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July 22, 2025

Ms. Nikie Gagnon
Division of Reclamation, Mining & Safety
1313 Sherman St., #215
Denver, CO 80215

Dear Nikie;

RE: L.G. Everist, Inc.
Fort Lupton Sand and Gravel, Permit # M-1999-120
Adequacy Response #3

On behalf of my client L.G. Everist, Inc., I will respond to your February 5, 2025 and February 7, 2025, adequacy review letters, as needed, in the order and number format presented in those documents. We have copied each inquiry into this document for ease of review. I'm not sure what made me ignore the second page of the Adequacy Review #2 but I will address them this time.

In recent phone conversations the Division advised us that they will no longer accept graveling the reservoir slopes from the top of the bank to the reservoir water line. We have revised the Mining and Reclamation plans to reflect this new requirement. We will be graveling the areas on the flats surrounding the Reservoirs and soiling and seeding the area from the top of the bank to the high water line. Attached are redline copies of the pages revised for ease of review, a revised Reclamation Plan Map, and revised Exhibit L.

6.4.4 Exhibit D - Mining Plan

7. River Setback and Bank Armoring.

7a. DRMS Additional Comment

In the adequacy response, the applicant is proposing a 250-foot setback from the top of the riverbank during mining that will be backfilled to 300 feet during slope reclamation. The Division requires that the "Floodplain Protection Standards for Sand and Gravel Pits Adjacent to Rivers and Perennial Streams"

(February 2024) be applied, both during and after the mining operation and during reclamation, to limit impacts during flooding events and reduce the possibility of stream capture. Therefore, please revise the exhibits, both text and maps, to incorporate a 300-foot setback from the top of the riverbank to the top of the pit side bank during all phases of mining and reclamation.

Where armoring is needed in the Northeast #1 and Northeast #2 Stages mining will stay 300 feet from the riverbank. From the top of slope, the banks will be backfilled, graded and armored as discussed in the revised Mining and Reclamation Plans. Full copies of revised **Exhibit D-Mining Plan** & **Exhibit E - Reclamation Plan** are attached. Redline copies are also supplied so you can easily review the areas where the revisions were made.

The Division acknowledges that in the area of the Parker #4 phase on the south end of the permit area, the riverbank is armored, and a 250-foot setback from riverbank to the top of the mining/reservoir slope is appropriate.

Thank you for the acknowledgment regarding the 250-foot setback for the Parker #4 phase, since the riverbank is armored.

6.4.7 Exhibit G - Water Information

- 10a. The model prepared by Schnable Engineering does not include the recently installed French drain on the west side of the NCCI pit, adjacent to the Northwest area. Will the drain change the modeled predictions? If so, please revise the groundwater study to include this drain.

The groundwater study has been revised to cover a much larger area and to include the NCCI drain and the areas surrounding the Northwest and Southern areas. Please refer to the groundwater study for details on the exact area modeled.

- 10b. The model shows a minimum depth to groundwater of four feet and predicts up to 4 feet of mounding upgradient of the slurry wall. The operator proposes to install a drain if the depth to groundwater, following the construction of the slurry wall, approaches three feet below the surface. Please update the groundwater study include an evaluation of the potential impacts from groundwater changes to property and structures adjacent to the Northeast area. This includes homes and outbuildings, wells, agricultural fields, CR 25, and the horse property and track on the north side of the proposed mine.

Figure #7 shows that there would be very little change in the ground water elevation along the west and north sides of the NCCI Pit and the Northeast Phases. If that is the case, there would be no impacts to the homes and outbuildings, wells, agricultural

fields, CR 25, and the horse property and track on the north side of the proposed mine. LGE will continue checking groundwater levels, and if monthly monitoring indicates the ground water level reaches to within 3 feet of the surface, LGE will pursue a remedy to keep it below 3 feet. This may include installing a groundwater drain in the location as this report suggests.

- 10c. In the comment letter from the Division of Water Resources, they state that the design of lined gravel pits should ensure that they will not individually or cumulatively result in impacts to the timing and quantity of groundwater flow from upgradient locations back to the stream system. Since the operator is not proposing to install a drain at this time, please respond to this comment Ft. Lupton Sand and Gravel Mine and specifically discuss how the timing and quantity of groundwater flow will be affected by the proposed slurry walls in the Northeast and Northwest areas.

The attached report contains information addressing the DWR comments.

DRMS Adequacy Letter 2 from DRMS Engineering 2/7/2025

In the adequacy response, the applicant did not provide answers to the questions on the second page of Adequacy Letter 2. Please respond to the following.

We apologize. We accidentally missed the second page of the Adequacy Review #2. Responses to those missed questions are addressed in this response.

6. The design drawing for the Bank Armoring Plan (Figure 1) does not include a geotextile material or granular filter under the armoring material. Please explain why this standard practice is excluded from the design.

When designing the armoring plan we used the UDFCD (now MHFCD) Technical Review Guideline For Gravel Mining & Water Storage Activities (January 2013) manual armoring design criteria, Section 2.4 Pit Side Bank Protection beginning on page 15. There is no mention of using a geotextile under the armoring. A granular filter is not needed since the banks of the reservoirs are natural gravel which serves as a granular filter. The armoring Plan says "After the larger material is placed fines will be mixed in to fill voids"@, This is a commitment to filling the voids between the armoring material with dirty gravel (pit-run) to reduce or eliminate erosion and slow water infiltration thru the larger rip rap..

7. More detail is needed to explain the calculations on page 114. a. How was the hydraulic radius R value) determined, and is it associated with a return event, such as the 100-year event? b. What is the source for the S value of 2.4? c. What is the source for the value of 35 degrees for the angle of repose? d. The S value is defined as "face slope of pit side bank." Is that terminology accurate?
- a. In 2020 we discussed how to determine the R value for the calculation with Mr. Tim Cazier, PE of the DRMS staff. He provided the explanation that **"the hydraulic radius asymptotically approaches the flow depth as the channel widens."** In this case the channel width is the length of the smallest rip rap face, over 900 feet long. He suggested just using the flow depth, 2.0 ft. This was obtained from a Drainage Study showing 100-year flood elevation over the armoring area.
- b. S_s is defined as the *Specific Gravity of riprap particles*. Or the ratios of the weight of 1 cubic foot of concrete to 1 cubic foot of water. The Federal Highway Administration Publication # FHWA-RD-97-148, Table 14-1 lists the SG of Concrete - coarse particles, as being between 2.2 and 2.5. Since we are using average 12" pieces, we used 2.4.
- c. The MHFCD guidelines define it as " ϕ =angle of repose of pit side bank construction material, in degrees" This is the angle of repose for the D50 concrete rubble as if it were piled into one big pile. This was an average measurement obtained from piles of concrete rubble stored at other mines LGE operates. $35^\circ = 1.4h$ to $1v$.
- d. That is the terminology used by the MHFCD Guidelines, think of this being the slope of the of the bank along a horizontal plane from south to north. In this case the average was measured as a 1% slope (1ft/100ft).
8. On Map C-1, Plan B has no illustration of armoring. Please revise this map or explain why that illustration is excluded.

The inset for Option B was to illustrate the potential configuration of the reservoir areas if some of the intervening structures were removed. The final sloping, grading, shaping and reclamation of the reservoir perimeters remain the same as shown on the larger scale map. I added the armoring to the Northeast Stages but they do not show much detail due to the scale. I also added a note to the inset explaining that the reclamation methods explained in Exhibit E will be followed if Option B is used.

New Adequacy Comments
Exhibit G – Water Information

1. In Exhibit G Groundwater Monitoring Plan, page 30, the operator states water level measurements are made in monitoring wells at least once every three months (quarterly, and usually monthly). Additionally, on page 30, LG Everist commits to obtaining water quality samples on a quarterly basis for five quarters prior to exposing water during mining to establish baseline conditions, while subsequent water quality data, *obtained annually*, will be compared to the baseline data to assess water quality variation.

On page 29 (not 30), Section 3.1 (paragraph 1) – the language on frequency of water level measurements has been corrected.

Groundwater level monitoring is done on a monthly basis and will continue until an area is released.

On page 30, Section 3.2 (paragraph 3) – the phrase "obtained annually" has been deleted, and additional language was added to specify that any groundwater monitoring plan modifications will only be done through the DRMS Technical Revision process.

The final quarter's baseline data was collected in the First Quarter 2025 and is being processed for the final report at this time. I also revised the Exhibit G2n – Monitoring Wells map to correct locations of 3 wells.

Per the attached 2024 DRMS Groundwater Monitoring Sampling and Analysis Plan Guidance for Construction Materials, baseline sampling must be sufficient to allow the Division to assess the impacts of the future mining operation on the prevailing hydrologic balance. Groundwater level data for all monitoring wells should be collected monthly and groundwater quality should be collected quarterly. Once site groundwater characterization commences, it will be required that groundwater monitoring will continue for the life of mine. Any modifications to the approved water monitoring plan must be made through the technical revision process with appropriate justification provided by the operator. Water quality sampling frequency will not be reduced to less than a minimum of twice yearly (high flow and low flow data with a collection interval of 5-7 months).

