

May 18, 2020

Brad Fancher Loveland Ready-Mix Concrete, Inc. P.O. Box 299 Loveland, CO 80539-0229

RE: Larimer Pit, Permit No. M-1974-069, Technical Revision No. 3 (TR-03), Adequacy Review No. 1

Mr. Fancher:

The Division of Reclamation, Mining and Safety (Division) has completed its adequacy review of your Technical Revision application (TR-03) and has the following comments:

- 1) Because you have demonstrated the proposed pond sizes to be left for reclamation will be compliant with the Division of Water Resources with regard to the amount of exposed groundwater to remain at the site, the Division has made the following revisions to the bond estimate sent on March 24, 2020:
  - a) Task 009 Backfill 0.75 acre Cell 5 has been removed.
  - b) Task 021 Backfill 4.5 acres Cell 20 has been removed.
  - c) Task 030 Mobilization/Demobilization has been revised to remove two haul trucks and one loader from the "Non Roadable Equipment" section.
- 2) The Division's revised bond estimate (see enclosed) shows the required financial warranty for reclaiming the site in accordance with the reclamation plan proposed in TR-03 to be in the amount of \$583,931.000. This is \$37,131.00 more than the currently held amount of \$546,800.00. Therefore, upon approval of TR-03, the surety increase issued on March 24, 2020 (SI-02) will be vacated, and a new surety increase will be issued for the amount listed above.

The decision date for TR-03 is currently set for May 25, 2020. Please review the revised bond estimate and submit any comments to the Division by the decision date. If the Division receives no comments from you by the decision date, and no extension has been requested by that time, TR-03 will be approved and a new notice of surety increase will be issued in the amount of \$37,131.00. You will have 60 days from the date of the notice to post the additional required financial warranty.

If you have any questions, you may contact me by telephone at (303) 866-3567, ext. 8129, or by email at <a href="may.eschberger@state.co.us">amy.eschberger@state.co.us</a>.



May 18, 2020 Brad Fancher Loveland Ready-Mix Concrete, Inc. Page **2** of **2** 

Sincerely,

Amy Eschberger

Clary Exchanger

Environmental Protection Specialist

Encl: Division's revised bond estimate

Cc: Stephanie Fancher-English, Loveland Ready-Mix Concrete, Inc.

Michael Cunningham, DRMS

# **COST SUMMARY WORK**

Task description: Cost Su		Cost Summary					
Site: Larimer Pit		Pe	Permit Action:1/16/2020 Inspection		Permit/Job#: M19740		
PROJECT	IDENTIFIC	CATION					
Task #:	000	State:	Colorado		Abbreviation:	None	
Date:	Rev 5/18/20	County:	Larimer		Filename:	M069-000	
User:	AME				•		

# TASK LIST (DIRECT COSTS)

Agency or organization name: DRMS

Task		Form	Fleet	Task	
Task	Description	Used	Size	Hours	Cost
002	Grade Cell 14 backfill slopes	DOZER	1	8.59	\$1,942
003	Retopsoil Cell 14 backfill area	SCRAPER1	1	9.60	\$12,097
004	Revegetate Cell 14 backfill area	REVEGE	1	11.60	\$26,706
005	Weed control in Cell 18	REVEGE	1	2.00	\$387
006	Interseed Cell 19	REVEGE	1	2.60	\$3,321
007	Revegetate Cell 8	REVEGE	1	15.00	\$35,713
800	Revegetate Cell 7 southern shoreline	REVEGE	1	2.50	\$5,386
010	Retopsoil Cell 5 backfill area	SCRAPER1	1	0.93	\$1,172
011	Revegetate Cell 5 backfill area	REVEGE	1	3.80	\$8,546
013	Retopsoil Cell 6 backfill area	SCRAPER1	1	1.11	\$1,398
014	Revegetate Cell 6 backfill area	REVEGE	1	3.65	\$8,208
015	Backfill 0.25 acre pit south of Cell 6	TRUCK1	1	20.55	\$14,497
016	Retopsoil 1.35 acre pit area south of Cell 6	SCRAPER1	1	1.39	\$1,754
017	Revegetate 1.35 acre pit area south of Cell 6	REVEGE	1	1.35	\$3,036
018	Rip 2.7 acre storage area south of Cell 5	RIPPER	1	4.34	\$1,065
019	Retopsoil 2.7 acre storage area south of Cell 5	SCRAPER1	1	2.51	\$3,162
020	Revegetate 2.7 acre storage area south of Cell 5	REVEGE	1	2.70	\$6,072
022	Retopsoil 4.5 acres Cell 20	SCRAPER1	1	3.95	\$4,981
023	Revegetate 6.5 acres Cell 20	REVEGE	1	6.50	\$14,617
024	Backfill Cell 21 overburden (from AM-3)	SCRAPER1	1	35.04	\$27,486
025	Shalestone lining Cell 21 (from AM-3)	SCRAPER1	1	6.37	\$4,997
026	Retopsoil Cell 21 (from AM-3)	SCRAPER1	1	1.58	\$1,243
027	Final grading Cell 21 (from AM-3)	GRADER	1	13.86	\$2,837
028	Revegetate 28 acres Cell 21 (from AM-3)	REVEGE	1	28.00	\$62,968
029	Compact/QC OB Lining Cell 21 - 55,000cy (from AM-3)	NA	1	16.00	\$165,000
030	Mobilization/Demobilization	MOBILIZE	1	16.26	\$40,211
		TALS:	221.78	\$458,802	

# **INDIRECT COSTS**

## OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$9,268
Performance bond:	1.05	Total =	\$4,817
Job superintendent:	220.00	Total =	\$15,266
Profit:	10.00	Total =	\$45,880

	\$75,231						
CONT	CONTRACT AMOUNT (direct + O & P) =						
LEGAL - ENGINEERING - PROJECT MANAGEMENT	<b>':</b>						
Financial warranty processing (legal/related costs):	\$500	Total =	\$500				
Engineering work and/or contract/bid preparation:	4.25	Total =	\$22,696				
Reclamation management and/or administration:	5.00	_	\$26,702				
		_					
CONTINGENCY:	0.00	Total =	\$0				
	\$125,129						
TOTAL BO	ND AMOUNT (d	irect + indirect) =	\$583,931				

# **BULLDOZER WORK**

Task description:	Grade	Cell 14 ba	ckfill area			
e: Larimer Pit		Per	mit Action:	1/16/2020 Inspection	Permit/Jo	b#: <u>M1974069</u>
PROJECT IDENT	IFICATION					
Task #: 002 Date: 2/19/20 User: AME	020	State: County:	Colorado Larimer		Abbreviation: Filename:	None M069-002
Agency or or	rganization na	ne: <u>DR</u>	MS			
HOURLY EQUIPN	MENT COST	<u>C</u>				
Basic Machine:  Horsepower:  Blade Type:  Attachment:  Shift Basis:  Data Source:	Cat D8T - 8S 310 Semi-Univers NA 1 per day			- - - -		
Cost Breakdown:	(CRG)			_		
			¢102.07	<u>Utilization %</u>		
Ownership Cost/Ho Operating Cost/Ho			\$103.86 \$82.26	NA 100		
Ripper ow Cost/Ho	vn.		\$0.00	NA	_	
Ripper op. Cost/Ho			\$0.00	0		
Operator Cost/Ho			\$39.98	NA		
Swell factor:	NTITIES 10,000 1.165 11,650 LCY		_			
Source of estimated source of estimated factor:	volume:	Backfille Cat Hand		pe = 1,200 ft L x 15 ft H		
HOURLY PRODU	<u>CTION</u>					
Average push distand Unadjusted hourly production:		) feet 400.0 LC	Y/hr			
Materials consistency	y description:	Partly o	onsolidated	stockpile 1.1		
Average push gradient:	-5 %					
Average site altitude	: 5,000 fe	et	<del></del>			
Material weight:	2,900 lb	s/LCY			_	
Weight description:	Decomp	osed rock	- 50% Rock,	, 50% Earth		
Job Condition Correct	ion Factor			Source		

Operator Skill:	1.000	(EXCL.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.9687

Adjusted unit production:

1,356.18 LCY/hr

Adjusted fleet production:

1356.18 LCY/hr

# **JOB TIME AND COST**

Fleet size: 1 Dozer(s)
Unit cost: \$0.167/LCY

Total job time: 8.59 Hours
Total job cost: \$1,942

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# **SCRAPER TEAM WORK**

Task description:	Retopsoil Co	ell 14 backfill a	rea			
Site: Larimer Pit		Permit Action	:1/16/2020 Ins	pection P	ermit/Job#: M1	1974069
PROJECT IDENT	<u>IFICATION</u>					
Task #: 003	Sta	ite: Colorado		Abbre	viation: None	
Date: $2/19/20$ User: AME	020 Coun	ty: Larimer		Fil	ename: M069-	-003
	organization name:	DRMS				
HOURLY EQUIP	-		COSTS	Shift basis: 1 per	day	
		Equipme	ent Description		<del></del>	
		raper: Cat 63'				
Suppor	t Equipment -Load A	ozer: NA Area: NA				
	-Dump	Area: Cat D8	T - 8SU			
Road Mai	ntenance –Motor Gr -Water T		6M Tanker, 3,500 Ga	1		
	vv diei 1	ruck. Wuter	Turner, 5,500 Gu			
Cost Breakdown:	Scraper Work		Support Equ			ee Equipment
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	100	100	100
Ownership cost/hour:	\$162.02	NA	NA	\$103.86	\$82.71	\$13.51
Operating cost/hour:	\$184.64	NA	NA	\$82.26	\$70.09	\$28.95
%Utilization-ripper:	NA	NA	NA	NA	100	NA
Ripper own. cost/hour:	NA	NA	NA	\$0.00	\$4.44	\$0.00
Ripper op. cost/hour:	NA	NA	NA	\$0.00	\$3.92	\$0.00
Operator cost/hour:	\$45.58	NA	NA	\$39.98	\$45.39	\$0.00
Unit Subtotals:	\$392.24	NA	NA	\$226.10	\$206.54	\$42.46
Number of Units:	2	0	0	1	1	1
Group Subtotals:	Work:	\$784.48	Support:	\$226.10	Maint:	\$249.00
Total work team cost/	hour: <b>\$1,259.58</b>	<u></u>				
MATERIAL QUA	<u>NTITIES</u>					
Initial volume: Loose volume:	9,357 11,369	CCY LCY	Swell fac	tor: 1.215		
	ce of estimated volu f estimated swell fac		x 6 in depth dbook			
HOURLY PRODU	<u>ICTION</u>					
			Scraper B	Bowl (volume) Ba	sis:	
Material weight:	1,600 lbs/LCY		Struck	Volume: 24.00	I	.CY
Material description:	Top Soil			Volume: 34.00	I	LCY .
Rated Payload:	81,600 pounds		Average			CY
Payload Capacity:	51.00 LCY		Adjusted (	Capacity: <b>29.00</b>	I	LCY .

