COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, Colorado 80203

May 21, 2019

Mark A. Steen
Colorado Milling Company, LLC
P.O. Box 1523
Longmont, CO 80502

**Re: Gold Hill Mill, Permit No. M-1994-117, Amendment Application (Revision No. AM-01), Adequacy Review No. 4**

Mr. Steen:

The Division of Reclamation, Mining and Safety (Division) has completed its fourth adequacy review of the materials submitted for the above referenced amendment application. All comment and review periods for the application began on January 4, 2018, when the application was called complete for filing purposes. The decision date for the application was set for **May 21, 2019** by the Board Order mailed on March 7, 2019.

After reviewing the operator's adequacy response submitted on May 17, 2019, the Division has identified adequacy items requiring clarification or additional information. These items are identified below under their respective exhibit heading, and are numbered sequentially. The item numbers referenced in this letter correlate with the Division's adequacy items identified in its review letter sent on January 14, 2019.

**Exhibit C – Mining Plan (Rule 6.3.3):**

1) The operator's response to item no. 7 refers to the Technical Memorandum regarding the Times Mine Bulkhead Evaluation prepared by Christoph Goss PhD, P.E. of Deere & Ault Consultants, Inc., dated May 15, 2019 (bulkhead evaluation). The Division accepts this bulkhead evaluation as demonstration the bulkhead is designed to impound water as proposed in the application, but only if the operator commits to the recommendations made in the evaluation.

   Please submit the following:

   a) A mine pool drawdown plan to rapidly lower water levels in the mine workings in an emergency situation where bulkhead failure is imminent. This plan should include lowering water levels, at a minimum, below the collar elevation of the winze connecting the Times Mine to the Wynona Mine, 8,347.7 feet. The plan should include details such as the type and location of equipment to be used, pump/flow rate capacities, estimated water volume to be removed, estimated length of time to drawdown the required water volume, and how the operation will manage water pumped from the workings (i.e., Will a discharge permit be required from the CDPHE, WQCD? If so, include in Exhibit F). The mine pool drawdown plan should also

include procedures for evaluating the bulkhead after the mine pool has been lowered to a safe level.

Please commit to the following:

b) Installing stainless steel sleeves on the bulkhead pipes and replacing the PVC valves with stainless steel to protect this equipment from cracking. This should be done when there is no water behind the bulkhead.

c) Investigating the existing pump and top of casing in the Wynona Mine shaft and replacing this equipment if necessary to obtain accurate water level measurements and water quality samples from this mine.

d) Maintaining water levels in the mine workings below the design standard for the bulkhead, 17.6 feet of head (water level behind bulkhead invert) or an elevation of 8,360 feet. This will include monitoring water levels in the mine workings on a weekly basis during operations. The Division strongly recommends the installation of a pressure transducer and datalogger in the drill hole(s) for monitoring water levels during periods where mine staff is unavailable to obtain manual measurements. If water levels are observed to exceed 8,360 feet at any time, the operator must immediately implement the mine pool drawdown plan to get water levels below this elevation.

e) Maintaining the bulkhead pressure below the design standard for the bulkhead, 7.6 psi (with 17.6 feet of head). This will include installing a stainless steel liquid filled pressure gauge (0-50 psi range) on the bulkhead pipes, on a tee between the two valves, and monitoring the gauge on a weekly basis. If bulkhead pressure is observed to exceed 7.6 psi at any time, the operator must immediately implement the mine pool drawdown plan to get bulkhead pressure below this amount.

f) Inspecting the bulkhead on a weekly basis to document conditions, including any increases in seepage or the development of any concentrated areas of flow. Any change in conditions from that observed in the bulkhead evaluation, including any measurable and/or concentrated flows from the bulkhead, would require immediate implementation of the mine pool drawdown plan to lower water levels to, at a minimum, below the collar elevation of the winze.

