

# **Interoffice Memorandum**

To:M2015-033 FileFrom:Rob ZuberRDZDate:May 16, 2024Subject:Reclamation Cost Estimate for TR-03

On May 15, 2024, I sent the attached cost estimate via email to Garrett Varra of Raptor Materials LLC for his review and/or the review of his consultant RESPEC.





### COST SUMMARY WORK

Task des	cription:	Cost Summary				
	122 - Resource opment Project	Per	rmit Action:	TR3	Permit/Job	o#: _M2015033
<u>PROJEC</u>	CT IDENTIFIC	ATION				
Task ‡ Date		State: County:	Colorado Weld		Abbreviation: Filename:	None M033-000
Use	r: RDZ Agency or organiz	zation name: DE	RMS			

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Dewatering pit - initial pumping	PUMPING	1	583.11	\$72,440
01b	Dewatering pit - during construction	PUMPING	1	148.30	\$18,424
02a	Grade banks of reservoir	DOZER	2	86.20	\$73,324
03a	Haul liner material from stockpile	TRUCK1	] 1	141.43	\$198,367
03b	Mix material for liner	DOZER	2	18.64	\$16,508
03c	Compact liner material	COMPACT	2	15.53	\$9,202
04a	Haul topsoil to areas for revegetation	TRUCK1	] 1	103.13	\$144,643
04b	Grade topsoil	DOZER	2	10.93	\$9,298
05a	Seed 45.44 acres	REVEGE	] 1	45.00	\$108,048
06a	Demo and haul of conveyor, blocks, and truss	DEMOLISH	] 1	300.00	\$72,222
07a	Mobilization/Demob.	MOBILIZE	1	1.50	\$4,919
	SUBTOTALS:			1453.77	\$727,395

### **INDIRECT COSTS**

#### **OVERHEAD AND PROFIT:**

Liability insurance:	2.02	Total =	\$14,693
Performance bond:	1.05	Total =	\$7,638
Job superintendent:	726.88	Total =	\$47,305
Profit:	10.00	Total =	\$72,740
		TOTAL O & P =	\$142,376
		CONTRACT AMOUNT (direct + O & P) = $($	\$869,771

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

TOTAL BO	ND AMOUNT (d	irect + indirect) =	\$913,759
	TOTAL IN	DIRECT COST =	\$186,364
CONTINGENCY:	0.00	Total =	\$0
Reclamation management and/or administration:	5.00	-	\$43,489
Engineering work and/or contract/bid preparation:	0.00	Total =	\$0
Financial warranty processing (legal/related costs):	\$500	Total =	\$500

Task description:	Dewatering pit - initial pu	ımping		
Parcel 122 - Resource Development Project	Permit Action	n: 	Permit/Job#:	M2015033
PROJECT IDENTIFI	ICATION			
Task #:         01A           Date:         5/15/2024           User:         RDZ	State: Colorad County: Weld	do	Abbreviation: Filename:	None M033-01a
Agency or organ	nization name: DRMS			
HOURLY EQUIPME	CNT COST			
	Description		Quantity	
Make and Model:	Submersible pump - 460v, 8	3 in.	5	
Attachment 1:	Suction hose - 6 in. diam., 2	.5 ft.	5	
Attachment 2:	Discharge hose - 6 in. D., 25	5 ft.	5	
Labor Unit 1:	Pump operator		1	
Weight:	95 ber day 0.70 S Tons)			
Cost Breakdown:		1		
	L	Utilization %		
Ownership Cost/H		NA 100		
Operating Cost/H Operator Cost/H		100 NA		
Total Unit Cost/H		INA		
Total Fleet Cost/				
Initial Pond Volu			Conversion factor:	1.0000
Final Pond Volu		gallons		1.0000
Total Pond Inflow Sur		0	Unit inflow rate in	
	Area: 1,000	Sq. ft.	gph/sq. ft.:	0.0879
Total Pond Inflow Vol				
per H	Iour: 87.90	gallons		
Source of	of estimated volume: Exhibit	it L		
PUMPING TIME				
	imum Pump Capacity:	170,000	gph/pump	
	stimated Suction Head:	5	feet	
Estir	nated Discharge Head:	30	feet	
	Total Head:	35	feet	
	CPB Pump Capacity: Site Altitude:	<u>163,200</u> 4,800	gph/pump	
		4,800	feet	
Adius	ted Pumping Capacity:	816,000	gph	
	ljusted Pumping Time:	636.03	hours	
	luring Initial Pumping:	55,907	gallons	
	ljusted Pumping Time:	636.10	Hours	
Altitu	ide Adjustment Factor:	1.0000	(3% rule)	
D	ump Efficiency Factor:	0.9167	(55 min./hr.)	
		_		
	ljusted Pumping Time:	583.11	hours	

