

## COST SUMMARY WORK

Task description: 2024-02-08 Update

Site: United/Norwood Pit

Permit Action: 2024-02-08 Update

Permit/Job#: M1988037

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 2/8/2024

County: Montrose

Filename: 88037000

User: DMC

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Reduce highwalls to 3:1	DOZER	2	22.73	\$20,113
02a	General Dozing and fill in ponds	DOZER	2	14.85	\$13,138
03a	Rip Pit Floor	RIPPER	2	20.80	\$19,541
04a	Distribute and grade topsoil	SCRAPER1	2	21.62	\$43,820
05a	Revegetate Affected lands	REVEGE	1	32.00	\$80,811
06a	Mobilization	MOBILIZE	1	4.66	\$13,920
<b><u>SUBTOTALS:</u></b>				<b>116.66</b>	<b>\$191,343</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$3,865

Performance bond: 1.05

Total = \$2,009

Job superintendent: 58.33

Total = \$3,796

Profit: 10.00

Total = \$19,134

TOTAL O & P = \$28,805

CONTRACT AMOUNT (direct + O & P) = \$220,148

#### 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

\$11,007

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$40,312

**TOTAL BOND AMOUNT (direct + indirect) = \$231,655**

**BULLDOZER WORK**Task description: **Reduce highwalls to 3:1**Site: **United/Norwood Pit** Permit Action: **2024-02-28 Update** Permit/Job#: **M1988037****PROJECT IDENTIFICATION**

Task #:	01A	State:	Colorado	Abbreviation:	None
Date:	2/8/2024	County:	Montrose	Filename:	M037-01a
User:	DMC				

Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine:	Cat D9T - 9SU
Horsepower:	405
Blade Type:	Semi-Universal
Attachment:	NA
Shift Basis:	1 per day
Data Source:	(CRG)

**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$442.35
Total Fleet Cost/Hour:	<b>\$884.70</b>

**MATERIAL QUANTITIES**

Initial Volume:	17,014
Swell factor:	1.250
Loose volume:	<b>21,268 LCY</b>

Source of estimated volume:	HW approx. 35'H x 1,500'L 1:1 to 3:1 (current conditions)
Source of estimated swell factor:	Cat Handbook

**HOURLY PRODUCTION**

Average push distance:	120 feet
Unadjusted hourly production:	1,093.1 LCY/hr

Materials consistency description: **Compacted fill or embankment 0.9**

Average push gradient:	0 %
Average site altitude:	7,300 feet

Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.100	(50% SL)

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4279

Adjusted unit production: 467.74 LCY/hr

Adjusted fleet production: **935.48** LCY/hr

### **JOB TIME AND COST**



Fleet size: 2 Dozer(s)

Unit cost: \$0.946/LCY

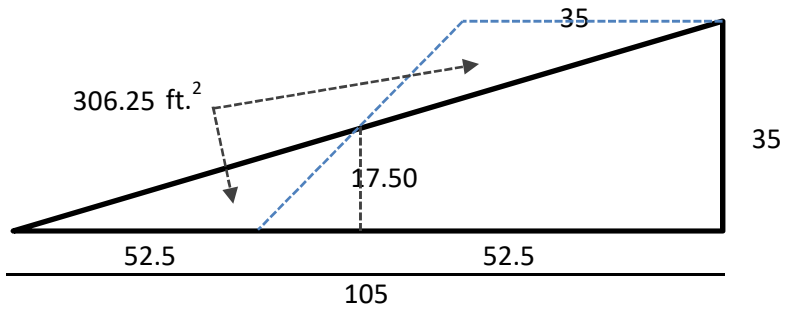
Total job time: **22.73** Hours

Total job cost: **\$20,113**

### Highwall reduction - cut and fill

Highwall Height (ft.)	35.0
Length of Highwall (lft.)	1500
 Initial Slope	1.0 H:1V
 Desired Slope	3 H:1V
Volume of material to be moved (ft. <sup>3</sup> )	<b>459,375</b>
Volume of material to be moved (yd. <sup>3</sup> )	<b>17,014</b>

