



COLORADO
Division of Reclamation,
Mining and Safety
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

November 28, 2016

Mr. Don Friess
D2 CAD Consulting, LLC
7863 S. Kittredge Cir.
Englewood, CO 80215

Re: Loveland Ready-Mix Concrete, Inc.; Green/Croissant Property Sand and Gravel Mine; File No. M-2001-022; 112c Permit Amendment (AM-01) Application Adequacy Review

Mr. Friess:

The Division of Reclamation, Mining and Safety (Division/DRMS) has reviewed the content of the Loveland Ready-Mix Concrete, Inc. 112c permit amendment (AM-01) application for the Green/Croissant Property Sand and Gravel Mine, File No. M-2001-022 and submits the following comments. The Division is required to make an approval or denial decision no later than January 3, 2017 therefore; a response to the following adequacy review concerns should be submitted to the Division as soon as possible.

The review consisted of comparing the application content with specific requirements of Rules 1, 3, 6.1, 6.2, 6.4 and 6.5 of the Minerals Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials. Any inadequacies are identified under the respective exhibit heading along with suggested actions to correct them.

1.6 Public Notice

1. As required by Rule 1.6.2(d) and 1.6.5(2), please submit proof of publication in a newspaper of general circulation in the locality of the proposed mining operation.
2. As required by Rule 1.6.2(e), please submit proof of the notice to all owners of record of surface and mineral rights of the affected land and the owners of record of all land surface within 200 feet of the boundary of the affected land including all easement holders located on the affected land and within 200 feet of the boundary of the affected land. Proof of notice may be return receipts of a Certified Mailing or by proof of personal service.
3. The Division received comments from the Colorado Division of Water Resources and History Colorado. The letters are attached for review. Please address the comments noted in the letters and make any changes to the application as needed.



6.4 Specific Exhibit Requirements - Regular 112 Operations

The following items must be addressed by the Applicant in order to satisfy the requirements of C.R.S. 34-32.5-101 et seq. and the Mineral Rules and Regulations of the Mined Land Reclamation Board:

6.4.5 Exhibit E - Reclamation Plan

4. The Applicant states Loveland Ready Mix will be submitting a Minor Amendment to Weld County land use permit AmUSR-13229 to allow continued operation of the processing and batch plants. Please commit to providing the Division with a copy of the approved USR amendment when available.

6.4.12 Exhibit L - Reclamation Costs

5. The Division estimated the cost to reclaim the site based on the information submitted by the Applicant at \$209,700.00. A copy of the bond estimate is attached for review.

6.4.18 Exhibit R - Proof of Filing with County Clerk and Recorder

6. Please provided an affidavit or receipt indicating the date on which the revised application information required to address this adequacy letter was placed with the Weld County Clerk and Recorder for public review, pursuant to Subparagraph 1.6.2(1)(c).

Please be advised the Green/Croissant Mine amendment application may be deemed inadequate, and the application may be denied on January 3, 2017, unless the above mentioned adequacy review items are addressed to the satisfaction of the Division. If more time is needed to complete the reply, the Division can grant an extension to the decision date. This will be done upon receipt of a written waiver of the Applicant's right to a decision by January 3, 2017 and request for additional time. This must be received no later than the deadline date.

If you have any questions, please contact me at peter.hays@state.co.us or (303) 866-3567 Ext. 8124.

Sincerely,



Peter S. Hays
Environmental Protection Specialist

Enclosures - Colorado Division of Water Resources and History Colorado comment letters, DRMS bond estimate

Ec: Wally Erickson; Division of Reclamation, Mining & Safety
 Mike McDermid; Consulting Civil & Water Resources Engineering, LLC



