

STATE OF
COLORADO

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

Re: M2006042 Amendment 1 Cost Estimate

Mark Kokes <mdkokes@gmail.com>

Tue, Dec 5, 2023 at 2:37 PM

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

Nikie, I've reviewed and can live with this. Thank you for helping navigate the process. Please let me know what the next steps are. I will go to the bank and get my bond increased. Are there forms necessary to get this done?
Thanks again

Mark Kokes

On Mon, Dec 4, 2023 at 12:23 PM Gagnon - DNR, Nikie <nikie.gagnon@state.co.us> wrote:

Hello Mark.

I revised the cost estimate based on the pre-op inspection last week. The new amount is \$93,875. The estimate includes 7.5 acres for topsoiling and 8.5 acres for reseeding/revegetation work in the existing permit area, and 10 acres for both tasks in the amendment area. I stuck with 2 scrapers because it reduced the task hours by quite a bit and the cost difference is small when I compared it to a single dozer. There's also a small cost (\$2,054) for ripping the 3 acre stockpile area. Once the reveg work is complete in the existing permit area, you could apply for a bond reduction. We would only bond for reseeding until a full release.

Please review the estimate and let me know if you have any questions. I'll send the inspection report in a separate email. The decision date on the amendment is December 21. Once we agree on the bond, I'll move forward with the approval.

Kind regards,

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Nikie Gagnon
Environmental Protection Specialist**COLORADO**
Division of Reclamation,
Mining and Safety
Department of Natural Resources

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nikie.gagnon@state.co.us | <https://www.drms.colorado.gov>

COST SUMMARY WORK

Task description: Amendment 1 Cost Estimate

Site: MMM Partnership Gravel Pit

Permit Action: AM1

Permit/Job#: M2006042

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 12/4/2023

County: Logan

Filename: M042-000

User: NCG

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
002	Replace Topsoil on 10 acres	SCRAPER1	2	3.41	\$12,381
003	Revegetate 10 acres	REVEGE	1	5.00	\$22,309
004	Mob/Demob of Reclamation Equipment	MOBILIZE	1	5.77	\$11,398
005	Ripping existing 3 acres stockpile area	RIPPER	1	4.58	\$2,054
006	Replace Topsoil on 7.5 acres	SCRAPER1	2	2.95	\$10,719
007	Revegetate 8.5 acres	REVEGE	1	7.00	\$18,962
<u>SUBTOTALS:</u>				28.71	\$77,823

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$1,572

Performance bond: 1.05

Total = \$817

Job superintendent: 14.35

Total = \$934

Profit: 10.00

Total = \$7,782

TOTAL O & P = \$11,105

CONTRACT AMOUNT (direct + O & P) = \$88,928

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500

Total = \$500

Engineering work and/or contract/bid preparation: 0.00

Total = \$0

Reclamation management and/or administration: 5.00

\$4,446

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$16,052

TOTAL BOND AMOUNT (direct + indirect) = \$93,875

SCRAPER TEAM WORKTask description: **Replace Topsoil on 10 acres**Site: **MMM Partnership Gravel Pit**Permit Action: AM1Permit/Job#: M2006042**PROJECT IDENTIFICATION**Task #: 002State: ColoradoAbbreviation: NoneDate: 11/29/2023County: LoganFilename: M042-002User: NATAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 631G
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 2,500 Gal.

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	50	50	NA	50	50
Ownership cost/hour:	\$341.67	\$241.38	\$241.38	NA	\$149.33	\$11.35
Operating cost/hour:	\$285.26	\$71.96	\$71.96	NA	\$46.40	\$11.46
%Utilization-ripper:	NA	100	100	NA	NA	NA
Ripper own. cost/hour:	NA	\$14.11	\$14.11	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$7.45	\$7.45	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	\$41.30	NA	\$28.56	\$0.00
Unit Subtotals:	\$657.83	\$376.20	\$376.20	NA	\$224.28	\$22.81
Number of Units:	4	1	1	0	1	1
Group Subtotals:	Work: \$3,007.52		Support: \$376.20		Maint: \$247.09	

Total work team cost/hour: **\$3,630.81****MATERIAL QUANTITIES**Initial volume: 8,066

