

**Parkdale Reclamation - Estimated Costs for Alluvial Pit Reclamation**

Item	Summary of Costs
Granite Quarry Reclamation	\$ 2,624,338
Alluvial Area Reclamation	\$ 5,371,157
Engineering and Surveying	\$ 33,000
Wash Plant Removal	\$ 50,896
Contingency	\$ 300,000
Total Estimated Reclamation Cost	\$ 8,379,391

Assumes Phased Reclamation of Site

Top Dressing - 6-inch deep						
Cost per Square Yard	Acres	Square Yards Per Acre	Total Square Yards	Base Cost	Multiplier for Grading on Steep Slopes	Total Cost
\$0.49	134	4,840	648,560	\$316,857.75	1.2	\$ 380,229.30

Haul Road Reclamation - 6800 feet long by 60 feet wide (9.4 acres)				
Description	Quantity	Units	Unit Cost	Total
Equipment Operator - Excavator	120	Hours	\$ 50	\$6,000
Equipment Operator - Dozer	120	Hours	\$ 50	\$6,000
Laborer	120	Hours	\$ 40	\$4,800
Laborer	120	Hours	\$ 40	\$4,800
Teamster - Water Truck	120	Hours	\$ 45	\$5,400
Teamster - Haul Truck	120	Hours	\$ 45	\$5,400
Supervisor	120	Hours	\$ 55	\$6,600
Excavator	3	Weeks	\$ 5,000	\$15,000
Dozer - D7	3	Weeks	\$ 7,800	\$23,400
Haul Truck	3	Weeks	\$ 5,000	\$15,000
Water Truck	3	Weeks	\$ 4,500	\$13,500
Supervisor's Truck	3	Weeks	\$ 1,500	\$4,500
Fuel	5,880	Gallons	\$ 2.13	\$12,524
Total Cost				\$122,924

Revegetation - Granite Quarry (134 acres)				
Labor				
Description	Quantity	Units	Unit Cost	Total
Equipment Operator	40	Hours	\$ 50	\$2,000
Equipment Operator	40	Hours	\$ 50	\$2,000
Equipment Operator	160	Hours	\$ 50	\$8,000
Equipment Operator	160	Hours	\$ 50	\$8,000
Equipment Operator	160	Hours	\$ 50	\$8,000
Teamster	80	Hours	\$ 45	\$3,600
Supervisor	200	Hours	\$ 60	\$12,000
Laborer	160	Hours	\$ 40	\$6,400
Laborer	160	Hours	\$ 40	\$6,400
Laborer	160	Hours	\$ 40	\$6,400
Total Labor Cost				\$62,800
Equipment				
Description	Quantity	Units	Unit Cost	Total
Tractor/Seeder	1	Week	\$ 1,275	\$1,275
Tractor/Seeder - Reseed	1	Week	\$ 1,275	\$1,275
Tractor with Disc	1	Month	\$ 5,000	\$5,000
Loader - Cat 966	1	Month	\$ 10,500	\$10,500
Material Spreader	1	Month	\$ 5,000	\$5,000
Foreman's Truck/Service Truck	1.25	Month	\$ 1,100	\$1,375
Water Truck - 8,000 gallon off-road	1	Month	\$ 12,000	\$12,000
TOTAL EQUIPMENT COST				\$36,425
Materials/Contractors				
Description	Quantity	Units	Unit Cost	Total
Fertilizer - 250 pounds per acre	33,500	Pounds	\$ 0.13	\$4,439
Seed - 20 pounds per acre	2680	Pounds	\$ 4.75	\$12,730
Reseed - 20 pounds per acre	551	Pounds	\$ 4.75	\$2,617
Diesel Fuel	3800	Gallon	\$ 2.13	\$8,094
Soil Testing	1	Lump Sum	\$ 1,500.00	\$1,500
Monitoring	30	Hours	\$ 150.00	\$4,500
TOTAL MATERIAL/SUBCONTRACTOR COSTS				\$33,880
TOTAL REVEGETATION COST				\$133,105