Thank you for the information, groundwater level monitoring data has been gathered monthly, and supplied yearly with the DRMS Annual Report since 2015. The groundwater level monitoring and annual reporting will continue until the site is released from the DRMS permit. LGE understands that a Technical Revision will be required to make any changes to the proposed Water Quality Monitoring Plan.

Please revise the monitoring plan to state that water levels will be collected monthly, and water quality samples will be collected quarterly to establish baseline conditions. A Technical revision will be required to reduce the sampling frequency.

Please find a copy of the revised monitoring plan that shows that water level monitoring will continue monthly and a TR will be filed to revise the water quality monitoring plan if our consultant advises that a change will be appropriate.

Additionally, a commitment should be made as to how the monitoring data will be reported to the Division. The groundwater monitoring report will include:

- Tabulated data for all parameters
- Graphs/plots for selected parameters
- A narrative analysis of the data, with trends and anomalies identified
- A comparison of the observed data to the predictions and to the groundwater quality standards

The baseline water quality report will follow the guidelines in the list you have provided.

Exhibit L – Reclamation costs

2. The Division reviewed the cost estimate included in Exhibit L. The estimate does not appear to include the construction of the four slurry walls, grading, topsoiling, and seeding in the Amendment 3 area. Specifically, Table L3, page 88, does not describe the reclamation activity for the Northeast or Northwest areas. Please revise Exhibit L to include the reclamation costs for the Northwest and Northeast areas and resubmit the exhibit to the Division for review. Note, If the Northwest or Northeast areas will be disturbed prior to the release of other mining phases in the existing permit listed on Table L3, the currently held bond cannot be applied to new disturbances to keep the bond at the current level, as suggested at the bottom of page 94.aa

Attached is a revised **Exhibit L – Reclamation Cost Estimate** which incorporates the new information needed to add the cost of the Northeast #1 Phase to the estimate. Page 94 is now page 93 in this revised Reclamation Cost Estimate and 4 Pages of tables, one for each Phase were added. I also updated some of the unit costs and numbered the Tasks to match page 94. I have prepared a current conditions cost estimate for each of the 8 phases in the northern part of the permit area. Tables L1n thru L8n are the estimated work needed to reclaim the existing Phases including the Northeast #1 that will be the first to be disturbed of the Amendment areas. Tables 9n, 10n and 11n show the total reclamation costs for the remaining Phases in the amendment area and are provided for future use. Table L3 was updated to add the infor-

mation for the Northeast #1 phase and these numbers were used to update on the recap sheet, Page 93.

LIST OF ATTACHMENTS TO THIS RESPONSE:

Exhibit C-1 - Mining Plan Map revised
Exhibit D - Mining Plan revised
Exhibit E - Reclamation Plan revised
Exhibit F - Reclamation Plan Map Revised
Exhibit G2n - Monitoring Wells map
Exhibit L - Reclamation Cost Estimate revised
Groundwater Model dated revised 7/18/2025
Water Quality Monitoring Plan Revised 6/9/2025
Bank Armoring Plan - revised

I hope these responses have addressed the adequacy questions you had. I will place a copy of this packet with the Weld County Clerks' office as required and send you a copy fo the proof of placement. If you have any questions please call me.

Sincerely,
Environment, Inc



Stevan L. O'Brian
President

cc L.G. Everist, Inc.
Weld County Clerk
file

enclosures

Existing Conditions.

The methods described and approved in the original mining and reclamation plans for the Fort Lupton Sand and Gravel Mine (FLS&G) 1999 permit, and the 2012 amendment applications will remain unchanged unless discussed in this text. The Mining Plan described in the 2004 amendment will continue be used with the only change being the direction of mining. The other change is that mining will continue to the north into the newly added areas before moving to the southern end of the permit area.

The future intent is to eventually remove the southern area from this permit into a new application that is being prepared. Map Exhibits C-Current Conditions, C-1-Mining Plan, C-2-Structures and F-Reclamation Plan have been provided in this packet.

In the 2012 amendment, LGE combined the Fort Lupton Sand and Gravel Mine (M-1999-120) with the Lupton Meadows Reservoir (M-2002-104) and added 7 parcels north, south and west of the existing mines. From that time until 2023 the mining Phases in the middle of the permit area have been mined and reclaimed. The area that has been released has created a 2-part mine as shown on the maps.

The two (2) new areas to the permit boundary will increase the permit area by approximately 202.26 acres \pm . **EXHIBIT C - CURRENT CONDITIONS MAP** shows the area being added to the permit and will reflect any changes to the Mining and Reclamation Plan in the existing area. There is very little change to the south area reclamation plan for the existing area except some of the oil and gas facilities have been removed which will allow for an expansion of some of the future reservoirs shapes.

Nineteen of the twenty mined areas shown on the maps will be slurry wall lined and developed as a series of water storage reservoirs ranging from 10.26 to 70.00 acres \pm . The exceptions are the Deep Lake Phase that will be reclaimed as a pond and the southern end of the Sandstead Phase that will be backfilled with fines 2 feet above ground water and revegetated. The north end of the Sandstead Phase may become a lined reservoir. **TABLE D-1 - MINING TIMETABLE** on Page [9](#) is a list of the mining phases that will be referred to in the following text. This timetable has been updated to reflect changes to existing Phases. **EXHIBIT B - VICINITY MAP** shows the parcels that will be added while the Mining and Reclamation Plan Maps show how the site will be developed.

The total number of phases added to the Fort Lupton Sand & Gravel Mine is four and the new area will add approximately 7-15 years to the life to the mine. It is estimated by adding the new area, along with remaining reserves, that the life of the mine will be from 15 to 25 more years. This life span is subject to fluctuation depending on market conditions.

The current bond for Ft. Lupton S&G is \$2,002,400.00. The bonds include surety for 20,134 feet of slurry wall and construction of 16,650 feet of bank sloping. At this time the applicant has a contract with the City of Aurora to develop 5 water storage reservoirs on the northern parcels of the property. This includes 256.59 acres of the existing permit area, south of Weld

County Road 18. The Sandstead Phase, the new north areas as well as the southern area, will be marketed by L.G. Everist, Inc. as they are developed.

The areas being added have been used primarily as agricultural land. The Northwest Phase is broken into 3 use areas, farm yard with a house, wetland/creek area and agricultural production. The house will be removed prior to mining. Mining will take place on the yard and agricultural area in this Phase. The Northeast Phases are mostly grass land with 2 irrigation ditches crossing the site and a small farm yard near the northwest corner. LGE will maintain 50 foot setbacks along the diagonal ditch corridor that has the Meadow Island #1 and the east lateral of the Lupton Bottoms Ditch. If practical, the north/south leg of the Lupton Bottoms ditch will be moved to the east side of Northeast Phase #3 so it can be combined with Northeast Phase #2 as shown in **Option B**.

The applicant will bond the amended property in phases, and wishes to retain the option to seal each reservoir with either a slurry wall or a compacted liner, until just prior to bonding that particular phase. At the current time, slurry walls have been constructed around the active mining areas and the reservoir slopes are built by backfilling and grading or are in the process of being completed. **TABLE D-1 - MINING TIMETABLE** has a current list of all certified liners or lined areas being tested.

At any given time, mining and reclamation may be occurring in one or more bonded phases to accommodate blending of materials and relocation of the processing plant and settling ponds. There will be times when reclamation is being completed in one phase while mining begins in another phase. Mining will progress from the existing permit area into the Northeast Phases then move to the Northwest Phase leaving the Ft Lupton West Phase as the last area to be mined. The arrows on the **EXHIBIT C-1 - MINING PLAN MAP** show how mining will progress through the mine area at this time. The order of mining in the south area will start on the west side and mine to the east jumping from Phase to Phase. The last area to be mined will be the future Plant Site area, see Exhibit C-1 - Mining Plan Map.

Optional Mining and Reclamation Plans.

Due to the constantly expanding and changing development nature of the oil and gas and other utility operations in this area, L.G. Everist is submitting these Optional Mining and Reclamation Plans with this amendment to guarantee the flexibility to make changes to mining areas and reservoir shapes throughout the life of the mine. During the current run of mining and reclamation we have seen many changes to the Oil and Gas (O&G) facilities that are reflected on the current version of the maps and mining areas. We continue to stay abreast of, and in contact with, the oil and gas and utility companies about future structure and easement changes, including plans to relocate some of their facilities, plans to remove some of the older wells and facilities, and plans for oil and gas companies to add new structures as their permitting allows.

For example, between 2012 and 2024 many of the wells and facilities on the south area have been removed and the reservoir areas adjusted to show those changes. Many additional changes are expected in the future similar to this example.

As mining progresses through the mine and into a new area it may be to our advantage - or we may be required by law to allow oil and gas companies or ditch companies to exercise their rights - to revise the shapes of the reservoirs due to changes to their facilities, gaslines, wells or drilling pads or ditches. These changes may affect reservoir shapes, combine or split reservoirs, add or subtract oil and gas operations areas, gas lines, easements, etc.