CCY

Swell factor: 1.215Loose volume: **9,800**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>34.00</u>	LCY
Rated Payload:	<u>81,600 pounds</u>	Average Volume:	<u>29.00</u>	LCY
Payload Capacity:	<u>51.00 LCY</u>	Adjusted Capacity:	<u>29.00</u>	LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 4212 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	250.00	3.00	3.00	6.00	1069	0.28

Haul Time: 0.28 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	250.00	-3.00	3.00	0.00	2937	0.23

Return Time: 0.23 minutesTotal Scraper team cycle time: 2.01 minutesAdjusted for job conditions: 718.51 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,437.01 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 2,874.03 LCY/HourUnadjusted unit production/hour: 865.67 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 2 Team(s)Total job time: 3.41 HoursUnit cost: \$1.263 /LCYTotal job cost: \$12,381

REVEGETATION WORKTask description: Revegetate 10 acresSite: MMM Partnership Gravel PitPermit Action: AM1Permit/Job#: M2006042**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 11/29/2023County: LoganFilename: M042-003User: NCGAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Manure, material purchase only, no delivery, ton	10.00	ton	\$8.50	\$85.00
			Total Fertilizer Materials Cost/Acre	\$85.00

Application

Description	Cost /Acre
Manure, tractor spreader (MEANS 32 91 13.23 4450)	\$74.49
Total Fertilizer Application Cost/Acre	\$74.49

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$112.82
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
Total Tilling Cost/Acre	\$451.62

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	0.45	7.35	\$7.19
Little Bluestem - Cimarron	2.10	12.53	\$26.21
Sideoats Grama - Vaughn	3.15	10.34	\$26.38
Western Wheatgrass - Arriba	3.20	8.08	\$20.80
Totals Seed Mix	8.90	38.30	\$80.58

Application

Description	Cost /Acre
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Drill seeding (MEANS 32 92 19.13 0020)	\$468.00
Total Seed Application Cost/Acre	\$468.00

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
Total Mulch Materials Cost/Acre				\$859.57

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46
Total Mulch Application Cost/Acre	\$74.46

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: 10 Cost /Acre: \$2,093.72
 Estimated Failure Rate: 25% Cost /Acre*: \$548.58
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$20,937.20**
 Reseeding Job Cost: **\$1,371.45**
 Total Job Cost: **\$22,309**
 Job Hours: **5.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/Demob of Reclamation Equipment**Site: **MMM Partnership Gravel Pit**Permit Action: AM1Permit/Job#: M2006042**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 11/29/2023County: LoganFilename: M042-004User: NCGAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck 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:	\$20.26	\$36.04	\$47.05
Operating Cost/Hour:	\$39.51	\$76.08	\$82.85
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$82.29	\$158.17	\$175.95

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	\$255.49	\$175.95	1	\$431.44	\$175.95	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.73	\$82.29	1	\$89.02	\$82.29	\$250.00
Cat 631G	52.50	\$341.67	\$175.95	2	\$1,035.24	\$351.90	\$250.00
CAT 14M	23.57	\$149.33	\$82.29	1	\$231.62	\$82.29	\$250.00

Subtotals: **\$1,787.32** **\$692.43** **\$1,000.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$15.83	1	\$15.83	\$15.83
Water Tanker, 2,500 Gal.	\$34.27	1	\$34.27	\$34.27

Subtotals: **\$50.10** **\$50.10**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: SIDNEY
 Total one-way travel distance: 20.00 miles
 Average Travel Speed: 45.00 mph

Total Non-Roadable Mob/Demob Cost * \$11,353.50
 ** two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$44.53
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.44	0.44
Return Time (Hours):	0.44	0.44
Loading Time (Hours):	1.00	NA
Unloading Time (Hours):	1.00	NA
Subtotals:	2.89	0.89

JOB TIME AND COST

Total job time: 5.78 Hours

Total job cost: \$11,398

BULLDOZER RIPPING WORK

Task description: Ripping existing 3 acres stockpile area

Site: MMM Partnership Gravel Pit

Permit Action: AM1

Permit/Job#: M2006042

PROJECT IDENTIFICATION

Task #: 005

State: Colorado

Abbreviation: None

Date: 11/29/2023

County: Logan

Filename: M042-005

User: NCG

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU
Ripper Attachment: 3-Shank Ripper