PUMPING WORK

Unit cost: \$0.000140 /Gallon

Total job cost: **\$72,440** 

CIRCES Cost Estimating Software

Task description:	Dewatering pit - during co	nstruction		
Parcel 122 - Resource	Permit Action			
e: Development Project		TR3	Permit/Job#:N	12015033
PROJECT IDENTIFI	CATION			
Task #: 01B	State: Colorade	0	Abbreviation: N	one
Date: 5/15/2024	County: Weld		Filename: M	033-01b
User: RDZ				
Agency or organ	ization name: DRMS			
HOURLY EQUIPME	NT COST			
	Description		Quantity	
Make and Model:	Submersible pump - 460v, 8	in.	5	_
Attachment 1:	Suction hose - 6 in. diam., 25	5 ft.	5	_
Attachment 2:	Discharge hose - 6 in. D., 25	ft.	5	
Labor Unit 1:	Pump operator		1	_
Horsepower:	95			
	er day			
6	0.70			
(US	S Tons)			
Cost Breakdown:		1		
	• • • • • • •	Utilization %		
Ownership Cost/H		NA		
Operating Cost/H		100 NA		
Operator Cost/F		NA		
Total Unit Cost/F	· · · · · · · · · · · · · · · · · · ·	-		
Total Fleet Cost/I				
PUMPING QUANTIT				
Initial Pond Volu			Conversion factor:	1.0000
Final Pond Volu		gallons		
Total Pond Inflow Sur		<b>a a</b>	Unit inflow rate in	0.0050
	area: 1,000	Sq. ft.	gph/sq. ft.:	0.0879
Total Pond Inflow Vol		collons		
per H		gallons		
Source o	f estimated volume: Exhibit	t L		
PUMPING TIME				
	imum Pump Capacity:	170,000	gph/pump	
	timated Suction Head:	5	feet	
Estin	nated Discharge Head:	30	feet	
	Total Head:	35	feet	
	CPB Pump Capacity:	163,200	gph/pump	
	Site Altitude:	4,800	feet	
م الم	- 1 Democia e Comocitore	816 000	- u h	
	ed Pumping Capacity:	816,000 161.76	gph	
	luring Initial Pumping:	14,219	hours gallons	
	justed Pumping Time:	161.78	Hours	
	de Adjustment Factor:	1.0000	(3% rule)	
	imp Efficiency Factor:	0.9167	(55 min./hr.)	
	justed Pumping Time:	148.31	hours	
JOB TIME AND COS	ST			

PUMPING WORK

Unit cost: \$0.000140 /Gallon

Total job cost: \$18,424

CIRCES Cost Estimating Software

## BULLDOZER WORK

Task descri	iption:	Grad	e banks of	reservoir				
Parcel 1 Develop	22 - Reso ment Pro		Per	mit Action:	TR3		Permit/Job#:	M2015033
PROJEC	T IDEN	<b>FIFICATIO</b>	DN					
Task #:	02A		State:	Colorado			Abbreviation:	None
Date:	5/3/202	24	County:	Weld			Filename:	M033-02a
User:	RDZ							
А	gency or o	organization	name: DI	RMS				
HOURLY	Y EQUIP	MENT CO	ST					
Basic M	achine:	Cat D8T - 8	SU					
	epower:	310						
	e Type: _	Semi-Unive	rsal					
	chment: t Basis:	NA 1 man days						
	Source:	1 per day (CRG)						
Cost Break	_	/						
					<u>Utilizat</u>	ion %		
Ownershi				\$241.38	NA		_	
	g Cost/Ho			\$143.92	10		_	
Ripper owr				\$0.00 \$0.00	<u>NA</u> 0			
	p. Cost/Ho r Cost/Ho			\$0.00	-		_	
operator	1 0050110			\$10.01	NA	1		
MATERI Initial Vo Swell f	olume:	ANTITIES 136,000 1.000						
Loose vo		1.000 136,000 LCY	7					
Source of e Source of e <u>HOURLY</u>	estimated s	swell factor:	$\frac{L = 9,35'}{Cat Hanc}$		Half of x-sectio	on must be n	noved.	
Average pu Unadjusted			50 feet 1,400.0 LC	Y/hr				
Materials c	onsistency	description:	Compa	cted fill or e	mbankment 0.9			
Average pu Average sit			feet					
Material we	eight:	2,550	lbs/LCY					
Weight des	scription:	Earth	- Dry packe	d				
•	ion Correc	ction Factor	- Dry packe	d		Source		
Job Conditi	ion Correc Opera	ction Factor ator Skill:	0	.750		AVG.)		
Job Conditi	ion Correc Opera aterial con	ction Factor ator Skill:	0					

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:	0.902	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.5635	
Adjusted unit production: 78	8.90 LCY/hr	