g) Monitoring water quality in the Times Mine on a quarterly basis (for the sampling parameters approved in this application) to evaluate potential concrete degradation of the bulkhead. The monitoring results shall be submitted to the Division quarterly with other site monitoring data. If water quality results for the Times Mine indicate sulfate concentrations above 150 ppm, the bulkhead evaluation suggests conducting a mortar bar test (ASTM C1038) using the mine water and standard Type-I cement to evaluate the reactivity. The results of such a study, including any proposed mitigation measures must be reviewed and accepted by the Division prior to implementation.

h) Maintaining all monitoring records on site, to be made readily available for Division review during an inspection.

i) Notifying the Division, as soon as reasonably practicable, but no later than 24 hours, after the operator has knowledge of a failure or imminent failure of the Times Mine bulkhead, in accordance with Rule 8.1(a). The operator's general notification responsibilities for reporting emergency conditions are described in Rule 8.2. Please be advised, the Division would consider an exceedance of the water level standard or bulkhead pressure standard, stated in item nos. 1(d) and (e) above, or a change in bulkhead conditions as described in item no. 1(f) above, to be an imminent failure situation requiring notification in accordance with Rules 8.1(a) and 8.2.

j) Obtaining Division approval for any proposed change in the monitoring plans (e.g., frequencies, parameters, locations, equipment) prior to implementation of these changes. This may require submittal of a Technical Revision or Amendment application.

2) The operator's response to item no. 11 did not clarify the error in the estimated annual water usage for mill operations. Pursuant to Rule 6.3.3(1)(h), please specify how much water will be used in conjunction with the operation (as proposed in this application – not as may be proposed in a future application).

**Exhibit E – Map (Rule 6.3.5):**

3) The operator's response to item no. 14 included revised Exhibit E maps. However, some of these maps do not include all of the required information.

Please submit the following:

a) A revised Mining Plan Map(s) (Figure E-1) which clearly outlines and labels the permit boundaries described in Exhibit A – Legal Description as required by Rule 6.3.5(2)(a), particularly the permit boundaries proposed near Left Hand Creek.

b) A revised Reclamation Plan Map(s) (Figure E-5) which includes the following information required by Rule 6.3.5(3), particularly for the mill site:

i. Show the gradient of all reclaimed slopes (horizontal:vertical) sufficient to describe the post mine topography.

ii. Indicate where vegetation will not be established and the general area(s) for shrub or tree planting.

iii. State the average thickness of replaced overburden by reclamation area or phase.

iv. State the average thickness of replaced topsoil by reclamation area or phase.

**Additional Item(s):**

4) The Division has calculated the required financial warranty for the proposed operation to be in the amount of $77,546.00, which is $21,346.00 more than the currently held financial warranty. Please review the enclosed bond estimate and provide any comments to the Division by the decision date. The additional required financial warranty will be due within 60 days of application approval.

5) Please remember that, pursuant to Rule 1.6.2(1)(c), any changes or additions to the application on file in our office must also be reflected in the public review copy which was placed with the County Clerk and Recorder. Pursuant to Rule 6.4.18, you must provide our office with an affidavit or receipt indicating the date this was done.

This completes the Division's fourth adequacy review of your amendment application. Pursuant to Rule 1.4.1(10), the operator has the burden of demonstrating that the application meets the minimum requirements of the Act, Rules, and Regulations. Therefore, all adequacy items identified by the Division must be sufficiently addressed in order for the application to be approved.

As mentioned above, the application decision date of **May 21, 2019** was set by the Board Order mailed on March 7, 2019. Therefore, if you are unable to address all remaining adequacy items by this date, an extension request must be submitted to our office. Such a request would need to be scheduled for consideration by the Mined Land Reclamation Board at an upcoming meeting.

If you have any questions, you may contact me by telephone at 303-866-3567, ext. 8129, or by email at amy.eschberger@state.co.us.

