

## COST SUMMARY WORK

Task description: Cost Summary

Site: Carrizo Stone North Permit Action: 2020 Bond Calc Permit/Job#: M2005067

### PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None  
Date: 1/3/2020 County: Baca Filename: 2020  
User: DC1

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Grading highwall	DOZER	1	0.28	\$81
002	Spreading Overburden	DOZER	1	16.51	\$4,679
003	Spreading Topsoil	DOZER	1	17.01	\$4,820
004	Revegetation of Affected Land	REVEGE	1	12.00	\$20,353
005	Mobilization of Equipment	MOBILIZE	1	6.46	\$3,600
<b><u>SUBTOTALS:</u></b>				<b>52.26</b>	<b>\$33,533</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02	Total =	\$677
Performance bond: 1.05	Total =	\$352
Job superintendent: 20.13	Total =	\$1,397
Profit: 10.00	Total =	\$3,353
	TOTAL O & P =	\$5,780
	CONTRACT AMOUNT (direct + O & P) =	\$39,313

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	Total =	\$500
Engineering work and/or contract/bid preparation:	Total =	\$1,671
Reclamation management and/or administration:		\$1,966

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$9,916

**TOTAL BOND AMOUNT (direct + indirect) = \$43,449**

## BULLDOZER WORK

Task description: Grading highwall

Site: Carrizo Stone North Permit Action: 2020 Bond Calc Permit/Job#: M2005067

### PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None  
Date: 1/3/2020 County: Baca Filename: 2020  
User: DC1

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU  
Horsepower: 405  
Blade Type: Semi-Universal  
Attachment: 3-shank ripper  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$121.49</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$105.84</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$13.94</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$4.48</u>	<u>50</u>
Operator Cost/Hour:	<u>\$41.24</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$286.98</u>	
Total Fleet Cost/Hour:	<u><b>\$286.98</b></u>	

### MATERIAL QUANTITIES

Initial Volume: 167  
Swell factor: 1.430  
Loose volume: **238 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: 2,110.5 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push  
gradient: -30 %  
Average site altitude: 4,930 feet

Material weight: 3,300 lbs/LCY

Weight description: Decomposed rock - 75% Rock, 25% Earth

<u>Job Condition</u>	<u>Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	0.800	(POOR)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4001

Adjusted unit  
production: 844.41 LCY/hr  
Adjusted fleet  
production: **844.41** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.340/LCY

Total job time: **0.28** Hours  
Total job cost: **\$81**

## BULLDOZER WORK

Task description: Spreading Overburden

Site: Carrizo Stone North Permit Action: 2020 Bond Calc Permit/Job#: M2005067

### PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None  
Date: 1/3/2020 County: Baca Filename: 2020  
User: DC1

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU  
Horsepower: 405  
Blade Type: Semi-Universal  
Attachment: 3-shank ripper  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$121.49	NA
Operating Cost/Hour:	\$105.84	100
Ripper own. Cost/Hour:	\$13.94	NA
Ripper op. Cost/Hour:	\$0.90	10
Operator Cost/Hour:	\$41.24	NA
Total unit Cost/Hour:	\$283.40	
Total Fleet Cost/Hour:	<b>\$283.40</b>	

### MATERIAL QUANTITIES

Initial Volume: 4,840  
Swell factor: 1.000  
Loose volume: **4,840** LCY

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

### HOURLY PRODUCTION

Average push distance: 220 feet  
Unadjusted hourly  
production: 633.3 LCY/hr

Materials consistency  
description: Partly consolidated stockpile 1.1

Average push  
gradient: 0 %  
Average site altitude: 4,930 feet

Material weight: 3,400 lbs/LCY

Weight description: Gravel - Wet (1/4"-2" diam.)