Constuct Drainage Channels				
Description	Quantity	Units	Unit Cost	Total
Equipment Operator - Excavator	120	Hours	\$ 50	\$6,000
Equipment Operator - Dozer	120	Hours	\$ 50	\$6,000
Laborer	120	Hours	\$ 40	\$4,800
Laborer	120	Hours	\$ 40	\$4,800
Teamster - Water Truck	120	Hours	\$ 45	\$5,400
Teamster - Haul Truck	120	Hours	\$ 45	\$5,400
Supervisor	120	Hours	\$ 55	\$6,600
Blasting	9,778	Cubic Yards	\$ 1.40	\$13,689
Diesel Fuel	5,880	Gallons	\$ 2.13	\$12,524
Excavator	3	Weeks	\$ 5,000	\$15,000
Dozer - D7	3	Weeks	\$ 7,800	\$23,400
Haul Truck	3	Weeks	\$ 5,000	\$15,000
Water Truck	3	Weeks	\$ 4,500	\$13,500
Supervisor's Truck	3	Weeks	\$ 1,500	\$4,500
Total Cost				\$136,613

Constuct Drainage Channels				
Description	Quantity	Units	Unit Cost	Total
Equipment Operator - Excavator	1,200	Hours	\$ 50	\$60,000
Equipment Operator - Dozer	1,200	Hours	\$ 50	\$60,000
Laborer	1,200	Hours	\$ 40	\$48,000
Laborer	1,200	Hours	\$ 40	\$48,000
Teamster - Water Truck	1,200	Hours	\$ 45	\$54,000
Teamster - Haul Truck	1,200	Hours	\$ 45	\$54,000
Supervisor	1,200	Hours	\$ 55	\$66,000
Blasting	444,444	Cubic Yards	\$ 1.40	\$622,222
Diesel Fuel	58,800	Gallons	\$ 2.13	\$125,244
Excavator	30	Weeks	\$ 5,000	\$150,000
Dozer - D7	30	Weeks	\$ 7,800	\$234,000
Haul Truck	30	Weeks	\$ 5,000	\$150,000
Water Truck	30	Weeks	\$ 4,500	\$135,000
Supervisor's Truck	30	Weeks	\$ 1,500	\$45,000
Total Cost				\$1,851,466

Assumptions		
Assumes phased reclamation		
Channel Length	8,000	Linear Feet
Channel Cross-section	33	Square Feet
Channel Volume	9,778	Cubic Yards

Assumptions		
Assumes phased reclamation		
Number of benches	4	
Bench Length	4,000	Linear Feet
Channel Cross-section	750	Square Feet
Channel Volume	444,444	Cubic Yards

Top Dressing - 6-inch deep						
Cost per Square Yard	Acres	Square Yards Per Acre	Total Square Yards	Base Cost	Multiplier for Grading on Steep Slopes	Total Cost
\$0.49	134	4,840	648,560	\$316,857.75	1.2	\$ 380,229.30

166,496 Square yards of area dressed to 9" equals

162,140 Cubic Yards

4.0 Square Yards per Cubic Yard

#### Labor

Labor Category	Individual	Rate (Regular)	Rate (O.T.)	Hours (Regular)	Hours (O.T.)	Total
Operator - Loader		\$ 50.00		220		\$ 11,000.00
Operator - Dozer		\$ 50.00		220		\$ 11,000.00
Operator - Tractor with Disc		\$ 50.00		40		\$ 2,000.00
Teamster- Water Truck		\$ 45.00		220		\$ 9,900.00
Teamster- Haul Truck		\$ 45.00		220		\$ 9,900.00
Teamster- Haul Truck		\$ 45.00		220		\$ 9,900.00
Teamster- Haul Truck		\$ 45.00		220		\$ 9,900.00
Foreman		\$ 55.00		220		\$ 12,100.00
TOTAL LABOR COST						\$ 75,700.00

