	903,466 cy
	Material leaving site	363,000 cy
		<hr/>
		+ 540,466 cy



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4. Please see the enclosed, updated reclamation plans which reflect the change to the slopes of the pond which will be graded from 5 feet above to 10 feet below the expected water line to 3H:1V.
5. Colorado Gravel LLC commits to not mining within 400 feet of the river until a Technical Revision detailing the bank protection measures and inlet/outlet structures that may need to be installed has been approved. Based on this information, 15 acres will be considered unmined at this time and should not be calculated in the backfill quantities. The original backfill quantity calculated above of 363,000 cy would then be 181,500 cy. Waste material and overburden onsite will cover this quantity.
6. Please see calculations in Item #3.
7. Colorado Gravel commits to installing and maintaining a de-watering system behind the wall excavation, maintaining a 3H:1V pit slope at all times within 50 feet of the western edge of the permit area, and a maximum mining depth of 40 feet.
8. The well that will be used is existing onsite. The well will remain following reclamation. Please see the Existing Conditions Map with the well location.
9. The seed mix listed in the adequacy review is not the correct seed mix. Colorado Gravel LLC will use the following. The seed mix is currently being used onsite and will be planted at a rate of 7 pounds per acre.

The Cropland Seed mix would contain Forage Grass, Teff, Sand Jose Wheatgrass, and an Orchard Grass Mixture. Hard Red Winter Wheat may also be an option for this site.
10. Attached is the updated Reclamation Plan Map. The haul road will not be reclaimed following mining operations
11. Colorado Gravel LLC is working with LAWMA to ensure there will be no negative impacts to the nearby wells. After a second review of the operational plans, Colorado Gravel LLC does not believe any negative impact will occur and does not believe a groundwater monitoring plan is warranted. Pre-mining well depths of nearby wells is being ascertained to ensure that if any concerns arise in the future, data is available to answer such concerns.



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If additional information is needed to complete the adequacy review, please let me know and I will get the information submitted for review.

Warm Regards,

Jodi Schreiber

Jodi Schreiber, Owner
PFM Consulting LLC

6.4.4 Exhibit D

Mining Plan

The Colorado Gravel LLC Pit is a new site that will span 54.5 acres. The target gravel source is located beneath limited topsoil and overburden. The primary commodities are sand and gravel. Incidental materials not used for construction material will be used to reconstruct the pit floor and lessen the pit slopes.

The site is made up of mostly Rocky Ford, clay substratum and clay loam, as well as Las clay loam. The target gravel source is located beneath limited topsoil of 0-6 inches and overburden of an additional 10 feet. Topsoil and overburden will be saved for reclamation of the mine site. The stratum beneath the deposit is presumed to be sandstone, shale or conglomerate or a combination thereof. The primary commodities are sand and gravel. Incidental materials not used for construction material will be used to reconstruct the pit floor and lessen the pit slopes.

The life of the proposed operation is speculative due to ever changing economic conditions in the construction industry. If economic demands remain low and extraction is limited to 70,000 tons per year, approximately six acres per year would be mined. At this rate, the life of the mine would extend to approximately 9 years.

Mining will proceed from the southern end of the pit and will move north and east. The residential area noted on the map will not be mined and is located within a non-affected area. Extracted material will be moved to the processing area that is anticipated to be in the southern portion of the pit, denoted on the map. Earthmoving will be accomplished using bulldozers, front end loaders and/or scrapers depending on the depth of plant growth material and overburden. Aggregate will be processed and sized using a crusher and screens. A portable asphalt or concrete batch plant may be onsite as projects warrant.

All plant growth material and topsoil will be salvaged and stockpiled for reclamation use. These stockpiles will be located at the perimeter of the site and posted as reclamation topsoil. Waste rock and overburden will be stockpiled and used to rebuild the pit floor and slopes during reclamation. Overburden perimeter stormwater diversion berms will be constructed as excavation and reclamation progresses. These berms will serve to control erosion and sedimentation from reaching any drainage. Water for dust suppression will be purchased from a local source and hauled onsite.

Bulk storage of fuel and small amounts of lubricants will be stored onsite and will be housed in an earthen berm that will have a capacity of at least 110% of the tanks and containers to be housed.

Mining will develop a gravel pit to a depth of up to 40 feet. Groundwater is expected to be encountered during excavation and mining. Water will be pumped from the facility with surface water onsite not exceeding 10 acres. This water will then be pumped from the mine area to a ditch on the east side of the permit boundary. The water will then flow to the Arkansas River, where it will be discharged at a rate equal to that of the pump. At this time, the rate of that release is unknown. If, after the discharged water tests show that the water needs to be pumped into a settling pond prior to being released into the Arkansas due to the Division of Water Resource requirements, a settling pond will be built in which the water from the mine site will be stored to settle out any solids prior to release. When the pond is constructed along the Arkansas, Colorado Gravel LLC will follow any guidelines given by FEMA and Prowers County for flood protection/bank stability requirements. With operations such as this, recommendations such as placing stockpiles in such a way as to not impede flood waters and fastening to the ground any buoyant objects, i.e. porta potties, is common. We have submitted these two measures, as well as an employee evacuation plan to Prowers County for their approval and incorporation into the Special Use Permit.

