



March 30, 2022

Via Electronic Mail

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

Subject: Loveland Ready-Mix Concrete, Inc., Green/Croissant Property Sand and Gravel Mine, File No. M-2001-022, Cell 4 Reclamation Slope Evaluation Review

Dear Mr. Hays:

On behalf of Loveland Ready-Mix Concrete, Inc. (LRM), Telesto submits the attached letter report (Version 2) update to our evaluation of the slopes at LRM's Green/Croissant Cell 4. We appreciate you taking the time for thorough review. It appears the largest issues that the Division had with our evaluation was: 1) our mis-interpretation of Rule 3.1.5(7) regarding where slope changes occur in relation to pond water level, and 2) not comparing slopes to LRM's approved reclamation plan. Version 2 of our report corrects both items.

The result is that there is one small area between Zones 25b and 26c, where the current average slopes are steeper than the reclamation plan (2.86H:1V and 2.89H:1V, respectively), very near to the reclamation plan slopes of 3H:1V. Evidence supports that LRM built these slopes at reclamation grade, and they have since changed due to a high groundwater table and shore erosion. Inspection indicates that they are stable. From Rule 3.1.5(7), it appears that the office can grant a waiver of this area, which we humbly request on LRM's behalf should the Division disagree that LRM did not initially construct them at reclamation grade.

The following are specific answers/responses to your questions raised in your letter dated February 3, 2022. Division comments are in italics followed by our response/answers.

Comment 1

On page 3 of the report, the report states, Sheet 1 shows the results of the 38 cross sections evaluated and all show compliance with Rule 3.1.5(7). The Telesto evaluation presents the slopes below the waterline are acceptable at a 2H:1V grade. The Telesto evaluation is incorrect since the Rule requires slopes of 3H:1V ten (10) feet below the expected waterline, not at the waterline. Additionally, the 2H:1V slopes below the waterline are not

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in compliance with the approved Reclamation Plan, which requires slopes of 3H:1V from the top of the bank to the pit floor.

Response 1

Telesto revised the analysis to examine the slope 10 feet below and 5 feet above the waterline, and also to consider the approved reclamation plan, and calculated the overall slope from top of bank to the pit floor. In addition to the visual evaluation presented on the cross section, we included a table of slope calculation results for clarity.

Comment 2

The Sheet No. 1 map submitted with the report is labeled as “draft”. The Division does not review draft copies of maps. Please provide a final copy of the map for Division review.

Response 2

We appreciate your comments and preliminary review despite the document being labeled as draft. This was an oversight on our part as the document was no-longer draft. We have removed the draft mark on the sheets and updated the versioning numbers to reflect the update.

Comment 3

The Sheet No. 1 map submitted with the report shows the required slopes to be 2H:1V below the waterline and 3H:1V above the waterline. As stated above, the 2H:1V slopes below the waterline are not in compliance with the approved Reclamation Plan or Rule 3.1.5(7). Please explain this discrepancy and revise the map accordingly

Response 3

We have updated Sheet 1 consistent with the correct interpretation of the Rule and consistent with LRM’s reclamation plan.

Comment 4

The Sheet No. 2 map submitted with the report is labeled as “draft”. The Division does not review draft copies of maps. Please provide a final copy of the map for Division review.

Response 4

We have removed draft from Sheet 2 and revised the revisioning text to reflect the analysis update.

Comment 5

The Sheet No. 2 map submitted with the report shows the required slopes to be 2H:1V below the waterline and 3H:1V above the waterline. As stated above, the 2H:1V slopes below the water line are not in compliance with the approved Reclamation Plan or Rule 3.1.5(7). Please explain this discrepancy and revise the map accordingly.

Response 5

We have updated Sheet 2 consistent with the correct interpretation of the Rule and consistent with LRM's reclamation plan.

