Direct Costs		
Subtotal Demolition	435,034	
Subtotal Earthmoving	653,927	
Subtotal Revegetation	195,579	
Direct Costs	1,284,540	
Indirect Costs		
Mob/Demob	128,454	10.00%
Contingency	64,227	5.00%
Engineering Redesign	32,113	2.50%
Main Office Expense	87,349	6.80%
Project Management Fees	32,113	2.50%
Indirect Costs	344,257	26.80%
Total Costs	1,628,796	
Escalation Factor		0.0289
Number of Years		5
Escalation	249,364	
Reclamation Cost Escalated	1,878,160	
Bond Amount (rounded to nearest $1,000)	1,878,000	

Unit Costs

Material	Means Reference Number	Cost	Unit
Mixture of Types, Large	02220 100 0100	0.26	/CF
Steel, Large	02220 100 0012	0.24	/CF
City Service	City Service Price	4.00	/CY
Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY
12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY
On Site Disposal	02220 375 5550	6.80	/CY
16 Ton Truck	01590 200 5300	470.60	/Day
Truck Driver		38.10	/Hr
Loading & Trucking	02225 730 3000	38.50	/CY
Over 8 CY Truck	02225 730 5100	0.53	/CY
Mechanical Equipment Heavy	15055 300 3600	715.00	/Ton
Pavement removal, 4" to 6" thick	02220 875 1750	6.20	/SY
Chain Link , posts & fabric, 8' to 10' high	02220 875 0700	2.56	/LF
Cat D9R, U-Blade, ROPS, Rental Rate	Blue Book	17,590.00	/Month
Cat D9R, U-Blade, ROPS, Operating Rate	Blue Book	70.00	/Hr
Cat 966G Loader, 5 CY, Rental Rate	Blue Book	7,095.00	/Month
Cat 966G Loader, 5 CY, Operating Rate	Blue Book	29.05	/Hr
12 - 18 C.Y. Truck, Rental Rate	Blue Book	3,580.00	/Month
12 - 18 C.Y. Truck, Operating Rate	Blue Book	25.05	/Hr
Cat 14H Motergrader, Rental Rate	Blue Book	7,880.00	/Month
Cat 14H Motergrader, Operating Rate	Blue Book	28.20	/Hr
Cat 325, 3 1/2 CY., Rental Rate	Blue Book	15,130.00	/Month
Cat 325, 3 1/2 CY., Operating Rate	Blue Book	53.15	/Hr
Cat 325, 2 CY.	02315 400 0260	1.71	/CY
Truck Pickup, 3/4 Ton, 4x4 wheel drive, Rental Rate	Blue Book	785.00	/Month
Truck Pickup, 3/4 Ton, 4x4 wheel drive, Operating Rate	Blue Book	7.40	/Hr
Foreman		39.60	/Hr
Heavy Equipment Operator		47.15	/Hr
Floor slab with 30" pans	03110 420 3760	5.70	/SF
Geneva Rock Concrete	Geneva Rock	75.00	/CY
Pump, concrete truck mounted	01590 100 2120	13.55	/Hr
Prime and seal	02720 200 0800	3.67	/Gal
Prepared and rolled	02720 215 0100	0.80	/SY
Asphalt 4" thick	02740 300 0200	7.30	/SY
Roadside delineators, Remove and Reset	02220 875 0100	18.80	/EA
915 LHD, Rental Rate	Blue Book	15,924.00	/Month
915 LHD, Operating Rate	Blue Book	41.90	/HR
Bedding Crushed or screened bank run	02300 130 0050	27.50	/CY
Machine Placed for Slope Protection	02370 300 0100	33.50	/CY
Silt Fence	02370 550 1000	0.93	/LF
Chicken Wire	02820 500 0010	5.90	/LF
Bare root seedling, 6" to 10", heavy soil	02910 035 0711	1.15	/EA
Hydro Spreader (equip. & labor)B-81	Reveg	19.95	/MSF
Seed Mix No. 1	Maple Leaf	237.13	/Acre
Seed Mix No. 2	Maple Leaf	95.48	/Acre
Seal Portals	AML 1	13.56	/CY
Seal Portals	AML 1	5,200.00	/EA
5,000 Gal. Water Truck, Rental Rate	Blue Book	4,880.00	/Month

5,000 Gal. Water Truck, Operating Rate	Blue Book	24.10 /HR
Fencing, barged wire, 3 strand	02200 875 0600	1.36 /FT

Powerline

1/3 the cost of a new line $1,500 plus $705 for labor and equipment divided by 5,280 feet, Personal communication with Means	0.23 /Ft

Power Poles

1/3 the cost of a new pole $226 plus $51 for labor and equipment. Personal communication with Means.	164 /Pole

Note:

Resources used were:
R. S. Means Building Construction Cost Data 60 th Edition
Blue Book
Geneva Rock

Demolition and Removal

Ref.	Description	Cost
1	Office	41,164
2	Warehouse	13,465
3	Old Shop	65,394
4	New Shop	17,297
5	Training Room	5,535
6	Ambulance Garage	3,636
7	Bathhouse	34,268
8	Storage Shed	17,491
9	Security Shack	160
10	Stacking Tube	1,515
11	Control Building	446
12	8,000 Gallon Tank	794
13	4,000 Gallon Tank	595
14	1,000 Gallon Tank	50
15	1,500 Gallon Tank	75
16	60,000 Gallon Tank	4,455
17	Loadout Bins (2)	12,658
18	Septic Tank	3,347
19	Fan No. 1	4,803
20	Fan No. 2	4,771
21	Crib Wall	3,396
22	Substation No. 1	1,224
23	Substation No. 2	1,564
24	Belt Conveyor	22,248
25	Portals (3)	22,053
26	Portals (5)	36,472
27	Culverts Ends	2,094
28	Culvert	19,928
29	Ditch	1,217
30	Small Culvert	1,748
31	Asphalt Removal	82,194
32	Fencing	5,120
33	Powerline	575
34	Power Poles	3,280
	Total	435,034