Sincerely,

Amy Eschberger

Amy Eschberger
Environmental Protection Specialist

Encl: Division's Bond Estimate

Cc: Mike Bynum
Colorado Milling Company, LLC
50 West 100 South St.
Moab, UT 80342

Michael Cunningham, DRMS

# COST SUMMARY WORK

Task description: **Cost Summary**

Site: **Gold Hill Mill** Permit Action: AM-01 bond estimate Permit/Job#: M1994117

## PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 5/21/2019 County: Boulder Filename: M117-000
User: AME

Agency or organization name: DRMS

## TASK LIST (DIRECT COSTS)

| Task | Description | Form Used | Fleet Size | Task Hours | Cost |
|---|---|---|---|---|---|
| 001 | Rip consolidated mill tailings | RIPPER | 1 | 2.80 | $628 |
| 002 | Replace topsoil | DOZER | 1 | 4.09 | $848 |
| 003 | Remove fence around tailings impoundment | DEMOLISH | 1 | 8.00 | $3,127 |
| 004 | Puncturing tailings impoundment liner | AIRTOOLS | 1 | 8.00 | $580 |
| 005 | Revegetate areas outside of tailings impoundment | REVEGE | 1 | 8.00 | $3,643 |
| 006 | Revegetate tailings impoundment | REVEGE | 1 | 8.00 | $26,899 |
| 007 | Mobilization/Demobilization | MOBILIZE | 1 | 2.98 | $1,132 |
| 008 | Purchase 624 cy of topsoil at $18/cy | NA | 0 | 0.00 | $11,232 |
| 009 | 4 quarters of water sampling | NA | 0 | 10.00 | $3,000 |
| 010 | Remove pump station structures | DEMOLISH | 1 | 10.00 | $586 |
| 011 | Remove water pipeline | DEMOLISH | 1 | 40.00 | $7,696 |
| 012 | Reclaim Times Mine adit | DEMOLISH | 1 | 10.00 | $820 |
| | | **SUBTOTALS:** | | **111.87** | **$60,191** |

## INDIRECT COSTS

OVERHEAD AND PROFIT:

| | | | |
|---|---|---|---|
| Liability insurance: | 2.02 | Total = | $1,216 |
| Performance bond: | 1.05 | Total = | $632 |
| Job superintendent: | 40.00 | Total = | $2,922 |
| Profit: | 10.00 | Total = | $6,019 |
| | | TOTAL O & P = | $10,789 |
| | | CONTRACT AMOUNT (direct + O & P) = | $70,980 |

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

| | | | |
|---|---|---|---|
| Financial warranty processing (legal/related costs): | $0 | Total = | $0 |
| Engineering work and/or contract/bid preparation: | 4.25 | Total = | $3,017 |
| Reclamation management and/or administration: | 5.00 | | $3,549 |
| CONTINGENCY: | 0.00 | Total = | $0 |
| | | TOTAL INDIRECT COST = | $17,355 |
| | | **TOTAL BOND AMOUNT (direct + indirect) =** | **$77,546** |

# BULLDOZER RIPPING WORK

Task description: **Rip consolidated mill tailings**

Site: **Gold Hill Mill** Permit Action: AM-01 bond estimate Permit/Job#: M1994117

## PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 5/21/2019 County: Boulder Filename: M117-001
User: AME

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

| | | Utilization % |
|---|---|---|
| Ownership Cost/Hour: | $93.62 | NA |
| Operating Cost/Hour: | $73.35 | 100 |
| Ripper Ownership Cost/Hour: | $8.93 | NA |
| Ripper Operating Cost/Hour: | $7.78 | 100 |
| Operator Cost/Hour: | $40.23 | NA |
| Total Unit Cost/Hour: | $223.91 | |

Total Fleet Cost/Hour: **$223.91**

## MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 1.80 acres Rip Depth (ft): 2.00 Volume: 5,808 BCY or CCY

Source of estimated quantity: DRMS Estimate

## HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

| | | |
|---|---|---|
| Average Ripping Depth: | 2.56 | feet/pass |
| Average Ripping Width: | 7.08 | feet/pass |
| Average Ripping Length: | 200.00 | feet/pass |
| Average Dozer Speed: | 88.00 | feet/minute |
| Average Maneuver Time: | 0.25 | minutes/pass |
| Production per unit area: | 0.773 | acres/hour |