Site Altitude: 5000 feet

$C_{3}$	vcle	Tim	e:
$\sim$	, 010	1 1111	v.

Scraper Loading Time:  $\underline{0.80}$  Minutes Maneuver and Spread Time:  $\underline{0.60}$  Minutes

<u>Job Condition Correction:</u>

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

### **Travel Time:**

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	1.00	3.00	4.00	2394	0.58

Haul Time: **0.58** minutes

### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-1.00	3.00	2.00	2960	0.46

Return Time: 0.46 minutes

Total Scraper team cycle time: 2.44 minutes

Adjusted for job conditions: 591.89 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
team (unit) hourly production: 1,183.77 LCY/Hour

Adjusted single scraper team (unit) hourly production: 1,183.77 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 1,183.77 LCY/Hour

Unadjusted unit production/hour:	713.11	LCY/Hou
Optimal Number of Scrapers per push dozer:		

### **JOB TIME AND COST**

 Fleet size:
 1
 Team(s)
 Total job time:
 9.60
 Hours

 Unit cost:
 \$1.064
 /LCY
 Total job cost:
 \$12,097

Task description:	Revegetate Cell 14	backfill area				
Larimer Pit	Perm	it Action: 1/16/	2020 Inspect	tion	Permit/Job#	: M1974069
PROJECT IDENTIF	ICATION					
Task #: 004 Date: 2/19/2020 User: AME		Colorado Larimer		_		None M069-004
Agency or orga	nization name: DRM	IS				
FERTILIZING						
Materials				T		
Description		Units / Acre	Unit	Cost	t / Unit	Cost /Acre
				\$		\$
				Tota	al Fertilizer Materials Cost/Acre	\$0.00
Application  Description						Cost /Acre
Zestription						\$
		Total	Fertilizer A	pplication	n Cost/Acre	\$0.00
TILLING						
Description						Cost /Acre
Chisel plowing {DMC	G}					\$94.63
			To	otal Tillin	g Cost/Acre	\$94.63
SEEDING						
Seed Mix				Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	<u> </u>			1.00	16.32	\$15.98

Indian Ricegrass - Nespar

Little Bluestem - Cimarron

Sandberg Bluegrass - VNS

Slender Wheatgrass - Pryor

Needlegrass, Green - Lodorm

Needle and Thread

Prairie Junegrass

Blue Wildrye - Arlington or Elkton

\$8.88

\$6.66

\$12.48

\$8.40

\$4.25

\$41.85

\$11.78

\$26.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

1.00

3.24

3.44

5.97

3.65

2.64

4.16

53.15

21.24

**Total Seed Application Cost/Acre** 

\$947.43

		<b>Totals Seed Mix</b>	9.00	113.81	\$136.27
A	pplication				
	Description				Cost /Acre
	Hydro seeding (MEANS 32 92 19.14 0200)				\$947.43

# **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>				\$590.00

**Application** 

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
Weed spray, truck, aquatic area, annuals [DMG]		\$27.30
Weed spray, truck, aquatic area, nox. [DMG]		\$68.50
	<b>Total Mulch Application Cost/Acre</b>	\$165.97

### **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals	Nursery Stoc	k Cost / Acre	\$0.00

## **JOB TIME AND COST**

 No. of Acres:
 11.6
 Cost /Acre:
 \$1,934.30

 Estimated Failure Rate:
 20%
 Cost /Acre\*:
 \$1,839.67

\*Selected Replanting Work Items: SEEDING, MULCHING

Initial Job Cost: \$22,437.88

Reseeding Job Cost: \$4,268.03

Total Job Hours: \$26,706

11.60

Task desc	eription: Wee	ed control in (	Cell 18					
: <u>Larim</u>	er Pit	Pern	nit Actior	n: <u>1/16/</u>	2020 Inspe	ection	Permit/Job#	#: <u>M1974069</u>
<u>PROJEC</u>	T IDENTIFICATION	<u>ON</u>						
Task # Date User	e: Rev 3/20/2020	_	Colorado Larimer	)		Ab	breviation: _ Filename: _	None M069-005
A	Agency or organization	name: DRM	MS					
FERTIL1	IZING							
Materials								
Descri	ption			Jnits / Acre	Unit	Cos	st / Unit	Cost /Acre
						\$		\$
						To	tal Fertilizer Materials	\$0.00
							Cost/Acre	\$0.00
Application	on							
Descri	ption							Cost /Acre
								\$
				Total	Fertilizer	Application	on Cost/Acre	\$0.00
<u> </u>	<u> </u>							
Descri								Cost /Acre
Weed	control spraying (MEA	NS 31 31 16.1	3 3100)					\$193.60
					ŗ	Fotal Tillir	ng Cost/Acre	\$193.60
SEEDIN	<u>G</u>							
Seed M	ſix					Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
								\$
				Totals S	Seed Mix	0.00	0.00	\$0.00
Application	on							
Descri	ption							Cost /Acre
								\$

ſ		
	Total Seed Application Cost/Acre	\$0.00

## **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
Total Mulch Materials Cost/Acre				\$0.00

**Application** 

Description		Cost /Acre
		\$
	Total Mulch Application Cost/Acre	\$0.00

## **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals	Nursery Stoc	ek Cost / Acre	\$0.00

## **JOB TIME AND COST**

No. of Acres:	2	Cost /Acre:	\$193.60
Estimated Failure Rate:	0%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		

Initial Job Cost: \$387.20

Reseeding Job Cost: \$0.00

Total Job Hours: Job Hours: \$2.00

: Larimer Pit	Per	mit Action: 1/16/	2020 Inspec	tion Permit/Job#	±: <u>M1974069</u>
PROJECT IDENTIFIC	<u>ATION</u>				
Task #: 006 Date: 2/19/2020 User: AME	State: County:				None M069-006
Agency or organiz FERTILIZING	zation name: <u>DR</u>	MS			
Materials  Description		Units / Acre	Unit	Cost / Unit	Cost /Acre
				\$	\$
				Total Fertilizer Materials Cost/Acre	\$0.00
				Materials	
Application  Description				Materials	Cost /Acre
				Materials	
		Total	l Fertilizer A	Materials	Cost /Acre
Description		Total	l Fertilizer A	Materials Cost/Acre	Cost /Acre
Description  FILLING  Description			l Fertilizer A	Materials Cost/Acre	Cost /Acre
ΓILLING	MEANS 31 31 16.		l Fertilizer A	Materials Cost/Acre	Cost /Acre \$ \$0.00

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	1.00	16.32	\$15.98
Indian Ricegrass - Nespar	1.00	3.24	\$8.88
Blue Wildrye - Arlington or Elkton	1.00	3.44	\$6.66
Little Bluestem - Cimarron	1.00	5.97	\$12.48
Sandberg Bluegrass - VNS	1.00	21.24	\$8.40
Slender Wheatgrass - Pryor	1.00	3.65	\$4.25
Needle and Thread	1.00	2.64	\$41.85
Needlegrass, Green - Lodorm	1.00	4.16	\$11.78
Prairie Junegrass	1.00	53.15	\$26.00

\$947.43

	<b>Totals Seed Mix</b>	9.00	113.81	\$136.27
Application				
Description				Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)				\$947.43

**Total Seed Application Cost/Acre** 

## **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
Total Mulch Materials Cost/Acre				\$0.00

**Application** 

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

### **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: 2.6 Cost /Acre: \$1,277.30
Estimated Failure Rate: 0% Cost /Acre\*: \$1,083.70

\*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$3,320,98

Reseeding Job Cost: \$0.00

Total Job Cost: Job Hours: 2.60

: Larimer Pit	Permit A	ction: 1/16/	2020 Inspection	Permit/Job	#: <u>M1974069</u>
PROJECT IDENTIFICATION					
Task #: 007 Date: 2/19/2020 User: AME	State: Colo County: Lari	orado mer		Abbreviation: Filename:	None M069-007
Agency or organization nan	ne: DRMS				
FERTILIZING Materials					
Description		Units / Acre	Unit	Cost / Unit	Cost /Acre
				\$	\$
				Total Fertilizer Materials Cost/Acre	\$0.00
				Cost/Acre	\$0.00
Application					
Application  Description					Cost /Acre
					Cost /Acre

# **TILLING**

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

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	1.00	16.32	\$15.98
Indian Ricegrass - Nespar	1.00	3.24	\$8.88
Blue Wildrye - Arlington or Elkton	1.00	3.44	\$6.66
Little Bluestem - Cimarron	1.00	5.97	\$12.48
Sandberg Bluegrass - VNS	1.00	21.24	\$8.40
Slender Wheatgrass - Pryor	1.00	3.65	\$4.25
Needle and Thread	1.00	2.64	\$41.85
Needlegrass, Green - Lodorm	1.00	4.16	\$11.78
Prairie Junegrass	1.00	53.15	\$26.00

Totals Seed Mix	9.00	113.81	\$136.27
Application			

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$947.43
	<b>Total Seed Application Cost/Acre</b>	\$947.43

## **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
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
1	Total Mulch Application Cost/Acre	\$70.17

## **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

### **JOB TIME AND COST**

No. of Acres: 15 Cost /Acre: \$2,032.10 Estimated Failure Rate: 20% Cost /Acre\*: \$1,743.87

\*Selected Replanting Work Items: SEEDING,MULCHING

Initial Job Cost: **\$30,481.50** Reseeding Job Cost: \$5,231.61 Total Job Cost: \$35,713 Job Hours: **15.00** 

Task descr	ription: Re	evegetate Cell 7 s	outhern sho	oreline			
Larime	r Pit	Perm	it Action: _	1/16/2020 Insp	ection	Permit/Job#:	M1974069
ROJECT	Γ IDENTIFICAT	ION					
Task #: Date: User:	008 2/19/2020	State:(	Colorado Larimer				one 1069-008
	gency or organization	on name: <u>DRM</u>	IS				
ERTILIZ	ZING						
<b>Iaterials</b>							
Descrip	tion		Unit Acre		Cost	t / Unit	Cost /Acre
					\$		\$
					Tota	al Fertilizer Materials Cost/Acre	\$0.00
pplication							
Descrip	tion						Cost /Acre
			7	Total Fertilizer	· Application	n Cost/Acre	\$0.00
TILLING							
Descrip	tion						Cost /Acre
Weed co	ontrol spraying (ME	ANS 31 31 16.13	3100)				\$193.60
					Total Tilling	g Cost/Acre	\$193.60
EEDING	<u>.</u>						
Seed Mi	ix				Rate – PLS LBS /	Seeds per SQ. FT	Cost /Acre

