

July 17, 2024

Sean Mello Silt Sand & Gravel, LLC P.O. Box 1319 Carbondale, CO 81623

Re: Grand River Park Project - File No. M-2006-046 Silt Sand & Gravel, LLC Surety Increase (SI-1) Surety Increase to \$280,457

Dear Sean Mello:

On July 17, 2024 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$280,457.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$87,649.00.

The increase in the Financial Warranty is due to the increases in the cost of fuel, equipment, and labor since the last update.

Please see the April 23, 2024 inspection report for details regarding why this surety increase is required.

On July 17, 2024, the Division ordered amendment of the current Financial Warranty or submittal of a new Financial Warranty reflecting the increase, within 60 days.

Please make arrangements with Sara M. Stevenson-Benn at the Division's Denver office for submittal of the financial warranty. Any other questions regarding completion, execution and/or submittal of financial warranty forms should also be directed to Sara M. Stevenson-Benn by telephone at (303) 866-3567 (8148), or by email at Sara.stevenson-benn@state.co.us.

The Permittee for this site may be scheduled for a Formal Board Hearing for possible revocation of the permit if the amount of any increased Financial Warranty has not been provided by September 15, 2024.

Bond Held:	\$192,808.00
Prior Liability:	\$192,808.00



Change in Liability:	\$87,649.00
Revised Liability:	\$280,457.00
Prior Permit Acreage:	163.00
Change in Permit Acreage:	0.00
Revised Permit Acreage:	163.00
Prior Affected Acreage:	130.00
Change in Affected Acreage:	0.00
Revised Affected Acreage:	130.00

If you have any questions, please contact me by telephone at (303) 866-3567 x , or by email at Todd.jesse@state.co.us.

Sincerely,

Told Jesse

Todd Jesse Environmental Protection Specialist

cc: Ben Langenfeld

M-GR-04

COST SUMMARY WORK

Task descrip	ption:						
ite: Grand River Park Project		e Per	Permit Action: 2024		Permit/Job#: M2006046		
	IDENTIFICAT		Colore Is			N	
Task #:		State:	Colorado		Abbreviation:	None	
Date:	4/29/2024	County:	Garfield		Filename:	M046-000	
User:	TJ1						

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Demo of structures	DEMOLISH	1	10.00	\$2,011
002	Dewater Pit for Grading	PUMPING] 1	709.59	\$63,154
003	Backfill Regulating Pond	SCRAPER1	2	7.69	\$12,459
004	Regrade 1000' of Highwall	DOZER	1	75.42	\$33,518
005	Replace 6" topsoil over disturbed areas	SCRAPER1	2	21.28	\$27,991
006	Reveg 22 acres	REVEGE] 1	35.00	\$66,164
007	Initial Mobilization of Reclamation crew/equipment	MOBILIZE	1	6.53	\$15,281
008	Secondary Mobilization of Reclamation crew/equipment	MOBILIZE	1	2.53	\$1,495
		DTALS:	868.04	\$222,073	

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$4,486			
Performance bond:	1.05	Total =	\$2,332			
Job superintendent:	79.22	Total =	\$5,156			
Profit:	10.00	Total =	\$22,207			
		TOTAL O & P =	\$34,181			
		CONTRACT AMOUNT (direct + O & P) = $($	\$256,254			
LEGAL - ENGINEERING - PROJECT MANAGEMENT:						

Financial warranty processing (legal/related costs):
Engineering work and/or contract/bid preparation:
Reclamation management and/or administration:\$500
4.25
5.00Total =
\$10,891
\$12,813CONTINGENCY:
TOTAL INDIRECT COST =\$0

TOTAL BOND AMOUNT (direct + indirect) = ____\$280,457

DEMOLITION WORK

,	Task description:	Demo of str	uctures			
Site:	Grand River Park Proje	ct	Permit Action:	2024	Permit/J	ob#: <u>M2006046</u>
PROJE	CT IDENTIFICATION	<u>I</u>				
Task #:	001	State:	Colorado		Abbreviation:	None
Date:	4/30/2024	County:	Garfield		Filename:	M046-001
User:	TJ1					
	Agency or organizat	ion name:	DRMS			

UNIT COSTS

Location adjustment: 95.50 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Cement Fuel Containment	30'W x 30'L x 3'H	Sidewalk, concrete, demolition only, 4 in. thick - No reinforcing	140.00	SY	\$9.43	\$1,320.20
Scale Removal	15'W x 70'L	Loading and 5 mile haul, salvage allowed - Steel frame structures	19.00	CY	\$12.50	\$237.50
Scale Cement Ramps	(2) 15'W x 15'L	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 50 ft. push	450.00	SF	\$1.22	\$547.56