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.773 Acres/hr

| | | |
|---|---|---|
| Site Altitude: | 8,290 | feet |
| Altitude Adj: | 1.00 | (CAT HB) |
| Job Efficiency: | 0.83 | (1 shift/day) |
| Net Correction: | 0.83 | multiplier |

Adjusted Hourly Unit Production: 0.64 Acres/hr
Adjusted Hourly Fleet Production: **0.64** Acres/hr

## JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **2.81** Hours

Unit cost: $348.931 Per acre Total job cost: **$628**

# BULLDOZER WORK

Task description: **Replace topsoil**

Site: **Gold Hill Mill** Permit Action: AM-01 bond estimate Permit/Job#: M1994117

## PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 5/21/2019 County: Boulder Filename: M117-002
User: AME

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU
Horsepower: 310
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

| | | Utilization % |
|---|---|---|
| Ownership Cost/Hour: | $93.62 | NA |
| Operating Cost/Hour: | $73.35 | 100 |
| Ripper own. Cost/Hour: | $0.00 | NA |
| Ripper op. Cost/Hour: | $0.00 | 0 |
| Operator Cost/Hour: | $40.23 | NA |

Total unit Cost/Hour: $207.20
Total Fleet Cost/Hour: **$207.20**

## MATERIAL QUANTITIES

Initial Volume: 1,000
Swell factor: 1.000
Loose volume: **1,000** LCY

Source of estimated volume: Division of Reclamation, Mining & Safety
Source of estimated swell factor: Cat Handbook

## HOURLY PRODUCTION

Average push distance: 250 feet
Unadjusted hourly production: 377.8 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 5 %
Average site altitude: 8,290 feet

Material weight: 1,600 lbs/LCY

Weight description: Top Soil

Job Condition Correction Factor Source

| | | |
|---|---|---|
| Operator Skill: | 0.750 | (AVG.) |
| Material consistency: | 1.000 | (CAT HB) |
| Dozing method: | 1.000 | (GEN.) |
| Visibility: | 1.000 | (AVG.) |
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 0.800 | (FND-RF) |
| Push gradient: | 0.903 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 1.438 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |

Net correction: 0.6467

Adjusted unit production: 244.32 LCY/hr

Adjusted fleet production: **244.32** LCY/hr

## JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.848/LCY

Total job time: **4.09** Hours
Total job cost: **$848**

# DEMOLITION WORK

Task description: **Remove fence around tailings impoundment**

Site: **Gold Hill Mill** Permit Action: AM-01 bond estimate Permit/Job#: M1994117

## PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 5/21/2019 County: Boulder Filename: M117-003
User: AME

Agency or organization name: DRMS

**UNIT COSTS** **Location adjustment: 102.20 %**

| Structure or Item Description | Dimensions | Demolition Menu Selection | Quantity | Unit | Unit Cost | Total Cost |
|---|---|---|---|---|---|---|
| Fence around tailings impoundment | 1000 | Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high | 1,000.00 | LF | $3.06 | $3,060.00 |

**Job Hours: 8.00** **Subtotal (unadjusted): $3,060.00** **Total Cost (adjusted for location): $3,127.32**

AIR TOOLS AND EQUIPMENT

Task description: **Puncturing tailings impoundment liner**

Site: **Gold Hill Mill** Permit Action: AM-01 bond estimate Permit/Job#: M1994117

## PROJECT IDENTIFICATION

| | | | | | |
|---|---|---|---|---|---|
| Task #: | 004 | State: | Colorado | Abbreviation: | None |
| Date: | 5/21/2019 | County: | Boulder | Filename: | M117-004 |
| User: | AME | | | | |

Agency or organization name: DRMS

## HOURLY EQUIPMENT COST

| | | | |
|---|---|---|---|
| Air Tool: | Atlas Copco LM100A/YD90 | Horsepower: | 32 |
| Compressor: | Air compressor, diesel - 100 cfm | Shift Basis: | 1 per day |
| Labor Unit 1: | Laborer - General Air Tools | Weight: | 3.54 |
| Labor Unit 2: | | | (US Tons) |