Ref.	Description	Cost
35	Mine Site Grading	239,121
36	Backfill Portals	13,387
37	Sewage Lagoon	12,585
38	Fuel Storage Area	17,630
39	Topsoil Storage Area	2,870
40	Road Reconstruction	70,297
41	Stream Channel	298,036
	Total	653,927

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
1	Office																			
	Structure's Demolition Cost	Mixture of Types, Large	02220 100 0100	0.26	/CF						132000					CF		132000	CF	34,320
	Structure's Vol. Demolished																0.35	46200	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						1711					CY		1711	CY	6,844
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				41,164
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				41,164

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
2	Warehouse																			
	Structure's Demolition Cost	Mixture of Types, Large	02220 100 0100	0.26	/CF						15950					CF		15950	CF	4147
	Structure's Vol. Demolished																0.35	5582.5	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						207					CY		207	CY	827
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				4,974
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						300					CY		300	CY	4,068
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													390	CY	488
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													390	CY	1,283
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													390	CY	2,652
																				8,491
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				[illegible]

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
3	Old Shop																			
	Structure's Demolition Cost	Mixture of Types, Large	02220 100 0100	0.26	/CF						192000					CF		192000	CF	49,920
	Structure's Vol. Demolished																0.35	67200	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						2489					CY		2489	CY	9,956
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				63,876
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						195					CY		195		2,644
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													253.5		317
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													253.5		834
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													253.5		1,724
																				5,519
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				69,395

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
4	New Shop																			
	Structure's Demolition Cost	Mixture of Types, Large	02220 100 0100	0.26	/CF						45936					CF		45936	CF	11,943
	Structure's Vol. Demolished																0.35	16077.6	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						595					CY		595	CY	2,382
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				14,325
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						105					CY		105		1,424
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													136.5		171
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													136.5		449
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													136.5		928
																				2,972
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				17,297

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
5	Training Room																			
	Structure's Demolition Cost	Mixture of Types, Large	02220 100 0100	0.26	/CF						17748					CF		17748	CF	4,614
	Structure's Vol. Demolished																0.35	6211.8	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						230					CY		230	CY	920
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				5,535
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				5,535

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
6	Ambulance Garage																			
	Structure's Demolition Cost	Mixture of Types, Large	02220 100 0100	0.26	/CF						11660					CF		11660	CF	3,032
	Structure's Vol. Demolished																0.35	4081	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						151					CY		151	CY	605
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				3,636
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				3,636

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
7	Bathhouse																			
	Structure's Demolition Cost	Mixture of Types, Large	02220 100 0100	0.26	/CF						96000					CF		96000	CF	24,960
	Structure's Vol. Demolished																0.35	33600	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						1244					CY		1244	CY	4,978
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				29,938
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						153					CY		153		2,075
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													198.9		249
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													198.9		654
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													198.9		1,353
																				4,330
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
8	Storage Shed																			
	Structure's Demolition Cost	Mixture of Types, Large	02220 100 0100	0.26	/CF						32400					CF		32400	CF	8,424
	Structure's Vol. Demolished																0.35	11340	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						420					CY		420	CY	1,680
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				10,104
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						261					CY		261		3,539
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													339.3		424
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													339.3		1,116
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													339.3		2,307
																				7,387
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			

Ref.	Description		Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
9	Security Shack																				
	Structure's Demolition	Cost	Mixture of Types, Large	02220 100 0100	0.26	/CF						512					CF		512	CF	133
	Structure's Vol. Demol	lished																0.35	179.2	CF	
	Rubble's Weight (exclu	de steel)																			
	Truck's Capacity																				
	Haulage																				
	Transportation Cost Non-Steel Truck		City Service	City Service Price	4.00	/CY						7					CY		7	CY	27
	Transportation Cost Non-Steel Drive																				
	Disposal Cost Non-Steel																				
	Steel's Weight																				
	Truck's Capacity																				
	Haulage																				
	Transportation Cost Steel Truck																				
	Transportation Cost Steel Truck Drive																				
	Disposal Cost Steel																				
																					160
	Equipment's Disposal	Cost																			
	Dismantling Cost																				
	Equipment's Vol. Demolished																				
	Loading Costs																				
	Transport Costs																				
	Disposal Costs																				
	Concrete Demolition																				
	Demolition Cost																				
	Concrete's Vol. Demolished																				
	Loading Cost																				
	Transportation Cost																				
	Disposal Costs																				
	Concrete Demolition																				
	Demolition Cost																				
	Concrete's Vol. Demolished																				
	Loading Cost																				
	Transportation Cost																				
	Disposal Costs																				
	Concrete Demolition																				
	Demolition Cost																				
	Concrete's Vol. Demolished																				
	Loading Cost																				
	Transportation Cost																				
	Disposal Costs																				
																					160