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	10.00	(unadjusted):	\$2,105.26	location):	\$2,010.52

PUMPING WORK

Task description:	Dewa	ter Pit for Grading			
e: Grand River Park Pr	oject	Permit Action	2024	Permit/Job#:	M2006046
PROJECT IDENTIF	<u>ICATIC</u>	<u>DN</u>			
Task #: 002 Date: 4/30/2024 User: TJ1		State: <u>Colorado</u> County: <u>Garfield</u>)	Abbreviation: Filename:	None M046-002
Agency or organ	nization r	name: DRMS			
HOURLY EQUIPME					
<u>HOULLI LQUI MI</u>	Descri			Quantity	
Make and Model:		rsible pump - 460v, 8	in.	3	
Attachment 1:		n hose - 6 in. diam., 25		3	
Attachment 2:		rge hose - 6 in. D., 25		9	
Labor Unit 1:	Pump	operator		1	
Weight:	95 per day 0.70 S Tons)				
Cost Breakdown:					
Cost Divardo will			Utilization %		
Ownership Cost/I		\$49.32	NA		
Operating Cost/I		\$12.00	100		
Operator Cost/I		\$27.68	NA		
Total Unit Cost/I	Hour:	\$89.00	-		
Total Fleet Cost/	Hour:	\$89.00			
PUMPING QUANTI	FIES				
Initial Pond Volu	ume:	600.00		Conversion factor:	325850.5800
Final Pond Volu		195,510,348.00	gallons		
Total Pond Inflow Sur		1 20 4 000	G C	Unit inflow rate in	0.0516
F Total Pond Inflow Vol	Area:	1,306,800	Sq. ft.	gph/sq. ft.:	0.3516
per H		459,470.88	gallons		
~		·		1	
	of estimat	ted volume: Phase 1	B and 2 lakes, 30 ac 20'	deep	
PUMPING TIME					
		Imp Capacity:	170,000	gph/pump	
		Suction Head:	15	feet	
Estir	nated Dis	scharge Head:	20	feet	
		Total Head: Imp Capacity:	<u>35</u> 163,200	feet gph/pump	
	Crbri	Site Altitude:	5,400	feet	
			0,100		
Adius	ted Pumr	oing Capacity:	489,600	gph	
		umping Time:	399.33	hours	
		itial Pumping:	183,478,986	gallons	
		umping Time:	774.08	Hours	
		stment Factor:	1.0000	(3% rule)	
		ciency Factor: umping Time:	0.9167 709.60	(55 min./hr.)	
		umping Time.	/07.00	hours	
JOB TIME AND COS	<u>5T</u>		Total job tim	e: 709.60	Hours
Unit cost: \$0.00	0167	/Gallon	Total job cos	st: \$63,154	
			5	. , -	

Page 1 of 2

SCRAPER TEAM WORK

Site: Grand River Parl	A Project Per	nit Action:	2024	Peri	mit/Job#: <u>M200</u>	6046
PROJECT IDENT	TIFICATION					
Task #: 003	State:	Colorado		Abbrey	viation: None	
Date: $\frac{4}{30}/20$		Garfield			ename: M046-	003
User: <u>TJ1</u>						
Agency or o	organization name:	MS				
HOURLY EQUIP	MENT_		COSTS	hift basis: <u>1 per d</u>	ay	
		Equipm	ent Description			
	-Scraper	: Cat 63				
Suppo	-Dozer rt Equipment -Load Area					
Suppo	-Dump Area		T - 8SU			
Road Mai	intenance – Motor Grader	: NA				
	-Water Truck	: NA				
Cost Breakdown:	Scraper Work Tea	m	Support Equi	oment	Maintenance	Equipment
		Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	15	NA	N
Ownership cost/hour:	\$341.67	NA	NA	\$241.38	NA	N
Operating cost/hour:	\$285.26	NA	NA	\$21.59	NA	N
%Utilization-ripper:	NA	NA	NA	NA	NA	N.
Ripper own. cost/hour:	NA	NA	NA	\$0.00	NA	N
Ripper op. cost/hour:	NA	NA	NA	\$0.00	NA	N.
Operator cost/hour:	\$30.90	NA	NA	\$41.30	NA	N.
Unit Subtotals:	\$657.83	NA	NA	\$304.27	NA	N.
Number of Units:	2	0	0	1	0	
Group Subtotals:	Work: \$1	315.66	Support:	\$304.27	Maint:	\$0.00
Total work team cost	/hour: \$1,619.93					
MATERIAL QUA	NTITIES					
Initial volume:	4,444	CCY	Swell fact	tor: 1.050		
Loose volume:	4,666	LCY	5 wen nee	1.050		
Sou	rce of estimated volume:	200' x 3	00' 3' deep			
	of estimated swell factor:	Cat Han				
HOURLY PRODU	UCTION					
			Scraper Be	owl (volume) Bas	is:	
Material weight:	3,400 lbs/LCY		Struck	Volume: 24.00	L	СҮ
Material description:	Sand and gravel - Wet		Heaped	Volume: 34.00	L	CY
Rated Payload:	81,600 pounds		Average			CY
Payload Capacity:	24.00 LCY		Adjusted C	Capacity: 24.00	L	CY