<u>Job Condition</u>	<u>Correction Factor</u>	<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.676	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4629

Adjusted unit  
 production: 293.15 LCY/hr  
 Adjusted fleet  
 production: **293.15** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
 Unit cost: \$0.967/LCY

Total job time: **16.51** Hours  
 Total job cost: **\$4,679**

## BULLDOZER WORK

Task description: Spreading Topsoil

Site: Carrizo Stone North Permit Action: 2020 Bond Calc Permit/Job#: M2005067

### PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None  
Date: 1/3/2020 County: Baca Filename: 2020  
User: DC1

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU  
Horsepower: 405  
Blade Type: Semi-Universal  
Attachment: 3-shank ripper  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$121.49	NA
Operating Cost/Hour:	\$105.84	100
Ripper own. Cost/Hour:	\$13.94	NA
Ripper op. Cost/Hour:	\$0.90	10
Operator Cost/Hour:	\$41.24	NA
Total unit Cost/Hour:	\$283.40	
Total Fleet Cost/Hour:	<b>\$283.40</b>	

### MATERIAL QUANTITIES

Initial Volume: 7,260  
Swell factor: 1.000  
Loose volume: 7,260 LCY

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

### HOURLY PRODUCTION

Average push distance: 280 feet  
Unadjusted hourly  
production: 476.8 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push  
gradient: 0 %  
Average site altitude: 4,930 feet

Material weight: 1,600 lbs/LCY

Weight description: Top Soil

<u>Job Condition</u>	<u>Correction Factor</u>	<u>Source</u>
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:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8952

Adjusted unit  
 production: 426.83 LCY/hr  
 Adjusted fleet  
 production: **426.83** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
 Unit cost: \$0.664/LCY

Total job time: **17.01** Hours  
 Total job cost: **\$4,820**

## REVEGETATION WORK

Task description: Revegetation of Affected Land

Site: Carrizo Stone North Permit Action: 2020 Bond Calc Permit/Job#: M2005067

### PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None  
 Date: 1/3/2020 County: Baca Filename: 2020  
 User: DC1

Agency or organization name: DRMS

### FERTILIZING

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$0.00</b>

#### Application

Description	Cost /Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

### TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$94.63
Weed control spraying (MEANS 31 31 16.13 3100)	\$193.60
<b>Total Tilling Cost/Acre</b>	<b>\$288.23</b>

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	3.00	48.97	\$41.18
Sand Dropseed	1.00	119.38	\$9.75
Sideoats Grama - Butte	8.00	26.26	\$72.00
Bottlebrush Squirreltail	9.00	39.67	\$146.03
Sorghum, Sudan - Arikaree	30.00	17.22	\$21.75
Western Wheatgrass - Rosanna	15.00	37.88	\$86.25



<b>Totals Seed Mix</b>	66.00	289.37	<b>\$376.95</b>
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#### Application

Description	Cost /Acre
Broadcast seeding [DMG]	\$267.22
<b>Total Seed Application Cost/Acre</b>	<b>\$267.22</b>

### MULCHING and MISCELLANEOUS

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$295.00	\$590.00
<b>Total Mulch Materials Cost/Acre</b>				<b>\$590.00</b>

#### Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$70.17
<b>Total Mulch Application Cost/Acre</b>	<b>\$70.17</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:	11	Cost /Acre:	\$1,592.57
Estimated Failure Rate:	40%	Cost /Acre*:	\$644.17
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	<b>\$17,518.27</b>
Reseeding Job Cost:	<b>\$2,834.35</b>
Total Job Cost:	<b>\$20,353</b>
Job Hours:	<b>12.00</b>

## EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilization of Equipment**

Site: **Carrizo Stone North** Permit Action: 2020 Bond Calc Permit/Job#: M2005067

### PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None  
 Date: 1/3/2020 County: Baca Filename: M067-005  
 User: DC1

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:	\$17.20	\$29.63	\$38.69
Operating Cost/Hour:	\$26.56	\$47.02	\$55.69
Operator Cost/Hour:	\$23.63	\$23.63	\$23.63
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$67.39	\$123.81	\$141.54

### 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	\$135.43	\$141.54	1	\$276.97	\$141.54	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$18.15	\$67.39	2	\$171.08	\$134.78	\$250.00

Subtotals: 

<b>\$448.05</b>	<b>\$276.32</b>	<b>\$500.00</b>
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### ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
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Subtotals: 

<b>\$0.00</b>	<b>\$0.00</b>
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### **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	SPRINGFIELD, COLORADO	
Total one-way travel distance:	39.00	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost *	\$3,599.72	
** two round trips with haul rig:		
Total Roadable Mob/Demob Cost **	\$0.00	
** one round trip, no haul rig:		

### **Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.87	0.87
Return Time (Hours):	0.87	0.87
Loading Time (Hours):	1.00	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	3.23	1.73

### **JOB TIME AND COST**

Total job time:	6.47	Hours
Total job cost:	\$3,600	