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
10	Stacking Tube																			
	Structure's Demolition Cost	Steel, Large	02220 100 0012	0.24	/CF						45					CF		45	CF	11
	Structure's Vol. Demolished																0.35	16		
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel	City Service	City Service Price	4.00	/CY						1					CY		1	CY	2
	Steel's Weight												495			LB/CF				
	Truck's Capacity												11.1			Tons				
	Haulage																			
	Transportation Cost Steel Truck	16 Ton Truck	01590 200 5300	470.60	/Day													0.70	Day	328
	Transportation Cost Steel Truck Drive	Truck Driver		38.10	/Hr													6	HR	212
	Disposal Cost Steel																			
																				553
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						34					CY		34	CY	461
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													44.2	CY	55
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													44.2	CY	145
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													44.2	CY	301
																				962
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				1,515

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
11	Control Building																			
	Structure's Demolition Cost	Mixture of Types, Large	02220 100 0100	0.26	/CF						1430					CF		1430	CF	372
	Structure's Vol. Demolished																0.35	500.5	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						19					CY		19	CY	74
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				446
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				446

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
12	6,000 Gallon Tank																			
	Structure's Demolition Cost	Steel, Large	02220 100 0012	0.24	/CF						1070					CF		1070	CF	257
	Structure's Vol. Demolished																0.011	11.77		
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel	City Service																		
	Steel's Weight												495			LB/CF				
	Truck's Capacity												2.9			Tons				
	Haulage																			
	Transportation Cost Steel Truck	16 Ton Truck	01590 200 5300	470.60	/Day													0.18	Day	86
	Transportation Cost Steel Truck Drive	Truck Driver		38.10	/Hr													1.46	HR	55
	Disposal Cost Steel																			
																				398
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						14					CY		14	CY	190
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													18.2	CY	23
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													18.2	CY	60
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													18.2	CY	124
																				396
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				704

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
13	4,000 Gallon Tank																			
	Structure's Demolition Cost	Steel, Large	02220 100 0012	0.24	/CF						535					CF		535	CF	128
	Structure's Vol. Demolished																0.011	6	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight												495			LB/CF				
	Truck's Capacity												1.5			Tons				
	Haulage																			
	Transportation Cost Steel Truck	16 Ton Truck	01590 200 5300	470.60	/Day													0.09	Day	43
	Transportation Cost Steel Truck Drive	Truck Driver		38.10	/Hr													0.73	HRS	28
	Disposal Cost Steel																			
																				199
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						14					CY		14	CY	190
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													18.2	CY	23
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													18.2	CY	60
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													18.2	CY	124
																				396
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				595

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
14	1,000 Gallon Tank																			
	Structure's Demolition Cost	Steel, Large	02220 100 0012	0.24	/CF						134					CF		134	CF	32
	Structure's Vol. Demolished																0.011	1	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight												495			LB/CF				
	Truck's Capacity												0.4			Tons				
	Haulage																			
	Transportation Cost Steel Truck	16 Ton Truck	01590 200 5300	470.60	/Hr													0.02	Day	11
	Transportation Cost Steel Truck Drive	Truck Driver		36.10	/Hr													0.18	HR	7
	Disposal Cost Steel																			
																				50
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				53

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
15	1,500 Gallon Tank																			
	Structure's Demolition Cost	Steel, Large	02220 100 0012	0.24	/CF						201					CF		201	CF	48
	Structure's Vol. Demolished																0.011	2	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight												495			LB/CF				
	Truck's Capacity												0.5			Tons				
	Haulage																			
	Transportation Cost Steel Truck	16 Ton Truck	01590 200 5300	470.80	/Hr													0.03	Day	16
	Transportation Cost Steel Truck Drive	Truck Driver		38.10	/Hr													0.27	Hrs	10
	Disposal Cost Steel																			
																				75
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				75

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
16	60,000 Gallon Tank																			
	Structure's Demolition Cost	Steel, Large	02220 100 0012	0.24	/CF						8022					CF		8022	CF	1,925
	Structure's Vol. Demolished																0.011	88	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight												495			LB/CF				
	Truck's Capacity												21.6			Tons				
	Haulage																			
	Transportation Cost Steel Truck	16 Ton Truck	01590 200 5300	470.60	/Hr													1.36		642
	Transportation Cost Steel Truck Drive	Truck Driver		38.10	/Hr													10.92		416
	Disposal Cost Steel																			
																				2,984
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						52					CY		52	CY	705
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													67.6	CY	85
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													67.6	CY	222
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													67.6	CY	460
																				1,472
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				4,456

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
17	Loadout Bins (2)																			
	Structure's Demolition Cost	Steel, Large	02220 100 0012	0.24	/CF						30000					CF		30000	CF	7,200
	Structure's Vol. Demolished																0.011	330	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight												495			LB/CF				
	Truck's Capacity												81.7			Tons				
	Haulage																			
	Transportation Cost Steel Truck	16 Ton Truck	01590 200 5300	470.60	/Hr													5.10	Day	2,402
	Transportation Cost Steel Truck Drive	Truck Driver		38.10	/Hr													40.84	Hrs	1,556
	Disposal Cost Steel																			
																				11,158
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						53					CY		53	CY	719
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													68.9	CY	86
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													68.9	CY	227
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													68.9	CY	469
																				1,500
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				12,658

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
18	Septic Tank																			
	Structure's Demolition Cost	Steel, Large	02220 100 0012	0.24	/CF						9000					CF		9000	CF	2,160
	Structure's Vol. Demolished																0.011	99	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight												495			LB/CF				
	Truck's Capacity												24.5			Tons				
	Haulage																			
	Transportation Cost Steel Truck	16 Ton Truck	01590 200 5300	470.60	/Hr													1.53	Day	721
	Transportation Cost Steel Truck Drive	Truck Driver		38.10	/Hr													12.25	HR	467
	Disposal Cost Steel																			
																				3,347
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				2,947