0.80 Minutes

0.70 Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5400 feet

	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: Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1300.00	-1.00	8.00	7.00	962	1.41

Haul Time: **1.41** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1300.00	1.00	8.00	9.00	1348	1.03
				Return Time:	1.03	minutes
			Total Scrap	er team cycle time:	3.94	minutes
			Adjusted	for job conditions:	303.35	LCY/Hour
			Selected N	umber of Scrapers:	1	Scraper(s)
	Adjusted	l single scrap	per team (unit)	hourly production:	303.35	LCY/Hour
	Adjusted m	ultiple scrap	er team (fleet)	hourly production:	606.70	LCY/Hour
Optima	Unadjusted unit pro al Number of Scrapers pe			LCY/Hour		

JOB TIME AND COST

Fleet size:	2	Team(s)	Total job time:	7.69	Hours
Unit cost:	\$2.670	/LCY	Total job cost:	\$12,459	

BULLDOZER WORK

r: <u>Grand River Park Project</u> Permit Action: 2024 Permit/Job#: M2006046 PROJECT IDENTIFICATION Task #: 004 State: Colorado Abbreviation: None Date: <u>4/30/2024</u> County: <u>Garfield</u> Pilename: <u>M046-004</u> User: <u>T11</u> Agency or organization name: <u>DRMS</u> HORELY EQUIPMENTS Basic Machine: <u>Cat DST - 8SU</u> Horsgower: <u>310</u> Blade Type: <u>Semi-Universal</u> Attachnent: <u>3-shank ripper</u> Smith Basis: <u>1 per day</u> Data Source: <u>(CRG)</u> Cost Breakdown Ownership Cost/Hour: <u>\$143.92</u> 100 Ripper own. Cost/Hour: <u>\$143.92</u> Operator Cost/Hour: <u>\$141.11</u> NA Operator Cost/Hour: <u>\$144.44</u> Total Fleet Cost/Hour: <u>\$444.44</u> Total Fleet Cost/Hour: <u>\$444.44</u> Total Fleet Cost/Hour: <u>\$444.44</u> Total Fleet Cost/Hour: <u>\$444.44</u> MERELY PROJUCTION Swell facts: <u>1.099</u> Loose volume: <u>38,462 LCY</u> Source of estimated swell facto: <u>Cat Handbook</u> HORELY PRODUCTION Average push gradient: <u>0 %</u> Average push gradient: <u>0 %</u> Average site altitude: <u>5.400 feet</u> Materials consistency description: <u>Compacted fill or embankment 0.9</u> Average site altitude: <u>5.400 feet</u> Material weight: <u>3.400 lbs/LCY</u>	cription: Re	grade 1000' of Highwall			
Task #: 004 State: Colorado Abbreviation: None Date: 4/30/2024 County: Garfield Filename: M046-004 User: T11	l River Park Project	Permit Action:	2024	Permit/Job#:	M2006046
Date: 4/30/2024 County: Garfield Filename: M046-004 User: TI1	CT IDENTIFICAT	TION			
Date: 4/30/2024 County: Garfield Filename: M046-004 User: TI1	#: 004	State: Colorado		Abbreviation:	None
Agency or organization name: DRMS HOURLY EQUIPMENT COST Basic Machine: Call ST - SSU Horsepower: 310 Bade Type: Semi-Universal Attachment: 3-shank ripper Shift Basis: 1 per day Data Source: (CRG) Ownership Cost/Hour: \$241.38 Massis: 1 per day Data Source: (CRG) Ownership Cost/Hour: \$143.92 Shift Basis: 1 per day Data Source: (Stat 3.32) Operating Cost/Hour: \$41.30 NA NA Operator Cost/Hour: \$41.30 Stat Basis: 1 per day Dotal Picet Cost/Hour: \$44.44 Total Picet Cost/Hour: \$44.44 Total Ficet Cost/Hour: \$44.44 Total Ficet Cost/Hour: \$44.44 Total Ficet Cost/Hour: \$44.64 Source of estimated swell factor: 1.099 Loss outowe: \$44.64 Total Picet Cost/Hour: \$44.64 Source of estimated swell factor: Cat Handbook					M046-004
HOURLY EQUIPMENT COST Basic Machine: Cat DST - SSU Horsepower: 310 Blade Type: Semi-Universal Attachment: 3-shank ripper Shift Basi: I per day Data Source: (CRG) Cost Breakdown: Ownership Cost/Hour: \$241.38 Mainestein Cost/Hour: \$143.92 Operating Cost/Hour: \$14.11 NA Na Operator Cost/Hour: \$41.30 NA NA Operator Cost/Hour: \$44.44 Total unit Cost/Hour: \$44.44 Total Fleet Cost/Hour: \$44.44 Total Fleet Cost/Hour: \$44.44 Total Fleet Cost/Hour: \$44.44 Total Secon constanted volume: \$44.64 Source of estimated volume: Application Source of estimated volume: Application Source of estimated volume: Application Source of estimated swell factor: Cat Handbook HOURLY PRODUCTION Average push distance: 60 feet Unadjusted hourly production:	r: TJ1	-			