Therefore, we are presenting these optional plans to cover the possibilities with the understanding that the mining and reclamation methods will remain unchanged, but the configurations and areas of the mined and reclaimed areas may change.

Optional Mining Plan.

Option A - The mining areas shown on the large map on **EXHIBIT C-1 MINING PLAN MAP** is Option A. This option shows the most conservative (and current) mining plan and it assumes no further changes to the location of ditches, oil and gas wells, gas lines or facilities before mining ends.

Option B - The smaller map inset in the upper corner is Option B and is a more optimistic plan showing removal or relocation of numerous wells, gaslines and facilities to allow removal of more gravel and increase the amount of water storage on the site. For Option B, the South Area remains as originally planned in 2012 but the new north area may have the ditch moved between Northeast Phases #2 and #3 to create one large reservoir.

Mining Methods overview

The working face will be mined near vertical to maximize removal of material from the mine. At the widest point, the longest working face will be approximately 1,700 feet long. If mining ended prematurely, this slope will be reclaimed using a cut/fill sloping method instead of backfilling. As mining reaches a setback limit, backfilling will commence within 3 to 6 months maximum so as to leave a 3:1 slope along the mine exterior, oil and gas facilities and the ditches. No more than 2,000 linear feet of side slope highwall area will need backfilling at any-one-time. This can be done because we plan to start backfill sloping whenever a new area is stripped so the material only has to be handled once.

The mining setbacks will vary from 15 to 275 feet from the permit boundaries, structures and river as allowed by each use agreement of geotechnical analysis for said structures. No mining will be done in the setback areas but they may be disturbed as mining and reclamation progresses thru a phase. For example, around oil/gas wells we will maintain an eighty (80) foot radius around each well head when mining, but leave a 150 foot radius when reclamation is complete. **EXHIBIT C-1 - MINING PLAN MAP** shows how this will look.

Around the rest of the mine, the setback line will be to the outer edge of the slurry wall or the top of the excavation limits. The temporary topsoil stockpiles placed within the setbacks will also limit noise and visual impacts to off site areas. In some cases, the setbacks will be used as a place for roads to access the mine exterior, ditches and access for the oil and gas facilities. The setback areas will be reclaimed if disturbed.

The following information is a recap of the methods currently used at the mine and will continue to be used as mining progresses through the areas added by this amendment. This mine will be operated as a dry-mine. Slurry walls will be constructed to the Division of Water Resources specifications around the perimeter of each additional mine area prior to commencement of mining in the new phases. This isolates each mining area from the surrounding groundwater table and allows for dry-mining of each mine area. However, if a slurry wall is not feasible, the Applicant will utilize a compacted liner to seal the reservoir areas for the end use as water storage. Design of the liner will follow the Division of Water Resources Guidelines also. Slurry wall design documents were submitted and deemed adequate to the Division in 1999. Slurry walls installed using this design have been constructed successfully on the 5 lined areas currently complete (and the 6 already released from the permit).

Additional monitoring wells have been installed along the western, eastern, and northern sides of the new areas in the amendment area. Ground water monitoring, and ground water quality testing plans are included in **EXHIBIT G - WATER** for the amendment areas.

Prior to mining moving into those areas just north of WCR 14.5, the Plant Site will be moved to the Parker #4 Phase in the southern area, adjacent to the access road that now serves the agricultural areas.

Mining operations within each new phase area will include topsoil and overburden stripping, and excavation of dewatering trenches, and settling ponds. Raw materials will be excavated with excavators, front-end loaders, scrapers and/or bulldozers. As areas are cleared and stripped, previously mined slopes will receive backfill material to establish the permanent design side slopes. A conveyor is used to transport the raw material from the areas north of WCR 18 to the Plant Site in the existing mine. Explosives will not be used at this operation.

The reservoir access roads will be placed in the 25 foot wide setback between the slurry wall and the top of the slope into the reservoir. The disturbed areas from the setback line to the top of bank armoring, will be left as a gravel surface instead of being resoiled and seeded. The slope area between the top of slope and highwater line will be resoiled and revegetated. Adequate amounts of the stripped topsoil and overburden will be stockpiled for later use in reclamation in the areas that will be seeded. Topsoil and overburden stripped from subsequent mine areas may be placed directly on the seed bed in previous mine areas so it only has to be handled once and the disturbed areas will be concurrently reclaimed. The exact location of topsoil and

overburden piles are unknown at this time, so we have shown the approximate location on **EXHIBIT C-1 - MINE PLAN MAPS**.

Mining within each phase will begin once topsoil and overburden has been removed from that phase area. Excavated materials (pit run) will be removed via front-end loaders, or excavators and may be loaded onto a field conveyor and transported back to the processing plant, or loaded into off-road haul trucks for transport to the plant site. Mined slopes will range from near vertical to 0.5:1, or as required by the Slope Stability Analysis and Setback Agreements (see **EXHIBIT S - STRUCTURES** from the 2004 submittal (included in this packet)).

As soon as mining limits have been reached in one phase area, reclamation of the pit edges within that phase area will begin. This will allow for concurrent backfilling of the pit perimeter with previously stripped overburden and/or material stripped from the next phase area to be mined. Access roads built during slurry wall construction and mining will be left as access roads around the reservoirs or for access to oil and gas wells on the site.

Slurry walls have been installed around Swingle North, Swingle South, Ft. Lupton West, Parker-Panowicz and the Blue Ribbon Phases. Testing is complete and certified for all but Blue Ribbon and Swingle South. A slurry wall is planned for the small lake on the north end of Sandstead. We anticipate slurry wall construction will begin soon after permit approval on the North-east Phases.

River setback and Bank armoring

The only place the South Platte River is within 400 feet of the mining area is along the east sides of Northeast Phases #1 & #3 in the amendment area and along the east side for the Parker #4 Phase in the south area. Along these stretches the slurry wall will be installed at least 200 feet from the edge of the river bank. Along the South Platte River in Northeast Phases 1 and 3, mining will take place within 300 feet of the river bank and the bank slopes will be backfilled to 3:1. In the Parker #4 Phase the mining limit will be 70 feet west of the Lupton Bottoms Ditch and the bank will be rebuilt so the top of the slope into the reservoir area will be 250 feet from the top of the river bank. This will be done by backfilling from the ½h:1v mining face to the top-of-slope (TOS) line using shale and other quality-tested compactible material from the floor of the mined area.

On the working face of non river side banks no more than 1,700 feet of ½:1 cut/fill sloping and 2,000 feet of ½:1 backfill sloping in any one phase will be needed and no more than 2000 feet will need armoring. Armoring will be done, using the technique, and materials described in the **BANK ARMORING PLAN** in the **APPENDIX** of this application packet.

Water Diversions and Impoundments

The entire site will be graded in phases to direct storm-water runoff towards interior ditches and dewatering systems. A CDPS permit for the existing mine operations is in place from the Colorado Department of Public Health and Environment (CDPHE) for

Overview

Unless specifically discussed below, the methods described and approved in the original Reclamation Plan will remain unchanged. This will remain a dry mining operation. All of the map exhibits have been presented on 2 sheets labeled North area and South area for easier review. When referring to a map exhibit it is inferred that both should be reviewed. **EXHIBITS C - CURRENT CONDITIONS MAP** show the current permit area and the area being added to the permit.

The current post mining land uses are listed as developed water storage surrounded by access roads, gravel surface areas and revegetated areas. The following information makes change to the reclamation around the reservoirs. The plan is to reduce the resoiling and revegetating. Instead of revegetating to the water line, a gravel surface will be created from the mine setbacks to the top of slope around the reservoirs. Resoiling and revegetation will be done from the tops of slope to the highwater line, except on bank armoring areas where no cover will be placed on the armoring. A gravel access road will be placed around the reservoir. Including the slopes into the reservoirs there are three areas that will need revegetation, The scale house triangle in Parker-Panowicz, the area south of and around the Sandstead Reservoir and Deep Lake. All other disturbed areas will have a gravel surface. More detail is provided in the following Reclamation Plan text and a typical cross section showing this is provided on the **EXHIBIT F - RECLAMATION MAP**.

As with the currently permitted mine area, the new properties will be reclaimed as lined water storage reservoirs. Each of the additional properties will either be sealed with a slurry wall or clay liner. The applicant proposes to bond each phase prior to mining and to determine the type of lining prior to posting a bond for that phase. Please refer to **TABLE E-1 RECLAMATION TIMETABLE** for information on each Phase of Reclamation.