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
19	Fan No. 1																			
	Structure's Demolition Cost	Mixture of Types, Large	02220 100 0100	0.26	/CF						15400					CF		15400	CF	4,004
	Structure's Vol. Demolished																0.35	5390	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						200					CY		200	CY	799
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				4,803
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				4,803

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
20	Fan No. 2																			
	Structure's Demolition Cost	Mixture of Types, Large	02220 100 0100	0.26	/CF						15300					CF		15300	CF	3,978
	Structure's Vol. Demolished																0.35	5355	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						198					CY		198	CY	793
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				4,771

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
21	Crib Wall																			
	Structure's Demolition Cost																			
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						120					CY		120	CY	1,627
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													156	CY	195
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													156	CY	513
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													156	CY	1,061
																				3,396
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				$3,396

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
22	Subetation No. 1																			
	Structure's Demolition Cost	Mechanical Equipment Heavy	15055 300 3600	715.00	/Ton							1				Ton		1	Ton	715
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				715
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						18					CY		18	CY	244
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													23.4	CY	29
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													23.4	CY	77
	Disposal Costs	On Site Disposal	02220 375 5560	6.80	/CY													23.4	CY	159
																				509
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				1,224

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
23	Substation No. 2																			
	Structure's Demolition Cost	Mechanical Equipment Heavy	15055 300 3600	715.00	/ton							1				Ton		1	Ton	715
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				715
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						30					CY		30	CY	407
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													39	CY	49
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													39	CY	128
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													39	CY	265
																				849
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
24	Belt Conveyor																			
	Structure's Demolition Cost	Steel, Large	02220 100 0012	0.24	/CF						57000					CF		57000	CF	13,680
	Structure's Vol. Demolished																0.011	627	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight												495			LB/CF				
	Truck's Capacity												155.2			Tons				
	Haulage																			
	Transportation Cost Steel Truck	16 Ton Truck	01590 200 5300	470.60	/Hr													9.70	Days	4,564
	Transportation Cost Steel Truck Drive	Truck Driver		38.10	/Hr													77.59	Hrs	2,956
	Disposal Cost Steel																			
																				21,201
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						37					CY		37	CY	502
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													48.1	CY	60
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													48.1	CY	158
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													48.1	CY	327
																				1,047
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				22,248

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
25	Portals (3)																			
	Structure's Demolition Cost	Seal Portals	AML 1	5,200.00	/EA						3					EA		3	EA	15,600
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				15,600
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Seal Portals		13.56	CY						228					CY		228	CY	3,092
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	CY													296.4	CY	371
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	CY													296.4	CY	975
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	CY													296.4	CY	2,016
																				6,453
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				22,053

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
26	Portals (5)																			
	Structure's Demolition Cost	Seal Portals	AML 1	5,200.00	/EA						5					EA		5	EA	26,000
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				26,000
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						370					CY		370	CY	5,017
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													481	CY	601
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													481	CY	1,582
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													481	CY	3,271
																				10,472
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				36,472

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
27	Culverts Ends																			
	Structure's Demolition Cost																			
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						74					CY		74	CY	1,003
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													96.2	CY	120
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													96.2	CY	316
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													96.2	CY	654
																				2,093
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				2,093

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
28	Culvert																			
	Structure's Demolition Cost	Steel, Large	02220 100 0012	0.24	/CF						53580					CF		53580	CF	12,859
	Structure's Vol. Demolished																0.011	589.38	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight												495			LB/CF				
	Truck's Capacity												145.9			Tons				
	Haulage																			
	Transportation Cost Steel Truck	16 Ton Truck	01590 200 5300	470.60	/Day													9.12	Days	4,290
	Transportation Cost Steel Truck Drive	Truck Driver		38.10	/Hr													72.94	Hrs	2,779
	Disposal Cost Steel																			
																				19,928
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				19,928

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
29	Ditch																			
	Structure's Demolition Cost																			
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost	Concrete Breakage		13.56	/CY						43					CY		43	CY	583
	Concrete's Vol. Demolished																1.3			
	Loading Cost	Front-End Loader 5 CY (966G)	02315 400 1350	1.25	/CY													55.9	CY	70
	Transportation Cost	12 CY Truck, 1/2 Mile Round Trip	02320 200 0320	3.29	/CY													55.9	CY	184
	Disposal Costs	On Site Disposal	02220 375 5550	6.80	/CY													55.9	CY	380
																				1217
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				1217

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
30	Small Culvert																			
	Structure's Demolition Cost	Steel, Large	02220 100 0012	0.24	/CF						4700					CF		4700	CF	1,128
	Structure's Vol. Demolished																0.011	51.7	CF	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight												495			LB/CF				
	Truck's Capacity												12.8							
	Haulage																			
	Transportation Cost Steel Truck	16 Ton Truck	01590 200 5300	470.60	/Day													0.80	Day	376
	Transportation Cost Steel Truck Drive	Truck Driver		38.10	/Hr													6.40	Hrs	244
	Disposal Cost Steel																			
																				1,748
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				1,748