Basic Machine: Cat DST - 8SU Horsepower: 310 Blade Type: Semi-Universal Attachment: 3-shank ripper Shift Basis: 1 per day Data Source: (CRG) Cost Breakdown: Ownership Cost/Hour: \$241.38 NA Operating Cost/Hour: \$143.92 100 Ripper own. Cost/Hour: \$141.11 NA Ripper op. Cost/Hour: \$3.73 50 Operator Cost/Hour: \$44.44	Agency or organizatio	on name: DRMS			
Horsepower: 310 Blade Type: Semi-Universal Attachment: 3-shahk ripper Shift Basis: 1 per day Data Source: (CRG) Cost Breakdown: Utilization % Ownership Cost/Hour: \$241.38 NA Operating Cost/Hour: \$143.92 100 Ripper own. Cost/Hour: \$143.92 100 Ripper op. Cost/Hour: \$3.73 50 Operator Cost/Hour: \$444.44 53.73 50 Operator Cost/Hour: \$444.44 5444.44 5444.44 Total unit Cost/Hour: \$444.44 5444.44 5444.44 Total Fleet Cost/Hour: \$444.44 5444.44 5444.44 Total Fleet Cost/Hour: \$444.44 5444.44 5444.44 Total Fleet Cost/Hour: \$444.44 5444.44 545 MATERIAL QUANTITIES 1.099 500 500 Swell factor: 1.099 5000 5000 5000 Source of estimated swell factor: Cat Handbook 5000 5000 5000 5000 5000 5000 5000	LY EQUIPMENT (COST			
Blade Type: Semi-Universal Attachment: 3-shank ripper Shift Basis: 1 per day Data Source: (CRG) Cost Breakdown: Utilization % Ownership Cost/Hour: \$241.38 NA Operating Cost/Hour: \$143.92 100 Ripper own. Cost/Hour: \$14.11 NA Operator Cost/Hour: \$3.73 50 Operator Cost/Hour: \$444.44 NA Total unit Cost/Hour: \$444.44 NA Total Fleet Cost/Hour: \$444.44 NA MATERIAL QUANTITIES Initial Volume: 35,000 Swell factor: 1.099		- 8SU			
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Data Source: (CRG) Cost Breakdown: Utilization % Ownership Cost/Hour: \$241.38 Operating Cost/Hour: \$143.92 Inper own. Cost/Hour: \$14.11 NA NA Ripper own. Cost/Hour: \$3.73 Source of cost/Hour: \$444.44 Total unit Cost/Hour: \$444.44 Total Fleet Cost/Hour: \$444.44 Total Volume: 35,000 Swell factor: 1.099 Loose volume: 38,462 LCY Source of estimated volume: Application Source of estimated swell factor: Cat Handbook HOURLY PRODUCTION Average push distance: 60 feet Unadjusted hourly production: 1,246.9 LCY/hr Materials consistency description: Compacted fill or embankment 0.9 Average site altitude: 5,400 feet Material weight: 3,400 lbs/LCY					
Cost Breakdown: Utilization % Ownership Cost/Hour: \$241.38 NA Operating Cost/Hour: \$143.92 100 Ripper own. Cost/Hour: \$14.11 NA Ripper op. Cost/Hour: \$3.73 50 Operator Cost/Hour: \$44.44 Total unit Cost/Hour: \$444.44 Total Pleet Cost/Hour: \$444.44 Total State \$444.44 Total Volume: \$5,000 Swell factor: 1.099 Loose volume: 38,462 LCY Source of estimated volume: Application Source of estimated swell factor: Cat Handbook HOURLY PRODUCTION 1,246.9 LCY/hr Materials consistency description: Compacted fill or embankment 0.9 Average push gradient: 0 % Average site altitude: 5,400 feet Material weight: 3,400 lbs/LCY					
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Ripper own. Cost/Hour: \$14.11 NA Ripper op. Cost/Hour: \$3.73 50 Operator Cost/Hour: \$44.44 NA Total unit Cost/Hour: \$444.44 NA Total Unit Cost/Hour: \$444.44 NA MATERIAL QUANTITIES Initial Volume: 35,000 Swell factor: 1.099					
Ripper op. Cost/Hour: \$3.73 50 Operator Cost/Hour: \$444.44 Total unit Cost/Hour: \$444.44 Total Fleet Cost/Hour: \$444.44 MATERIAL QUANTITIES Initial Volume: 35,000 Swell factor: 1.099 Loose volume: 38,462 LCY Source of estimated volume: Application Source of estimated swell factor: Cat Handbook HOURLY PRODUCTION Average push distance: 60 feet Unadjusted hourly production: 1.246.9 LCY/hr Materials consistency description: Compacted fill or embankment 0.9 Average push gradient: 0 % Average site altitude: 5,400 feet Material weight: 3,400 lbs/LCY					