Dive Claims Timemin	1.00	10.02	Ψ10.70
Indian Ricegrass - Nespar	1.00	3.24	\$8.88
Blue Wildrye - Arlington or Elkton	1.00	3.44	\$6.66
Little Bluestem - Cimarron	1.00	5.97	\$12.48
Sandberg Bluegrass - VNS	1.00	21.24	\$8.40
Slender Wheatgrass - Pryor	1.00	3.65	\$4.25
Needle and Thread	1.00	2.64	\$41.85
Needlegrass, Green - Lodorm	1.00	4.16	\$11.78
Prairie Junegrass	1.00	53.15	\$26.00

Blue Grama - Hachita

Acre

1.00

16.32

\$15.98

\$947.43

	<b>Totals Seed Mix</b>	9.00	113.81	\$136.27
Application				
Description				Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)				\$947.43

**Total Seed Application Cost/Acre** 

## **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
Total Mulch Materials Cost/Acre				\$590.00

**Application** 

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	<b>Total Mulch Application Cost/Acre</b>	\$70.17

## **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

## **JOB TIME AND COST**

 No. of Acres:
 2.5
 Cost /Acre:
 \$1,937.47

 Estimated Failure Rate:
 20%
 Cost /Acre\*:
 \$1,083.70

\*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$4,843.68

Reseeding Job Cost: \$541.85

Total Job Cost: \$5,386

Job Hours: 2.50

Page 1 of 2

# **SCRAPER TEAM WORK**

Task description:	Retopsoil C	ell 5 backfill ar	ea			
Site: Larimer Pit		Permit Action	:1/16/2020 Ins	spection P	ermit/Job#: M	1974069
PROJECT IDENT	<u>IFICATION</u>					
Task #: 010	Sta	ate: Colorado		Abbre	viation: None	
Date: $2/19/20$ User: AME	020 Cour	nty: Larimer		Fil	ename: M069-	-010
		DDMG				
Agency or o	organization name:	DRMS				
HOURLY EQUIP	MENT_		COSTS	Shift basis: 1 per	<u>day</u>	
	G.		ent Description			
		raper: Cat 63' Dozer: NA	/G			
Suppor	t Equipment -Load	Area: NA				
	-Dump		T - 8SU			
Road Mai	ntenance –Motor G Water T-		6M Tanker, 3,500 Ga	n1.		
	***************************************		144414			
Cost Breakdown:	Scraper Work		Support Equ			ee Equipment
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	100	100	100
Ownership cost/hour:	\$162.02	NA	NA	\$103.86	\$82.71	\$13.51
Operating cost/hour:	\$184.64	NA	NA	\$82.26	\$70.09	\$28.95
%Utilization-ripper:	NA	NA	NA	NA	100	NA
Ripper own. cost/hour:	NA	NA	NA	\$0.00	\$4.44	\$0.00
Ripper op. cost/hour:	NA	NA	NA	\$0.00	\$3.92	\$0.00
Operator cost/hour:	\$45.58	NA	NA	\$39.98	\$45.39	\$0.00
Unit Subtotals:	\$392.24	NA	NA	\$226.10	\$206.54	\$42.46
Number of Units:	2	0	0	1	1	1
Group Subtotals:	Work:	\$784.48	Support:	\$226.10	Maint:	\$249.00
Total work team cost/	hour: <b>\$1,259.58</b>	<u> </u>				
MATERIAL QUA	NTITIES					
Initial volume: Loose volume:	807 <b>981</b>	CCY LCY	Swell fac	tor: 1.215		
	ce of estimated volu		in depth			
	f estimated swell fa					
HOURLY PRODU	<u>ICTION</u>					
			Scraper B	Bowl (volume) Ba	sis:	
Material weight:	1,600 lbs/LCY		Struck	Volume: 24.00	I	.СY
Material description:	Top Soil			Volume: 34.00		.CY
Rated Payload:	81,600 pounds		Average			CY
Payload Capacity:	51.00 LCY		Adjusted (	Capacity: <b>29.00</b>	I	LCY .

Site Altitude: 5000 feet

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Scraper Loading Time: 0.80 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction:

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

### **Travel Time:**

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1400.00	1.00	3.00	4.00	2394	0.74

Haul Time: **0.74** minutes

### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1400.00	-1.00	3.00	2.00	2960	0.60

Return Time: 0.60 minutes

Total Scraper team cycle time: 2.74 minutes

Adjusted for job conditions: 527.08 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)

Adjusted single scraper team (unit) hourly production: 1,054.16 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 1,054.16 LCY/Hour

Unadjusted unit production/hour: 635.04 LCY/Hour Optimal Number of Scrapers per push dozer:

### **JOB TIME AND COST**

 Fleet size:
 1
 Team(s)
 Total job time:
 0.93
 Hours

 Unit cost:
 \$1.195
 /LCY
 Total job cost:
 \$1,172

Larimer Pit	Permit Action: 1/16/2020 Inspection Permit/Job#:			#: <u>M1974069</u>	
ROJECT IDENTIFICA	TION				
Task #: 011 Date: 2/19/2020			_	None M069-011	
Agency or organizat	tion name: <u>DR</u>	MS			
ERTILIZING					
aterials		<b>T</b> T */ /			
Description		Units / Acre	Unit	Cost / Unit	Cost /Acre
				\$	\$
				Total Fertilizer Materials Cost/Acre	
pplication					
Description					Cost /Acre
					\$
		To	tal Fertilizer Ap	plication Cost/Acre	\$0.00
<u>ILLING</u>					
Description					Cost /Acre
Chisel plowing {DMG}					\$94.63
Wasd santual amorring (M	EANS 31 31 16.	13 3100)			\$193.60
weed control spraying (M					

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	1.00	16.32	\$15.98
Indian Ricegrass - Nespar	1.00	3.24	\$8.88
Blue Wildrye - Arlington or Elkton	1.00	3.44	\$6.66
Little Bluestem - Cimarron	1.00	5.97	\$12.48
Sandberg Bluegrass - VNS	1.00	21.24	\$8.40
Slender Wheatgrass - Pryor	1.00	3.65	\$4.25
Needle and Thread	1.00	2.64	\$41.85
Needlegrass, Green - Lodorm	1.00	4.16	\$11.78
Prairie Junegrass	1.00	53.15	\$26.00

	Totals Seed Mix	9.00	113.81	\$136.27
A	pplication			

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$947.43
Total Seed Application Cost/Acre	\$947.43

## **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
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
To	otal Mulch Application Cost/Acre	\$70.17

## **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

### **JOB TIME AND COST**

No. of Acres: 3.8 Cost /Acre: \$2,032.10 Estimated Failure Rate: 20% Cost /Acre\*: \$1,083.70 \*Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$7,721.98** Reseeding Job Cost: \$823.61 Total Job Cost: \$8,546 Job Hours: **3.80** 

# SCRAPER TEAM WORK

Task description:	Retopsoil Co	Retopsoil Cell 6 backfill area						
Site: Larimer Pit		Permit Action	: 1/16/2020 Ins	spection P	ermit/Job#: M1	974069		
PROJECT IDENT	<u>TIFICATION</u>							
Task #: 013 Date: 2/19/2 User: AME		te: Colorado Larimer			viation: None ename: M069-	013		
Agency or o	organization name:	DRMS						
HOURLY EQUIP	MENT_		COSTS	Shift basis: 1 per	<u>day</u>			
			ent Description					
		raper: Cat 63	/G					
Suppor	rt Equipment -Load .							
	-Dump	Area: Cat D8	BT - 8SU					
Road Maintenance – Motor Grader: CAT 16M  -Water Truck: Water Tanker, 3,500 Gal.								
	-water 1	ruck. water	Talikel, 3,300 Ga	11.				
Cost Breakdown:	Scraper Work	Team	Support Equ	ipment	Maintenanc	e Equipment		
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck		
%Utilization-machine:	100	NA	NA	100	100	100		
Ownership cost/hour:	\$162.02	NA	NA	\$103.86	\$82.71	\$13.51		
Operating cost/hour:	\$184.64	NA	NA	\$82.26	\$70.09	\$28.95		
%Utilization-ripper:	NA	NA	NA	NA	100	NA		
Ripper own. cost/hour:	NA	NA	NA	\$0.00	\$4.44	\$0.00		
Ripper op. cost/hour:	NA	NA	NA	\$0.00	\$3.92	\$0.00		
Operator cost/hour:	\$45.58	NA	NA	\$39.98	\$45.39	\$0.00		
Unit Subtotals:	\$392.24	NA	NA	\$226.10	\$206.54	\$42.46		
Number of Units:	2	0	0	1	1	1		
Group Subtotals:	Work:	\$784.48	Support:	\$226.10	Maint:	\$249.00		
Total work team cost/	hour: <b>\$1,259.58</b>	<u> </u>						
MATERIAL QUA	<u>NTITIES</u>							
Initial volume: Loose volume:	807 <b>981</b>	CCY LCY	Swell fac	tor: 1.215				
	ce of estimated volu f estimated swell fac		in depth idbook					
HOURLY PRODU	<u>ICTION</u>							
			Scraper E	Bowl (volume) Ba	sis:			
Material weight:	1,600 lbs/LCY		Struck	Volume: 24.00	L	CY		
Material description:	Top Soil		Heaped	Volume: 34.00	L	CY		
Rated Payload:	81,600 pounds 51.00 LCY		Average			CY CY		
Payload Capacity:	31.00 LC Y		Aajustea (	Capacity: <b>29.00</b>	L	C I		

Site Altitude: 5000 feet

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( 7	ICLE	I 1	ıme	٦,
·	ycle	11	1111	┙.