All dimensions measured in feet  
Drawing not to scale



**BULLDOZER WORK**Task description: General Dozing and fill in pondsSite: United/Norwood PitPermit Action: 2024-02-28 UpdatePermit/Job#: M1988037**PROJECT IDENTIFICATION**Task #: 02AState: ColoradoAbbreviation: NoneDate: 2/8/2024County: MontroseFilename: M037-02aUser: DMCAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$442.35Total Fleet Cost/Hour: \$884.70**MATERIAL QUANTITIES**Initial Volume: 20,000Swell factor: 1.000Loose volume: 20,000 LCYSource of estimated volume: Visual estimates of current conditionsSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 75 feetUnadjusted hourly production: 1,514.3 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 0 %Average site altitude: 7,300 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.600	(FND-SF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4447

Adjusted unit production: 673.41 LCY/hr

Adjusted fleet production: **1346.82** LCY/hr

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)

Unit cost: \$0.657/LCY

Total job time: **14.85** Hours

Total job cost: **\$13,138**

## BULLDOZER RIPPING WORK

Task description: Rip Pit Floor

Site: United/Norwood Pit Permit Action: 2024-02-08 Update Permit/Job#: M1988037

### PROJECT IDENTIFICATION

Task #: 03A State: Colorado Abbreviation: None  
Date: 2/8/2024 County: Montrose Filename: M037-03a  
User: DMC

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU Horsepower: 405  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$238.76</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$162.29</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$18.32</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$8.98</u>	<u>100</u>
Operator Cost/Hour:	<u>\$41.30</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$469.65</u>	
Total Fleet Cost/Hour:	<u><b>\$939.30</b></u>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 28.00 acres Rip Depth (ft): 1.00 Volume: 45,173 BCY or CCY

Source of estimated quantity: Estimate from current conditions

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth: 2.63 feet/pass  
Average Ripping Width: 7.67 feet/pass  
Average Ripping Length: 150.00 feet/pass  
Average Dozer Speed: 88.00 feet/minute  
Average Maneuver Time: 0.25 minutes/pass  
Production per unit area: 0.811 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.811 Acres/hr  
Site Altitude: 7,300 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.67 Acres/hr  
Adjusted Hourly Fleet Production: **1.35** Acres/hr

### JOB TIME AND COST

Fleet size: 2 Grader(s) Total job time: **20.80** Hours

Unit cost: \$697.898 Per acre Total job cost: **\$19,541**

**SCRAPER TEAM WORK**Task description: **Distribute and grade topsoil**Site: **United/Norwood Pit**Permit Action: 2024-02-28 UpdatePermit/Job#: M1988037**PROJECT IDENTIFICATION**Task #: 04AState: ColoradoAbbreviation: NoneDate: 2/8/2024County: MontroseFilename: M037-04aUser: DMCAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 657G
-Dozer:	Cat D9T - 9SU
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$390.03	\$238.76	NA	NA	NA	NA
Operating cost/hour:	\$361.96	\$162.29	NA	NA	NA	NA
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$30.90	\$41.30	NA	NA	NA	NA
Unit Subtotals:	\$782.89	\$460.67	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$2,026.45		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$2,026.45****MATERIAL QUANTITIES**Initial volume: 30,653

CCY

Swell factor: 1.000Loose volume: **30,653**

LCY

Source of estimated volume: Current conditions Approx. 38 ac. x 6"Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>32.00</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>44.00</u>	LCY
Rated Payload:	<u>104,000 pounds</u>	Average Volume:	<u>38.00</u>	LCY
Payload Capacity:	<u>65.00 LCY</u>	Adjusted Capacity:	<b><u>38.00</u></b>	LCY

Cycle Time:Scraper Loading Time: 1.00 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7300 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	900.00	-5.00	5.00	0.00	3067	0.46