Total unit Cost/Hour: \$444.44 Total Fleet Cost/Hour: \$444.44 MATERIAL QUANTITIES Initial Volume: 35,000 Swell factor: 1.099 Loose volume: 38,462 LCY Source of estimated volume: Application Source of estimated swell factor: Cat Handbook HOURLY PRODUCTION Average push distance: 60 feet Unadjusted hourly production: 1,246.9 LCY/hr Materials consistency description: Compacted fill or embankment 0.9 Average push gradient: 0 % Average site altitude: 5,400 feet Material weight: 3,400 lbs/LCY		\$3.73	50		
Total Fleet Cost/Hour: \$444.44 MATERIAL QUANTITIES Initial Volume: 35,000 Swell factor: 1.099 Loose volume: 38,462 LCY Source of estimated volume: Application Source of estimated swell factor: Cat Handbook HOURLY PRODUCTION Average push distance: 60 feet Unadjusted hourly production: 1,246.9 LCY/hr Materials consistency description: Compacted fill or embankment 0.9 Average push gradient: 0 % Average site altitude: 5,400 feet Material weight: 3,400 lbs/LCY	tor Cost/Hour:	\$41.30	NA		
Loose volume: 38,462 LCY Source of estimated volume: Application Source of estimated swell factor: Cat Handbook HOURLY PRODUCTION Average push distance: 60 feet Unadjusted hourly production: 1,246.9 LCY/hr Materials consistency description: Compacted fill or embankment 0.9 Average push gradient: 0 % Average site altitude: 5,400 feet Material weight: 3,400 lbs/LCY	Volume:35,000				
Source of estimated swell factor: Cat Handbook HOURLY PRODUCTION Average push distance: 60 feet Unadjusted hourly production: 1,246.9 LCY/hr Materials consistency description: Compacted fill or embankment 0.9 Average push gradient: 0 % Average site altitude: 5,400 feet Material weight: 3,400 lbs/LCY		ŻY			
HOURLY PRODUCTION Average push distance: 60 feet Unadjusted hourly production: 1,246.9 LCY/hr Materials consistency description: Compacted fill or embankment 0.9 Average push gradient: 0 % Average site altitude: 5,400 feet Material weight: 3,400 lbs/LCY	f estimated volume:	Application			
Average push distance: 60 feet Unadjusted hourly production: 1,246.9 LCY/hr Materials consistency description: Compacted fill or embankment 0.9 Average push gradient: 0 % Average site altitude: 5,400 feet Material weight: 3,400 lbs/LCY	f estimated swell facto	r: Cat Handbook			
Average push distance: 60 feet Unadjusted hourly production: 1,246.9 LCY/hr Materials consistency description: Compacted fill or embankment 0.9 Average push gradient: 0 % Average site altitude: 5,400 feet Material weight: 3,400 lbs/LCY					
Unadjusted hourly production: 1,246.9 LCY/hr Materials consistency description: Compacted fill or embankment 0.9 Average push gradient: 0 % Average site altitude: 5,400 feet Material weight: 3,400 lbs/LCY					
Materials consistency description: Compacted fill or embankment 0.9 Average push gradient: 0 % Average site altitude: 5,400 feet Material weight: 3,400 lbs/LCY					
Average push gradient: 0 % Average site altitude: 5,400 feet Material weight: 3,400 lbs/LCY	ed nourry production:	1,240.9 LC 1/III			
Average site altitude:5,400 feetMaterial weight:3,400 lbs/LCY	s consistency description	on: Compacted fill or e	mbankment 0.9		
Material weight: 3,400 lbs/LCY					
	cita altituda. 5 11	JU teet			
Weight description: Sand and gravel Wet	site annuue. <u>3,40</u>				
		00 lbs/LCY			
Job Condition Correction Factor Source	weight: 3,40	00 lbs/LCY d and gravel - Wet			
	weight: <u>3,40</u> lescription: <u>San</u> dition Correction Facto	d and gravel - Wet <u>r</u>			
Material consistency:0.900(CAT HB))Dozing method:1.200(SLOT)	weight: 3,40 lescription: San <u>dition Correction Facto</u> Operator Skill:	d and gravel - Wet <u>r</u> 0.750	(AVG.)		
1007100 method. 17001 (NULL)	weight: 3,40 lescription: San <u>dition Correction Facto</u> Operator Skill: Material consistency:	d and gravel - Wet <u>r</u> 0.750 0.900	(AVG.) (CAT HB))		