Reclamation Plan

Currently, the undisturbed and amendment areas of the mine site are primarily irrigated agricultural land. The area is broken into 6 different use areas. Please refer to the **VEGETATION MAP** in **EXHIBIT I/J - SOILS AND VEGETATION** for the location of each area described. The current uses are, mining operations area; non-irrigated pasture; irrigated crop areas; ditch & river corridors & wetland area, oil/gas operations areas and high capacity gas pipeline ROW's. The agricultural uses will continue as mining progresses until an area is taken out of agricultural production and prepped for mining. There is no native vegetation present on the agricultural areas because of the intensive agricultural practices that have taken place on the land. In most cases the oil/gas operations areas have little vegetation and the high pressure gasline ROW's have been farmed for many years and vegetation cover on those areas is consistent with farmed areas. The narrow band along Little Dry Creek/Slate Ditch and the Meadow

Island Lupton Bottoms ditches have been constantly disturbed by ditch maintenance leaving only the river corridor, that will not be disturbed, with vegetation that may be considered native. The typical vegetation descriptions that have been submitted in **EXHIBITS I & J - SOILS AND VEGETATION** in previous permitting packets will match these agricultural uses as the crops rotate throughout the years.

The **EXHIBIT F - RECLAMATION PLAN MAP** shows a cross section sketch of the proposed sloping plan and reclamation activities that will surround reservoirs in this plan.

Under the contract with City of Aurora for the water storage reservoirs, the applicant has to turn over to Aurora, for continued development, any reservoirs that have been significantly reclaimed. It has been agreed that this condition will exist once a reservoir liner has been certified by the Division of Water Resources, sloped, the surround gravel surface is complete. The change to graveling the band between the setbacks and the tops of slope into the reservoirs (or armored areas) eliminates the concerns that during Aurora's development, any revegetated areas would be disturbed, destroying any grass planted.

Where mining will take place within 400 feet of the river, a setback of 300 feet on the north area and 250 feet on the south area will be maintained. At which point the slope into the reservoir will be backfilled and sloped. In these areas no more the 500 feet will need backfilling nor will it be left open for more than 12 months. Where needed armoring will begin as soon as bank sloping is complete on each 500-ft section. This will also ensure, that if mining ceases before the resource is exhausted, only a minor amount of work would have to be done to finish reclamation on the disturbed area.

Armoring in the Northeast Phases #1 and #3 will progress with sloping, so approximately 2,000 feet will need to be completed at any time. No armoring will be done in the Parker #4 phase on the south area since there is armoring on the river bank anywhere the river is within 400 feet of the area to be mined. The **BANK ARMORING PLAN** is in the **APPENDIX** and explains how and where the armoring will be placed.

LGE will be working with the Town of Ft. Lupton for directions on Flood Plain development. This facility is not in an Urban Area, not near public land, or facilities where public safety is a concern so, inlet/outlet structures for private reservoirs are not needed. There are no plans to install Inlets or Outlets for the reservoirs. Those will be the responsibility of the reservoir developers.

The following approved seed mix will be used to seed areas where reclamation calls for revegetation. This mix will place approximately 41.2 seeds per pound per sq-ft as prescribed by the NRCS planting guidelines.

<u>APPROVED SEED MIX</u>	
<u>Species</u>	<u>Lbs. PLS/Acre</u>
Western Wheatgrass (Aribba)	5.00
Big Bluestem (Champ)	2.50
Blue Grama (Hachita)	0.60
Switchgrass (Blackwell)	1.75
TOTALS	9.85

The reclamation timetable shows the types and amount of land use in each Phase when reclamation is complete. Approximately 12.2% of the area in the permit will not be disturbed by mining, either because it is setbacks around well facilities, gaslines ROW's, along the ditches or areas too small to mine that will be kept in their natural state.

As mining progresses, the perimeter slopes will be backfilled and graded at or near 3h to 1v as discussed in the **MINING PLAN**. This will insure that when mining ceases only a minor amount of work will have to be done to finish reclamation in the disturbed area. The placement of the temporary soil stockpiles around the setback/perimeter of the mined area would be there if needed. Since the area between the liner, the water line and/or top of the armoring will be a graveled surface area, no resoiling will be needed. The graveled surface will mean the above-water-line areas simply have to be shaped and graded.

We expect to salvage sufficient topsoil to meet reclamation requirements. Of the 809.0 acres \pm in the permit area, only 42.1 acres \pm or approximately 5.7% will need resoiling and revegetated and remaining above water gravel surface will cover 146.5 acres or 18.1% of the area to be reclaimed. The remaining area will be reservoir area, covered with water or undisturbed area.

Observations at the site show that topsoil on the property has a salvageable depth of 6 to 12 inches, averaging 8 inches except in isolated locations. There appears to be more than adequate soils to meet the demand for this site. Setback areas will not be stripped, and the disturbed areas inside the setbacks will not be resoiled. Gravel surface maintenance roads will be built around each reservoir and left around each gas/oil well where no seeding or resoiling will take place. This will provide room around each well or reservoir to service it as needed by the well or reservoir owners.

Some inert fill (as defined in Colorado Department Public Health and Environment regulations) may be imported for recycling and resale or in rare cases for reclamation purposes. On-site generated inert material will be used for bank sloping, buried in bank areas around the lakes or will be recycled/sold. An inert fill Notice and Affidavit are included in the Appendix for this mine.

Existing soils in place have been capable of producing a fairly dense cover of irrigated crops and dryland grasses and should be suitable for use when revegetating the areas where seeding will be done. These areas will be returned to at least their present vegetative condition when reclamation is complete. Under normal conditions, the operator will strive for a 30 to 40

percent cover rate on the revegetated areas when reclamation is complete.

Under normal weather conditions, an adequate moisture reserve will be present for establishment of the proposed seed mixture. No irrigation will be used during reclamation since the plan is to establish a vegetation cover that is not dependent on irrigation to survive.

Optional Reclamation Plan.

We are submitting two options for final configuration of the reservoir areas as well.

Option A - The reservoir configurations for Option A are show on the large **EXHIBIT F - RECLAMATION PLAN MAP**.

Option B - The inset map shows the reservoir configurations under Option B.

The methods used to reclaim the reservoirs will be the same for both options. The difference may be an increase/decrease in the volume of developed water storage and an increase/decrease in the amount of graveling and revegetation necessary.

We do not know when the Mining Option B or the Reclamation Option B or some part(s) of either or both will be implemented, but we are including these optional plans to increase the flexibility of this permit and account for the inevitable changes when mining the site. Whenever any part(s) of the Option B plans become feasible, we will file a Technical Revision(s) to the Division to provide revised Mining and/or Reclamation Map(s) that will show the changes. The Technical Revision(s) will discuss any changes needed to implement the optional changes, including a discussion on changes in disturbed areas, slurry wall lengths and revegetated areas.

Deep Lake Option

Mining has ended in Deep Lake and it will not be lined. The area around the existing lake will be graded, shaped and revegetated. The town of Ft. Lupton will receive this property once it is reclaimed and will assume responsibility for a water augmentation plan.

RECLAMATION PERFORMANCE STANDARDS

The property will be mined in compliance with the Reclamation Performance Standards of Rule 6. Grading will be performed to create a final topography that is compatible with the intended final land use. The slopes will vary depending on the final use proposed in a particular area, reservoirs or grassed areas; the remainder of the area will retain its present drainage pattern. The **RECLAMATION PLAN MAP** shows how the area will be reclaimed.

The pit will be reclaimed so that a suitable grade for drainage exists, all surface runoff will be directed into the reservoirs created by mining. Settling ponds may be silted in

from wash water, this type of backfilling tends to firm up and stabilize during the first 18 months after being placed.

All grading will be done in a manner to control erosion and to protect areas outside the affected land from slides or other damage. Backfilling and grading will be completed as soon as feasible after mining is completed in a given area. There are no drill or auger holes on the land. Maximum slopes will be within the limits set forth in the Rules and Regulations of the Board and will be capable of being traversed by machinery.

All refuse will be hauled away or disposed of in a manner that will control unsightliness and protect the drainage system from pollution. There are no acid-forming or toxic materials involved in this operation. The minimal amounts of petroleum products stored at the site will be stored as prescribed by applicable laws. The storage tanks will be surrounded by a berm or secondary containment such as storing the tank in a larger metal container adequate to retain any fluid should a tank rupture. In addition, there is adequate absorbent materials on site to contain any spills that would occur.

The operator does not expect prevailing hydrologic conditions to be disturbed. L.G. Everist, Inc. will comply with applicable Colorado water laws and regulations (as the operator understands them) governing injury to existing water rights in order to minimize any disturbance, which might occur to the prevailing hydrologic balance of the affected land and surrounding areas and to the quality of water in surface and ground-water systems both during and after the mining operation and during reclamation. In addition, the operator expects to comply with applicable Federal and Colorado water quality laws and regulations. Any water used in the operation of the processing plants and gravel pit will come from water owned by L.G. Everist, Inc. or purchased from an outside agency suitable for that use. **EXHIBIT G - WATER** contains specific information concerning impacts and uses of water at this mining operation.

This is not a dredge facility, so there are no temporary siltation structures involved in this operation and no mining will be done within the confines of the river. If a U.S. Army Corps of Engineers Permit is required for mining in waters of the U.S., it will be obtained prior to disturbing those areas. Settling ponds will be constructed on the site to collect and recycle water from the washing operation. There will be no earthen dams on the mined area.