Scraper Loading Time:  $\underline{0.80}$  Minutes Maneuver and Spread Time:  $\underline{0.60}$  Minutes

Job Condition Correction:

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

### **Travel Time:**

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2100.00	1.00	3.00	4.00	2394	1.04

Haul Time: 1.04 minutes

### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2100.00	-1.00	3.00	2.00	2960	0.83

Return Time: 0.83 minutes

Total Scraper team cycle time:
Adjusted for job conditions:
Selected Number of Scrapers:

2 minutes
LCY/Hour
Scraper(s)

Adjusted single scraper team (unit) hourly production: 883.30 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 883.30 LCY/Hour

Unadjusted unit production/hour: 532.11 LCY/Hour Optimal Number of Scrapers per push dozer:

### **JOB TIME AND COST**

Fleet size: \_\_\_\_\_1 Team(s) Total job time: \_\_\_\_\_1.11 Hours

Unit cost: \$1.426 /LCY Total job cost: **\$1,398** 

Task description:	Revegetate Cell (				
: Larimer Pit	Permit Action:1/16/2020 Inspection Permit Action Permit Ac			n Permit/Job	#: <u>M1974069</u>
PROJECT IDENTII	FICATION				
Task #: 014	State:	Colorado		Abbreviation:	None
Date: 2/19/202	0 County:	Larimer		Filename:	M069-014
User: AME					
Agency or org	anization name: DR	MS			
ZEDTH IZING					
ERTILIZING					
Materials		Units /			
Description		Acre	Unit	Cost / Unit	Cost /Acre
				\$	\$
					Ψ
				Total Fertilizer Materials	
				Cost/Acre	\$0.00
Application					
Description					Cost /Acre
					\$
					y .
		Tota	al Fertilizer Ap	plication Cost/Acre	\$0.00
					- 1 - 1
<u> </u>					
Description					Cost /Acre
Chisel plowing {DM	IG} ng (MEANS 31 31 16.)	12 2100)			\$94.63
weed control sprayii	ng (MEANS 31 31 16.	13 3100)			\$193.60
			Tota	al Tilling Cost/Acre	\$288.23
					\$400.43

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	1.00	16.32	\$15.98
Indian Ricegrass - Nespar	1.00	3.24	\$8.88
Blue Wildrye - Arlington or Elkton	1.00	3.44	\$6.66
Little Bluestem - Cimarron	1.00	5.97	\$12.48
Sandberg Bluegrass - VNS	1.00	21.24	\$8.40
Slender Wheatgrass - Pryor	1.00	3.65	\$4.25
Needle and Thread	1.00	2.64	\$41.85
Needlegrass, Green - Lodorm	1.00	4.16	\$11.78
Prairie Junegrass	1.00	53.15	\$26.00

Totals Seed Mi	<b>x</b> 9.00	113.81	\$136.27
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**Application** 

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$947.43
Total Seed Application Cost/Acre	\$947.43

## **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
Total Mulch Materials Cost/Acre				\$590.00

**Application** 

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
1	Total Mulch Application Cost/Acre	\$70.17

## **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

### **JOB TIME AND COST**

No. of Acres: 3.65 Cost /Acre: \$2,032.10
Estimated Failure Rate: 20% Cost /Acre\*: \$1,083.70

\*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$7,417.17

Reseeding Job Cost: \$791.10

Total Job Cost: Job Hours: 3.65

### TRUCK/LOADER TEAM WORK

	Task description:	Backfill	0.25 acre pit sou	th of Cell 6				
Site	Larimer Pit		Permit Action	on: <u>1/16/2020 I</u> 1	nspection	Permit/Job#: _	M1974069	
	PROJECT IDE	NTIFICATION	<u>I</u>					
	Task #: 015 Date: Rev 3 User: AME		State: Colora County: Larimo		Ab		None M069-015	
Agency or organization name: DRMS								
	HOURLY EQUIPMENT COST  Shift basis: 1 per day							
_				Equipment Descri	ption			
	,	Truck Loader Tea		730 Г 966Н				
_	Sunt	oort Equipment -L		1 90011				
	Supp			D8T - 8SU			<del></del>	
_	Road M	Iaintenance –Mot	or Grader: CA	Г 16М				
_		-Wa	ater Truck: Wat	ter Tanker, 3,500	Gal.			
	Cost Breakdown:		ader Team		Equipment		nance Equipment	
		Truck	Loader	Load Area	Dump Area	Motor Grade	r Water Truck	
%Ut	ilization-machine:	100	100	NA	75	10	0 100	
Ow	nership cost/hour:	\$58.61	\$41.17	NA	\$103.86	\$82.7	1 \$13.51	
Op	erating cost/hour:	\$48.24	\$50.45	NA	\$61.70	\$70.0	9 \$28.95	
9	6Utilization-riper:	NA	0	NA	NA	N/	A NA	
Ripp	er own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.0	0 \$0.00	
Rip	per op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.0	0 \$0.00	
О	perator cost/hour:	\$24.79	\$35.93	NA	\$39.98	\$45.3	9 \$0.00	
	Unit Subtotals:	\$131.63	\$127.54	NA	\$205.54	\$198.1	8 \$42.46	
	Number of Units:	1	1	0	1		1 1	
	Group Subtotals:	Work:	\$259.17	Support:	\$205.54	Main	t: \$240.64	

Total work team cost/hour: \$705.35

### **MATERIAL QUANTITIES**

Initial volume: 4,033 CCY Swell factor: 1.125

Loose volume: 4,537 LCY

Source of estimated volume:

Source of estimated swell factor:

Material Purchase Cost:

Op: 0.25 ac x 10 ft

Cat Handbook

\$0.00

Total Cost: \$0.00

## **HOURLY PRODUCTION**

## **Truck Capacity:**

Truck Payload (weight) Basis:

Material weight:2,650Pounds/LCYDescription:Decomposed rock - 25% Rock, 75% EarthRated Payload:62,000PoundsPayload Capacity:23.40LCY

Truck Travel (Haul & Return) Time:

maintained 3.0

me: change Time:	0.60	Net Load T  Minutes	Time per Truck:  Adjusted	1.420 for site altitude:	minutes	Minu
me:		Net Load T	ime per Truck:	1.420	_ minutes	
		Net Load T	ime per Truck:	1.420	minutes	
				1 100		
				0.440	minutes	
				-0.060	minutes	
				0.000	(Cat HB)	_
				-0.040	(Cat HB)	
				-0.040		_
						_
	Material up to	1/8" diameter 0.02		` /		
0				, <u> </u>	1	
ck Loaders -	Unadiusted Ba	sic Loader Cycle Ti	me (load, dump, 1	maneuver): 0	.500 min	utes
NA	M	aneuver: NA		Dump: 0.100	)	
ments (min.):						
k Loaders – N	Material Descri	ption:				
•						
Cycle Time vs	. Job Condition	n Rating: NA				
Front Shovels	<u>s:</u>					
Cycle Time:	Number	of Loading Tool Pa	sses Required to	Fill Truck:	4 1	passes
	0.830	0.830				
	0.830	0.830	`	,		
e Adi:						
	Truck	Loader	Source			
Corrections:		S	ite Altitude (ft.):	5000 feet		
Capacity:	5.500	LCY				
ill Factor:	1.100	Other - rock/dia	rt mixtures (100	)-120%) 1.100		_
Capacity:	5.000	LCY (heaped)				_
			Buc	ket Size Class: N	ſΑ	
apacity						
Final 7	Γruck Volume	Based on Number o	f Loader Passes:	22.00	LCY	
volume.	22.10	LCI				
	Capacity: Capacity: Capacity: Capacity: Capacity: Corrections:  Le Adj: Ciency: Cycle Time: Front Shovels Cycle Time vs ected Value w ck Loaders – M ments (min.): NA ack Loaders – Image Factors	Volume: 17.10 Volume: 22.10 Volume: 19.60 Volume: 19.60 Volume: 22.10  Final Truck Volume  apacity  Capacity: 5.000 Fill Factor: 1.100 Capacity: 5.500  Corrections: 1.000 Corrections: Volume    Truck	Volume: 17.10 LCY Volume: 22.10 LCY Volume: 19.60 LCY Volume: 22.10 LCY  Final Truck Volume Based on Number of LCY  Capacity: 5.000 LCY  Capacity: 5.000 LCY  Capacity: 5.500 LCY  Corrections: S  Truck Loader  Le Adj: 1.000 1.000  Ciency: 0.830 0.830  Cycle Time: Number of Loading Tool Patents Shovels:  Cycle Time vs. Job Condition Rating: NA  Except Value within this Basic Rating: NA  Cycle Time vs. Job Condition Rating: NA  NA  NA  Cycle Time vs. Job Condition Rating: NA  NA  Cycle Time vs.	Volume: 17.10 LCY Volume: 22.10 LCY Volume: 19.60 LCY Volume: 22.10 LCY Volume: 22.10 LCY  Final Truck Volume Based on Number of Loader Passes:  apacity  Buc Capacity: 5.000 LCY (heaped) Fill Factor: 1.100 Other - rock/dirt mixtures (100 Capacity: 5.500 LCY  Capacity: 5.500 LCY  Corrections: Site Altitude (ft.): 5.500 LCY  Corrections: Site Altitude (ft.): 5.500 LCY  Corrections: Number of Loading Tool Passes Required to Front Shovels: Cycle Time vs. Job Condition Rating: NA ected Value within this Basic Loader Cycle Time (load, dump, 10 mer Factors Material Description: ments (min.):  NA Maneuver: NA Maneuver: NA ext Loaders - Unadjusted Basic Loader Cycle Time (load, dump, 10 mer Factors Material: Material up to 1/8" diameter 0.02 Stockpile: Conveyor or dozer piled 10 ft. high and up 0.00 Ownership: Common ownership of trucks and loaders -0.04 Operation: Constant operation -0.04 Imp Target: Nominal target 0.00  Net Cycle Time Adjustment: Adjusted Loader Cycle Time:	Volume:   17.10	Volume:   17.10

CIRCES Cost Estimating Software

Road 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	1800.00	1.00	3.00	4.00	1774	1.204

Haul Time: 1.204 minutes

Return Route:

11000111111	o <b></b>					
Seg#	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1800.00	-1.00	3.00	2.00	3040	0.739

Return Time: 0.739 minutes
Total Truck Cycle Time: 4.963 minutes

Selected Number of Trucks: 1 Truck(s)

Loading Tool unit

Production 653.47 LCY/Hour Adjusted for job efficiency: 542.38 LCY/Hour

Truck Unit Production

265.97 LCY/Hour Adjusted for job efficiency: 220.75 LCY/Hour

Adjusted hourly truck team production: 220.75 LCY/Hour Adjusted single truck/loader team production: 220.75 LCY/Hour

Adjusted multiple truck/loader team production: 220.75 LCY/Hour

## **JOB TIME AND COST**

Optimal No. of Trucks: 2 Truck(s)