Cost Breakdown:

| | | Utilization % |
|---|---|---|
| Ownership Cost/Hour: | $25.27 | NA |
| Operating Cost/Hour: | $18.92 | 100 |
| Operator Cost/Hour: | $28.35 | NA |
| Total Unit Cost/Hour: | $72.55 | |

Total Fleet Cost/Hour: $72.55

## JOB TIME AND COST

Fleet size: 1 Equipment Set(s) Total job time: **8.00** Hours

Unit cost: $72.55 /Hour Total job cost: **$580**

# REVEGETATION WORK

Task description: **Revegetate areas outside of tailings impoundment**

Site: **Gold Hill Mill** Permit Action: AM-01 bond estimate Permit/Job#: M1994117

## PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 5/21/2019 County: Boulder Filename: M117-005
User: AME

Agency or organization name: DRMS

## FERTILIZING

**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|---|---|---|---|
| 0-20-20, 4-8-12, 10-10-10 | 400.00 | pound | $0.21 | $84.00 |
| | | | **Total Fertilizer Materials Cost/Acre** | **$84.00** |

**Application**

| Description | Cost /Acre |
|---|---|
| Hand spread (MEANS 32 01 90.13 0100) | $579.35 |
| **Total Fertilizer Application Cost/Acre** | **$579.35** |

## TILLING

| Description | Cost /Acre |
|---|---|
| Disc harrowing, 6" deep (MEANS 32 91 13.23 6100) | $106.29 |
| **Total Tilling Cost/Acre** | **$106.29** |

## SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|---|---|---|---|
| Arizona Fescue - Redondo | 2.80 | 32.14 | $33.94 |
| Meadow Brome - Paddock | 2.00 | 1.84 | $10.24 |
| Little Bluestem - Native | 6.40 | 38.20 | $103.23 |
| Slender Wheatgrass - Native | 8.80 | 32.12 | $25.34 |
| Western Wheatgrass - Native | 16.80 | 42.42 | $120.46 |
| **Totals Seed Mix** | 36.80 | 146.72 | **$293.21** |

**Application**

| Description | Cost /Acre |
|---|---|

| | |
|---|---|
| Broadcast seeding [DMG] | $267.22 |
| **Total Seed Application Cost/Acre** | **$267.22** |

## MULCHING and MISCELLANEOUS

**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|---|---|---|---|
| Straw, delivered {MEANS 31 25 14.16 1200} | 2.00 | TON | $288.00 | $576.00 |
| **Total Mulch Materials Cost/Acre** | | | | **$576.00** |

**Application**

| Description | Cost /Acre |
|---|---|
| Power mulcher (MEANS 32 91 13.16 0350) | $92.78 |
| Weed spray, hand, non-aquatic area, nox. [DMG] | $184.32 |
| Weed spray, hand, non-aquatic areas, ann. [DMG] | $120.01 |
| **Total Mulch Application Cost/Acre** | **$397.11** |

## NURSERY STOCK PLANTING

| Common Name | No / Acre | Type and Size | Planting Cost | Fertilizer Pellet Cost | Cost /Acre |
|---|---|---|---|---|---|
| Juniper, Rocky Mountain | 30 | Tubling, 3 cu. in. container (MEANS) | $1.22 | $0.00 | $36.60 |
| Pine, Ponderosa | 30 | Tubling, 3 cu. in. container (MEANS) | $1.17 | $0.00 | $35.10 |
| **Totals Nursery Stock Cost / Acre** | | | | | **$71.70** |

## JOB TIME AND COST

No. of Acres: 1.18 Cost /Acre: $2,374.88
Estimated Failure Rate: 30% Cost /Acre*: $2,374.88
*Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING,NURSERY,MULCHING

Initial Job Cost: **$2,802.36**
Reseeding Job Cost: **$840.71**
Total Job Cost: **$3,643**
Job Hours: **8.00**