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.676	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.4090	
Adjusted unit production: 5	09.98 LCY/hr	
Adjusted fleet production: 5	09.98 LCY/hr	

JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit cost:	\$0.871/LCY

Total job time:	75.42 Hours
Total job cost:	\$33,518

SCRAPER TEAM WORK

Site: Grand River Parl	x Project	Permit Action:	2024	Peri	mit/Job#: <u>M200</u>	6046
PROJECT IDENT	TIFICATION					
Task #: 005	St	ate: Colorado		Abbre	viation: None	
Date: 4/30/20	024 Cour	nty: Garfield		Fil	ename: M046-	005
User: TJ1						
Agency or o	organization name:	DRMS				
HOURLY EQUIP	MENT		COSTSI	ifthesis, 1 mand		
HOUKLY EQUIP			CUSIS	ift basis: <u>1 per d</u>	ay	
	~		ent Description			
		craper: Cat 631 Dozer: NA	G			
Suppo	rt Equipment -Load					
	-Dump	Area: NA				
Road Mai	intenance – Motor G					
	-Water 7	Fruck: NA				
Cost Breakdown:	Scraper Worl	c Team	Support Equip	oment	Maintenance	Equipme
<u></u> ;	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water
%Utilization-machine:	100	NA	NA	NA	NA	
Ownership cost/hour:	\$341.67	NA	NA	NA	NA	
Operating cost/hour:	\$285.26	NA	NA	NA	NA	
%Utilization-ripper:	NA	NA	NA	NA	NA	
Ripper own. cost/hour:	NA	NA	NA	NA	NA	
Ripper op. cost/hour:	NA	NA	NA	NA	NA	
Operator cost/hour:	\$30.90	NA	NA	NA	NA	
Unit Subtotals:	\$657.83	NA	NA	NA	NA	
Number of Units:	2	0	0	0	0	
Group Subtotals:	Work:	\$1,315.66	Support:	\$0.00	Maint:	\$0.
Total work team cost	/hour: \$1.315.66					
	<u>+-,</u>					
MATERIAL QUA	NTITIES					
Initial volume:	17,809	CCY	Swell fact	or: 1.215		
Loose volume:	21,638	LCY				
Sou	rce of estimated vol	ume: TR-1 tab	le 2 (1,111 cy + 1	6,698 cy)		
	of estimated swell fa					
HOURLY PRODU	<u>UCTION</u>					
			Scraper Bo	wl (volume) Bas	<u>is:</u>	
Material weight:	1,600 lbs/LCY		Struck V			CY
Material description:	Top Soil		Heaped V			CY
Rated Payload:	81,600 pounds		Average V			CY
Payload Capacity:	51.00 LCY		Adjusted C	apacity: 29.00	L	CY