Haul Time: 0.46 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	900.00	5.00	5.00	10.00	1913	0.61

Return Time: 0.61 minutesTotal Scraper team cycle time: 2.67 minutesAdjusted for job conditions: 708.76 LCY/HourSelected Number of Scrapers: 1 Scraper(s)Adjusted single scraper team (unit) hourly production: 708.76 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,417.53 LCY/HourUnadjusted unit production/hour: 853.93 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 2 Team(s)Total job time: 21.62 HoursUnit cost: \$1.430 /LCYTotal job cost: \$43,820

**REVEGETATION WORK**Task description: Revegetate Affected lands

Permit Action: 2024-02-08 Update

Site: United/Norwood PitPermit/Job#: M1988037**PROJECT IDENTIFICATION**

Task #: 05A State: Colorado Abbreviation: None  
 Date: 2/8/2024 County: Montrose Filename: M037-05a  
 User: DMC

Agency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
6-24-24, 10-20-10, 15-15-15	100.00	pound	\$0.44	\$44.00
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$44.00</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$41.82
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$41.82</b>

**TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$112.82
<b>Total Tilling Cost/Acre</b>	<b>\$112.82</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	12.50	40.46	\$139.06
Thickspike Wheatgrass - Critana	11.00	38.89	\$75.63
Western Wheatgrass - Arriba	16.00	40.40	\$104.00
<b>Totals Seed Mix</b>	<b>39.50</b>	<b>119.75</b>	<b>\$318.69</b>

**Application**

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

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$35.09	\$35.09
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
<b>Total Mulch Materials Cost/Acre</b>				<b>\$894.66</b>

**Application**

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

**NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
<b>Totals Nursery Stock Cost / Acre</b>					<b>\$0.00</b>

**JOB TIME AND COST**

No. of Acres:	38	Cost /Acre:	\$1,718.45
Estimated Failure Rate:	25%	Cost /Acre*:	\$1,632.63
*Selected Replanting Work Items:	TILLING,SEEDING,MULCHING		
Initial Job Cost:	<b>\$65,301.10</b>		
Reseeding Job Cost:	<b>\$15,509.99</b>		
Total Job Cost:	<b>\$80,811</b>		
Job Hours:	<b>32.00</b>		

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilization**Site: **United/Norwood Pit**Permit Action: **2024-02-08 Update**Permit/Job#: **M1988037****PROJECT IDENTIFICATION**Task #: **06A**State: **Colorado**Abbreviation: **None**Date: **2/8/2024**County: **Montrose**Filename: **M037-06a**User: **DMC**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:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
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 D9T - 9SU	66.13	\$257.08	\$175.95	2	\$866.06	\$351.90	\$500.00
Cat 657G	78.88	\$390.03	\$175.95	2	\$1,131.96	\$351.90	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.73	\$82.29	1	\$89.02	\$82.29	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$25.94	\$82.29	1	\$108.23	\$82.29	\$250.00
Water Tanker, 7,000 Gal.	29.65	\$86.29	\$158.17	1	\$244.46	\$158.17	\$250.00

Subtotals: **\$2,439.73** **\$1,026.55** **\$1,500.00****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

Subtotals: **\$15.83** **\$15.83**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: NORWOOD  
 Total one-way travel distance: 5.00 miles  
 Average Travel Speed: 30.00 mph

Total Non-Roadable Mob/Demob Cost \* \$13,914.35  
 \*\* two round trips with haul rig:  
 Total Roadable Mob/Demob Cost \*\* \$5.28  
 \*\* one round trip, no haul rig:

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.17</u>	<u>0.17</u>
Return Time (Hours):	<u>0.17</u>	<u>0.17</u>
Loading Time (Hours):	<u>1.00</u>	<u>NA</u>
Unloading Time (Hours):	<u>1.00</u>	<u>NA</u>
Subtotals:	<u>2.33</u>	<u>0.33</u>

**JOB TIME AND COST**

Total job time: 4.67 Hours

Total job cost: \$13,920