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
31	Asphalt Removal																			
	Parking Lot																			
	Asphalt Demolition	Pavement removal, 4" to 6" thick	02220 875 1750	6.20	/SY						1865					SY		1865	SY	11,563
								0.5			16785					SF		8392.5	CF	
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						310.8					CY		310.8	CY	1,243
																				12,806
	Office Parking																			
	Asphalt Demolition	Pavement removal, 4" to 6" thick	02220 875 1750	6.20	/SY						716					SY		716	SY	4,439
								0.5			6444					SF		3222	CF	
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						119.3					CY		119.3	CY	477
																				4,916
	Old Road																			
	Asphalt Demolition	Pavement removal, 4" to 6" thick	02220 875 1750	6.20	/SY						2861					SY		2861	SY	17,862
								0.5			25929					SF		12964.5	CF	
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						480.2					CY		480.2	CY	1,921
																				19,783
	New Yard Road																			
	Asphalt Demolition	Pavement removal, 4" to 6" thick	02220 875 1750	6.20	/SY						2055					SY		2055	SY	12,741
								0.5			18495					SF		9247.5	CF	
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						342.5					CY		342.5	CY	1,370
																				14,111
	Relocated Road and New Portal Road																			
	Asphalt Demolition	Pavement removal, 4" to 6" thick	02220 875 1750	6.20	/SY						4453					SY		4453	SY	27,609
								0.5			40077					SF		20038.5	CF	
	Transportation Cost Non-Steel Truck	City Service	City Service Price	4.00	/CY						742.2					CY		742.2	CY	2,969
																				[illegible]
																				[illegible]

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
32	Fencing																			
	Structure's Demolition Cost	Chain Link , posts & fabric, 6' to 10' high	02220 875 0700	2.56	/LF						2000					LF		2000	LF	5120
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				5120
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				5120

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
33	Powerline																			
	Structure's Demolition Cost	Powerline		0.23	/LF						2500					LF		2500	LF	575
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				575
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				575

Ref.	Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
34	Power Poles																			
	Structure's Demolition Cost	Power Poles		164.00	/EA						20					EA		20	EA	3280
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non-Steel Truck																			
	Transportation Cost Non-Steel Drive																			
	Disposal Cost Non-Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
																				3,280
	Equipment's Disposal Cost																			
	Dismantling Cost																			
	Equipment's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
																				3,280

Ref. 35	Equipment Cost	Hourly Operating Cost	Hourly Equipment Cost	Operator's Hourly Rate	Hourly Cost	Number of Men or Equip.	Total Eq. & Lab. Costs	Unit	Quantity	Units	Production Rate	Unit	Equip. + Labor Time/Dis.	Unit	Cost
Mine Site Grading															
Cat D9R, U-Blade, ROPS, Rental Rate	17,590.00	70.00	0.10	47.15	234.09	3	702.27	$/Hr	148408	CY	849.36	CY/Hr	174.7	Hrs	122,708
Excavate Culvert															
Cat 325, 3 1/2 CY., Rental Rate	15,130.00	53.15	0.10	47.15	200.18	1	200.18	$/Hr	42827	CY	301.82	CY/Hr	141.9	Hrs	28,405
Topsoil															
Cat D9R, U-Blade, ROPS, Rental Rate	17,590.00	70.00	0.10	47.15	234.09	1	234.09	$/Hr	16676	CY	283.12		58.9	Hrs	13,788
Cat 966G Loader, 5 CY, Rental Rate	7,095.00	29.05	0.10	47.15	123.45	1	123.45	$/Hr					46.5	Hrs	5,745
12 - 18 C.Y. Truck, Rental Rate	3,580.00	25.05	0.10	38.10	88.03	11	968.33	$/Hr	16676	CY	358.33		46.5	Hrs	45,065
5,000 Gal. Water Truck, Rental Rate	4,880.00	24.10	0.10	38.10	95.11	1	95.11	$/Hr					116.8	Hrs	11,110
Truck Pickup, 3/4 Ton, 4x4 wheel drive, Rental Rate	785.00	7.40	0.10		13.05	1	13.05	$/Hr					233.6	Hrs	3,049
Foreman				39.60	39.60	1	39.60	$/Hr					233.6	Hrs	9,252
SUBTOTAL															239,121

Ref. 36	Equipment Cost	Hourly Operating Cost	Hourly Equipment Rate	Operator's Hourly Rate	Hourly Cost	Number of Men or Equip.	Total Eq. & Lab. Costs	Unit	Quantity	Units	Production Rate	Unit	Equip. + Labor Time/Dis.	Unit	Cost
Backfill Portals															
915 LHD, Rental Rate	15,924	41.90	0.10	47.15	192.77	1	192.77	$/Hr	4393	CY	88.86	CY/HR	49.4	Hrs	9,530
Seal Shaft															
Floor slab with 30" pans							5.70	/SF	205	SF					1,169
Geneva Rock Concrete							75.00		8	CY					600
Pump, concrete truck mounted	955	13.55	119.38	38.10	171.03	1	171.03	$/Hr					8.0	Hrs	1,368
Backfill Shaft															
Cat 966G Loader, 5 CY, Rental Rate	7,095.00	29.05	0.10	47.15	123.45	1	123.45	$/Hr	860	CY	354.83	CY/HR	2.4	Hrs	299
Truck Pickup, 3/4 Ton, 4x4 wheel drive, Ren	785.00	7.40	0.10		13.05	1	13.05	$/Hr					8.0	Hrs	104
Foreman				39.60	39.60	1	39.60	$/Hr					8.0	Hrs	317