COLORADO

Division of Water Resources

Department of Natural Resources

1313 Sherman Street, Room 821
Denver, CO 80203

RECEIVED

✓ OCT 05 2016

DIVISION OF RECLAMATION
MINING AND SAFETY

✓ **Response to Reclamation Permit Amendment Application Consideration**

DATE: October 13, 2016
TO: Peter S. Hays, Environmental Protection Specialist
CC: Division 1 Office, District 4 Water Commissioner
FROM: Sarah Brucker, P.E. *SB* ✓ ✓
RE: Green/Croissant Pit, File No. M-2001-022 AM01
Applicant/Operator: Loveland Ready Mix Concrete
Phone Number: (970) 667-2680
Section 30, Twp 5 North, Rng 67 West, 6th P.M., Weld County

COMMENTS: The Green/Croissant Pit is a sandstone mining operation located approximately 7 miles east of Loveland, Colorado. The subject application seeks to change the post-mining land use for western portion of the site from agricultural and wildlife habitat to industrial/commercial use. The applicant proposes to continue to operate the existing concrete batch plant and associated aggregate processing after mining at the site is completed. The eastern portion of the site will be reclaimed to wildlife habitat as initially proposed. The Green/Croissant Pit is included in the Loveland Ready Mix Concrete, Inc. plan for augmentation decreed in Division 1 Water Court case no. 2009CW105. The augmentation plan allows for the consumption of up to 35 acre-feet per year during mining and 25.5 acre-feet of water per year after completion of mining at the Walters and Bokelman Pits and Green/Croissant Pit for uses associated with the processing plant.

This office has no objection to the proposed amendment so long as the augmentation plan is operated in accordance with its decreed terms and conditions. The applicant may contact the State Engineer's Office with any questions.





RECEIVED

✓ NOV 03 2016

DIVISION OF RECLAMATION
MINING AND SAFETY

October 28, 2016

Peter S. Hays
Environmental Projection Specialist
Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, Colorado 80203

Response

Re: Notice of 112 Construction Materials Reclamation Permit Amendment Application Consideration Loveland Ready Mix Concrete, Inc., Green/Croissant Property Sand and Gravel Mine, Permit No. M-2001-022 - AM01 (HC #35704) ✓ ✓

Dear Mr. Hays:

We received your correspondence dated October 5, 2016 on October 11, 2016 initiating consultation with our office under the State Register of Historic Places Act (CRS 24-80-1 et seq.) for the above referenced project.

A search of our database indicates that no cultural resource inventory has been conducted within the proposed permit area and no properties of historical significance have been recorded therein. Please note, as most of Colorado has not been inventoried for cultural resources, our files contain incomplete information. Consequently there is the possibility that as yet unidentified cultural resources exist within the proposed permit area. The requirements under CRS 24-80 part 13 apply and must be followed if human remains are discovered during ground disturbing activities.

We thank you for the opportunity to comment. If we may be of further assistance, please contact Mark Tobias, Intergovernmental Services Manager, at (303) 866-4674 or mark.tobias@state.co.us.

Sincerely,

for Steve Turner, AIA
State Historic Preservation Officer
ST/mt

COST SUMMARY WORK

Task description: Green/Croissant AM-01 Cost Summary

Site: Green/Croissant Property
Sand and Gravel Mine

Permit Action: AM-01 Bond Estimate

Permit/Job#: M2001022

PROJECT IDENTIFICATION

Task #: 001
Date: 11/16/2016
User: PSH

State: Colorado
County: Weld

Abbreviation: None
Filename: M022-001

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
002	Backfill Pit Walls 3:1 w/ overburden	TRUCK1	2	173.79	\$130,486.00
003	Final Grading	DOZER	1	14.86	\$2,990.00
004	6" Topsoil Placement on Slopes and Ground Surfaces	TRUCK1	1	50.32	\$21,053.00
005	Seeding/Mulching/Fertilizing and Maintenance	REVEGE	1	80.00	\$26,450.00
006	Mobilization	MOBILIZE	1	3.64	\$4,516.00
<u>SUBTOTALS:</u>				322.61	\$185,495