rigastea ann proaaction.	Teense Herrin
Adjusted fleet production:	1577.8 LCY/hr

Fleet size:	2 Dozer(s)
Unit cost:	\$0.539/LCY

Total job time:	86.20 Hours
Total job cost:	\$73,324

### Page 1 of 3

## TRUCK/LOADER TEAM WORK

Task description:	Haul lir	ner material	from	ı stockpile			
	Parcel 122 - ResourcePermite:Development Project			on: TR3	1	Permit/Job#: <u>N</u>	12015033
PROJECT IDE	NTIFICATION	1					
			Colora Veld	ado	Ab		one 033-03a
User: <u>RDZ</u>			c				
Agency o	r organization na	me: DRM	5				
HOURLY EQU	IPMENT COS'	<u>T</u>			Shift bas	is: <u>1 per day</u>	
				Equipment Descri			
	Truck Loader Tea			eric 12-18 cy, 6x4	4		
Sup	port Equipment -I	-Loader:		<u>Г 966H high lift</u> D8T - 8SU			
		ump Area:	Cat	D8T - 8SU			
Road N	Iaintenance – Mot		NA		~ 1		
. <u></u>	-Wa	ater Truck:	Wat	ter Tanker, 3,500	Gal.		
Cost Breakdown: Truck/Loader Team Support Equipment Maintenance Equipment							nce Equipment
	Truck	Loader		Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100		100	100	100	NA	100
Ownership cost/hour:	\$26.39	\$65	5.69	\$241.38	\$241.38	NA	\$16.65
Operating cost/hour:	\$64.76	\$48	3.09	\$143.92	\$143.92	NA	\$37.60
%Utilization-riper:	NA		0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0	0.00	\$0.00	\$0.00	NA	\$0.00
Ripper op. cost/hour:	NA		0.00	\$0.00	\$0.00	NA	\$0.00
Operator cost/hour:	\$24.82	\$35		\$40.04	\$40.04	NA	\$0.00
Unit Subtotals:	\$115.97	\$149		\$425.34	\$425.34	NA	\$54.25
Number of Units:	3	+ 10= cc	1	1	1	0	1
Group Subtotals:	Work:	\$497.66		Support:	\$850.68	Maint:	\$54.25
Total work team co MATERIAL QU		59					
Initial volume Loose volume			CCY LCY		factor: <u>1.115</u>		
	ource of estimated e of estimated swo Material Purch Te	ell factor:	Exhil Cat H \$0.00 \$0.00	Iandbook )			
HOURLY PRO	DDUCTION						
	weight: 2,500 ription: Clay -			Pounds/LCY			
Rated P	ayload: 50,300	)		Pounds			

Truck/Loader Worksheet Cor	it'd	Task # 03A			Page 2 of 3	
Payload Capacity:	20.12	LCY				
Truck Bed (volume) Basis:						
Struck Volume:	12.00	LCY				
Heaped Volume:		LCY				
Average Volume:		LCY				
Adjusted Volume:	18.00	LCY				
Final	Truck Volume	Based on Number of I	Loader Passes:	15.38	LCY	
Loading Tool Capacity						
Detal Conseitor	5 000	LCV (harred)	Bucl	ket Size Class: <u>N</u>	A	_
Rated Capacity: _ Bucket Fill Factor:	5.000 1.025	LCY (heaped) Bank Clay; Earth	(1000/ 1050/)	1.025		_
Adjusted Capacity:	5.125	LCY	1(10070-10370)	1.025		-
				1000 0		
Job Condition Corrections:	Truck	Loader	Altitude (ft.): <u>Altitude</u>	<u>4800</u> feet		
Altitude Adj:	1.000	1.000	(CAT HE	2)		
Job Efficiency:	0.830	0.830	(CAT HE	/		
Net Correction:	0.830	0.830		<u></u>		
	0.030	0.030				
Machine Cycle Time vs Selected Value v	vithin this Basic	Rating: NA				
Track Loaders –	Material Descri	ption:				
Cycle Time Elements (min.):						
Load: NA	M	aneuver: NA		Dump: 0.100	)	
Wheel and Track Loaders -	Unadjusted Bas	sic Loader Cycle Tim	e (load, dump, r	naneuver): 0	.500 min	utes
Cycle Time Factors				Factor (min.)	Source	_
Material:		t - factor not applicab		0.000	(Cat HB)	
Stockpile:	2	t - factor not applicab		0.000	(Cat HB)	_
Truck Ownership: Operation:		t - factor not applicab nt - factor not applicab		0.000 0.000	(Cat HB)	_
Dump Target:		t - factor not applicab		0.000	(Cat HB) (Cat HB)	_
Dump Turget.	i to adjustition	Net Cycle Time		0.000	minutes	
		Adjusted Loader	-	0.500	minutes	
			ne per Truck:	1.100	minutes	
<u>Truck Cycle Time:</u>						
Truck Exchange Time:	0.50	Minutes	Adjusted	for site altitude:	0.500	Minute
Truck Load Time:	1.100	Minutes	Adjusted	for site altitude:	1.100	Minute
k Maneuver and Dump Time:	0.90	Minutes	Adjusted	for site altitude:	0.900	Minute
Truck Travel (Haul & Return maintained 2.0	) Time:	Road Condition: <u>H</u>	ard, smooth, sta	bilized, surfaced, w	atered,	

	aul Rout							<b>T</b> 1	
Se	eg #	Haul Di (Ft)	stance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time	
		(11)			(70)	(70)	(ipiii)	(min)	
1		1100.00	)	5.00	2.00	7.00	1568	0.757	
						Haul Time:	0.757	minutes	
Re	eturn Ro								
Se	g #	Haul Di	stance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	Time (min)	
1		1100.00	)	-5.00	2.00	-3.00	2938	0.444	
						Return Time:	0.444	minutes	
					Total Tru	ck Cycle Time:	3.701	minutes	
Load	ing Tool	unit							
-	Produ		576.56	LCY/Hour		Adjusted for j	ob efficiency:	478.55	LCY/Hour
Truck Un	it Produc	ction	249.26	LCY/Hour		Adjusted for j	ob efficiency:	206.88	LCY/Hour
Optimal N	o. of Tru	ucks:	2	Truck(s)		Selected Num	per of Trucks:	3	Truck(s)
						k team production		.65 LCY/H	Iour
						er team production			
				Adjusted multip	le truck/loade	er team production	on: <b>478</b> .	.55 LCY/H	lour
<u>J(</u>	OB TIM	1E ANI	O COST						
	Fleet s	ize:	1	Team(s)	-	Total job time:	141.4	3 Hour	S
	Unit c	ost:	\$2.931	/LCY		Total job cost:	\$198,3	67	