Ref. 37	Equipment Cost	Hourly Operating Cost	Hourly Equipment Cost	Operator's Hourly Rate	Hourly Cost	Number of Men or Equip.	Total Eq. & Lab. Costs	Unit	Quantity	Units	Production Rate	Unit	Equip. + Labor Time/Dis.	Unit	Cost
Sewage Lagoon															
Cat D9R, U-Blade, ROPS, Rental Rate	17,590.00	70.00	0.10	47.15	234.09	3	702.27	$/Hr	6222	CY	849.36	CY/Hr	7.3	Hrs	5,145
Topsoil															
Cat D9R, U-Blade, ROPS, Rental Rate	17,590.00	70.00	0.10	47.15	234.09	1	234.09	$/Hr	890	CY	283.12		3.1	Hrs	736
Cat 966G Loader, 5 CY, Rental Rate	7,095.00	29.05	0.10	47.15	123.45	1	123.45	$/Hr					2.5	Hrs	307
12 - 18 C.Y. Truck, Rental Rate	3,580.00	25.05	0.10	38.10	88.03	11	968.33	$/Hr	890	CY	358.33		2.5	Hrs	2,405
5,000 Gal. Water Truck, Rental Rate	4,880.00	24.10	0.10	38.10	95.11	1	95.11	$/Hr					5.2	Hrs	498
Truck Pickup, 3/4 Ton, 4x4 wheel drive, Rental Rate	785.00	7.40	0.10		13.05	1	13.05	$/Hr					10.5	Hrs	137
Foreman				39.60	39.60	1	39.60	$/Hr					10.5	Hrs	415
Chain Link , posts & fabric, 8' to 10' high									1150	FT			2.56	FT	2,944
Subtotal															12,585

Ref. 38	Equipment Cost	Hourly Operating Cost	Hourly Equipment Rate	Operator's Hourly Rate	Hourly Cost	Number of Men or Equip.	Total Eq. & Lab. Costs	Unit	Quantity	Units	Production Rate	Unit	Equip. + Labor Time/Dis.	Unit	Cost
Fuel Storage Area															
Cat 966G Loader, 5 CY, Rental Rate	7,095.00	29.05	0.10	47.15	123.45	1	123.45	$/Hr					14.8	Hrs	1,826
12 - 18 C.Y. Truck, Rental Rate	3,580.00	25.05	0.10	38.10	88.03	11	968.33	$/Hr	6042	CY	408.50		14.8	Hrs	14,322
5,000 Gal. Water Truck, Rental Rate	4,880.00	24.10	0.10	38.10	95.11	1	95.11	$/Hr					7.4	Hrs	703
Truck Pickup, 3/4 Ton, 4x4 wheel drive, Ren	785.00	7.40	0.10		13.05	1	13.05	$/Hr					14.8	Hrs	193
Foreman				39.60	39.60	1	39.60	$/Hr					14.8	Hrs	586
Subtotal															17,630

Ref. 39	Equipment Cost	Hourly Operating Cost	Hourly Equipment Cost	Operator's Hourly Rate	Hourly Cost	Number of Men or Equip.	Total Eq. & Lab. Costs	Unit	Quantity	Units	Production Rate	Unit	Equip. + Labor Time/Dis.	Unit	Cost
Topsoil Storage Area															
Cat D9R, U-Blade, ROPS, Rental Rate	17,590.00	70.00	0.10	47.15	234.09	3	702.27	$/Hr	590	CY	849.36	CY/Hr	0.7	Hrs	488
Truck Pickup, 3/4 Ton, 4x4 wheel drive, Rental Rate	785.00	7.40	0.10		13.05	1	13.05	$/Hr					0.7	Hrs	9
Foreman				39.60	39.60	1	39.60	$/Hr					0.7	Hrs	28
Fencing, barged wire, 3 strand									1725	FT			1.36	$/FT	2346
Subtotal															2,870

Ref. 40	Equipment Cost	Hourly Operating Cost	Hourly Equipment Rate	Operator's Hourly Rate	Hourly Cost	Number of Men or Equip.	Total Eq. & Lab. Costs	Unit	Quantity	Units	Production Rate	Unit	Equip. + Labor Time/Dis.	Unit	Cost
Road Reconstruction															
Hauling Base Coarse															
12 - 18 C.Y. Truck, Operating Rate	3,580.00	25.05	0.10	38.10	88.03	26	2,288.78	$/Hr	600	CY	350.05	LCY/Hr	1.7	Hrs	3,923
Spreading Base Coarse															
Cat 14H Motergrader, Rental Rate	7,880.00	28.20	0.10	47.15	127.42	1	127.42	$/Hr	1.49	AC	2.80	AC/Hr	0.53	Hrs	68
Paving															
Prepared and rolled							0.80	$/SY	7212	SY					5,770
Prime and seal							3.67	$/Gal	1803	GAL					6,617
Asphalt 4" thick							7.30	$/SY	7212	SY					52,648
Roadside delineators, Remove and Reset							18.80	$/EA	50	EA					940
5,000 Gal. Water Truck, Rental Rate	4,880.00	24.10	0.10	38.10	95.11	1	95.11	$/Hr					2.2	Hrs	214
Truck Pickup, 3/4 Ton, 4x4 wheel drive, Rental Rate	785.00	7.40	0.10		13.05	1	13.05	$/Hr					2.2	Hrs	29
Foreman				39.60	39.60	1	39.60	$/Hr					2.2	Hrs	89
Subtotal															70,287

Ref. 41	Equipment Cost	Hourly Operating Cost	Hourly Equipment Rate	Operator's Hourly Rate	Hourly Cost	Number of Men or Equip.	Total Eq. & Lab. Costs	Unit	Quantity	Units	Production Rate	Unit	Equip. + Labor Time/Dis.	Unit	Cost
Stream Channel															
Bedding Crushed or screened bank run	02315 130 0050						27.50	/CY	5946	CY					163,515
Machine Placed for Slope Protection	02370 300 0100						33.50	/CY	3964	CY					132,794
Truck Pickup, 3/4 Ton, 4x4 wheel drive, Ren	785.00	7.40	0.10		13.05	1	13.05	$/Hr					32.8	Hrs	428
Foreman				39.60	39.60	1	39.60	$/Hr					32.8	Hrs	1,299
Subtotal															298,036