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 0.00
Profit: 10.00

Total = \$3,747.00
Total = \$1,947.70
Total = \$0.00
Total = \$18,549.50

TOTAL O & P = \$24,244.20

CONTRACT AMOUNT (direct + O & P) = \$209,739.20

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 0.00
Engineering work and/or contract/bid preparation: 0.00
Reclamation management and/or administration: 0.00

Total = 0.00
Total = \$0.00
Total = \$0.00

CONTINGENCY: 0.00

Total = \$0.00

TOTAL INDIRECT COST = \$24,244.20

**TOTAL BOND AMOUNT (direct + indirect) = \$209,700.00
(Rounded)**

TRUCK/LOADER TEAM WORKTask description: Backfill Pit Walls 3:1 w/ overburdenSite: Green/Croissant Property
Sand and Gravel MinePermit Action: AM-01 Bond EstimatePermit/Job#: M2001022**PROJECT IDENTIFICATION**Task #: 002
Date: 11/16/2016
User: PSHState: Colorado
County: WeldAbbreviation: None
Filename: M022-002Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Generic 7-8 cy, 4x4
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	NA	NA
Ownership cost/hour:	\$12.54	\$25.04	NA	\$82.01	NA	NA
Operating cost/hour:	\$30.00	\$36.17	NA	\$79.23	NA	NA
%Utilization-riper:	NA	0	NA	100	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$8.40	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$5.62	NA	NA
Operator cost/hour:	\$0.00	\$40.67	NA	\$39.87	NA	NA
Unit Subtotals:	\$42.54	\$101.88	NA	\$206.73	NA	NA
Number of Units:	8	2	0	1	0	0
Group Subtotals:	Work: \$544.08		Support: \$206.73		Maint: \$0.00	

Total work team cost/hour: \$750.81**MATERIAL QUANTITIES**Initial volume: 102,000 CCY Swell factor: 1.125
Loose volume: 114,750 LCYSource of estimated volume: Permit Application
Source of estimated swell factor: Cat Handbook
Material Purchase Cost: \$0.00
Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 2,650 Pounds/LCY
Description: Decomposed rock - 25% Rock, 75% Earth
Rated Payload: 20,300 Pounds

Payload Capacity: 7.66 LCY**Truck Bed (volume) Basis:**

Struck Volume:	<u>7.00</u>	LCY
Heaped Volume:	<u>8.00</u>	LCY
Average Volume:	<u>7.50</u>	LCY
Adjusted Volume:	<u>7.66</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 3.98 LCY**Loading Tool Capacity**Bucket Size Class: NA

Rated Capacity:	<u>4.300</u>	LCY (heaped)
Bucket Fill Factor:	<u>0.925</u>	Loose material - 1/8" to 3/8" (90 - 95%) 0.925
Adjusted Capacity:	<u>3.978</u>	LCY

Job Condition Corrections:Site Altitude (ft.): 4810 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 1 passes**Excavators and Front Shovels:**

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):Load: NA Maneuver: NA Dump: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Independently owned trucks 0.04	0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		<u>0.020</u>	minutes
Adjusted Loader Cycle Time:		<u>0.520</u>	minutes
Net Load Time per Truck:		<u>0.100</u>	minutes

Truck Cycle Time:

Truck Exchange Time:	<u>0.50</u>	Minutes	Adjusted for site altitude:	<u>0.500</u>	Minutes
Truck Load Time:	<u>0.100</u>	Minutes	Adjusted for site altitude:	<u>0.100</u>	Minutes
Truck Maneuver and Dump Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-5.00	3.00	-2.00	2938	0.410

Haul Time: 0.410 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	5.00	3.00	8.00	2202	0.474

Return Time: 0.474 minutesTotal Truck Cycle Time: 2.284 minutes

Loading Tool unit Production 397.75 LCY/Hour
 Truck Unit Production 104.49 LCY/Hour
 Optimal No. of Trucks: 4 Truck(s)

Adjusted for job efficiency: 330.13 LCY/Hour
 Adjusted for job efficiency: 86.72 LCY/Hour
 Selected Number of Trucks: 4 Truck(s)