The mining and reclamation plans consider existing wildlife use of the site and final reclamation will enhance the area for continued wildlife use. However, creation and management of wildlife habitat is not a specific part of the reclamation plan.

Topsoil in the area is good quality and deep enough to salvage what is needed for reclamation. When topsoil is removed to reach the mineral deposit, it will be segregated and stockpiled. If the topsoil piles remain undisturbed for more than 180 days, the approved seed mix will be planted on the piles or other means will be employed to preserve the topsoil from wind and water erosion. This will keep it free of contaminants so that it

remains useful for sustaining vegetation when reclamation begins. The stockpiles will be located in areas where disturbances by ongoing mining operations will be at a minimum, i.e. along set-backs on the pit perimeter. The topsoil will be handled as little as possible until it is replaced onto areas where needed for reclamation. We will take measures necessary to insure the stability of the replaced topsoil on graded slopes and ensuring that it is spread as evenly as possible. Fertilizer and other soil amendments will be used, only if needed, in accordance with NRCS recommendations.

Reclamation will begin once enough area has been opened so that any reclamation completed will not be disturbed as mining progresses. This may take one or more years depending on economic conditions and the amount of material mined. By the time mining is completed 75 to 90% of the total mined land will be reclaimed. As mining ends in each reservoir area, only backfilling, grading and shaping of the final mined slopes, bank armoring if needed, graveling the surface as needed. Where needed, the proposed seed mix will be planted during the next planting season after resoiling is completed. The area will be monitored for success of revegetation until accepted by the Division for release. If revegetation failures occur prior to release, an analysis of the site will be made and the area will be revegetated again as necessary.

Reclamation Timetable

The numbers presented below represent our estimate of the various area of disturbance in the mine area. They may change as the actual mining progresses through the site.

Table E-1: Reclamation Phases (7-2025)

Phases	Years	ACRES ±					
		TOTAL	LAKE AREA	GRAVEL SURFACES	REVEGE- TATION	ROAD	MISC. (DITCHES, UNDIS- TURBED AREAS, ETC.)
Fort Lupton Sand and Gravel - North Area							
Parker-Panowicz	3-5	43.51	20.45	9.49	6.28	5.97	2.99
Swingle North	3-5	42.02	29.53	6.86	2.46	1.35	3.33
Fort Lupton West	3-5	47.81	41.39	3.47	2.45	1.54	0.29
Swingle South	3-5	67.45	48.70	12.48	1.39	1.77	4.85
Sandstead	3-5	50.05	10.35	0.00	32.94	2.11	4.65
Blue Ribbon	3-5	55.55	37.04	7.69	2.64	1.54	8.17
Deep Lake	3-5	7.90	3.62	0.00	3.98	0.00	0.30
South Area							
Funakoshi	3-5	42.97	26.77	4.23	1.79	1.25	10.18
Parker #1	3-5	43.17	20.31	4.86	1.97	1.13	16.04
Adams-Parker	3-5	72.92	47.84	14.76	4.05	3.55	6.27
Parker #2	3-5	33.27	24.77	3.98	2.12	10.22	2.40
Parker #3	3-5	43.12	29.21	8.08	2.58	2.08	3.25
Parker #4	3-5	56.94	43.43	7.92	0.20	1.68	3.60
New areas							
Northeast #1	3-5	70.87	53.26	8.98	2.48	1.97	5.73
Northeast #2	3-5	67.00	49.45	6.42	7.02	1.84	4.11
Northeast #3	3-5	12.12	3.81	2.58	0.99	0.70	4.33
Northwest	3-5	52.33	22.44	6.10	5.03	1.56	18.76
Totals		809.00	512.37	107.90	80.37	40.26	99.25

the current dewatering operations. This permit will be modified, if necessary, to accommodate the additional parcels.

As the slurry walls are installed, they will be constructed around the perimeter of each new phase prior to commencement of mining. This will seal off each individual phase area, and preventing infiltration of groundwater into the mining area. Once the initial groundwater quantities within each mine area are pumped out, continued dewatering will not be required except on an as-needed basis after significant weather events.

Description of Overburden, Deposit and Underlying Stratum

Across the entire amendment area, approximately 3 feet of overburden (including approximately 6 to 18 inches of topsoil) will be removed from the mine areas and stockpiled for plant-growth material in surface reclamation or used as backfill for the pit slopes. An average thickness of approximately 33 feet of sand and gravel exists across the amendment area.

Mining Timetable

The continuing uncertainty of economic conditions in the construction materials industry precludes an accurate forecast of demand for materials during the life of the mine. This pit will be operated year-around by L.G. Everist, Inc., weather permitting. There may be periods up to 18 months or more when the demands for material are slow and no mining will take place, creating an "intermittent operation" situation. We therefore, can only estimate the mining timetable based on an average year and may expect a specific year to vary widely from the average.

Table D-1: Mining Phases (6-2025)

Phases	Years	ACRES ±		Slurry wall length	Slurry wall status (certified date)
		Total	Mined		
Fort Lupton Sand and Gravel - North Area					
Parker-Panowicz	1-2	43.51	20.60	3,540	2/5/14
Swingle North	1-2	42.02	31.88	5,220	11/30/22
Fort Lupton West	2-3	47.81	41.25	4,320	10/13/04
Swingle South	½-1	67.45	52.31	6,400	Pending
Sandstead	done	50.05	36.64	2,945	Proposed
Blue Ribbon	done	55.55	37.77	5,675	Pending
Deep Lake	done	7.90	5.75	0	NA
South Area					
Funakoshi	1-3	42.97	27.39	4,770	Proposed
Parker #1	1-2	43.17	22.17	4,230	Proposed
Adams-Parker	2-3	72.92	43.83	11,755	Proposed
Parker #2	1-3	33.27	26.83	4,545	Proposed
Parker #3	1-2	43.12	32.71	7,860	Proposed
Parker #4	2-3	56.94	44.24	6,235	Proposed
New areas					
Northeast #1	3-4	70.87	57.17	7,350	Proposed
Northeast #2	2-3	67.00	45.43	6,880	Proposed
Northeast #3	½-1	12.12	5.21	2,925	Proposed
Northwest	1-2	52.33	27.47	6,220	Proposed
Totals	19-34	809.00	558.65		

The bond currently held by the Division for the existing mining operation is adequate to do the reclamation needed at the existing stages in mine at this time. Since the plan is to add a liner to the Sandstone pond in the future and start liner construction in the Northeast #1 Phase this fall, we have revised the cost estimate to include those two liners and associated work and costs to reclaim the existing stages in their current state of disturbance. Tables L-1n to L-8n and Tables L-9n to L-11n show the areas and cost to reclaim each Phase in the northern permit area.

Current bond information:

Fort Lupton Sand & Gravel Mine

\$ 2,002,400.00

The following recap explains the changes to the site that we have discussed in detail throughout this amendment application. These changes may affect the reclamation bond. The current conditions discussion following this section has tables showings the remaining activities to be used in estimating the financial warranty needs at this time. The applicant asks the Division to include the following items in its Circes© bonding calculations for this amendment:

Bonding Decrease

Reclamation Work completed (noted as of 10/21/2024)

- Swingle North (2022,) Parker-Panowicz (2014) and Ft. Lupton West (2004) areas - slurry walls certified by the DWR (13,080');
- Swingle-South - installed slurry wall (certification test in progress, 6400 ft)
- Blue Ribbon - installed slurry wall (certification test in progress, 5675')
- Backfilling, sloping and grading is done on Blue Ribbon, Swingle North and parts of Swingle South and Parker-Panowicz.

Possible Bonding Increase

Installed slurry walls

- Sandstead - bond to install slurry wall (2945 ft)
- Northeast #1 - bond to install slurry wall (7350 ft)

In conjunction with the installation of the new slurry walls, there were necessary surface disturbances including (a) the working platform that is built for the equipment that is constructing the slurry wall, (b) areas where the material was taken from to construct the platform, and haul roads between the slurry wall platforms and the material gathering areas. These areas will need only grading and seeding.

Mining in Existing area

All of the areas currently in the mine are bonded for surface disturbance, liner installation and reclamation. Mining is complete in Parker-Panowicz, Swingle North, Deep Lake and Blue Ribbon and all sloping is done. In Swingle South and Ft. Lupton West mining continues.

Current Conditions

This reclamation cost estimate is based on the assumption that at the current time no more than 300.00 acres will need some form of

reclamation at any-one-time. Of this, 45.78 acres will be gravel surface area needing only grading, 78.82 acres requiring resoiling and seeding and there is 157.97 acres of future reservoir area that needs no work to reclaim. There is sufficient amounts of growth medium in Swingle South to place 8 inches on the above water area in Parker-Panowicz, the above water area in Swingle South, the backfilled area in Sandstead, Deep Lake and on the Plant Site.