## BULLDOZER WORK

Task descrij	otion:	Mix material for	liner			
	22 - Resource nent Project	Per	mit Action:	TR3	Permit/Job#:	M2015033
<b>PROJEC</b>	T IDENTIFI	CATION				
Task #:	03B	State:	Colorado		Abbreviation:	None
Date:	5/15/2024	County:	Weld		Filename:	M033-03b
User:	RDZ					
Ag	gency or organ	ization name: DF	RMS			
HOURLY	EQUIPME	NT COST				
Basic Ma	chine: Cat	D8T - 8SU				
Horse						
	JI	ni-Universal				
		ank ripper				
		er day				
Data S		(G)				
Cost Breake	<u>lown</u> :			I Itilization 9/		
Ownershir	Cost/Hour:		\$241.38	<u>Utilization %</u> NA	<u>)</u>	
	g Cost/Hour:		\$143.92	100		
	. Cost/Hour:		\$17.40	NA		
	Cost/Hour:		\$0.00	0		
	Cost/Hour:		\$40.04	NA		
	AL QUANT					
Initial Vol						
Swell fa Loose vol		) )0 LCY				
	stimated volun stimated swell			me of liner material		
HOURLY	PRODUCT	ION				
Average put		50 feet				
	hourly produc		Y/hr			
Materials co	onsistency des	cription: Compa	cted fill or e	mbankment 0.9		
A 11000000	h andianti	-5 %				
Average pus Average site		-5 % 4,800 feet				
Material we	ight:	2,500 lbs/LCY				
Weight desc	ription:	Clay - Dry				
Job Condition	on Correction			Source		
	Operator S	Skill: 0.	750	(AVG.		
Ma	terial consiste Dozing met	ency: 0.	900 000	(CAT HE (GEN.)		

AVG.)
IFT/DAY)
OZ-OC)
AT HB)
AT HB)
AT HB)
(PAT)

Fleet size:	2 Dozer(s)
Unit cost:	\$0.550/LCY

Total job time:	<b>18.64</b> Hours
Total job cost:	\$16,508

### COMPACTION WORK

Parcel 122 - Resource	Compact liner material				
Development Project	Permit Action:	TR3	Per	mit/Job#: <u>N</u>	12015033
PROJECT IDENTIFI	CATION				
Task #:         03C           Date:         5/15/2024           User:         RDZ	State: Colorado County: Weld				one 033-03c
Agency or organ	ization name: DRMS				
HOURLY EQUIPME	NT COST				
Basic Machine:			Horsepower:	240	
Compactor Type:	Soil - tamping foot	_	Shift Basis:	1 per d	
			Data Source:	(CRG	r)
<u>Cost Breakdown:</u>			Utilization %		
	ship Cost/Hour: \$147.		NA		
	ting Cost/Hour: \$117. rator Cost/Hour: \$31.		100 NA		
-	Unit Cost/Hour: \$296				
Total F	Fleet Cost/Hour: \$592	.53			
MATERIAL QUANTI		LCY	C1		0.000
Loose volume Compacted volume		$-\frac{1CT}{CCY}$	5111	nkage factor:	0.900
-	rce of estimated volume: Exhib	nit I			
		Iandbook			
HOURLY PRODUCT	ION	Unadjuste	ed hourly production	$\mathbf{bn} = (\mathbf{W} \mathbf{x} \mathbf{S} \mathbf{x})$	L x C) / P
Com	pacted width per pass (W):	6.50	feet		
Aver	rage Compactor Speed (S):	8.00	mph		
Compacted	d thickness of each lift (L):	10.00	inches		
	Conversion Constant (C):	16.3	(5,280ft./12in./27cu.ft.)		
Required num	wher of machine passes (P).	4	nasses		)
-	ber of machine passes (P): ed Hourly Unit Production:	4 2,119.00	passes CCY/hou		)
-	ed Hourly Unit Production:	2,119.00			)
Unadjuste Job Condition Correction I Altitude Adj: Job Efficiency: Net Correction: Ad	ed Hourly Unit Production:	2,119.00 Site Altitu	CCY/hou ude: <u>4,800</u> feet CCY/Hour		)
Unadjuste Job Condition Correction I Altitude Adj: Job Efficiency: Net Correction: Ad	ed Hourly Unit Production: <u>Factors</u> <u>Source</u> <u>1.00</u> (CAT HB) 0.83 (1 shift/day 0.8300 multiplier djusted Hourly Unit Production: ljusted Hourly Fleet Production:	2,119.00 Site Altitu ) y) 1,758.77	CCY/hou ude: <u>4,800</u> feet CCY/Hour		)
Unadjuste <u>Job Condition Correction</u> Altitude Adj: Job Efficiency: Net Correction: Ad Ad	ed Hourly Unit Production: <u>Factors</u> Source <u>1.00</u> (CAT HB) 0.83 (1 shift/day 0.8300 multiplier djusted Hourly Unit Production: ljusted Hourly Fleet Production: <u>T</u>	2,119.00 Site Altitu ) y) 1,758.77 3,517.54	CCY/hou ude: <u>4,800</u> feet CCY/Hour		) Hours