# REVEGETATION WORK

Task description: **Revegetate tailings impoundment**

Site: **Gold Hill Mill** Permit Action: AM-01 bond estimate Permit/Job#: M1994117

## PROJECT IDENTIFICATION

Task #: 006 State: Colorado Abbreviation: None
Date: 5/21/2019 County: Boulder Filename: M117-006
User: AME

Agency or organization name: DRMS

## FERTILIZING

**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|---|---|---|---|
| 0-20-20, 4-8-12, 10-10-10 | 500.00 | pound | $0.21 | $105.00 |
| Hydrated lime (MEANS 04 05 13.20 0020) | 15.00 | ton | $448.00 | $6,720.00 |
| | | | **Total Fertilizer Materials Cost/Acre** | **$6,825.00** |

**Application**

| Description | Cost /Acre |
|---|---|
| Hand push spreader (MEANS 32 91 13.16 0850) | $629.20 |
| **Total Fertilizer Application Cost/Acre** | **$629.20** |

## TILLING

| Description | Cost /Acre |
|---|---|
| Chisel plowing {DMG} | $92.77 |
| **Total Tilling Cost/Acre** | **$92.77** |

## SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|---|---|---|---|
| Creeping Red Fescue - Cindy | 4.00 | 50.51 | $9.08 |
| Orchardgrass - Paiute | 12.00 | 148.76 | $44.52 |
| Smooth Brome - Lincoln | 10.00 | 33.29 | $43.60 |
| Hard Fescue - Discovery | 8.00 | 103.76 | $30.40 |
| Intermediate Wheatgrass - Rush | 16.00 | 34.16 | $61.44 |
| Slender Wheatgrass - Native | 16.00 | 58.40 | $46.08 |
| Thurber's Fescue | 4.00 | 41.32 | $251.60 |
| Spike Muhly | 4.00 | 146.92 | $39.44 |
| Timothy, Alpine - Native | 4.00 | 119.38 | $99.00 |
| | | | |

| | | | |
|---|---|---|---|
| **Totals Seed Mix** | 78.00 | 736.50 | **$625.16** |

**Application**

| **Description** | **Cost /Acre** |
|---|---|
| Hydro seeding (MEANS 32 92 19.14 0200) | $919.12 |
| **Total Seed Application Cost/Acre** | **$919.12** |

## MULCHING and MISCELLANEOUS

**Materials**

| **Description** | **Units / Acre** | **Unit** | **Cost / Unit** | **Cost /Acre** |
|---|---|---|---|---|
| Straw, delivered {MEANS 31 25 14.16 1200} | 2.00 | TON | $288.00 | $576.00 |
| **Total Mulch Materials Cost/Acre** | | | | **$576.00** |

**Application**

| **Description** | **Cost /Acre** |
|---|---|
| Power mulcher (MEANS 32 91 13.16 0350) | $92.78 |
| **Total Mulch Application Cost/Acre** | **$92.78** |

## NURSERY STOCK PLANTING

| **Common Name** | **No / Acre** | **Type and Size** | **Planting Cost** | **Fertilizer Pellet Cost** | **Cost /Acre** |
|---|---|---|---|---|---|
| | | | | | $ |
| **Totals Nursery Stock Cost / Acre** | | | | | **$0.00** |

## JOB TIME AND COST

No. of Acres: 2.12 Cost /Acre: $9,760.03
Estimated Failure Rate: 30% Cost /Acre*: $9,760.03
*Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING,NURSERY,MULCHING

Initial Job Cost: **$20,691.26**
Reseeding Job Cost: **$6,207.38**
Total Job Cost: **$26,899**
Job Hours: **8.00**

# EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilization/Demobilization**

Site: **Gold Hill Mill** Permit Action: AM-01 bond estimate Permit/Job#: M1994117

## PROJECT IDENTIFICATION

Task #: 007 State: Colorado Abbreviation: None
Date: 5/21/2019 County: Boulder Filename: M117-007
User: AME