0.80 Minutes

0.70 Minutes

Cycle Time:

Scraper Loading Time: Maneuver and Spread Time:

Job Condition Correction:

Site Altitude: 5400 feet

	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: Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	-2.00	8.00	6.00	1069	0.70

Haul Time: **0.70** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	2.00	8.00	10.00	1183	0.64
				Return Time:	0.64	minutes
			Total Scrape	er team cycle time:	2.84	minutes
			Adjusted	for job conditions:	508.52	LCY/Hour
			Selected N	umber of Scrapers:	1	Scraper(s)
	Adjuste	d single scra	per team (unit)	hourly production:	508.52	LCY/Hour
	Adjusted n	nultiple scrap	per team (fleet)	hourly production:	1,017.04	LCY/Hour
	TT	duction/hour	r: 612.68	LCY/Hour		

Fleet size:	2	Team(s)	Total job time:	21.28	Hours
Unit cost:	\$1.294	/LCY	Total job cost:	\$27,991	

REVEGETATION WORK

b#: <u>M2006046</u>
None
M046-006

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	250.00	pound	\$0.50	\$124.18
			Total Fertilizer Materials Cost/Acre	\$124.18

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.30	11.71	\$8.54
Bluebunch Wheatgrass - Secar	2.40	7.71	\$26.10
Bottlebrush Squirreltail	0.90	3.97	\$14.60
Muttongrass	0.20	4.13	\$6.88
Western Wheatgrass - Arriba	3.20	8.08	\$20.80
Saltgrass, Inland	0.50	6.93	\$21.40
Totals Seed Mix	7.50	42.53	\$98.33

Application

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

MULCHING and MISCELLANEOUS

Materials

	Units /			
Description	Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - Garlon @ 1.0 pt/ac	0.50	ACRE	\$14.75	\$7.37
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
Total Mulch Materials Cost/Acre				\$866.95

Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$74.46
Power mulcher (MEANS 32 91 13.16 0350)		\$147.67
Weed spray, truck, non-aquatic area, nox. [DMG]		\$62.72
	Total Mulch Application Cost/Acre	\$284.85

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Ash, Green	1	Small potted, 2.25 inch diameter (MEANS)	\$1.65	\$2.40	\$1.65
Currant, Golden or Yellow	7	Container, 5 gallon (MEANS)	\$52.50	\$2.40	\$367.50
Cottonwood, Narrowleaf	2	Small potted, 2.25 inch diameter (MEANS)	\$1.65	\$2.40	\$3.30
Pine, Ponderosa	1	Small potted, 2.25 inch diameter (MEANS)	\$1.75	\$2.40	\$1.75
Willow, Sandbar	2	Small potted, 2.25 inch diameter (MEANS)	\$1.65	\$2.40	\$3.30
Sumac, Skunkbrush	5	Container, 5 gallon (MEANS)	\$46.72	\$2.40	\$233.60
		Totals	Nursery Stoc	ck Cost / Acre	\$611.10

JOB TIME AND COST

	No. of Acres:	22	Cost /Acre:	\$2,608.05
Estimate	ed Failure Rate:	20%	Cost /Acre*:	\$1,996.95
*Selected Replanti	ng Work Items:	FERTILIZING,TIL	LING,SEEDING,MU	
		LCHING		
Initial Job Cost:	\$57,377.10			
Reseeding Job Cost:	\$8,786.58			
Total Job Cost:	\$66,164			
Job Hours:	35.00			