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## TRUCK/LOADER TEAM WORK

Task description:	Haul to	psoil to area	s for	revegetation				
Parcel 122 - Re Site: Development P	on: TR3		Permit/Job#:	M2015033				
PROJECT IDE	NTIFICATION	1						
$\begin{array}{c} \text{Task #:} & 04\text{A} \\ \text{Date:} & 5/3/2 \\ \text{User:} & \text{RDZ} \end{array}$	ado	Ał	bbreviation: _ Filename: _	None M033-04a				
Agency of	or organization na	me: DRM	S					_
HOURLY EQU	IPMENT COS'	Г			Shift ba	sis: <u>1 per day</u>		
Sup	Aaintenance – Mot	-Loader: Load Area: ump Area:	Gen CA Cat Cat NA	Equipment Descri teric 12-18 cy, 6x- T 966H high lift D8T - 8SU D8T - 8SU ter Tanker, 3,500	4			
				· · ·				
<u>Cost Breakdown</u> :	Truck/Lo Truck	ader Team Loader		Support Load Area	Equipment Dump Area	Mainte Motor Grad	enance Equip	
%Utilization-machine:	100		100	100	100		IA I	100
Ownership cost/hour:	\$26.39		5.69	\$241.38	\$241.38		IA IA	\$16.65
Operating cost/hour:	\$64.76		3.09	\$143.92	\$143.92		IA	\$37.60
%Utilization-riper:	NA	φτ	0	NA	NA		IA	NA
Ripper own. cost/hour:	NA	\$0	0.00	\$0.00	\$0.00		IA	\$0.00
Ripper op. cost/hour:	NA	\$0	0.00	\$0.00	\$0.00	N	IA	\$0.00
Operator cost/hour:	\$24.82	\$35	5.97	\$40.04	\$40.04	N	IA	\$0.00
Unit Subtotals:	\$115.97	\$149	9.75	\$425.34	\$425.34	N	IA	\$54.25
Number of Units:	3		1	1	1		0	1
Group Subtotals:	Work:	\$497.66		Support:	\$850.68	Main	nt: \$54.25	5
Total work team co MATERIAL QU	UANTITIES	<u>59</u>	COV	Gruell	factory 1.215			
Initial volume Loose volume	e: 44,53	<u> </u>	CCY LCY		factor: <u>1.215</u>			
Source of estimated volume:Exhibit LSource of estimated swell factor:Cat HandbookMaterial Purchase Cost:\$0.00Total Cost:\$0.00								
HOURLY PRO	<b>DDUCTION</b>							
	weight: <u>1,600</u> ription: <u>Top So</u>			Pounds/LCY				_
Rated P	ayload: 50,300	)		Pounds				

Truck/Loader Worksheet Co	ont'd	Task # 04A			Page 2 of 3	
Payload Capacity:	31.44	LCY				
Truck Bed (volume) Basis:						
Struck Volume:	12.00	LCY				
Heaped Volume:	18.00	LCY				
Average Volume:	15.00	LCY				
Adjusted Volume: _	18.00	LCY				
Fina	ll Truck Volume	Based on Number of L	oader Passes:	13.88	LCY	
Loading Tool Capacity						
			Bucl	ket Size Class: N	JA	
Rated Capacity:	5.000	LCY (heaped)				_
Bucket Fill Factor:	0.925	Loose material - 1	/8" to 3/8" (90	- 95%) 0.925		-
Adjusted Capacity:	4.625	LCY				-
Job Condition Corrections	<u>s:</u>	Site	Altitude (ft.):	<u>4800</u> feet		
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HE	3)		
Job Efficiency:	0.830	0.830	(CAT HE	3)		
Net Correction:	0.830	0.830				
Loading Tool Cycle Time	: Numbe	r of Loading Tool Passe	es Required to	Fill Truck	3 r	asses
Excavators and Front Shove	_		is negative to		<u> </u>	45505
		n Datingu NA				
Machine Cycle Time Selected Value	within this Basi					
Track Loaders -	- Material Desci	ription:				
Cycle Time Elements (min.)						
Load: NA	Ν	faneuver: NA		Dump: 0.10	0	
Wheel and Track Loaders	- Unadiusted Ba	asic Loader Cycle Time	(load, dump, r	naneuver): (	).500 minu	ites
Cycle Time Factors	5	ý		Factor (min.)	Source	
Material:	No adjustme	nt - factor not applicable	e 0.00	0.000	(Cat HB)	_
Stockpile:		nt - factor not applicable		0.000	(Cat HB)	_
Truck Ownership:	No adjustmen	nt - factor not applicable	e 0.00	0.000	(Cat HB)	_
Operation:		ent - factor not applicabl		0.000	(Cat HB)	_
Dump Target:	No adjustme	nt - factor not applicable		0.000	(Cat HB)	_
		Net Cycle Time		0.000	minutes	
		Adjusted Loader	-	0.500	minutes	
		Net Load Tim	e per Truck:	1.100	minutes	
Truck Cycle Time:						
Truck Exchange Tim	e: 0.50	Minutes	Adjusted	for site altitude:	0.500	Minute
Truck Load Tim	e: 1.100	Minutes	Adjusted	for site altitude:	1.100	Minute
ck Maneuver and Dump Tim	e: 0.90	Minutes	Adjusted	for site altitude:	0.900	Minute
Truck Travel (Haul & Retur maintained 2.0	<u>m) Time:</u>	Road Condition: <u>Ha</u>	<u>rd, smooth, sta</u>	bilized, surfaced, v	vatered,	