Adjusted hourly truck team production: 346.90 LCY/Hour
 Adjusted single truck/loader team production: 330.13 LCY/Hour
 Adjusted multiple truck/loader team production: 660.27 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Team(s) Total job time: 173.79 Hours
 Unit cost: \$1.137 /LCY Total job cost: \$130,486

BULLDOZER WORKTask description: **Final Grading**Site: **Green/Croissant Property**
Sand and Gravel MinePermit Action: **AM-01 Bond Estimate**Permit/Job#: **M2001022****PROJECT IDENTIFICATION**Task #: **003**State: **Colorado**Abbreviation: **None**Date: **11/16/2016**County: **Weld**Filename: **M022-003**User: **PSH**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:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$82.01	NA
Operating Cost/Hour:	\$79.23	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$39.87	NA
Total unit Cost/Hour:	\$201.11	
Total Fleet Cost/Hour:	\$201.11	

MATERIAL QUANTITIESInitial Volume: **13,713**Swell factor: **1.125**Loose volume: **15,427 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **1,400.0 LCY/hr**Materials consistency description: **Loose stockpile 1.2**Average push gradient: **-10 %**Average site altitude: **4,810 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7413

Adjusted unit production: 1,037.82 LCY/hr

Adjusted fleet production: 1037.82 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
 Unit cost: \$0.194/LCY

Total job time: 14.86 Hours
 Total job cost: \$2,990

TRUCK/LOADER TEAM WORKTask description: 6" Topsoil Placement on Slopes and Ground SurfacesSite: Green/Croissant Property
Sand and Gravel MinePermit Action: AM-01 Bond EstimatePermit/Job#: M2001022**PROJECT IDENTIFICATION**Task #: 004
Date: 11/16/2016
User: PSHState: Colorado
County: WeldAbbreviation: None
Filename: M022-004Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Generic 7-8 cy, 4x4
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	CAT 16M
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	NA	NA
Ownership cost/hour:	\$12.54	\$25.04	NA	\$79.03	NA	NA
Operating cost/hour:	\$30.00	\$36.17	NA	\$69.17	NA	NA
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$0.00	\$40.67	NA	\$40.67	NA	NA
Unit Subtotals:	\$42.54	\$101.88	NA	\$188.87	NA	NA
Number of Units:	3	1	0	1	0	0
Group Subtotals:	Work: \$229.50		Support: \$188.87		Maint: \$0.00	

Total work team cost/hour: \$418.37**MATERIAL QUANTITIES**Initial volume: 13,800 CCY
Loose volume: 13,800 LCYSwell factor: 1.000Source of estimated volume: Permit Application
Source of estimated swell factor: Cat Handbook
Material Purchase Cost: \$0.00
Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 1,600 Pounds/LCY
Description: Top Soil
Rated Payload: 20,300 Pounds

Payload Capacity: 12.69 LCY**Truck Bed (volume) Basis:**

Struck Volume: 7.00 LCY
 Heaped Volume: 8.00 LCY
 Average Volume: 7.50 LCY
 Adjusted Volume: 8.00 LCY

Final Truck Volume Based on Number of Loader Passes: 4.19 LCY**Loading Tool Capacity**Bucket Size Class: NA

Rated Capacity: 4.300 LCY (heaped)
 Bucket Fill Factor: 0.975 Loose material - mixed moist aggregates (95-100%) 0.975
 Adjusted Capacity: 4.193 LCY

Job Condition Corrections:Site Altitude (ft.): 4810 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 1 passes**Excavators and Front Shovels:**

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.040	minutes
Adjusted Loader Cycle Time:		0.460	minutes
Net Load Time per Truck:		0.100	minutes

Truck Cycle Time:

Truck Exchange Time: 0.50 Minutes Adjusted for site altitude: 0.500 Minutes
 Truck Load Time: 0.100 Minutes Adjusted for site altitude: 0.100 Minutes
 Truck Maneuver and Dump Time: 0.80 Minutes Adjusted for site altitude: 0.800 Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-5.00	3.00	-2.00	2938	0.410