Ref.		Description	Material	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
42		Revegetation																			
		Soil Preparation																			
		Pocking	Cat 325, 2 CY.	02315 400 0260	1.71	/CY					19.42						AC		31,331	CY	53,576
		Subtotal																			53,576
		Silt Fence																			
		Silt Fence	Silt Fence	02370 550 1000	0.93	/LF	15925										FT		15925	FT	14,810
		Chicken Wire	Chicken Wire	02820 500 0010	5.90	/LF	15925										FT		15925	FT	93,958
		Subtotal																			108,768
		Seed Mix No. 1 for Minesite,																			
		Topsoil Area, and Sewer Lagoon																			
		Hydroseeding Equipment and Labor	Hydro Spreader (equip. & labor)B-81	Reveg	19.95	/MSF					19.42						AC		846	MSF	16,876
		Hrydro seeding	Seed Mix No. 1	Maple Leaf	237.13	$/AC													19.42	AC	4,605
		Seed Mix No. 2 for Riparian Area																			
		Hydroseeding Equipment and Labor	Hydro Spreader (equip. & labor)B-81	Reveg	19.95	/MSF					2.4						AC		105	MSF	2,066
		Hrydro seeding	Seed Mix No. 2	Maple Leaf	95.48	$/AC													2.4	AC	229.152
		Transplant Material for Riparian																			
		Narrow Leak Cottonwood			1.00	/EA								100			Plants/AC		240	EA	240
		Coyote Willow			0.92	/EA								175			Plants/AC		420	EA	386
		Wood Rose			0.66	/EA								100			Plants/AC		240	EA	158
		Rocky Mountain Maple			1.00	/EA								50			Plants/AC		120	EA	120
		Snowberry			0.79	/EA								50			Plants/AC		120	EA	95
		Mountain Mahogany			0.92	/EA								50			Plants/AC		120	EA	110
		Squawbush			0.79	/EA								50			Plants/AC		120	EA	95
		Transplant Labor	Bare root seedling, 6" to 10", heavy soil	02910 035 0711	1.15	/EA													1360	EA	1,567
		Subtotal																			26,588
		Revegetation																			6,647
		25% Vegetation Rate																			
		Total																			195,579

Productivity and Hours Required for Dozer Use

Earthmoving Activity:
Rough Grading and Topsoil Placement

Characterization of Dozer Used (type, size, etc.):
Cat D9R, U-Blade - 700 CY/Hr.

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):
300 LF, +5% Effective Grade

Productivity Calculations:

Operating Adjustment Factor	=	0.75 x operator factor	0.8 x material factor	0.83 x efficiency factor
		0.9 x grade factor	0.94 x weigh corr. factor	1 x production factor
		1 x visibility	0.96 x elevation	1 direct drive transmission
		=	0.40	
Net Hourly Production	=	700 x normal hourly production	0.40 = operating adjustment factor	283.12 LCY/Hr.

Productivity for Excavator Use (Backhoe and Power Shovel)

Earthmoving Activity:

Excavate culvert at the mine site

Characterization of Backhoe Used (type, size, etc.):

Caterpillar 325 BL, 2 CY

Description of Backhoe Use (origin, destination, grade, haul distance, materials, etc):

Production Calculations:

Net Bucket Capacity	=	2 x heaped capacity	1 bucket fill factor	=	2 LCY	
Hourly Production	=	2 LCY net bucket capacity	x	60 min/hr		
		/	0.33 cycle time	x	0.83 efficiency factor	
		=	301.82 LCY/Hr			

Productivity and Hours Required for Loader Use

Earthmoving Activity:
Loading topsoil and riprap from topsoil area

Characterization of Loader Used (type, size, etc.):
Caterpillar 966G

Description of Loader Use (origin, destinations, grade, haul distance, material, etc.):
50 LF, +2% effective grade, 5.25 CY

Production Calculations:

Cycle Time	=	0.08 min haul time (loaded)	+	0.06 min haul time (empty)	+			
		0.56 min basic cycle time	=	0.7 min				
Net Bucket Capacity	=	5.25 LCY heaped bucket capacity	x	0.95 bucket fill factor	=	4.99 LCY		
Hourly Production	=	4.99 LCY net bucket capacity	/	0.7 min cycle time	x	0.83 efficiency factor		
		x	60 min/hr.	=	354.83 LCY/Hr.			

Productivity and Hours Required for Truck Use

Earthmoving Activity:
Hauling topsoil and riprap

Characterization of Truck Used (type, size, etc.):
12 Yd. Dump Truck

Description of Truck Use (origin, destination, grade, haul distance, material, etc.):
4 mile haul one-way

Production Calculations:

No. Loader Passes/Truck	=	12 LCY truck capacity	/	4.99 LCY loader bucket net capacity		
		=	2.40 passes		2 rounded down to nearest whole number	
Net Truck Capacity	=	4.99 LCY loader bucket net capacity	x	2 = no. loader passes/truck		9.98 LCY
Loading Time/Truck	=	0.7 min loader cycle time	x	2 = no. loader passes/truck		1.4 min
Truck Cycle Time	=	6.86 min haul time	+	6.00 min return time	+	
		1.4 min loading time	+	1 min dump and maneuver time		
		=	15.26 min			
No. Truck Required	=	15.26 min truck cycle time	/	1.4 min total loading time		
		=	10.90	11 trucks		
Production Rate	=	9.98 LCY net truck capacity	x	11 / no. of trucks	15.25714 min truck cycle time	
		=	7.20 LCY/min			