Fleet size: \_\_\_\_\_1 Team(s) Total job time: \_\_\_\_\_20.55 Hours

Unit cost: \$3.195 /LCY Total job cost: **\$14,497** 

# **SCRAPER TEAM WORK**

Task description:	Retopsoil 1	.35 acre pit area	south of Cell 6			
Site: Larimer Pit		Permit Action	: 1/16/2020 Ins	spection P	ermit/Job#: M1	974069
PROJECT IDENT	<u>TIFICATION</u>					
Task #: 016 Date: 2/19/2 User: AME		rate: Colorado nty: Larimer			viation: None ename: M069-	016
Agency or o	organization name:	DRMS				
HOURLY EQUIP	MENT_		COSTS	Shift basis: 1 per	day	
			ent Description			
		craper: Cat 63	7G			
Suppor	rt Equipment -Load	Dozer: NA Area: NA				
	-Dump	Area: Cat D8	T - 8SU			
Road Mai	ntenance – Motor G			1		
	-Water 7	Iruck: Water	Tanker, 3,500 Ga	u.		
Cost Breakdown:	Scraper Work	Team	Support Equ	ipment	Maintenanc	e Equipment
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	100	100	100
Ownership cost/hour:	\$162.02	NA	NA	\$103.86	\$82.71	\$13.51
Operating cost/hour:	\$184.64	NA	NA	\$82.26	\$70.09	\$28.95
%Utilization-ripper:	NA	NA	NA	NA	100	NA
Ripper own. cost/hour:	NA	NA	NA	\$0.00	\$4.44	\$0.00
Ripper op. cost/hour:	NA	NA	NA	\$0.00	\$3.92	\$0.00
Operator cost/hour:	\$45.58	NA	NA	\$39.98	\$45.39	\$0.00
Unit Subtotals:	\$392.24	NA	NA	\$226.10	\$206.54	\$42.46
Number of Units:	2	0	0	1	1	1
Group Subtotals:	Work:	\$784.48	Support:	\$226.10	Maint:	\$249.00
Total work team cost/	hour: <b>\$1,259.58</b>					
MATERIAL QUA	NTITIES					
Initial volume:	1,089	CCY	Swell fac	tor: 1.215		
Loose volume:	1,323	LCY				
	rce of estimated vol of estimated swell fa		x 6 in depth dbook			
HOURLY PRODU	<u>ICTION</u>					
			Scraper E	Bowl (volume) Ba	sis:	
Material weight:	1,600 lbs/LCY		Struck	Volume: 24.00	L	CY
Material description:	Top Soil			Volume: 34.00	L	CY
Rated Payload: Payload Capacity:			Average Adjusted (			CY CY
i ayidau Capacity.	21.00 LC I		Aujusieu (	<b>Σαμαστιγ. Δ7.00</b>	L'	C 1

Site Altitude: 5000 feet

minutes

LCY/Hour

$\sim$	1	ъ.	
( '37	വമ	Time	٠.
$\sim y$	-10	1 11111	٠,

Scraper Loading Time: 0.80 Minutes 0.60 Minutes Maneuver and Spread Time:

Job Condition Correction:

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

### **Travel Time:**

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1800.00	1.00	3.00	4.00	2394	0.91

Haul Time: **0.91** minutes

### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1800.00	-1.00	3.00	2.00	2960	0.73

Return Time: 0.73 minutes

950.13

Total Scraper team cycle time: 3.04 Adjusted for job conditions: 475.07

LCY/Hour Selected Number of Scrapers: Scraper(s) 2 Adjusted single scraper team (unit) hourly production: 950.13 LCY/Hour Adjusted multiple scraper team (fleet) hourly production:

Unadjusted unit production/hour: 572.37 LCY/Hour Optimal Number of Scrapers per push dozer:

### **JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 1.39 Hours

Unit cost: \$1.326 /LCY Total job cost: \$1,754

Larimer Pit	Permit	Action: 1/16/	2020 Inspect	ion Permit/Job#	: <u>M1974069</u>
ROJECT IDENTIFICA	<u>ATION</u>				
Task #: 017		olorado			None
Date: 2/19/2020 User: AME	County: <u>La</u>	rimer		Filename:	M069-017
Agency or organiza	ation name: DRMS				
ERTILIZING					
aterials					T.
Description		Units / Acre	Unit	Cost / Unit	Cost /Acre
				\$	\$
				Total Fertilizer Materials Cost/Acre	\$0.00
plication					
					Cost /Acre
Description					
Description					\$
Description		Total	Fertilizer A	pplication Cost/Acre	
		Total	Fertilizer A	pplication Cost/Acre	\$0.00
LLING		Total	Fertilizer A	pplication Cost/Acre	\$0.00
LLING  Description Chisel plowing {DMG}			Fertilizer A	pplication Cost/Acre	
LLING  Description	1EANS 31 31 16.13 3		Fertilizer A	pplication Cost/Acre	\$0.00 Cost /Acre

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	1.00	16.32	\$15.98
Indian Ricegrass - Nespar	1.00	3.24	\$8.88
Blue Wildrye - Arlington or Elkton	1.00	3.44	\$6.66
Little Bluestem - Cimarron	1.00	5.97	\$12.48
Sandberg Bluegrass - VNS	1.00	21.24	\$8.40
Slender Wheatgrass - Pryor	1.00	3.65	\$4.25
Needle and Thread	1.00	2.64	\$41.85
Needlegrass, Green - Lodorm	1.00	4.16	\$11.78
Prairie Junegrass	1.00	53.15	\$26.00

Totals Seed Mix   9.00   113.81   \$136.27
--

**Application** 

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$947.43
Total Seed Application Cost/Acre	\$947.43

## **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
Total Mulch Materials Cost/Acre				\$590.00

**Application** 

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
1	Total Mulch Application Cost/Acre	\$70.17

## **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals	Nursery Stoc	ek Cost / Acre	\$0.00

### **JOB TIME AND COST**

No. of Acres: 1.35 Cost /Acre: \$2,032.10Estimated Failure Rate: \$20% Cost /Acre\*: \$1,083.70\*Selected Replanting Work Items: \$1,083.70

Initial Job Cost: \$2,743.34

Reseeding Job Cost: \$292.60

Total Job Cost: Job Hours: 1.35

# **BULLDOZER RIPPING WORK**

Task description:	Rip 2.7 acre storage area	a south of Cell 5				
Site: Larimer Pit Permit Actio		ion: <u>1/16/2020 I</u>	Inspection	Permit/Job	o#: M19740	69
PROJECT IDE	NTIFICATION _					
Task #: 018	State: Colora	ido	Abb	reviation:	None	
	9/2020 County: Larimo	er		Filename:	M069-018	
User: AM	<u>[E</u>					
Agency of	or organization name: <u>DRMS</u>					
<b>HOURLY EQU</b>	IPMENT COST					
Basic N	Machine: Cat D8T - 8SU		Horsepower:		310	
Ripper Atta	schment: 3-Shank Ripper		Shift Basis:	1 p	er day	
			Data Source:	((	CRG)	<b>.</b>
Cost Breakdown:						
			Utilization %			
	Ownership Cost/Hour:		NA	_		
D:	Operating Cost/Hour:	\$82.26 \$10.43	100 NA	_		
	O / TI	ФО 20	100	=		
тарр	er Operating Cost/Hour: Operator Cost/Hour:	\$39.98	NA	=		
	Total Unit Cost/Hour:	\$244.91		=		
	Total Fleet Cost/Hour:	\$244.91	-			
	Total Fleet Cost/Hour:	D244.91				
MATERIAL QUALITY Alternate Methods  Smic: NA	<u>:</u> Bank Volur	me: NA	g method: Are		NA	DCV on
Alternate Methods smic: NA Area: 2.70	<u>:</u>	me: NA ft): 2.00	BCY Volume:		NA	BCY or 0
Alternate Methods smic: NA Area: 2.70	Bank Volument Ba	me: NA ft): 2.00	BCY Volume:		NA	BCY or
Alternate Methods smic: NA Area: 2.70	Bank Volument Ba	me: NA ft): 2.00	BCY Volume: orage area	8,712	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO	Bank Volument Ba	me: NA ft): 2.00	BCY Volume:	8,712	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO	Bank Volument Ba	me: NA ft): 2.00	BCY Volume: orage area	8,712	NA	BCY or
Alternate Methods smic: NA 2.70  HOURLY PRO Seismic:	Bank Voluments Bank Voluments Bank Voluments Bank Voluments Rip Depth ( Source of estimated quantity:2.7  DUCTION  Seismic Velocity:  Average Ripping Depth:	me: NA ft): 2.00  ac compacted sto  NA  2.56	BCY Volume:  orage area  feet/see	8,712 cond	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO Seismic:	Bank Voluments Bank V	me: NA (ft): 2.00 NA NA 2.56 7.08	BCY Volume:  prage area  feet/sed feet/pa feet/pa	8,712 cond ss ss	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO Seismic:	Bank Voluments Bank V	me: NA / 2.00 / ac compacted sto / NA / 2.56 / 7.08 / 150.00	BCY Volume:  rage area  feet/sed feet/pa feet/pa feet/pa	8,712  cond  ss ss ss	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO Seismic:	Bank Volume acres Rip Depth ( Source of estimated quantity:2.7  DUCTION  Seismic Velocity:  Average Ripping Depth:  Average Ripping Width:  Average Ripping Length:  Average Dozer Speed:	me: NA (ft): 2.00 NA (ac compacted stored st	BCY Volume:  rage area  feet/sed feet/pa feet/pa feet/pa feet/mi	8,712  cond  ss ss ss inute	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO Seismic:	Bank Voluments Bank V	me: NA / 2.00 / ac compacted sto / NA / 2.56 / 7.08 / 150.00	BCY Volume:  rage area  feet/sed feet/pa feet/pa feet/pa	ss ss ss inute is/pass	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO Seismic:	Bank Volume acres Rip Depth ( Source of estimated quantity:2.7  DUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:	me: NA	BCY Volume:  rage area  feet/sed feet/pa feet/pa feet/pa feet/mi minute	ss ss ss inute is/pass	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO Seismic: Area:  Job Condition Corr	Bank Volume acres Rip Depth ( Source of estimated quantity:2.7  DUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:	me: NA	BCY Volume:  rage area  feet/sed feet/pa feet/pa feet/pa feet/mi minute	ss ss ss inute ss/pass	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO Seismic: Area:  Job Condition Corr	Bank Voluments Bank V	me: NA ft): 2.00  ac compacted sto  NA  2.56  7.08  150.00  88.00  0.25  0.748	BCY Volume:  prage area  feet/set  feet/pa feet/pa feet/mi minute acres/h	ss ss ss inute ss/pass	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO Seismic: Area:  Job Condition Corr	Bank Voluments acres Rip Depth ( Source of estimated quantity:2.7  DUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:  rection Factors  djusted Hourly Unit Production: Site Altitude:	me: NA ft): 2.00  ac compacted sto  NA  2.56  7.08  150.00  88.00  0.25  0.748	BCY Volume:  prage area  feet/set  feet/pa feet/pa feet/mi minute acres/h Acres/feet	econd ss ss ss inute ss/pass cour	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO Seismic: Area:  Job Condition Corr	Bank Voluments Bank V	me: NA	BCY Volume:  prage area  feet/set  feet/pa feet/pa feet/mi minute acres/h	econd ss ss ss inute ss/pass iour hr	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO Seismic: Area:  Job Condition Corn	Bank Voluments acres Rip Depth ( Source of estimated quantity:2.7  DUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:  rection Factors  djusted Hourly Unit Production: Site Altitude: Altitude Adj:	me: NA	BCY Volume:  prage area  feet/see  feet/pa feet/pa feet/mi minute acres/h  Acres/feet  feet (CAT)	8,712  cond  ss ss ss inute ss/pass our  hr  HB)	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO Seismic: Area:  Job Condition Corr	Bank Voluments acres Rip Depth ( Source of estimated quantity:2.7  DUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:  rection Factors  djusted Hourly Unit Production:  Site Altitude: Altitude Adj: Job Efficiency:	me: NA	BCY Volume:  rage area  feet/sed feet/pa feet/pa feet/pa feet/mi minute acres/h Acres/feet (CAT) (1 shift	8,712  cond  ss ss ss inute ss/pass our  hr  HB)	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO Seismic: Area:  Job Condition Corr	Bank Voluments acres Rip Depth ( Source of estimated quantity:2.7  DUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:  rection Factors  djusted Hourly Unit Production: Site Altitude: Altitude Adj: Job Efficiency: Net Correction:  Adjusted Hourly Unit Production  Adjusted Hourly Unit Production	me: NA	BCY Volume:  rage area  feet/sed feet/pa feet/pa feet/pa feet/mi minute acres/h  Acres/ feet (CAT) (1 shift multip) Acres/hr	8,712  cond  ss ss ss inute ss/pass our  hr  HB)	NA	BCY or
Alternate Methods smic: NA Area: 2.70  HOURLY PRO Seismic: Area:  Job Condition Corr Una	Bank Voluments acres Rip Depth ( Source of estimated quantity:2.7  DUCTION  Seismic Velocity:  Average Ripping Depth: Average Ripping Width: Average Ripping Length: Average Dozer Speed: Average Maneuver Time: Production per unit area:  rection Factors  djusted Hourly Unit Production: Site Altitude: Altitude Adj: Job Efficiency: Net Correction:  Adjusted Hourly Unit Production  Adjusted Hourly Unit Production	me: NA	BCY Volume:  prage area  feet/set  feet/pa feet/pa feet/pa feet/mi minute acres/h  Acres/h  Acres/h  Acres/hr  Acres/hr	8,712  cond  ss ss ss inute ss/pass our  hr  HB)	NA Hours	BCY or