#### Equipment

Equipment Type	Supplier	Unit Rate	Units	Quantity	Transportion and Delivery	Total
D9 Dozer	Wagner	\$ 39,460.00	Month	1.375		\$ 54,257.50
980 Loader	Wagner	\$ 15,380.00	Month	1.375	\$ 952.00	\$ 22,099.50
Tractor with Spreader & Disc	Wagner	\$ 1,275.00	Week	1	\$ 500.00	\$ 1,775.00
Service Truck		\$ 3,000.00	Month	1.375		\$ 4,125.00
Pickup		\$ 1,500.00	Month	1.375		\$ 2,062.50
Water Truck - 8,000 gallon	Wagner	\$ 16,000.00	Month	1.375		\$ 22,000.00
740 Haul Truck	Wagner	\$ 18,450.00	Month	1.375		\$ 25,368.75
740 Haul Truck	Wagner	\$ 18,450.00	Month	1.375		\$ 25,368.75
740 Haul Truck	Wagner	\$ 18,450.00	Month	1.375	\$ 1,222.00	\$ 26,590.75
TOTAL EQUIPMENT COST						\$ 183,647.75

#### Materials

Description	Supplier	Unit Cost	Units	Quantity	Sales Tax (Enter as a decimal)	Shipping and Handling	Total
Diesel Fuel		\$ 2.13	Gallon	27,000			\$ 57,510.00
Soil	Onsite Stockpile	\$ -	Cubic Yards	162,140			\$ -
							\$ -
TOTAL MATERIAL COST							\$ 57,510.00

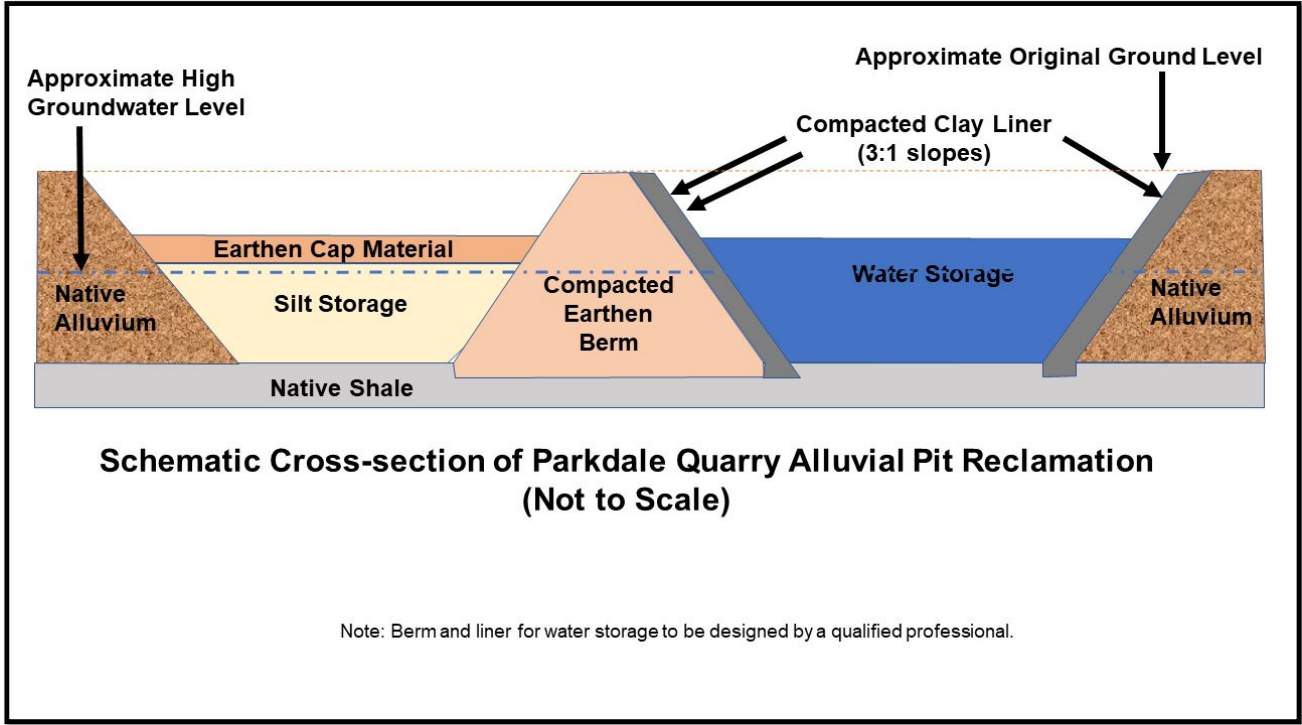
TOTAL COST FOR Top Dressing \$ 316,857.75