The operation will wash material onsite and will utilize water from an adjudicated well onsite. Water will be used with a wash plant to wash sand onsite. Two wash ponds will be constructed and the water will be recirculated for continual use. This operation will consume approximately 20-acre feet of water each year.

No acid or toxic producing materials will be exposed during mining. No explosives will be used in conjunction with mining or reclamation.

The proposed mining operation will consist of an access road from the southwest of the site. The access road will be 40' wide. The Colorado Department of Transportation has granted an Access Permit for this site. It is attached for review and details CDOTs requirements for the road where it intersects State Highway 385, including the drainage structures. All interior haul roads will be temporary and will be reclaimed after the mining has been completed. It is estimated that the life of the pit is 8-10 years and is dependent upon demand.

This is a privately owned site and does not require the State Historic Preservation Office requirements for a cultural or historic study. If the operator encounters any structure of note, the State Historic Preservation Office will be notified.

6.4.5 Exhibit E

Reclamation Plan

Reclamation to agricultural land will occur following mining at the site. A 10-acre pond will remain on the north end of the site using available water shares for augmentation purposes.

Slopes will be returned to a 3H:1V slope or flatter when mining has concluded, thus allowing for reclamation to immediately follow mining as the site progresses. Pond slopes will be no steeper than 3H:1V from 5 feet above to 10 feet below expected static water line. As topsoil, waste rock and overburden are removed from the working face, they will be stockpiled for future reclamation use. Throughout mining, slopes will be maintained at a 3H:1V minimum, except for the active mine face. Waste rock and overburden will be placed on the pit floor as quantity allows. Six inches of topsoil will be replaced on affected surfaces. If necessary, surfaces will be roughened prior to seeding. All materials used for backfilling will be generated from onsite sources. Onsite topsoil will be adequate for reclamation purposes. No importation of materials for reclamation purposes will be necessary. All disturbed areas, including the processing area, will have all stockpiles and mobile equipment removed. The area will be backfilled to a 3H:1V or shallower and the surface will be scarified. Following that, six inches of topsoil will be replaced on affected surfaces and then the site will be reseeded with the forage grass listed above.

Colorado Gravel LLC will use the below seed mix at a rate of 7 PLS per acre. The seed will be drilled at ¼" to ½" in depth and straw mulch will be crimped in.

The Cropland Seed mix would contain Forage Grass, Teff, Sand Jose Wheatgrass, and an Orchard Grass Mixture. Hard Red Winter Wheat may also be an option for this site.

All mining structures, including interior haul roads and stormwater diversion structures, will be reclaimed following all mining operations. All buildings that are brought in for the project are portable control vans and will be removed following reclamation. The home and outbuildings onsite may be removed upon the owner's request as the site develops.

Throughout the mining area, salvageable surface material will be removed and stockpiled for use in final reclamation. Upon commencement of reclamation, the area will be monitored for noxious weeds. Colorado Gravel LLC will implement appropriate methods to manage weed growth and will work with Prowers County Weed Control Program for recommendations in the event noxious weeds develop.

**Colorado Gravel LLC Pit
Reclamation Map Exhibit E**

Map By James Higgs
Colorado Gravel LLC
8/9/23



Notes:
1) The mine will be used as crop land after reclamation.

**Land Owner:
Sharon & Michael
Winters**

**Land Owner: Enstrom
Bristol Properties LLC**

Arkansas River

**Land Owner:
William L
Swafford JR**

**Permit Boundaries
(54.5 acres)**

Grade to drain
Approx. Slope .5%
Grade to drain
Approx. Slope .5%
Grade to drain
Approx. Slope .5%

Finish Grade will be approximately original contours except lowered to have 2' over static water levels

Approx. 4:1 Slope

Approx. 4:1 Slope

Approximate 10 acre pond to remain

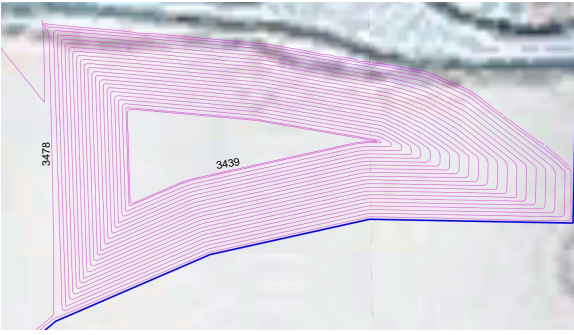
**Land Owner:
KICT LLC
A Delaware LLC**

**Land Owner:
William L
Swafford JR**

Approx. Pit Entrance
38.085911°-102.310627°

Approximate area to be reclaimed

Pond Contour Detail



Scale

600'-0"

Typical Section

Approx. 6" of Topsoil
Approx. 6" of overburden
General Back Fill

**Land Owner: KICT LLC
A Delaware LLC**

**Land Owner: GP Irrigation
Farms LLC
A CO LLC**

North Granada Ditch