Seg	l Route:	Iaul Dis	tance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
Seg		Ft)	stance	Glade (70)	(%)	(%)	(fpm)	Time (min)	
1	6	00.00		5.00	2.00	7.00	1568	0.438	
						Haul Time:	0.438	minutes	
Retu	ırn Route	e:				=			
Seg	# H	Iaul Dis	stance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	Ì	Ft)			(%)	(%)	(fpm)	Time (min)	
1	6	00.00		-5.00	2.00	-3.00	2938	0.265	
						Return Time:	0.265	minutes	
					Total Tru	ck Cycle Time:	3.203	minutes	
	g Tool u								
	Producti		520.31	LCY/Hour		Adjusted for j	ob efficiency:	431.86	LCY/Hour
Truck Unit	Producti	on	259.91	LCY/Hour		Adjusted for j	ob efficiency:	215.73	LCY/Hour
Optimal No.	of Truc	ks:	2	Truck(s)		Selected Num	per of Trucks:	3	Truck(s)
				Adjuste	d hourly truc	k team production	on: 647.	18 LCY/H	Iour
						er team production		86 LCY/H	Iour
				Adjusted multip	le truck/loade	er team production	on: 431.	<b>86</b> LCY/H	lour
JOI	B TIMF	E AND	COST						
]	Fleet size	e:	1	Team(s)	-	Fotal job time:	103.1	3 Hour	'S
	Unit cos	t:	\$3.248	/LCY		Total job cost:	\$144,6	43	

## BULLDOZER WORK

Task description:	Grade	e topsoil					
Parcel 122 - Res Development Pr		Per	mit Action:	TR3		Permit/Job#:	M2015033
PROJECT IDE	NTIFICATIO	N					
Task #: 04B		State:	Colorado			Abbreviation:	None
Date: 5/3/2 User: RDZ		County:	Weld			Filename:	M033-04b
Agency of	r organization n	ame: DF	RMS				
HOURLY EQU	IPMENT CO	<u>ST</u>					
Basic Machine:	Cat D8T - 88	SU					
Horsepower:	310						
Blade Type:	Semi-Univer	sal		_			
Attachment: Shift Basis:	NA 1 per day						
Data Source:	(CRG)						
Cost Breakdown:							
	_		<b></b>	<u>U</u> 1	tilization %		
Ownership Cost/H			\$241.38		NA		
Operating Cost/H			\$143.92 \$0.00	<u> </u>	100 NA		
Ripper own. Cost/H Ripper op. Cost/H			\$0.00		0		
Operator Cost/H			\$40.04		NA		
MATERIAL OU Initial Volume: Swell factor:	36,655 1.000						
Loose volume:	<b>36,655</b> LCY						
Source of estimated Source of estimated		Division Cat Hand	of Reclamati lbook	on, Minin	g & Safety		
HOURLY PRO	DUCTION						
Average push dista	nce:	50 feet					
Unadjusted hourly		1,400.0 LC	Y/hr				
Materials consisten	cy description:	Loose	stockpile 1.2				
Average push grad Average site altitud		leet					
Material weight:	1,600 1	bs/LCY				_	
Weight description	: Top So	oil					
Job Condition Corr	ection Factor				Source		
Ope	erator Skill:	0.	.750		(AVG.)		
NC / 1							
	onsistency:		.200 .000		(CAT HB) (GEN.)		

ty: 1.000	(AVG.)				
ey: 0.830	(1 SHIFT/DAY)				
le: 1.000	(DOZ-OC)				
nt: 1.115	(CAT HB)				
le: 1.000	(CAT HB)				
nt: 1.438	(CAT HB)				
be: 1.000	(PAT)				
on: <u>1.1977</u>					
1,676.78 LCY/hr					
Adjusted fleet production: 3353.56 LCY/hr					
	y:         0.830           le:         1.000           nt:         1.115           le:         1.000           nt:         1.438           pe:         1.000           nt:         1.438           pe:         1.000           nt:         1.438           pe:         1.000           nt:         1.676.78 LCY/hr				

Fleet size:	2 Dozer(s)
Unit cost:	\$0.254/LCY

Total job time:	<b>10.93</b> Hours
Total job cost:	\$9,298

## **REVEGETATION WORK**

Task descrip	otion:	Seed 45.44 acres	6			
Parcel 122 - ResourceSite:Development Project		Pe	rmit Action:	TR3	Permit/Jol	o#: <u>M2015033</u>
<u>PROJECT</u>	IDENTIFIC	ATION				
Task #:	05A	State:	Colorado		Abbreviation:	None
Date:	5/3/2024	County:	Weld		Filename:	M033-05a
User:	RDZ					
Age	ency or organiz	ation name: DI	RMS			

## **FERTILIZING**

# Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00	pound	\$0.50	\$99.34
			Total Fertilizer Materials Cost/Acre	\$99.34

### Application

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

## **TILLING**

Description		Cost /Acre
Chisel plowing {DMG}		\$100.40
Weed control spraying (MEANS 31 31 16.13 3100)		\$338.80
	<b>Total Tilling Cost/Acre</b>	\$439.20