COST PER CUBIC YARD \$1.95

COST PER SQUARE YARD \$ 0.49

Parkdale Reclamation - Estimated Costs for Alluvial Pit Reclamation

Item					Summary of Costs
Rip and Recompact Floor	\$	2.19	Per Cubic Yard	43,000 Cubic Yards	\$ 94,158
Haul and Place Fill for Liner	\$	4.35	Per Cubic Yard	66,000 Cubic Yards	\$ 287,380
Haul and Place Pit Backfill	\$	3.97	Per Cubic Yard	1,200,000 Cubic Yards	\$ 4,762,895
Site Cleanup	\$	620.00	Per Acre	151 Acres	\$ 93,620
Reseeding	\$	1,016.07	Per Acre	131 Acres	\$ 133,105
Total Estimated Reclamation Cost					\$ 5,371,157



**Cost to rip material from floor for clay liner (Approximately 90-percent of the required liner material can be derived onsite).**

Operational Costs	Production rate	700	tons per hour		
Scraper - Cat 627	\$	234.00	per hour	Based on the weekly rental rate	Wagner Rental Rate Sheet
Operator	\$	50.00	per hour		
Scraper - Cat 627	\$	234.00	per hour	Based on the weekly rental rate	Wagner Rental Rate Sheet
Operator	\$	50.00	per hour		
Dozer (D-7) w/ compactor	\$	195.00	per hour	Based on the weekly rental rate	Wagner Rental Rate Sheet
Operator	\$	50.00	per hour		
Water Truck	\$	100.00	per hour	Based on the weekly rental rate	Wagner Rental Rate Sheet
Driver	\$	45.00	per hour		
<b>TOTAL OPERATIONAL COSTS</b>	<b>\$</b>	<b>958.00</b>	<b>per 700 tons</b>	=	\$ 1.37 per ton
				=	\$ 2.19 per yard at 1.6 tons per yard

**Cost to place on site material for clay liner = \$ 2.19 per cubic yard**

**Cost to place clay liner fill material.** Assumes a 500 acre-foot water storage reservoir with a 4,400 foot perimeter

**Assumptions**

Reservoir Capacity	500 Acre Feet
Reservoir Surface Area	15 Acres
Total Reservoir Depth	40 Feet
Perimeter Length at Top	3,800 Feet
Inner Slope	3:1 Horizontal:Vertical

Construction Production rate = 250 tons per hour

**Operational Costs**

Onsite Material Transport	\$ 35.00 per load	4 Loads per hour	\$ 140.00 70 tons per load	
Trucking	\$ 150.35 per load at \$97 per hour	1 Loads per hour	\$ 150.35	Supplimental material imported from Martin Marietta Penrose Sand & Gravel Pit, which is an approximate 90 minute round trip. Approximately 10% of fill material.
Dozer (D-7) w/ compactor	\$ 195.00 per hour		\$ 195.00	Based on the weekly rental rate Wagner Rental Rate Sheet
Operator	\$ 50.00 per hour		\$ 50.00	
Water Truck	\$ 100.00 per hour		\$ 100.00	Based on the weekly rental rate Wagner Rental Rate Sheet
Driver	\$ 45.00 per hour		\$ 45.00	
<b>TOTAL OPERATIONAL COSTS</b>		=	\$ 680.35 per 250 tons	\$ 2.72 per ton
		=		\$ 4.35 per yard at 1.6 tons per yard

**Cost to place and compact material for clay liner = \$ 4.35 per cubic yard**

**Pit Backfill for non-reservoir area planned for silt storage.**

Assumes non-reservoir area is filled to above water table, pit slopes are graded to 3:1 (horizontal:vertical) and area is reseeded.