Agency or organization name: DRMS

## EQUIPMENT TRANSPORT RIG COST

Shift basis: 1 per day
Cost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

| Available Rig Capacities | 0-25 Tons | 26-50 Tons | 51+ Tons |
|---|---|---|---|
| Ownership Cost/Hour: | $16.63 | $18.37 | $22.33 |
| Operating Cost/Hour: | $44.38 | $46.13 | $50.07 |
| Operator Cost/Hour: | $27.66 | $27.66 | $27.66 |
| Helper Cost/Hour: | $0.00 | $25.39 | $25.39 |
| Total Unit Cost/Hour: | $88.67 | $117.55 | $125.45 |

## NON ROADABLE EQUIPMENT:

| Machine Description | Weight/ Unit (TONS) | Owner ship Cost/hr/ unit | Haul Rig Cost/hr/unit | Fleet Size | Haul Trip Cost/hr/ fleet | Return Trip Cost/hr/ fleet | DOT Permit Cost/ fleet |
|---|---|---|---|---|---|---|---|
| Cat D8T - 8SU | 53.08 | $102.55 | $125.45 | 1 | $228.00 | $125.45 | $250.00 |
| Subtotals: | | | | | **$228.00** | **$125.45** | **$250.00** |

## ROADABLE EQUIPMENT:

| Machine Description | Total Cost/hr/ unit | Fleet Size | Haul Trip Cost/hr/ fleet | Return Trip Cost/hr/ fleet |
|---|---|---|---|---|
| Light Duty Pickup, 4x4, 1 T. Crew | $19.39 | 1 | $19.39 | $19.39 |
| Power Mulcher (Bowie LD-90) | $24.07 | 1 | $24.07 | $24.07 |
| Subtotals: | | | **$43.46** | **$43.46** |

## EQUIPMENT HAUL DISTANCE and Time

| | | |
|---|---|---|
| Nearest Major City or Town within project area region: | BOULDER | |
| Total one-way travel distance: | 12.50 | miles |
| Average Travel Speed: | 30.00 | mph |
| Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig: | $1,095.50 | |
| Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig: | $36.22 | |

Transportation Cycle Time:

| | Non-Roadable Equipment | Roadable Equipment |
|---|---|---|
| Haul Time (Hours): | 0.42 | 0.42 |
| Return Time (Hours): | 0.42 | 0.42 |
| Loading Time (Hours): | 0.33 | NA |
| Unloading Time (Hours): | 0.33 | NA |
| Subtotals: | 1.49 | 0.83 |

## JOB TIME AND COST

| | | |
|---|---|---|
| Total job time: | **2.99** | Hours |
| Total job cost: | **$1,132** | |

# DEMOLITION WORK

Task description: **Remove pump station structures**

Site: **Gold Hill Mill** Permit Action: AM-01 bond estimate Permit/Job#: M1994117

## PROJECT IDENTIFICATION

Task #: 010 State: Colorado Abbreviation: None
Date: 5/21/2019 County: Boulder Filename: M117-010
User: AME

Agency or organization name: DRMS

**UNIT COSTS** **Location adjustment: 101.20 %**

| Structure or Item Description | Dimensions | Demolition Menu Selection | Quantity | Unit | Unit Cost | Total Cost |
|---|---|---|---|---|---|---|
| Remove pump station connex | 8' x 10' | CAT 938H | 1.00 | EA | $94.58 | $94.58 |
| Remove fuel tank | 300 gallon | CAT 938H | 1.00 | EA | $94.58 | $94.58 |
| Truck | 1 | Flatbed Truck, 4x2, 15K GVW | 1.00 | EA | $20.88 | $20.88 |
| Haul to Western Disposal Yard in Boulder | 15 miles | Hauling only, per mile, 12-18 CY truck - 30 mph average speed | 15.00 | MI | $7.04 | $105.60 |
| Laborers | 2 | Loader | 2.00 | EA | $29.89 | $59.78 |
| Driver/Operator for Flatbed Truck | 1 | MiscTruck | 1.00 | EA | $23.63 | $23.63 |
| Disposal Costs | 1 | USER PROVIDED ITEM | 1.00 | load | $150.00 | $150.00 |
| Remove buried portion of pipeline | 15' L x 3' depth | USER PROVIDED ITEM | 15.00 | LF | $2.00 | $30.00 |