# **SCRAPER TEAM WORK**

Task description:	Retopsoil 2.	7 acre storage	area south of Ce	11 5		
Site: Larimer Pit Permit Action: 1/16/2020 Inspection Permit/Job#: M19740					974069	
PROJECT IDENT	<u>TIFICATION</u>					
Task #: 019 Date: 2/19/2 User: AME		Colorado Larimer			viation: None ename: M069-	019
Agency or o	organization name:	DRMS				
HOURLY EQUIP	MENT_		COSTS	Shift basis: 1 per	day	
			ent Description			
		raper: Cat 63	7G			
Suppor	t Equipment -Load					
	-Dump	Area: Cat D8	BT - 8SU			
Road Mai	ntenance –Motor G -Water T		6M Tanker, 3,500 Ga	.1		
	-water 1	ruck. water	Talikel, 5,300 Ga			
Cost Breakdown:	Scraper Work	Team	Support Equ	ipment	Maintenanc	e Equipment
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	100	100	100
Ownership cost/hour:	\$162.02	NA	NA	\$103.86	\$82.71	\$13.51
Operating cost/hour:	\$184.64	NA	NA	\$82.26	\$70.09	\$28.95
%Utilization-ripper:	NA	NA	NA	NA	100	NA
Ripper own. cost/hour:	NA	NA	NA	\$0.00	\$4.44	\$0.00
Ripper op. cost/hour:	NA	NA	NA	\$0.00	\$3.92	\$0.00
Operator cost/hour:	\$45.58	NA	NA	\$39.98	\$45.39	\$0.00
Unit Subtotals:	\$392.24	NA	NA	\$226.10	\$206.54	\$42.46
Number of Units:	2	0	0	1	1	1
Group Subtotals:	Work:	\$784.48	Support:	\$226.10	Maint:	\$249.00
Total work team cost/	hour: <b>\$1,259.58</b>					
MATERIAL QUA	NTITIES					
Initial volume: Loose volume:	2,178 <b>2,646</b>	CCY LCY	Swell fac	tor: 1.215		
	ce of estimated volu f estimated swell fac		6 in depth dbook			
HOURLY PRODU	<u>ICTION</u>					
	<u>—</u>		Scraper E	Bowl (volume) Ba	sis:	
Material weight:	1,600 lbs/LCY		·	Struck Volume: 24.00 LCY		
Material description:	Top Soil			Heaped Volume: 24.00 LCY		
Rated Payload:	81,600 pounds		Average	Volume: 29.00	L	CY
Payload Capacity:	51.00 LCY		Adjusted (	Capacity: <b>29.00</b>	L	CY

Site Altitude: 5000 feet

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( '37	വമ	Time	٠.
$\sim y$	-10	1 11111	٠,

Scraper Loading Time:  $\underline{0.80}$  Minutes Maneuver and Spread Time:  $\underline{0.60}$  Minutes

<u>Job Condition Correction:</u>

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

### <u>Travel Time:</u>

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1400.00	1.00	3.00	4.00	2394	0.74

Haul Time: **0.74** minutes

1,054.16

LCY/Hour

### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1400.00	-1.00	3.00	2.00	2960	0.60

Return Time: 0.60 minutes

Total Scraper team cycle time: 2.74 minutes

Adjusted for job conditions: 527.08 LCY/Hour Selected Number of Scrapers: 2 Scraper(s)

Adjusted single scraper team (unit) hourly production: 1,054.16 LCY/Hour

Unadjusted unit production/hour: 635.04 LCY/Hour Optimal Number of Scrapers per push dozer:

### **JOB TIME AND COST**

Fleet size:	1	Team(s)	Total job time:	2.51	Hour
Unit cost:	\$1.195	/LCY	Total job cost:	\$3,162	

Adjusted multiple scraper team (fleet) hourly production:

# **REVEGETATION WORK**

Larimer Pit	Po	ermit Action: 1/16	5/2020 Inspection	Permit/Joba	#: <u>M1974069</u>
ROJECT IDENT	<u>CIFICATION</u>				
Task #: 020	State:	Colorado		Abbreviation:	None
Date: 2/19/2 User: AME	County:	Larimer		Filename: _	M069-020
	organization name:D	RMS			
ERTILIZING					
aterials					
Description		Units / Acre	Unit	Cost / Unit	Cost /Acre
				\$	\$
				Total Fertilizer Materials Cost/Acre	\$0.00
plication					
plication					
Description					Cost /Acre
					Cost /Acre
		Tota	al Fertilizer Appl	ication Cost/Acre	
Description		Tota	al Fertilizer Appl	ication Cost/Acre	\$
		Tota	al Fertilizer Appl	ication Cost/Acre	\$
Description  LLING  Description  Chisel plowing {[			al Fertilizer Appl	ication Cost/Acre	\$ \$0.00 Cost /Acre \$94.63
Description  LLING  Description  Chisel plowing {[	DMG} sying (MEANS 31 31 16		al Fertilizer Appl	ication Cost/Acre	\$ \$0.00 Cost /Acre

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	1.00	16.32	\$15.98
Indian Ricegrass - Nespar	1.00	3.24	\$8.88
Blue Wildrye - Arlington or Elkton	1.00	3.44	\$6.66
Little Bluestem - Cimarron	1.00	5.97	\$12.48
Sandberg Bluegrass - VNS	1.00	21.24	\$8.40
Slender Wheatgrass - Pryor	1.00	3.65	\$4.25
Needle and Thread	1.00	2.64	\$41.85
Needlegrass, Green - Lodorm	1.00	4.16	\$11.78
Prairie Junegrass	1.00	53.15	\$26.00

	Totals Seed Mix	9.00	113.81	\$136.27
Application				

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$947.43
	<b>Total Seed Application Cost/Acre</b>	\$947.43

# **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
Total Mulch Materials Cost/Acre				\$590.00

**Application** 

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
1	Total Mulch Application Cost/Acre	\$70.17

# **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

### **JOB TIME AND COST**

No. of Acres: 2.7 Cost /Acre: \$2,032.10 Estimated Failure Rate: 20% Cost /Acre\*: \$1,083.70 \*Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$5,486.67** Reseeding Job Cost: \$585.20 Total Job Cost: \$6,072 Job Hours: **2.70** 

Task description:	Retopsoil 4.	.5 acres	Cell 20				
Site: Larimer Pit		Permi	Action:	1/16/2020 Inspe	ection Peri	mit/Job#: <u>M197</u>	4069
PROJECT IDEN	<b>FIFICATION</b>						
	_						
Task #: 022			Colorado			viation: None	000
Date: Rev 3/2 User: AME	20/2020 Cou	inty:l	Larimer		F1I	ename: <u>M069-</u>	022
	organization name:	DRM	S				
		DRIVI	.5				
<b>HOURLY EQUIP</b>	<u>PMENT</u>			COSTS	hift basis: <u>1 per d</u>	<u>ay</u>	
	C.	24042041	Equipme Cat 637	ent Description			
		craper: Dozer:	NA	'G			
Suppo	rt Equipment -Load		NA				
	-Dump			T - 8SU			
Road Ma	intenance –Motor C -Water		CAT 10	6M Γanker, 3,500 Gal			
	- w ater	TTUCK.	water.	Talikel, 5,500 Gai	•		
Cost Breakdown:	Scraper World	k Team		Support Equi	pment	Maintenance	Equipment
	Scraper	Do	zer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100		NA	NA	100	100	100
Ownership cost/hour:	\$162.02		NA	NA	\$103.86	\$82.71	\$13.51
Operating cost/hour:	\$184.64		NA	NA	\$82.26	\$70.09	\$28.95
% Utilization-ripper:	NA		NA	NA	NA	100	NA
Ripper own. cost/hour:	NA		NA	NA	\$0.00	\$4.44	\$0.00
Ripper op. cost/hour:	NA		NA	NA	\$0.00	\$3.92	\$0.00
Operator cost/hour:	\$45.58		NA	NA	\$39.98	\$45.39	\$0.00
Unit Subtotals:	\$392.24		NA	NA	\$226.10	\$206.54	\$42.46
Number of Units:	2		0	0	1	1	1
Group Subtotals:	Work:	\$784	1.48	Support:	\$226.10	Maint:	\$249.00
Total work team cost	/hour: <b>\$1,259.58</b>						
MATERIAL QUA	<u>ANTITIES</u>						
Initial volume:	3,630		CCY	Swell fac	tor: 1.215		
Loose volume:	4,410		LCY				
	rce of estimated vol	_		6 in depth			
Source of	of estimated swell fa	actor: _	Cat Han	dbook			
HOURLY PROD	<u>UCTION</u>						
				Scraper B	owl (volume) Bas	is:	
Material weight:	1,600 lbs/LCY			Struck	Volume: 24.00	L	CY
Material description:	Top Soil			Heaped	Volume: 34.00		CY
Rated Payload:	81,600 pounds			Average			CY
Payload Capacity:	51.00 LCY			Adjusted (	Capacity: <b>29.00</b>	L	CY