Area to fill: 50 Acres  
Average Fill Depth 15 Feet  
Amount of Fill Required 1,200,000 Cubic Yards

Material sources are approximately 550,000 cubic yards of overburden and waste material stockpiled along the west and south sides of the alluvial pit and 650,000 cubic yards of material excavated from the granite on private land prior to reclamation of that area.

Production Rate 470 Cubic Yards per Hour

**Operational Costs**

637 Scraper - Alluvial Area Material Transport	\$ 38.33 per load	6 Loads per hour	12,222 Loads	\$ 468,477.78	45 cubic yards tons per load	Based on the monthly rental rate
Scraper Operator	\$ 50.00 per hour		2,037 Hours	\$ 101,851.85		
775 Haul Truck - Granite Material Transport	\$ 35.00 per hour	5 Loads per hour	16,250 Loads	\$ 568,750.00	40 cubic yards tons per load	Based on the monthly rental rate
Haul Truck Driver	\$ 45.00 per hour		3,250 Hours	\$ 146,250.00		
980 Loader to Load Haul Trucks	\$ 96.00 per hour		3,250 Hours	\$ 312,000.00		
Loader Operator	\$ 50.00 per hour		3,250 Hours	\$ 162,500.00		
Blasting of Granite	\$ 1.40 Cubic Yard		1,200,000 Cubic Yards	\$ 1,680,000.00		
Dozer (D-9)	\$ 247.00 per hour	580 Cubic Yards per hour	3,250 Hours	\$ 802,750.00	Based on the monthly rental rate	
Dozer Operator	\$ 50.00 per hour		3,251 Hours	\$ 162,550.00		
Water Truck	\$ 65.00 per hour		3,252 Hours	\$ 211,380.00	Based on the monthly rental rate	
Driver	\$ 45.00 per hour		3,253 Hours	\$ 146,385.00		
<b>TOTAL OPERATIONAL COSTS</b>				\$ 4,762,894.63	<b>per 1,200,000 Cubic Yards</b>	\$ 3.97 per cubic yard

Revegetation - Alluvial Quarry (134 acres)				
Labor				
Description	Quantity	Units	Unit Cost	Total
Equipment Operator	40	Hours	\$ 50	\$2,000
Equipment Operator	40	Hours	\$ 50	\$2,000
Equipment Operator	160	Hours	\$ 50	\$8,000
Equipment Operator	160	Hours	\$ 50	\$8,000
Equipment Operator	160	Hours	\$ 50	\$8,000
Teamster	80	Hours	\$ 45	\$3,600
Supervisor	200	Hours	\$ 60	\$12,000
Laborer	160	Hours	\$ 40	\$6,400
Laborer	160	Hours	\$ 40	\$6,400
Laborer	160	Hours	\$ 40	\$6,400
<b>Total Labor Cost</b>				<b>\$62,800</b>

Cost for non-mining area cleanup (includes other grading required to cleanup site.  
 Total area to be cleaned up and regraded = 151 acres

**Grading Costs**

	Production rate	1	Acres per Hour	
Compactor - Cat CS56	\$ 60.00	per hour	Based on the weekly rental rate	Wagner Rental Rate Sheet
Operator	\$ 50.00	per hour		
Motor Grader	\$ 100.00	per hour	Based on the weekly rental rate	Wagner Rental Rate Sheet
Operator	\$ 50.00	per hour		
Dozer (D-7)	\$ 165.00	per hour	Based on the weekly rental rate	Wagner Rental Rate Sheet
Operator	\$ 50.00	per hour		
Water Truck	\$ 100.00	per hour	Based on the weekly rental rate	Wagner Rental Rate Sheet
Driver	\$ 45.00	per hour		
	\$ 620.00		= \$ 620.00	per acre