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.01	0.39	\$0.28
Switchgrass - Blackwell	0.90	8.04	\$10.35
Blue Grama - Lovington	0.20	3.26	\$3.20
Indian Ricegrass - Native	1.90	6.15	\$12.35
Sand Dropseed	0.01	1.19	\$0.10
Kentucky Bluegrass - Ginger	0.05	2.47	\$0.16
Little Bluestem - Pastura	0.70	4.18	\$9.44
Sideoats Grama - Vaughn	1.80	5.91	\$15.08
Strawberry Clover (coated)	0.10	0.68	\$0.63

Smooth Brome - Manchar	0.10	0.33	\$0.33
Sheep Fescue - Covar	0.40	6.24	\$2.44
Tall Wheatgrass - Jose	1.10	1.99	\$3.71
Totals Seed Mix	7.27	40.84	\$58.06

## Application

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

### **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
Total Mulch Materials Cost/Acre				\$894.66

### Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$74.46
Weed spray, truck, non-aquatic area, nox. [DMG]		\$62.72
	Total Mulch Application Cost/Acre	\$137.18

### **NURSERY STOCK PLANTING**

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

	No. of Acres:	45.44	Cost /Acre:	\$1,902.26	
Estimated Failure Rate:		25%	Cost /Acre*:	\$1,902.26	
*Selected Replanting Work Items:		FERTILIZING,TII	LLING,SEEDING,MU		
		LCHING			
Initial Job Cost:	\$86,438.69				
Reseeding Job Cost:	\$21,609.67				
Total Job Cost:	\$108,048				
Job Hours:	45.00				

### **DEMOLITION WORK**

Т	ask description:	Demo and h	aul of conveyo	r, blocks, and truss		
-	Parcel 122 - Resource Development Project		Permit Action:	TR3	Permit/	Job#: <u>M2015033</u>
<u>PROJEC</u>	CT IDENTIFICATION	<u>N</u>				
Task #:	06A	State:	Colorado		Abbreviation:	None
Date:	5/3/2024	County:	Weld		Filename:	M033-06a
User:	RDZ					
	Agency or organiza	tion name:	DRMS			

### UNIT COSTS

#### Location adjustment: 89.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Conveyor and blocks	3,537'x3'x6'. 86 blocks	Conveyor, demolition, off-site disposal in approved landfill, 30 mile haul	73,986.00	CF	\$0.81	\$59,928.66
Truss	125' long, 30'high	Bldg. (MN) demo./off- site disposal in approved landfill - Max. 30 mile haul	37,500.00	CF	\$0.56	\$21,037.50

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	300.00	(unadjusted):	\$80,966.16	location):	\$72,221.81