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description:	Init	ial Mobilization o	of Reclamation	crew/equ	lipment		
e: Grand River Pa	rk Project	Permit	Action: 2024		1	Permit/Job#: <u>M</u>	2006046
PROJECT IDEN	TIFICATI	<u>ON</u>					
Task #: 007			olorado			eviation: None	
Date: 4/30/ User: TJ1	2024	County: <u>Ga</u>	arfield		Fi	ilename: M046	-007
Agency or	organization	name: DRMS					
EQUIPMENT TH	RANSPOR	<u>F RIG COST</u>					
					Shift ba Cost Data Sour	rce: CRG Da	ta
	Fractor Desci Trailer Desci	-	ENERIC FOLD	400 HP DING GOO	(2ND HALF, DSENECK, DF	ROP DECK EQUI	-
]	FRAILER	(25T, 50T, AN	ND 100T)	
Cost Breakdown:							
Available Rig Ca	pacities	0-25 Tons	26-50 Tons	51-	+ Tons		
Ownership (Cost/Hour:	\$20.26	\$36.04	\$-	47.05		
Operating C	Cost/Hour:	\$39.51	\$76.08	\$	82.85		
Operator (Cost/Hour:	\$22.52	\$22.52	\$2	22.52		
Helper (Cost/Hour:	\$0.00	\$23.53	\$2	23.53		
Total Unit C		\$82.29	\$158.17		75.95		
NON ROADABL							
Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit (TONS)	Cost/hr/ unit	Cost/hr/uni t	Size	Cost/hr/ fleet	Cost/hr/ fleet	Cost/ fleet
Cat 631G	52.50	\$341.67	\$175.95	2	\$1,035.24	\$351.90	\$500.00
Cat D8T - 8SU	47.71	\$241.38	\$158.17	1	\$399.55	\$158.17	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.73	\$82.29	1	\$89.02	\$82.29	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$25.94	\$82.29	1	\$108.23	\$82.29	\$250.00
Submersible pump - 460v, 8 in.	0.70	\$13.62	\$82.29	3	\$287.73	\$246.87	\$250.00

Subtotals: \$1,919.77 \$921.52 \$1,500.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$15.83	1	\$15.83	\$15.83
		Subtotals:	\$15.83	\$15.83

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	SILT, CO	
Total one-way travel distance:	6.00	miles
Average Travel Speed:	45.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$15,276.30	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$4.22	

Transportation Cycle Time:

	Non-	D 111
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.13	0.13
Return Time (Hours):	0.13	0.13
Loading Time (Hours):	1.50	NA
Unloading Time (Hours):	1.50	NA
Subtotals:	3.27	0.27

JOB TIME AND COST

Total job time: 6.53 Hours

Total job cost: ______\$15,281_____

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description	Sec	ondary Mobilizat	tion of Reclama	tion crev	w/equipment		
: Grand River Park Project Permit Action: 2024		Permit/Job#: <u>M2006046</u>					
PROJECT IDE	NTIFICATI	<u>ON</u>					
Task #: 00	8	State: Co	olorado		Abbro	eviation: No	ne
Date: 4/3	30/2024		urfield				046-008
User: TJ	1						
Agency	or organization	name: DRMS					
EQUIPMENT '	<u> FRANSPOR'</u>	<u>T RIG COST</u>					
					Shift ba	sis: 1 per	day
					Cost Data Sou		
True	k Tractor Desci	ription: GENE	PIC ON HIGH	ναν τρ		DR 6X4 DIES	EL POWERED,
True	K Hactor Deser	ilpuoli. OENE			P (2ND HALF,		ELIOWERED,
Truc	k Trailer Desci	ription: G	ENERIC FOLD		· · · · · · · · · · · · · · · · · · ·	(DUIPMENT
					(25T, 50T, A)		
Cost Breakdown:							
Available Rig (0-25 Tons	26-50 Tons		+ Tons		
	p Cost/Hour:	\$20.26	\$36.04		647.05		
	g Cost/Hour:	\$39.51	\$76.08		82.85		
	r Cost/Hour:	\$22.52	\$22.52		522.52		
	r Cost/Hour:	\$0.00	\$23.53		23.53		
Total Uni	t Cost/Hour:	\$82.29	\$158.17	\$	175.95		
NON ROADAE	BLE EQUIPN	<u>IENT:</u>					
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/ flee	t Cost/ fleet
	(TONS)		t		fleet		
Drill/Broadcast Seeder with Tractor	25.00	\$6.73	\$82.29	1	\$89.02	\$82.29	\$250.00
Power Mulcher	6.00	\$25.94	\$82.29	1	\$108.23	\$82.29	\$250.00

ROADABLE EQUIPMENT:

(Bowie LD-90)

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$15.83	1	\$15.83	\$15.83
		Subtotals:	\$15.83	\$15.83

\$164.58

\$500.00

\$197.25

Subtotals:

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: Total one-way travel distance: Average Travel Speed:	SILT, CO 6.00 45.00	miles mph
Total Non-Roadable Mob/Demob Cost *	\$1,490.99	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$4.22	

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.13	0.13
Return Time (Hours):	0.13	0.13
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.27	0.27

JOB TIME AND COST

Total job time: 2.53 Hours

Total job cost: \$1,495