The **Tables L1, L2, and L3** contain all the base information used to calculate this estimate. The disturbed areas include, the plant site; roads; slurry wall construction pads and staging areas; gravel surfaces on the above water areas around certified reservoirs and Blue Ribbon. Also the active mining areas that are stripped, partially mined or partially reclaimed areas.

There are three Division of Water Resources (DWR) certified slurry walls. There are two installed slurry walls (12,075 ft total) which are being tested at this time and we assume they will pass certification standards within the next few months. and both are covered by the SWSP water; and We have included a factor of 20% for the 12,075 feet in those phases to cover remedial work on the completed liners until the DWR certification is received. Finally, there are 2 slurry wall (Sandstead & Northeast #1) that will be installed in the next 2 years. Both of the new slurry walls will be fully bonded as they are not installed yet. The slurry wall depths to bottom of the key trench and as built lengths are shown in the Table L3. We have included a factor of 20% for the 12,075 feet in those phases to cover remedial work on the completed liners until the DWR certification is received.

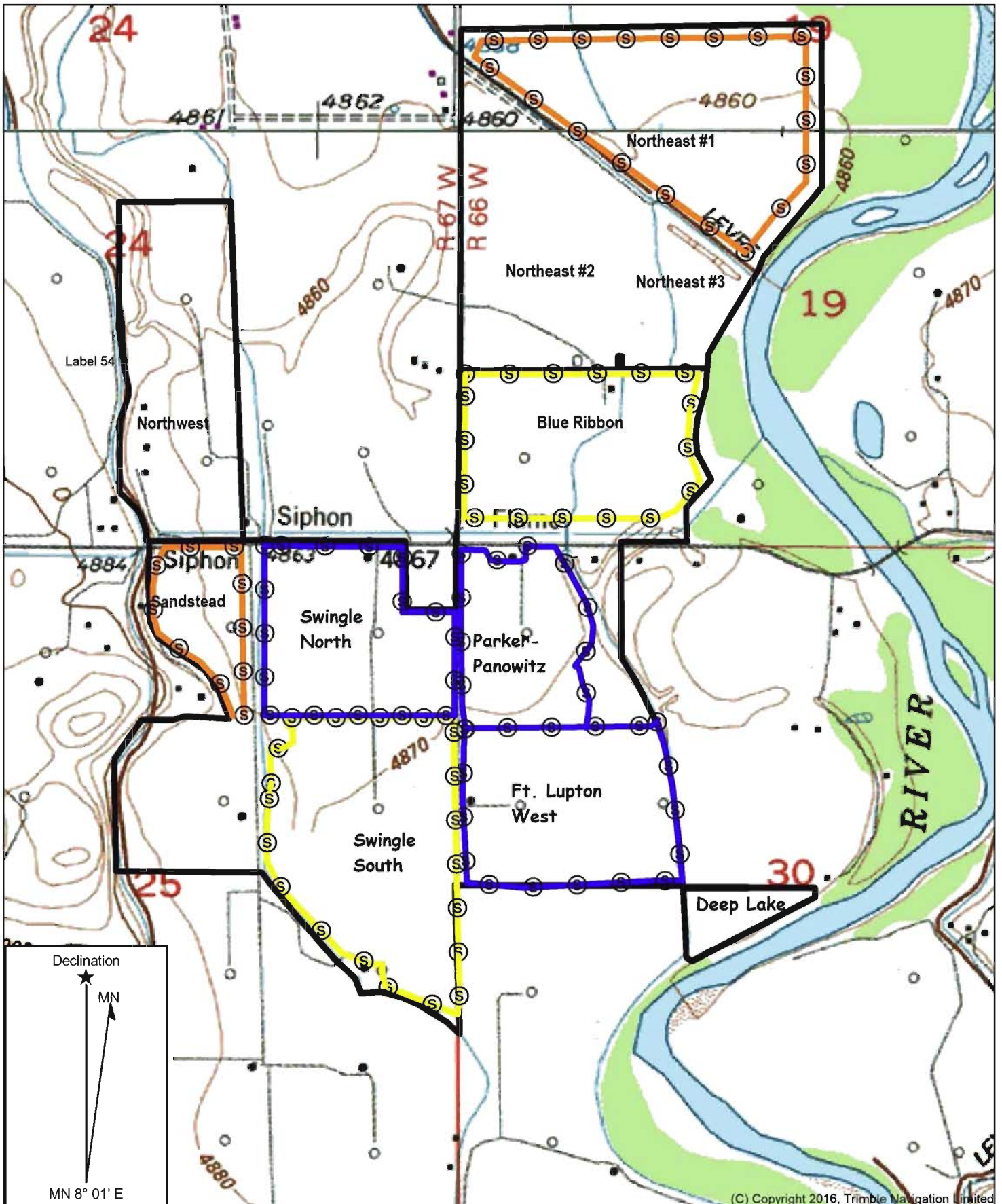
The total potential water surface area in Swingle South, is estimated to be 37.3 acres at this time. Interior sloping is completed on the Blue Ribbon, and approximately 50% of the Swingle South reservoir. The dewatering calculation for Swingle South is shown in **Table L2**, Blue Ribbon would not need dewatering as all slopes are done in that phase. Ft. Lupton West is a certified reservoir, so the slopes could be built using the cut/fill method as the below water slope are dry at this time. We rounded the pumping time for Swingle South to the next day and used 72,300 gal/day as a transmissivity number to figure inflow from the aquifer. This figure is then used in the calculations for the bond amount.

In this estimate we would have to complete bank backfilling on 3,040 linear feet at an average of 41.67 cyd/linear feet in Swingle South.

The volume of concrete contained in the foundations of the scale and the processing plant is 125 yards. The conveyor is temporary and portable so only removal of 100 yards of concrete foundations for the grade crossing over WCR 18 is included in the cost estimate.

A 627C Cat motor scraper or similar equipment will be used to resoil the areas needing to be soiled and revegetated. A 140G Cat motor grader or similar equipment will be used to shape the seed bed, the resoiled areas, grade the graveled surfaces and rip the Plant Site. A D8N Cat dozer or similar equipment will be used to reconstruct the slopes around the perimeter of the reservoirs. Cut/fill sloping is need in the Plant Site active mining area as mining has not reached the reservoir area sides,

The tables below outline, the various areas of disturbance at this time. As mining moves into the amendment area, the total disturbance will begin to reduce as reclamation is completed in the 7 stages in the existing active mine area.



Name: FORT LUPTON
Date: 06/17/25
Scale: 1 inch = 1,000 ft.

LOCATED IN PARTS OF , SECTIONS 19,
30 & 31, T-2-N, R-66-W, AND PART OF
SECTION 25 & 36, T-2-N, R-67-W, 6TH
P.M., WELD COUNTY, COLORADO

L.G. EVERIST, INC.
FT. LUPTON SAND AND GRAVEL MINE
FIGURE L - SLURRY WALLS

TABLE L1

CALCULATION FACTORS		
Explanation	Quantity	Units
Soil depth	8.00	Inches
Lake bank sloping re-construction (Swingle South)	41.67	cy/Lft
Lake bank sloping re-construction (Northeast #1)	74.05	cy/lft
Slurry wall installation cost	\$6.25	sq-ft
Non certified Slurry wall bond factor	20%	
Swingle South slope construction time	267	days
Weed control costs	\$5,000.00	Per year

TABLE L2

DEWATERING DATA (Swingle South only)		
Description	Amount	Units
Area 100% of lake depth	28.65	acres
maximum depth	33	feet
length of ½:1 slopes	3,400	feet
Unit volume of water on ½:1 slopes	156.25	cft/Lft
length of 3:1 slopes	3,040	lft
Unit volume of water on 3:1 slopes	937.5	cft/lft
Gallon conversion factor	7.48	gal/cft
Transmissivity #	72,300	gal/day
Pump rate minimum	6,000	gpm

CALCULATED VOLUMES AND TIMES		
Slope water volumes		
½ :1 slope capacity	6,9963,880	gal
100% depth	383,018,863	gal
Total pumping volume	452,982,743	gal
Pumping time		
Dewater lake	45.14	Days
Slope construction time	13.06	Days
Recharge factor for inflow during sloping time and Dewatering	0.49	Days
TOTAL PUMPING TIME*	59.00	Days

*NOTE: pumping time rounded to next full day

TABLE L3 - CURRENT CONDITIONS (revised 6/2025)