**Job Hours: 10.00** **Subtotal (unadjusted): $579.05** **Total Cost (adjusted for location): $586.00**

# DEMOLITION WORK

Task description: **Remove water pipeline**

Site: **Gold Hill Mill** Permit Action: AM-01 bond estimate Permit/Job#: M1994117

## PROJECT IDENTIFICATION

Task #: 011 State: Colorado Abbreviation: None
Date: 5/21/2019 County: Boulder Filename: M117-011
User: AME

Agency or organization name: DRMS

**UNIT COSTS** **Location adjustment: 101.20 %**

| Structure or Item Description | Dimensions | Demolition Menu Selection | Quantity | Unit | Unit Cost | Total Cost |
|---|---|---|---|---|---|---|
| Remove lower 2,000' galvanized steel pipeline | 2,000' x 2" diameter | Pipe, steel, welded connections - 4 in. diameter pipe | 2,000.00 | LF | $1.67 | $3,340.00 |
| Remove 2,700' HDPE pipeline | 2,700' x 2" diameter | USER PROVIDED ITEM | 2,700.00 | LF | $0.80 | $2,160.00 |
| Remove pipeline | 1 | CAT 938H | 1.00 | EA | $94.58 | $94.58 |
| Remove pipeline | 1 | Flatbed Truck, 4x2, 15K GVW | 1.00 | EA | $20.88 | $20.88 |
| Haul to Western Disposal Yard in Boulder | 1 | Hauling only, per mile, 12-18 CY truck - 30 mph average speed | 15.00 | MI | $7.04 | $105.60 |
| Laborers | 2 | Loader | 2.00 | EA | $29.89 | $59.78 |
| Operator/Driver | 1 | MiscTruck | 1.00 | EA | $23.63 | $23.63 |
| Disposal Costs | 1 | USER PROVIDED ITEM | 12.00 | load | $150.00 | $1,800.00 |

**Job Hours:** **40.00** **Subtotal (unadjusted):** **$7,604.47** **Total Cost (adjusted for location):** **$7,695.72**

# DEMOLITION WORK

Task description: **Reclaim Times Mine adit**

Site: **Gold Hill Mill** Permit Action: AM-01 bond estimate Permit/Job#: M1994117

## PROJECT IDENTIFICATION

Task #: 012 State: Colorado Abbreviation: None
Date: 5/21/2019 County: Boulder Filename: M117-012
User: AME

Agency or organization name: DRMS

**UNIT COSTS** **Location adjustment: 101.20 %**

| Structure or Item Description | Dimensions | Demolition Menu Selection | Quantity | Unit | Unit Cost | Total Cost |
|---|---|---|---|---|---|---|
| Removal of 100' of pipeline to bulkhead | 100' L x 2" diameter | USER PROVIDED ITEM | 100.00 | LF | $0.75 | $75.00 |
| Cement 3 PVC pipes extending through 3' thick bulkhead | 9' L x 3" diameter | USER PROVIDED ITEM | 2.00 | bags | $30.00 | $60.00 |
| Laborer | 1 | USER PROVIDED ITEM | 5.00 | hour | $18.00 | $90.00 |
| Miner | 1 | USER PROVIDED ITEM | 5.00 | hour | $40.00 | $200.00 |
| Haul materials to Western Disposal Yard in Boulder | 100' L x 2" diameter | Hauling only, per mile, 12-18 CY truck - 30 mph average speed | 15.00 | MI | $7.04 | $105.60 |
| Metal door welding at portal | 5' diameter | USER PROVIDED ITEM | 2.00 | hour | $65.00 | $130.00 |
| Disposal costs | 1 | USER PROVIDED ITEM | 1.00 | load | $150.00 | $150.00 |

**Job Hours: 10.00** **Subtotal (unadjusted): $810.60** **Total Cost (adjusted for location): $820.33**