Horsepower: 310

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$241.38	NA
Operating Cost/Hour:	\$143.92	100
Ripper Ownership Cost/Hour:	\$14.11	NA
Ripper Operating Cost/Hour:	\$7.45	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$448.16	
Total Fleet Cost/Hour:	\$448.16	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 3.00 acres Rip Depth (ft): 1.50 Volume: 7,260 BCY or CCY

Source of estimated quantity: 3 acre stockpile area

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 1.50 feet/pass
Average Ripping Width: 7.08 feet/pass
Average Ripping Length: 250.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.789 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.789 Acres/hr
Site Altitude: 4,212 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.65 Acres/hr
Adjusted Hourly Fleet Production: **0.65** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **4.58** Hours

Unit cost: \$684.549 Per acre Total job cost: **\$2,054**

SCRAPER TEAM WORKTask description: **Replace Topsoil on 7.5 acres**Site: **MMM Partnership Gravel Pit**Permit Action: AM1Permit/Job#: M2006042**PROJECT IDENTIFICATION**Task #: 006State: ColoradoAbbreviation: NoneDate: 11/29/2023County: LoganFilename: M042-006User: NCGAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 631G
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 2,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	50	50	NA	50	50
Ownership cost/hour:	\$341.67	\$241.38	\$241.38	NA	\$149.33	\$11.35
Operating cost/hour:	\$285.26	\$71.96	\$71.96	NA	\$46.40	\$11.46
%Utilization-ripper:	NA	100	100	NA	NA	NA
Ripper own. cost/hour:	NA	\$14.11	\$14.11	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$7.45	\$7.45	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	\$41.30	NA	\$28.56	\$0.00
Unit Subtotals:	\$657.83	\$376.20	\$376.20	NA	\$224.28	\$22.81
Number of Units:	4	1	1	0	1	1
Group Subtotals:	Work:	\$3,007.52	Support:	\$376.20	Maint:	\$247.09

Total work team cost/hour: **\$3,630.81****MATERIAL QUANTITIES**Initial volume: 6,050

CCY

Swell factor: 1.215Loose volume: **7,351**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Scraper Bowl (volume) Basis:

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>34.00</u>	LCY
Rated Payload:	<u>81,600 pounds</u>	Average Volume:	<u>29.00</u>	LCY
Payload Capacity:	<u>51.00 LCY</u>	Adjusted Capacity:	<u>29.00</u>	LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 4212 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	3.00	3.00	6.00	1069	0.51

Haul Time: 0.51 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-3.00	3.00	0.00	2937	0.31

Return Time: 0.31 minutesTotal Scraper team cycle time: 2.32 minutesAdjusted for job conditions: 622.50 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,245.00 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 2,490.00 LCY/HourUnadjusted unit production/hour: 750.00 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 2 Team(s)Total job time: 2.95 HoursUnit cost: \$1.458 /LCYTotal job cost: \$10,719

REVEGETATION WORKTask description: Revegetate 8.5 acresSite: MMM Partnership Gravel PitPermit Action: AM1Permit/Job#: M2006042**PROJECT IDENTIFICATION**Task #: 007State: ColoradoAbbreviation: NoneDate: 11/29/2023County: LoganFilename: M042-007User: NCGAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Manure, material purchase only, no delivery, ton	10.00	ton	\$8.50	\$85.00
			Total Fertilizer Materials Cost/Acre	\$85.00

Application

Description	Cost /Acre
Manure, tractor spreader (MEANS 32 91 13.23 4450)	\$74.49
Total Fertilizer Application Cost/Acre	\$74.49

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$112.82
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
Total Tilling Cost/Acre	\$451.62

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	0.45	7.35	\$7.19
Little Bluestem - Cimarron	2.10	12.53	\$26.21
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Western Wheatgrass - Arriba	3.20	8.08	\$20.80
Totals Seed Mix	8.90	38.30	\$80.58

Application

Description	Cost /Acre
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Drill seeding (MEANS 32 92 19.13 0020)	\$468.00
Total Seed Application Cost/Acre	\$468.00

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
Total Mulch Materials Cost/Acre				\$859.57

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46
Total Mulch Application Cost/Acre	\$74.46

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: 8.5 Cost /Acre: \$2,093.72
 Estimated Failure Rate: 25% Cost /Acre*: \$548.58
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$17,796.62**
 Reseeding Job Cost: **\$1,165.73**
 Total Job Cost: **\$18,962**
 Job Hours: **7.00**