RECLAMATION ACTIVITY		STAGE								
	Parker Panowicz	Swingle North	Fort Lupton West	Swingle South	Blue Ribbon	Sandstead	Deep Lake	Northeast #1	TOTALS	
GRAVEL SURFACE GRADE (ac)	9.49	6.86		12.48	7.96			8.98	45.78	
REVEGETATE & GRADE (ac)	6.28	2.46	35.14	19.83	2.64	32.94	3.98	2.48	105.75	
RESOIL VOLUMES @ 8 inches	6,754	2,646	37,795	21,328	2,839	35,430	4,281	2,667	113,740	
½ :1 SLOPE CUT/FILL SLOPING (yds)			39,440	126.67				31,391	197,508	
½ :1 SLOPE BACKFILL SLOPING (yds)								74,050	74,050	
Bank Armoring (lft)								1,030	1,030	
DEWATER (hrs)				59.00					59.00	
BACKFILLING SETTTLING POND (yds)						72,146			72,146	
SLURRY WALL LENGTH (Lft)	certified	certified	certified	6,400*	5,675*	2,945		7,350	10,295	
SLURRY WALL COLOR (Figure L)	BLUE	BLUE	BLUE	YELLOW	YELLOW	ORANGE		ORANGE		
SLURRY WALL DEPTH (ft)				33.0	43.0	30.00		38.00		
CONCRETE DEMOLITION (yds)		25	100		100				225	
ROADS (ac)	5.97	1.35	1.77	1.54	1.54	2.11		0.70	14.98	

Note * slurry walls complete but not certified

ESTIMATED UNIT COSTS FOR RECLAMATION ITEMS:

	<u>Unit Cost</u>
1. Revegetation includes grass seed mix and labor to drill	\$1,700.00/AC.
2. Re-spreading soil and/or growth media with 627-E Motor Scraper, Haul distance less than 900	\$1.929/YD ³
3. Rip seed bed in plant site, 140G motor grader	\$193.69 ac.
4. Grade and shape gravel surfaces, 140G motor grader	\$193.69 ac
5. Pumping costs includes, full service rental of self contained pump, fuel, maintenance and servicing daily.	\$221.67/day**
6. Cut/Fill $\frac{1}{2}$ 1 slope areas D8N Dozer push distance Less than 120 feet	\$1.08/YD ³
7. Backfill $\frac{1}{2}$ 1 slope areas D8N Dozer push distance Less than 120 feet	\$1.25/YD ³
8. Backfill Sandstead Settling Pond.	\$2.22/YD ³
9. Slurry wall construction	\$6.25/sq-FT
10. Slurry wall repair bonding	\$1.25/sq-FT
11. Bank Armoring Place Materials	\$2.70 /Yd
12. Concrete demolition & on-site disposal	\$8.30/Yd.
13. Conveyor crossing foundation demolition.	\$8.30/yd
14. Secondary Revegetation seeding only	\$1,262.00/ac

RECLAMATION COSTS

1. Revegetation, 105.75 ac @ \$1,700.00/ac	\$179,775.00
2. Resoiling, 113,740 x 1.12 @ \$1.929/yd ³	\$219,404.46
3. Rip plant site & seed beds 105.45 ac @ \$193.69/ac.	\$20,482.72
4. Grading gravel surface & Seedbeds 158.54 ac. @ \$193.69/ac	\$30,707.61
5. Dewatering, 59 days @ \$221.67/day	\$13,078.53
6. Cut/fill and compact side slopes, 197,508 yds @ \$1.08/yd ³	\$213,308.86
7. Backfill and compact side slopes, 74,500 yds @ \$1.25/yd ³	\$92,562.50
8. Backfill settling pond, 72,146 CYD @ \$2.22/yd ³	\$160,163.42
9. Slurry installation fee. 367,650 sq-ft @ \$6.25/ft	\$2,187,687.50
10. Slurry contingency fee. 455,225 sq-ft @ \$1.25/ft	\$305,031.25
11. Bank Armoring 2,421 cyd @ \$2.22/cy	\$6,535.35
12. Demolition & on-site disposal 225 yds@ \$8.30/yd ³ .	\$1,867.50
13. Secondary revegetation 105.75 x 25% x \$1,262.00/ac	\$33,364.13
14. Weed control costs	<u>\$5,000.00</u>
Direct Cost Total	\$3,468,968.82

Mobilization \$6,406.48

Indirect Costs

Liability insurance @ 2.02%	\$70,073.17
Contingency @ 3.00%	\$104,069.06
Profit @ 10%	<u>\$346,896.88</u>
Total Indirect costs	\$521,039.12

Engineering and Management	
Bond Processing Fee	\$500.00
Reclamation Management @ 4.0%	\$138,758.75
Engineering @ 5.23%	<u>\$181,427.07</u>
Total bond estimate	\$4,345,003.28

Request Bond be set at \$4,345,000.00

Equipment listed in this estimate is used for the calculations and similar types may be used in the actual reclamation activities at the mine.

* Estimate for services from Rain for Rent, Ft. Lupton, CO (970) 535-4963

Table L-1n

Task	Parker/Pano	Acres	Length	Average Depth (FT)	CYD/FT	Volume (Cyds or Sqft)	Push/Haul Distance	Unit Cost	Total cost
	TOTAL AREA	43.51							
	TOTAL MINED	20.60							
	WATER AREA	20.45							
	Undisturbed (AC)	2.99							
001	Revegetate (AC.)	6.28						\$1,700.00	\$10,676.00
002	Resoil (AC.)	6.28		0.67		6,754	900	\$1.929	\$13,029.41
003	Rip seed bed (AC.)	6.28						\$193.69	\$1,216.37
004	Grading and Shaping (AC.) includes resoiled and graveled areas	15.77						\$193.69	\$3,054.49
005	Dewatering (per day)		0.00					\$221.67	\$0.00
006	Cut Fill Sloping (CYD)					complete		\$1.08	0
007	Backfill sloping (Cuyds)					complete	500	\$1.25	0
008	Slurry wall (LINEAR SQ-FT.)		Certified	28				\$6.25	0
010	Concrete Demo Plant (Cuyds)					25		\$8.30	\$207.50
011	Secondary seeding (AC.)@25%	1.57						\$1,262.00	\$1,981.34
012	Annual Weed Control								\$500.00
013	Backfill Setteling Pond (Cyd)					0.00		\$2.22	\$0.00
014	Reservoir armoring (Feet)		0		2.35	0	500	\$2.70	\$0.00
015	Underdrain Instalation (Feet)		0					\$82.03	\$0.00
Phase total project									\$30,665.11

Table L-2n

Task	Swingle North	Acres	Length	Average Depth (FT)	CYD/FT	Volume (Cyds or Sqft)	Push/Haul Distance	Unit Cost	Total cost
	TOTAL AREA	42.02							
	TOTAL MINED	31.88							
	WATER AREA	29.53							
	Undisturbed (AC)	3.33							
001	Revegetate (AC.)	2.46						\$1,700.00	\$4,182.00
002	Resoil (AC.)	2.46		0.67		2,646	900	\$1.929	\$5,103.88
003	Rip seed bed (AC.)	2.46						\$193.69	\$476.48
004	Grading and Shaping (AC.) includes resoiled and graveled areas	13.14						\$193.69	\$2,545.09
006	Cut Fill Sloping (CYD)					Complete		\$1.08	0.00
007	Backfill sloping (Cuyds)					Complete	500	\$1.25	0.00
008	Slurry wall (LINEAR SQ-FT.)		Certified	38				\$6.25	0.00
011	Secondary seeding (AC.)@25%	0.62						\$1,262.00	\$776.13
012	Annual Weed Control								\$500.00
Phase total project									\$13,583.57

Table L-3n

Task	Swingle South	Acres	Length	Average Depth (FT)	CYD/FT	Volume (Cyds or Sqft)	Push/Haul Distance	Unit Cost	Total cost
	TOTAL AREA	67.45							
	TOTAL MINED	52.31							
	WATER AREA	48.70							
	Undisturbed (AC)	4.85							
001	Revegetate (AC.)	19.83						\$1,700.00	\$33,711.00
002	Resoil (AC.)	19.83		0.67		21,328	900	\$1.929	\$41,142.23
003	Rip seed bed (AC.)	19.83						\$193.69	\$3,840.87
004	Grading and Shaping (AC.) includes resoiled and graveled areas	32.31						\$193.69	\$6,258.12
005	Dewatering (per day)		59.00					\$221.67	\$13,078.53
006	Cut Fill Sloping (CYD)		3040		41.67	126,677	200	\$1.08	\$136,810.94
007	Backfill sloping (Cuyds)					0		\$1.25	\$0.00
008	Slurry wall (LINEAR SQ-FT.)		complete	33				\$6.25	\$0.00
009	Slurry wall Contingency fee 20% (LINEAR SQ-FT.)		6,400	33				\$1.25	\$264,000.00
011	Secondary seeding (AC.)@25%	4.96						\$1,262.00	\$6,256.37
012	Annual Weed Control								\$500.00
Phase total project									\$505,598.06