Hourly Production	=	7.195318 LCY.min production rate	x	60 min/hr	x	0.83 efficiency factor
	=	358.33 LCY/Hr				

Distance	4 miles	x	5280 ft/min	
	=	21120 ft		
Haul Time	35 MPH	x	88 ft/mph	
	=	3080 ft/min		
	21120 ft distance	/	3080 ft/min speed	
	=	6.86 min		
Return Time	40 MPH	x	88 ft/mph	
	=	3520 ft/min		
	21120 ft distance	/	3520 ft/min speed	
	=	6.00 min		

Productivity and Hours Required for Truck Use

Earthmoving Activity:
Hauling earth from fuel storage to portal

Characterization of Truck Used (type, size, etc.):
12 Yd. Dump Truck

Description of Truck Use (origin, destination, grade, haul distance, material, etc.):
550 ft. of 9%

Production Calculations:

No. Loader Passes/Truck =	12 LCY truck capacity	/	4.99 LCY loader bucket net capacity		
	=	2.40 passes		2 rounded down to nearest whole number	
Net Truck Capacity =	4.99 LCY loader bucket net capacity	x	2 = no. loader passes/truck		9.98 LCY
Loading Time/Truck =	0.7 min loader cycle time	x	2 = no. loader passes/truck		1.4 min
Truck Cycle Time =	0.63 min haul time	+	0.63 min return time	+	
	1.4 min loading time	+	1 min dump and maneuver time		
	=	3.65 min			
No. Truck Required =	3.65 min truck cycle time	/	1.4 min total loading time		
	=	2.61	3 trucks		
Production Rate =	9.98 LCY net truck capacity	x	3 / no. of trucks	3.65 min truck cycle time	
	=	8.20 LCY/min			

Hourly Production	=	8.20274 LCY.min production rate	x	60 min/hr	x	0.83 efficiency factor
	=	408.50 LCY/Hr				

Haul Time	10 MPH	x	88 ft/mph	
	=	880 ft/min		
	550 ft distance	/	880 ft/min speed	
	=	0.63 min		
Return Time	10 MPH	x	88 ft/mph	
	=	880 ft/min		
	550 ft distance	/	880 ft/min speed	
	=	0.63 min		

Productivity and Hours Required for Truck Use

Earthmoving Activity:
Hauling base coarse from gravel pit

Characterization of Truck Used (type, size, etc.):
20 ton Bottom Dump Truck

Description of Truck Use (origin, destination, grade, haul distance, material, etc.):
25 mile one-way haul

Production Calculations:

No. Loader Passes/Truck =	14 LCY truck capacity	/	4.99 LCY loader bucket net capacity		
	=	2.81 passes		3 rounded down to nearest whole number	
Net Truck Capacity =	4.99 LCY loader bucket net capacity	x	3 = no. loader passes/truck		14.97 LCY
Loading Time/Truck =	0.7 min loader cycle time	x	3 = no. loader passes/truck		2.1 min
Truck Cycle Time =	27.27 min haul time	+	25.00 min return time	+	
	2.1 min loading time	+	1 min dump and maneuver time		
	=	55.37 min			
No. Truck Required =	55.37 min truck cycle time	/	2.1 min total loading time		
	=	26.37	26 trucks		
Production Rate =	14.97 LCY net truck capacity	x	26 / no. of trucks	55.37 min truck cycle time	
	=	7.03 LCY/min			

Hourly Production	=	7.03 LCY/min production rate	x	60 min/hr	x	0.83 efficiency factor
	=	350.05 LCY/Hr				

Distance	25 miles	x	5280 ft/min	
	=	132000 ft		
Haul Time	55 MPH	x	88 ft/mph	
	=	4840 ft/min		
	132000 ft distance	/	4840 ft/min speed	
	=	27.27 min		
Return Time	60 MPH	x	88 ft/mph	
	=	5280 ft/min		
	132000 ft distance	/	5280 ft/min speed	
	=	25.00 min		

Productivity and Hours Required for Motorgrader Use

Earthmoving activity:

Grading base coarse

Characterization of Motorgrader Use (type, size, etc.):

Caterpillar 14H

Description of Motorgrader Used (origin, destination, grade, haul distance, etc.):

Effective Blade Width - 12.1 ft. @ 60°
Speed - 6.4 MPH

Productivity Calculations:

Hourly Production	=	2.3 mi/hr	x	12.1 ft		
		average speed		effective blade width		
		x	5280 ft/mi	/	43560 sq.ft./ac	
		x	0.83 =	2.80 ac/hr		
			efficiency factor			

Productivity and Hours Required for Loader Use

Earthmoving Activity:
Backfill Portals

Characterization of Loader Used (type, size, etc.):
Eimco 915 LHD

Description of Loader Use (origin, destinations, grade, haul distance, material, etc.):
250 L. F. , 0% Grade

Production Calculations:

Cycle Time	=	1.14 min haul time (loaded)	+	1.14 min haul time (empty)	+			
		0.41 min basic cycle time	=	2.69 min				
Net Bucket Capacity	=	6 LCY heaped bucket capacity	x	0.8 bucket fill factor	=	4.80 LCY		
Hourly Production	=	4.80 LCY net bucket capacity	/	2.69 min cycle time	x	0.83 efficiency factor		
		x	60 min/hr.	=	88.86 LCY/Hr.			