## EQUIPMENT MOBILIZATION/DEMOBILIZATION

Parcel 122 - Re							
: Development I		Permit	Action:		]	Permit/Job#: <u>M</u>	2015033
PROJECT IDEN	NTIFICATI	<u>ON</u>					
Task #:07AState:ColoradoAbbreviation:NoneDate:5/15/2024County:WeldFilename:M033-07aUser:RDZ					-07a		
Agency of	or organization	n name: DRMS					
EQUIPMENT T	RANSPOR	<u>T RIG COST</u>					
					Shift ba Cost Data Sour		
Truck	Tractor Desc	ription: GENE	RIC ON-HIGH		UCK TRACTO (2ND HALF,	DR, 6X4, DIESEL 2006)	POWERED,
Truck	x Trailer Desc	ription: G		ING GOO		ROP DECK EQUI	IPMENT
Cost Breakdown:							
Available Rig Ca		0-25 Tons	26-50 Tons		+ Tons		
Ownership	Cost/Hour:	\$20.26	\$36.04	\$	47.05		
Ownership Operating	Cost/Hour: Cost/Hour:	\$20.26 \$39.51	\$36.04 \$76.08	\$	47.05 82.85		
Ownership Operating Operator	Cost/Hour: Cost/Hour: Cost/Hour:	\$20.26 \$39.51 \$22.52	\$36.04 \$76.08 \$22.52	\$ \$ \$	47.05 82.85 22.52		
Ownership Operating Operator Helper	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour:	\$20.26 \$39.51 \$22.52 \$0.00	\$36.04 \$76.08 \$22.52 \$23.53	\$ \$ \$ \$ \$	47.05 82.85 22.52 23.53		
Ownership Operating Operator Helper	Cost/Hour: Cost/Hour: Cost/Hour:	\$20.26 \$39.51 \$22.52	\$36.04 \$76.08 \$22.52	\$ \$ \$ \$ \$	47.05 82.85 22.52		
Ownership Operating Operator Helper	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour:	\$20.26 \$39.51 \$22.52 \$0.00 \$82.29	\$36.04 \$76.08 \$22.52 \$23.53	\$ \$ \$ \$ \$	47.05 82.85 22.52 23.53		
Ownership Operating Operator Helper Total Unit	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN	\$20.26 \$39.51 \$22.52 \$0.00 \$82.29 <b>MENT:</b>	\$36.04 \$76.08 \$22.52 \$23.53 \$158.17	\$ \$ \$ \$ \$	47.05 82.85 22.52 23.53 175.95	Return Trip	
Ownership Operating Operator Helper Total Unit NON ROADAB	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour:	\$20.26 \$39.51 \$22.52 \$0.00 \$82.29	\$36.04 \$76.08 \$22.52 \$23.53	\$ \$ \$ \$ \$ \$	47.05 82.85 22.52 23.53	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Ownership Operating Operator Helper Total Unit	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPM Weight/	\$20.26 \$39.51 \$22.52 \$0.00 \$82.29 MENT: Owner ship	\$36.04 \$76.08 \$22.52 \$23.53 \$158.17 Haul Rig	S S S S Fleet	47.05 82.85 22.52 23.53 175.95 Haul Trip	Return Trip Cost/hr/ fleet	
Ownership Operating Operator Helper Total Unit NON ROADAB	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN Weight/ Unit	\$20.26 \$39.51 \$22.52 \$0.00 \$82.29 MENT: Owner ship	\$36.04 \$76.08 \$22.52 \$23.53 \$158.17 Haul Rig Cost/hr/uni	S S S S Fleet	47.05 82.85 22.52 23.53 175.95 Haul Trip Cost/hr/	Return Trip Cost/hr/ fleet \$316.34	DOT Permit Cost/ fleet \$500.00
Ownership Operating Operator Helper Total Unit NON ROADAB Machine Description Cat D8T - 8SU CAT 966H high lift	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN Weight/ Unit (TONS) 47.71 25.80	\$20.26 \$39.51 \$22.52 \$0.00 \$82.29 <b>MENT:</b> Owner ship Cost/hr/ unit \$241.38 \$65.69	\$36.04 \$76.08 \$22.52 \$23.53 \$158.17 Haul Rig Cost/hr/uni t \$158.17 \$82.29	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	47.05 82.85 22.52 23.53 175.95 Haul Trip Cost/hr/ fleet \$799.10 \$147.98	Cost/hr/ fleet \$316.34 \$82.29	Cost/ fleet \$500.00 \$250.00
Ownership Operating Operator Helper Total Unit NON ROADAB Machine Description Cat D8T - 8SU CAT 966H high lift CAT 815F	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN Weight/ Unit (TONS) 47.71 25.80 22.88	\$20.26 \$39.51 \$22.52 \$0.00 \$82.29 <b>MENT:</b> Owner ship Cost/hr/ unit \$241.38 \$65.69 \$147.57	\$36.04 \$76.08 \$22.52 \$23.53 \$158.17 Haul Rig Cost/hr/uni t \$158.17 \$82.29 \$82.29	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	47.05 82.85 22.52 23.53 175.95 Haul Trip Cost/hr/ fleet \$799.10 \$147.98 \$459.72	Cost/hr/ fleet \$316.34 \$82.29 \$164.58	Cost/ fleet \$500.00 \$250.00 \$500.00
Ownership Operating Operator Helper Total Unit NON ROADAB Machine Description Cat D8T - 8SU CAT 966H high lift	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN Weight/ Unit (TONS) 47.71 25.80	\$20.26 \$39.51 \$22.52 \$0.00 \$82.29 <b>MENT:</b> Owner ship Cost/hr/ unit \$241.38 \$65.69	\$36.04 \$76.08 \$22.52 \$23.53 \$158.17 Haul Rig Cost/hr/uni t \$158.17 \$82.29	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	47.05 82.85 22.52 23.53 175.95 Haul Trip Cost/hr/ fleet \$799.10 \$147.98	Cost/hr/ fleet \$316.34 \$82.29	Cost/ fleet \$500.00 \$250.00
Ownership Operating Operator Helper Total Unit NON ROADAB Machine Description Cat D8T - 8SU CAT 966H high lift CAT 815F Drill/Broadcast Seeder with	Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: Cost/Hour: LE EQUIPN Weight/ Unit (TONS) 47.71 25.80 22.88	\$20.26 \$39.51 \$22.52 \$0.00 \$82.29 <b>MENT:</b> Owner ship Cost/hr/ unit \$241.38 \$65.69 \$147.57	\$36.04 \$76.08 \$22.52 \$23.53 \$158.17 Haul Rig Cost/hr/uni t \$158.17 \$82.29 \$82.29	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	47.05 82.85 22.52 23.53 175.95 Haul Trip Cost/hr/ fleet \$799.10 \$147.98 \$459.72 \$89.02	Cost/hr/ fleet \$316.34 \$82.29 \$164.58	Cost/ fleet \$500.00 \$250.00 \$500.00

### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 12-18 cy, 6x4	\$115.97	3	\$347.91	\$347.91
Water Tanker, 3,500 Gal.	\$54.25	1	\$54.25	\$54.25
Light Duty Pickup, 4x4, 3/4 T.	\$15.83	1	\$15.83	\$15.83
		Subtotals:	\$417.99	\$417.99

### **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: Total one-way travel distance: Average Travel Speed:	LOGMONT 15.00 40.00	miles mph
Total Non-Roadable Mob/Demob Cost *	\$4,605.99	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$313.49	

Transportation Cycle Time:

	Non- Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.38	0.38
Return Time (Hours):	0.38	0.38
Loading Time (Hours):	0.00	NA
Unloading Time (Hours):	0.00	NA
Subtotals:	0.75	0.75

### JOB TIME AND COST

Total job time: **1.50** Hours

Total job cost: **\$4,919**