Site Altitude: 5000 feet

Time:
Γi

 $\begin{array}{lll} \text{Scraper Loading Time:} & \underline{0.80} \text{ Minutes} \\ \text{Maneuver and Spread Time:} & \underline{0.60} \text{ Minutes} \\ \end{array}$ 

<u>Job Condition Correction:</u>

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

### **Travel Time:**

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	1.00	3.00	4.00	2394	0.66

Haul Time: **0.66** minutes

#### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	-1.00	3.00	2.00	2960	0.53

Return Time: 0.53 minutes Total Scraper team cycle time: 2.59 minutes Adjusted for job conditions: 557.61 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: 1,115.21 LCY/Hour Adjusted multiple scraper team (fleet) hourly production: 1,115.21 LCY/Hour

Unadjusted unit production/hour:	671.81	LCY/Hou
Optimal Number of Scrapers per push dozer:		_

Fleet size:	1	Team(s)	Total job time:	3.95	Hours
Unit cost:	\$1.129	_ /LCY	Total job cost:	\$4,981	

# **REVEGETATION WORK**

Task description:	Revegetate 6.5 acres C	ell 20			
E: Larimer Pit	Permit Ac	ction:1/16	/2020 Inspection	Permit/Job	#: <u>M1974069</u>
PROJECT IDENTIFIC	<u>CATION</u>				
Task #: 023 Date: Rev 3/20/20 User: AME	State: Colo County: Larin			Abbreviation: Filename:	None M069-023
Agency or organi	ization name: DRMS				
FERTILIZING  Materials  Description		Units /	Unit	Cost / Unit	Cost /Acre
				\$	\$
				Total Fertilizer Materials Cost/Acre	\$0.00
Application					
Description					Cost /Acre

# **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>	\$288.23

**Total Fertilizer Application Cost/Acre** 

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	1.00	16.32	\$15.98
Indian Ricegrass - Nespar	1.00	3.24	\$8.88
Blue Wildrye - Arlington or Elkton	1.00	3.44	\$6.66
Little Bluestem - Cimarron	1.00	5.97	\$12.48
Sandberg Bluegrass - VNS	1.00	21.24	\$8.40
Slender Wheatgrass - Pryor	1.00	3.65	\$4.25
Needle and Thread	1.00	2.64	\$41.85
Needlegrass, Green - Lodorm	1.00	4.16	\$11.78
Prairie Junegrass	1.00	53.15	\$26.00

\$0.00

<b>Totals Seed Mix</b> 9.00 113.81 <b>\$136.27</b>	Totals Seed Mix	9.00	113.81	\$136.27
--	-----------------	------	--------	----------

Application

Description		Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)		\$947.43
	<b>Total Seed Application Cost/Acre</b>	\$947.43

# **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
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
	Total Mulch Application Cost/Acre	\$70.17

# **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals:	Nursery Stoc	k Cost / Acre	\$0.00

### **JOB TIME AND COST**

No. of Acres: 6.5 Cost /Acre: \$2,032.10
Estimated Failure Rate: 20% Cost /Acre\*: \$1,083.70

\*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$13,208.65

Reseeding Job Cost: \$1,408.81

Total Job Hours: \$14,617

6.50

Task description:	Backfill Ce	ell 21 overburden	(from AM-3)			
Site: Larimer Pit		Permit Action:	1/16/2020 Ins	spection P	Permit/Job#: M1	974069
PROJECT IDENT	<u>IFICATION</u>					
Task #: 024 Date: 2/19/2 User: AME		tate: Colorado nty: Larimer			viation: None ename: M069-	024
Agency or o	organization name:	DRMS				
HOURLY EQUIP	MENT_		COSTS	Shift basis: 1 per	day	
			nt Description			
		craper: Cat 637	G			
Suppor	t Equipment -Load	Dozer: NA Area: NA				
Биррог	-Dump					<del></del>
Road Mai	ntenance –Motor C					
	-Water	Truck: NA				
G . D . I I	a	<b></b>	G		36.1	<b>.</b>
Cost Breakdown:	Scraper Worl Scraper	Dozer	Support Equ Load Area	ipment  Dump Area	Maintenanc Motor Grader	e Equipment Water Truck
	-			Dump Area	Wotor Grader	
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$162.02	NA	NA	NA	NA	NA
Operating cost/hour:	\$184.64	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$45.58	NA	NA	NA	NA	NA
Unit Subtotals:	\$392.24	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$784.48	Support:	\$0.00	Maint:	\$0.00
Total work team cost/						
Initial volume:	55,000	CCY	Swell fac	tor: 1.000		
Loose volume:	55,000	LCY				
Sour	ce of estimated vol	ume: Operator	Estimate			
	f estimated swell fa					
<b>HOURLY PRODU</b>	<u>ICTION</u>					
			Scraper E	Bowl (volume) Ba	sis:	
Material weight:	2,100 lbs/LCY		·	Volume: 24.00	<del></del>	CY
Material description:	Shale			Volume: 24.00 Volume: 34.00		.CY
Rated Payload:	81,600 pounds		Average			CY
Payload Capacity:	38.86 LCY		Adjusted (			CY

Site Altitude: 5010 feet

$C_{3}$	vcle	Tim	e:
$\sim$	, 010	1 1111	v.

Scraper Loading Time: 0.80 Minutes Maneuver and Spread Time: 0.60 Minutes

<u>Job Condition Correction:</u>

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

### **Travel Time:**

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	250.00	2.00	3.00	5.00	1867	0.24

Haul Time: 0.24 minutes

1,569.78

LCY/Hour

#### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	250.00	-2.00	3.00	1.00	2963	0.20

Return Time: 0.20 minutes Total Scraper team cycle time: 1.84 minutes Adjusted for job conditions: 784.89 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: LCY/Hour 1,569.78 Adjusted multiple scraper team (fleet) hourly production:

Unadjusted unit production/hour: 945.65 LCY/Hour Optimal Number of Scrapers per push dozer:

Fleet size:	1	Team(s)	Total job time:	35.04	Hours
Unit cost:	\$0.500	/LCY	Total job cost:	\$27,486	

Task description:	Shalestone l	alestone lining Cell 21 (from AM-3)						
Site: Larimer Pit Permit Action			1/16/2020 Ins	spection P	Permit/Job#: M1	974069		
PROJECT IDENT	<u>IFICATION</u>							
Task #: 025		ate: Colorado			viation: None			
Date: 2/19/20 User: AME	020 Coun	nty: Larimer		Fil	ename: <u>M069</u> -	025		
Agency or o	organization name:	DRMS						
HOURLY EQUIP	MENT_		COSTS	Shift basis: 1 per	day			
			ent Description					
		raper: Cat 637	7G					
Suppor	ם- t Equipment -Load מ					<del></del>		
Биррог	-Dump					<del></del>		
Road Mai	ntenance –Motor Gr							
	-Water T	ruck: NA						
-				_				
Cost Breakdown:	Scraper Work		Support Equ	•	Maintenanc Motor Grader	e Equipment Water Truck		
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	water fruck		
%Utilization-machine:	100	NA	NA	NA	NA	NA		
Ownership cost/hour:	\$162.02	NA	NA	NA	NA	NA		
Operating cost/hour:	\$184.64	NA	NA	NA	NA	NA		
%Utilization-ripper:	NA	NA	NA	NA	NA	NA		
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA		
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA		
Operator cost/hour:	\$45.58	NA	NA	NA	NA	NA		
Unit Subtotals:	\$392.24	NA	NA	NA	NA	NA		
Number of Units:	2	0	0	0	0	0		
Group Subtotals:	Work:	\$784.48	Support:	\$0.00	Maint:	\$0.00		
Total work team cost/	hour: <u>\$<b>784.48</b></u>							
MATERIAL QUA	NTITIES							
•	<u>.</u>	CCV	G 11.6	1 000				
Initial volume: Loose volume:	10,000 10,000	CCY LCY	Swell fac	tor: 1.000				
	ce of estimated volu		Estimate					
Source o	f estimated swell fac	ctor: Cat Han	dbook					
HOURLY PRODU	CTION							
	<u> </u>		Scraper F	Bowl (volume) Ba	ısis:			
Matarial1	2 100 lba/I CV		<del></del>		<del></del>	CV		
Material weight: Material description:	2,100 lbs/LCY Shale			Volume: <u>24.00</u> Volume: <u>34.00</u>		.CY .CY		
Rated Payload:	81,600 pounds		Average			CY		
Payload Capacity:	38.86 LCY		Adjusted (			CY		

Site Altitude: 5010 feet

$C_{3}$	vcle	Tim	e:
$\sim$	, 010	1 1111	v.