Haul Time: 0.410 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	5.00	3.00	8.00	2202	0.474

Return Time: 0.474 minutesTotal Truck Cycle Time: 2.284 minutes

Loading Tool unit Production 419.25 LCY/Hour
 Truck Unit Production 110.14 LCY/Hour
 Optimal No. of Trucks: 4 Truck(s)

Adjusted for job efficiency: 347.98 LCY/Hour
 Adjusted for job efficiency: 91.41 LCY/Hour
 Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 274.24 LCY/Hour
 Adjusted single truck/loader team production: 274.24 LCY/Hour
 Adjusted multiple truck/loader team production: 274.24 LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 50.32 Hours
 Unit cost: \$1.526 /LCY Total job cost: \$21,053

REVEGETATION WORKTask description: Seeding/Mulching/Fertilizing and MaintenanceSite: Green/Croissant Property
Sand and Gravel MinePermit Action: AM-01 Bond EstimatePermit/Job#: M2001022**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: 11/16/2016County: WeldFilename: M022-005User: PSHAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	10.00	pound	\$0.33	\$3.30
			Total Fertilizer Materials Cost/Acre	\$3.30

Application

Description	Cost /Acre
Truck whirlwind spreader (MEANS 32 01 90.13 0140)	\$13.93
	Total Fertilizer Application Cost/Acre
	\$13.93

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$107.59
	Total Tilling Cost/Acre
	\$107.59

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Lovington	4.00	65.29	\$43.52
Indian Ricegrass - Native	2.00	6.47	\$13.50
Sideoats Grama - Vaughn	4.00	13.13	\$45.04
Pubescent Wheatgrass - Luna	4.00	8.26	\$8.96
Western Wheatgrass - Barton	4.00	10.10	\$14.76
Totals Seed Mix	18.00	103.26	\$125.78

Application

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Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
Total Seed Application Cost/Acre	\$232.00

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$66.02
Weed spray, hand, non-aquatic area, nox. [DMG]	\$183.16
Weed spray, hand, non-aquatic areas, ann. [DMG]	\$119.47
Total Mulch Application Cost/Acre	\$368.65

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:	15	Cost /Acre:	\$1,381.25
Estimated Failure Rate:	30%	Cost /Acre*:	\$1,273.66
*Selected Replanting Work Items:	FERTILIZING, SEEDING, MULCHING		
Initial Job Cost:	\$20,718.75		
Reseeding Job Cost:	\$5,731.47		
Total Job Cost:	\$26,450		
Job Hours:	80.00		

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilization**Site: **Green/Croissant Property**
Sand and Gravel Mine

Permit Action:

AM-01 Bond EstimatePermit/Job#: **M2001022****PROJECT IDENTIFICATION**Task #: **006**State: **Colorado**Abbreviation: **None**Date: **11/16/2016**County: **Weld**Filename: **M022-006**User: **PSH**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 950H	20.13	\$25.04	\$88.67	2	\$227.42	\$177.34	\$500.00
CAT 16M	28.73	\$79.03	\$117.55	1	\$196.58	\$117.55	\$250.00
Cat D8T - 8SU	53.08	\$90.41	\$125.45	1	\$215.86	\$125.45	\$250.00

Subtotals: **\$639.86** **\$420.34** **\$1,000.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 7-8 cy, 4x4	\$68.00	8	\$544.00	\$544.00

Subtotals: **\$544.00** **\$544.00**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>GREELEY</u>	
Total one-way travel distance:	<u>10.00</u>	miles
Average Travel Speed:	<u>35.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$4,205.48</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$310.86</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.29</u>	<u>0.29</u>
Return Time (Hours):	<u>0.29</u>	<u>0.29</u>
Loading Time (Hours):	<u>0.75</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>1.82</u>	<u>0.57</u>

JOB TIME AND COST

Total job time:	<u>3.64</u>	Hours
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Total job cost:	<u>\$4,516</u>
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