Table L-4n

Task	Ft Lupton West	Acres	Length	Average Depth (FT)	CYD/FT	Volume (Cyds or Sqft)	Push/Haul Distance	Unit Cost	Total cost
	TOTAL AREA	47.81							
	TOTAL MINED	41.25							
	WATER AREA	41.39							
	Undisturbed (AC)	0.29							
001	Revegetate (AC.)	35.14						\$1,700.00	\$59,738.00
002	Resoil (AC.)	35.14		0.67		37,795	900	\$1.929	\$72,906.60
003	Rip seed bed (AC.)	35.14						\$193.69	\$6,806.27
004	Grading and Shaping (AC.) includes resoiled and graveled areas	38.61						\$193.69	\$7,478.37
006	Cut Fill Sloping (CYD)		3400			39,440	200	\$1.08	\$42,595.20
007	Backfill sloping (Cuyds)					0	500	\$1.25	0.00
008	Slurry wall (LINEAR SQ-FT.)		Certified	33.00				\$6.25	0.00
010	Concrete Demo Plant (Cuyds)					100		\$8.30	\$830.00
011	Secondary seeding (AC.)@25%	8.79						\$1,262.00	\$11,086.67
012	Annual Weed Control								\$500.00
Phase total project									\$201,941.11

Table L-5n

Task	Blue Ribbon	Acres	Length	Average Depth (FT)	CYD/FT	Volume (Cyds or Sqft)	Push/Haul Distance	Unit Cost	Total cost
	TOTAL AREA	55.55							
	TOTAL MINED	37.77							
	WATER AREA	37.04							
	Undisturbed (AC)	8.17							
001	Revegetate (AC.)	2.64						\$1,700.00	\$4,488.00
002	Resoil (AC.)	2.64		0.67		2,839	900	\$1.929	\$5,477.33
003	Rip seed bed (AC.)	2.64						\$193.69	\$511.34
004	Grading and Shaping (AC.) includes resoiled and graveled areas	10.33						\$193.69	\$2,000.82
006	Cut Fill Sloping (CYD)					0		\$1.08	\$0.00
007	Backfill sloping (Cuyds)					0	500	\$1.25	\$0.00
008	Slurry wall (LINEAR SQ-FT.)		complete	43.00				\$6.25	\$0.00
009	Slurry wall Contingency fee 20% (LINEAR SQ-FT.)		5,675	43.00				\$1.25	\$7,093.75
010	Concrete Demo Plant (Cuyds)					100		\$8.30	\$830.00
011	Secondary seeding (AC.)@25%	0.66						\$1,262.00	\$832.92
012	Annual Weed Control								\$500.00
Phase total project									\$21,734.16

Table L-6n

Task	Sandstead (Dodge)	Acres	Length	Average Depth (FT)	CYD/FT	Volume (Cyds or Sqft)	Push/Haul Distance	Unit Cost	Total cost
	TOTAL AREA	50.05							
	TOTAL MINED	36.64							
	WATER AREA	10.35							
	Undisturbed (AC)	4.65							
001	Revegetate (AC.)	32.94						\$1,700.00	\$55,998.00
002	Resoil (AC.)	32.94		0.67		35,429	900	\$1.929	\$68,342.16
003	Rip seed bed (AC.)	32.94						\$193.69	\$6,380.15
004	Grading and Shaping (AC.) includes resoiled and graveled areas	32.94						\$193.69	\$6,380.15
005	Dewatering (per day)		0.00					\$221.67	\$0.00
008	Slurry wall (LINEAR SQ-FT.)		2,945	30.00				\$6.25	\$552,187.50
011	Secondary seeding (AC.)@25%	8.24						\$1,262.00	\$10,392.57
012	Annual Weed Control								\$500.00
013	Backfill Settling Pond (Cyd)					72,146		\$2.22	\$160,163.42
Phase total project									\$860,343.94

Table L-7n

Task	Deep Lake	Acres	Length	Average Depth (FT)	CYD/FT	Volume (Cyds or Sqft)	Push/Haul Distance	Unit Cost	Total cost
	TOTAL AREA	7.90							
	TOTAL MINED	5.75							
	WATER AREA	3.62							
	Undisturbed (AC)	0.30							
001	Revegetate (AC.)	3.98						\$1,700.00	\$6,766.00
002	Resoil (AC.)	3.98		0.67		4,281	900	\$1.929	\$8,257.49
003	Rip seed bed (AC.)	3.98						\$193.69	\$770.89
004	Grading and Shaping (AC.) includes resoiled and graveled areas	3.98						\$193.69	\$770.89
005	Dewatering (per day)		0.00					\$221.67	\$0.00
011	Secondary seeding (AC.)@25%	1.00						\$1,262.00	\$1,255.69
012	Annual Weed Control								\$500.00
Phase total project									\$18,320.95

Table L-8n

Task	Northeast # 1	Acres	Length	Average Depth (FT)	CYD/FT	Volume (Cyds or Sqft)	Push/Haul Distance	Unit Cost	Total cost
	TOTAL AREA	70.87							
	TOTAL MINED	56.82							
	WATER AREA	53.68							
	Undisturbed (AC)	6.25							
001	Revegetate (AC.)	2.48						\$1,700.00	\$4,216.00
002	Resoil (AC.)	2.48		0.67		2,667	900	\$1.929	\$5,145.37
003	Rip seed bed (AC.)	2.48						\$193.69	\$480.35
004	Grading and Shaping (AC.) includes resoiled and graveled areas	11.46						\$193.69	\$2,219.69
005	Dewatering (per day)		0.00					\$221.67	\$0.00
006	Cut Fill Sloping (CYD)		1,695		18.52	31,391		\$1.08	\$33,902.71
007	Backfill sloping (Cuyds)		1,000		74.05	74,050		\$1.25	\$92,562.50
008	Slurry wall (LINEAR SQ-FT.)		7,350	38.00				\$6.25	\$1,745,625.00
011	Secondary seeding (AC.)@25%	0.62						\$1,262.00	\$782.44
012	Annual Weed Control								\$500.00
014	Reservoir armoring (per foot)		1,030		2.35	2,421		\$2.70	\$6,535.35
Phase total project									\$1,891,969.41

Table L-9n

Task	Northeast # 2	Acres	Length	Average Depth (FT)	CYD/FT	Volume (Cyds or Sqft)	Push/Haul Distance	Unit Cost	Total cost
	TOTAL AREA	67.00							
	TOTAL MINED	56.47							
	WATER AREA	49.45							
	Undisturbed (AC)	4.11							
001	Revegetate (AC.)	7.02						\$1,700.00	\$11,934.00
002	Resoil (AC.)	7.02		0.67		7,550	900	\$1.929	\$14,564.72
003	Rip seed bed (AC.)	7.02						\$193.69	\$1,359.70
004	Grading and Shaping (AC.) includes resoiled and graveled areas	13.44						\$193.69	\$2,603.19
006	Cut Fill Sloping (CYD)		1,398		7.82	10,932		\$1.08	\$11,806.95
007	Backfill sloping (Cuyds)		1,000		31.3	3,130	500	\$1.25	\$3,912.50
008	Slurry wall (LINEAR SQ-FT.)		6,880	38.00				\$6.25	\$1,634,000.00
012	Annual Weed Control								\$500.00
Phase total project									\$1,680,681.07

Table L-10n

Task	Northeast # 3	Acres	Length	Average Depth (FT)	CYD/FT	Volume (Cyds or Sqft)	Push/Haul Distance	Unit Cost	Total cost
	TOTAL AREA	12.12							
	TOTAL MINED	4.52							
	WATER AREA	4.22							
	Undisturbed (AC)	4.33							
001	Revegetate (AC.)	0.99						\$1,700.00	\$1,683.00
002	Resoil (AC.)	0.99		0.67		1,065	900	\$1.929	\$2,054.00
003	Rip seed bed (AC.)	0.99						\$193.69	\$191.75
004	Grading and Shaping (AC.) includes resoiled and graveled areas	2.58						\$193.69	\$499.72
006	Cut Fill Sloping (CYD)		730		31.3	22,849		\$1.08	\$24,676.92
008	Slurry wall (LINEAR SQ-FT.)		2,925	35.00				\$6.25	\$639,843.75
012	Annual Weed Control								\$500.00
014	Reservoir armoring (per foot)		970		2.35	2,280	500	\$2.70	\$6,154.65
Phase total project									\$675,916.14

Table L-11n

Task	Northwest	Acres	Length	Average Depth (FT)	CYD/FT	Volume (Cyds or Sqft)	Push/Haul Distance	Unit Cost	Total cost
	TOTAL AREA	52.33							
	TOTAL MINED	27.47							
	WATER AREA	22.44							
	Undisturbed (AC)	18.76							
001	Revegetate (AC.)	5.03						\$1,700.00	\$8,551.00
002	Resoil (AC.)	5.03		0.67		5,410	900	\$1.929	\$6,957.32
003	Rip seed bed (AC.)	5.03						\$193.69	\$974.26
004	Grading and Shaping (AC.) includes resoiled and graveled areas	11.13						\$193.69	\$2,155.77
006	Cut Fill Sloping (CYD)		695		12.86	8,938		\$1.08	\$9,652.72
007	Backfill sloping (Cuyds)		500 500		70.42 44.95	57,455	500	\$1.25	\$71,818.75
008	Slurry wall (LINEAR SQ-FT.)		6,220	35.00				\$6.25	\$1,360,625.00
012	Annual Weed Control								\$500.00
Phase total project									\$1,462,821.78