Scraper Loading Time:  $\underline{0.80}$  Minutes Maneuver and Spread Time:  $\underline{0.60}$  Minutes

Job Condition Correction:

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

### **Travel Time:**

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	250.00	2.00	3.00	5.00	1867	0.24

Haul Time: **0.24** minutes

#### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	250.00	-2.00	3.00	1.00	2963	0.20

Return Time: 0.20 minutes Total Scraper team cycle time: 1.84 minutes Adjusted for job conditions: 784.89 LCY/Hour Selected Number of Scrapers: 2 Scraper(s) Adjusted single scraper team (unit) hourly production: LCY/Hour 1,569.78 Adjusted multiple scraper team (fleet) hourly production: 1,569.78 LCY/Hour

Unadjusted unit production/hour: 945.65 LCY/Hour Optimal Number of Scrapers per push dozer:

Fleet size:	1	Team(s)	Total job time:	6.37	Hours
Unit cost:	\$0.500	/LCY	Total job cost:	\$4,997	

Task description:	Task description: Retopsoil Cell 21 (from AM-3)					
Site: Larimer Pit	Pe	rmit Action:	1/16/2020 Ins	spection P	ermit/Job#: M1	974069
PROJECT IDENT	<u>TIFICATION</u>					
Task #: 026 Date: 2/19/2 User: AME	State: County:	Colorado Larimer			viation: None ename: M069-	026
Agency or o	organization name:DF	RMS				
HOURLY EQUIP	MENT_		COSTS	Shift basis: 1 per	day	
	~		ent Description			
	-Scraper -Dozer		/G			
Suppor	t Equipment -Load Area					
11	-Dump Area	: NA				
Road Mai	ntenance – Motor Grader					
-	-Water Truck	: NA				
Cost Breakdown:	Scraper Work Tear	n	Support Equ	ipment	Maintenanc	e Equipment
	-	Oozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$162.02	NA	NA	NA	NA	NA
Operating cost/hour:	\$184.64	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$45.58	NA	NA	NA	NA	NA
Unit Subtotals:	\$392.24	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$7	84.48	Support:	\$0.00	Maint:	\$0.00
Total work team cost/	hour: <u>\$784.48</u>					
MATERIAL QUA	<u>NTITIES</u>					
Initial volume: Loose volume:	2,500 2,500	_ CCY _ LCY	Swell fac	tor: 1.000		
	rce of estimated volume: f estimated swell factor:	Operator Cat Hand	Estimate dbook			
HOURLY PRODU	UCTION .					
			Scraper E	Bowl (volume) Ba	sis:	
Material weight:	1,600 lbs/LCY		Struck	Volume: 24.00	I.	CY
Material description:	Top Soil			Volume: 34.00		CY
Rated Payload:	81,600 pounds		Average			CY
Payload Capacity:	51.00 LCY		Adjusted (	Capacity: <b>29.00</b>	L	CY

Site Altitude: 5010 feet

$C_{3}$	vcle	Tim	e:
$\sim$	, 010	1 1111	v.

Scraper Loading Time:  $\underline{0.80}$  Minutes Maneuver and Spread Time:  $\underline{0.60}$  Minutes

Job Condition Correction:

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

### **Travel Time:**

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

#### Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	250.00	2.00	3.00	5.00	1867	0.23

Haul Time: **0.23** minutes

1,578.36

LCY/Hour

#### Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	250.00	-2.00	3.00	1.00	2963	0.20

Return Time: 0.20 minutes

Total Scraper team cycle time: 1.83 minutes

Adjusted for job conditions: 789.18 LCY/Hour Selected Number of Scrapers: 2 Scraper(s)

Adjusted single scraper team (unit) hourly production: 1,578.36 LCY/Hour

Unadjusted unit production/hour: 950.82 LCY/Hour Optimal Number of Scrapers per push dozer:

### **JOB TIME AND COST**

 Fleet size:
 1
 Team(s)
 Total job time:
 1.58
 Hours

 Unit cost:
 \$0.497
 /LCY
 Total job cost:
 \$1,243

Adjusted multiple scraper team (fleet) hourly production:

# MOTOR GRADER WORK

Task description:	Final grading Cell 21 (from	n AM-3)		
e: Larimer Pit	Permit Action	n: <u>1/16/2020 Ins</u>	spection Pe	ermit/Job#: <u>M1974069</u>
PROJECT IDENTIF	<u>FICATION</u>			
Task #: 027	State: Colorado	)	Abbrev	iation: None
Date: 2/19/202	0 County: Larimer		File	ename: M069-027
User: AME				
Agency or org	anization name: DRMS			
HOURLY EQUIPM	ENT COST			
Basic Machi	ne: CAT 16M		Horsepower:	297
Ripper Attachme	-	<del></del>	Shift Basis:	1 per day
			Data Source:	(CRG)
Cost Breakdown:				
Cost Breakdo WII.			Utilization %	
Own	ership Cost/Hour:	\$82.71	NA	
	erating Cost/Hour:	\$70.09	100	
	ership Cost/Hour:	\$4.44	NA .	
	erating Cost/Hour:	\$1.96	50	
	perator Cost/Hour:	\$45.39	NA	
lota	al Unit Cost/Hour:	\$204.58		
Tota	l Fleet Cost/Hour: \$20	04.58		
	a to be graded or ripped:27.00			acres
Sour	ce of estimated acreage: Opera	ator Estimate		
HOURLY PRODUC	<u>TION</u>			
	Average Grader Speed:	1.50	mph	
	Selected Application:		rading (0-2.5 mph	) - 1.5
	Selected Blade Angle:	30	degrees	
W7: 441-	Effective Blade Length:	13.90	feet	
	of blade overlap per pass: or ripping width per pass:	2.00	feet feet	
	d Hourly Unit Production:	2.1636	acres/hour	•
Job Condition Correction			e Altitude: 5010 f	
Altitude Adj:	Sourc 1.00 (CAT H			
Job Efficiency:	$\frac{1.00}{0.90}$ (1sh/d, f			
Net Correction:	0.9000 multiplie			
			/TT	
	Adjusted Hourly Unit Production		acres/Hour	
P	Adjusted Hourly Fleet Production	: 1.9473	acres/Hour	
JOB TIME AND CO	<u>ST</u>			
Fleet size:	1 Grader(s)	Total job time:	13.87	Hours
Unit cost: \$1	05.06 per acre	Total job cost:	\$2.837	

# **REVEGETATION WORK**

Task description: Revegetate 2  Larimer Pit	Permit Action	•	2020 Inspection	Permit/Job	#: <u>M1974069</u>
ROJECT IDENTIFICATION					
	tte: Colora Larime			Abbreviation: _ Filename: _	None M069-028
Agency or organization name:	DRMS				
<u>ERTILIZING</u>					
Taterials  Description		Units / Acre	Unit	Cost / Unit	Cost /Acre
				\$	\$
				Total Fertilizer Materials Cost/Acre	\$0.00
pplication					G 4/A
Description					Cost /Acre
		Total	Fertilizer Appl	ication Cost/Acre	\$ \$0.00
ILLING					
Description					Cost /Acre
Chisel plowing {DMG}					\$94.63
Weed control spraying (MEANS 31 3	1 16.13 3100)	<u> </u>			\$193.60
			700 ( 1	Tilling Cost/Acre	\$288.23

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	1.00	16.32	\$15.98
Indian Ricegrass - Nespar	1.00	3.24	\$8.88
Blue Wildrye - Arlington or Elkton	1.00	3.44	\$6.66
Little Bluestem - Cimarron	1.00	5.97	\$12.48
Sandberg Bluegrass - VNS	1.00	21.24	\$8.40
Slender Wheatgrass - Pryor	1.00	3.65	\$4.25
Needle and Thread	1.00	2.64	\$41.85
Needlegrass, Green - Lodorm	1.00	4.16	\$11.78
Prairie Junegrass	1.00	53.15	\$26.00

Totals Seed Mix	9.00	113.81	\$136.27
Application			

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$947.43
Total Seed Application Cost/Acre	\$947.43

# **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
Total Mulch Materials Cost/Acre				\$590.00

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$70.17
To	otal Mulch Application Cost/Acre	\$70.17

# **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

### **JOB TIME AND COST**

No. of Acres: 28 Cost /Acre: \$2,032.10
Estimated Failure Rate: 20% Cost /Acre\*: \$1,083.70

\*Selected Replanting Work Items: SEEDING

Initial Job Cost: \$56,898.80

Reseeding Job Cost: \$6,068.72

Total Job Cost: \$62,968

Job Hours: 28.00

# EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: Mo	bilization/Demol	bilization			
te: Larimer Pit	Permit	Action: 1/16/2	2020 Inspection	Permit/Job	o#: M1974069
PROJECT IDENTIFICATI	<u>ION</u>				
Task #: 030	State: C	olorado		Abbreviation:	None
Date: Rev 5/18/2020	County: L	arimer		Filename:	M069-030
User: AME	- -				
Agency or organization	n name: DRMS	S			
8 <b>,</b> 8					
<b>EQUIPMENT TRANSPOR</b>	T RIG COST				
			Sh	ift basis: 1	I por dov
			Cost Data		l per day CRG Data
Truck Tractor Desc	cription: GENF	ERIC ON-HIGH			DIESEL POWERED,
m 1 m 11 b		SEMEDIC FOLD	400 HP (2ND H.		W EOTHDWENE
Truck Trailer Desc	eription:		ING GOOSENECI RAILER (25T, 50'		K EQUIPMEN I
			KAILEK (231, 30	1, AND 1001)	
Cost Breakdown:					
Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons	<u> </u>	
Ownership Cost/Hour:	\$17.20	\$29.63	\$38.69	<del></del>	
Operating Cost/Hour:	\$26.56	\$47.02	\$55.69	<u></u>	
Operator Cost/Hour:	\$23.63	\$23.63	\$23.63		

# **NON ROADABLE EQUIPMENT:**

Total Unit Cost/Hour:

Helper Cost/Hour:

\$0.00

\$67.39

Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/uni	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
	(TONS)		t		fleet		
Cat D8T - 8SU	53.08	\$114.29	\$141.54	2	\$511.66	\$283.08	\$1,000.00
CAT 16M	28.73	\$87.15	\$123.81	2	\$421.92	\$247.62	\$500.00
Cat 637G	57.28	\$162.02	\$141.54	2	\$607.12	\$283.08	\$500.00
CAT 966H	25.80	\$41.17	\$67.39	1	\$108.56	\$67.39	\$500.00
Cat 730	25.19	\$58.61	\$67.39	2	\$252.00	\$134.78	\$500.00
Hydroseeder with	28.00	\$23.59	\$123.81	1	\$147.40	\$123.81	\$500.00
Tractor							

\$23.53

\$123.81

\$23.53

\$141.54

Subtotals: \$2,048.66 \$1,139.76 \$3,500.00

# **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 3,500 Gal.	\$42.46	1	\$42.46	\$42.46
Light Duty Pickup, 4x4, 3/4 T.	\$12.96	1	\$12.96	\$12.96

Subtotals:	\$55.42	\$55.42
Subjoiats.	333.44	333.44

# **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:

Total one-way travel distance:

Average Travel Speed:

LOVELAND

miles

45.00

mph

### **Transportation Cycle Time:**

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.07	0.07
Return Time (Hours):	0.07	0.07
Loading Time (Hours):	4.00	NA
Unloading Time (Hours):	4.00	NA
Subtotals:	8.13	0.13

Total job time:	16.27	Hours
Total job cost:	\$40,211	