**Total Grading Cost for Cleanup 151 acres at \$ 620 per acre = \$ 93,620**

Revegetation - Alluvial Area (134 acres)				
Labor				
Description	Quantity	Units	Unit Cost	Total
Equipment Operator	40	Hours	\$ 50	\$2,000
Equipment Operator	40	Hours	\$ 50	\$2,000
Equipment Operator	160	Hours	\$ 50	\$8,000
Equipment Operator	160	Hours	\$ 50	\$8,000
Teamster	80	Hours	\$ 45	\$3,600
Supervisor	200	Hours	\$ 60	\$12,000
Laborer	160	Hours	\$ 40	\$6,400
Laborer	160	Hours	\$ 40	\$6,400
Laborer	160	Hours	\$ 40	\$6,400
<b>Total Labor Cost</b>				<b>\$62,800</b>
Equipment				
Description	Quantity	Units	Unit Cost	Total
Tractor/Seeder	1	Week	\$ 1,275	\$1,275
Tractor/Seeder - Reseed	1	Week	\$ 1,275	\$1,275
Tractor with Disc	1	Month	\$ 5,000	\$5,000
Loader - Cat 966	1	Month	\$ 10,500	\$10,500
Material Spreader	1	Month	\$ 5,000	\$5,000
Foreman's Truck/Service Truck	1.25	Month	\$ 1,100	\$1,375
Water Truck - 8,000 gallon capacity	1	Month	\$ 12,000	\$12,000
<b>TOTAL EQUIPMENT COST</b>				<b>\$36,425</b>
Materials/Contractors				
Description	Quantity	Units	Unit Cost	Total
Fertilizer - 250 pounds per acre	33,500	Pounds	\$ 0.13	\$4,439
Seed - 20 pounds per acre	2680	Pounds	\$ 4.75	\$12,730
Reseed - 20 pounds per acre	551	Pounds	\$ 4.75	\$2,617
Diesel Fuel	3800	Gallon	\$ 2.13	\$8,094
Soil Testing	1	Lump Sum	\$ 1,500.00	\$1,500
Monitoring	30	Hours	\$ 150.00	\$4,500
<b>TOTAL MATERIAL/SUBCONTRACTOR COSTS</b>				<b>\$33,880</b>
<b>TOTAL REVEGETATION COST</b>				<b>\$133,105</b>

Assumptions	
158	Total Acres
15	Reservoir Acreage
12	Acreage of shop/developed area and roads that remain.
131	Acres to be seeded

Cost per acre                   \$           1,016

**Labor**

Labor Category	Individual	Rate (Regular)	Rate (O.T.)	Hours (Regular)	Hours (O.T.)	Total
Operator - Loader		\$ 50.00		80		\$ 4,000.00
Laborer		\$ 45.00		80		\$ 3,600.00
Laborer		\$ 45.00		80		\$ 3,600.00
Foreman		\$ 55.00		80		\$ 4,400.00
TOTAL LABOR COST						\$ 15,600.00

**Equipment**

Equipment Type	Supplier	Unit Rate	Units	Quantity	Transportion and Delivery	Total
Cat 966 Loader	Wagner Cat	\$ 4,850.00	Week	2	\$ 600.00	\$ 10,300.00
Service Truck	TBD	\$ 850.00	Week	2		\$ 1,700.00
Pickup	TBD	\$ 400.00	Week	2		\$ 800.00
						\$ -
						\$ -
						\$ -
TOTAL EQUIPMENT COST						\$ 12,800.00

**Materials**

Description	Supplier	Unit Cost	Units	Quantity	Sales Tax (Enter as a decimal)	Shipping and Handling	Total
Diesel Fuel		\$ 2.75	Gallon	320			\$ 880.00
							\$ -
							\$ -
							\$ -
TOTAL MATERIAL COST							\$ 880.00

**Subcontractors**

Service	Supplier	Unit Cost	Units	Quantity	Total
Crane Service - 70-ton	SOCO	\$ 235.00	Hour	40	\$ 9,400.00
Crane - Mob/demob	SOCO	\$ 235.00	Hour	12	\$ 2,820.00
Trucking - Lowboy	TBD	\$ 116.00	Hour	81	\$ 9,396.00
					\$ -
TOTAL SUBCONTRACTOR COST					\$ 21,616.00

TOTAL COST FOR PLANT REMOVAL                      \$ 50,896.00