Comment 6

For Zones 9, 20, 25, 26 and part of 27 the report states the following:

- a. Zone 9: Both sections (Zone 9a and Zone 9b) show slopes at or shallower than 3H:1V for 15 feet horizontally from water's edge, and flatter below the water surface. The Division agrees the slope appears to be 3H:1V and in compliance above the waterline. The Division does not agree the slope below the waterline complies with the requirements of the approved Reclamation Plan. Please explain the comment that the slopes below the waterline are flatter.*
- b. Zone 20: Both sections (Zone 20a and 20b) show slope compliance because the average slopes 15 feet and 20 feet horizontally from water's edge (above and below water level, respectively) are shallower than Rule 3.1.5(7) requirements. The Division agrees the slope appears to be 3H:1V and in compliance above the waterline. The Division does not agree the slope below the waterline complies with the requirements of the approved Reclamation Plan.*
- c. Zone 25: Section Zone 25a is shallower than the Rule requirement. Section Zone 25b averages 3H:1V for 15 feet from the water's edge. The Division agrees the slope appears to be 3H:1V and in compliance above the waterline. The Division does not agree the slope below the waterline complies with the requirements of the approved Reclamation Plan.*

- d. *Zone 26: Above the water level, both sections show the slopes are gentler than Rule requirements. Below the water level, the average slopes are at the requirement. The Division agrees the slope appears to be 3H:1V and in compliance above the waterline with the exception of the typical shoreline erosion area. The Division does not agree the slope below the waterline complies with the requirements of the approved Reclamation Plan.*
- e. *Part of Zone 27: Meets average reclamation slopes. The Division agrees the slope appears to be 3H:1V and in compliance above the waterline with the exception of the typical shoreline erosion area. The Division does not agree the slope below the waterline complies with the requirements of the approved Reclamation Plan.*

Response 6

Table 1 in the Version 2 report summarizes evaluations on several cross sections for zones 9, 20, 25, 26 and part of 27. All show compliance with LRM's reclamation plan slope of 3H:1V with the exception of the small parts of Zones 25 and 26 described in the introduction of this letter. The overall slopes in these areas are 2.86H:1V and 2.89H:1V, respectively.

Comment 7

On Page 4 of the report, the report states the strict interpretation of Rule 3.1.5(7) leads one to look at slopes from the point where water meets the bank (i.e. water's edge). The approved Reclamation Plan requires slopes of 3H:1V from the top of the bank to the pit floor. The Division does not agree with the reports interpretation of Rule 3.1.5(7).

Response 7

We have updated the analysis to be consistent with the Divisions interpretation of the reclamation requirements for Cell 4.

Comment 8

On Page 4 of the report, the report states the slopes were evaluated at 3V:1H and 2V:1H. The slope evaluation is inverse of the required sloping of horizontal to vertical. Please explain why the slopes were evaluated inverse of the typical grading standard. Additionally, the approved Reclamation Plan requires slopes of 3H:1V from the top of the bank to the pit floor, so evaluating the slopes below the waterline at 2H:1V is not valid.

Response 8

We have corrected the typo in the revision and corrected our mis-interpretation of the Rule.

Comment 9

The cross sections for Zone 25 on Sheet 1 and Sheet 2 are different. Please explain this discrepancy and revise the maps accordingly.

Response 9

Our intent for the cross section in Sheet 2 was for it to be placed near a King cross-section that showed their “average” slope representation of 48.5%. We have updated the label of the Zone 25 section in Sheet 2 to reflect that it is different (Zone 25-c) from the sections in Sheet 1 (Zones 25-a, and 25-b). Also note, we have corrected Figures 3 and 4 which labeled the King survey slope at 4.85H:1V, which should have read 48.5%.

Comment: Conclusion

The Division will require the Operator to validate the results of the Telesto report or resurvey the Cell 4 slopes to determine if the reclaimed slopes are in compliance with the 3H:1V grading requirement of the approved Reclamation Plan. The Division will require the Operator to regrade the slope above and below the waterline to the required grading, not just the slope above the waterline.

Response: Conclusion

Version 2 of the slope evaluation corrects the reclamation requirements and validates the conclusions that the slopes meet the requirement of LRM's reclamation plan. As described previously, the small are of Zones 25 and 26 are close to reclamation slope and if the Division believes that these slope (2.84H:1V and 2.89H:1V) are not within an acceptable variability, LRM requests the Division grant a waiver. To reclaim these slopes would ruin existing vegetation and remove part of the access road to the property.

Thank you again for your review and consideration in this matter.

Sincerely,
Telesto Solutions, Inc.



Walter L. Niccoli, PE
Principal/Senior Engineer

WLN:
Enclosure