

SHAWNEE FOSSIL PLANT
SCRUBBER GYPSUM STACK
(OPTION 2B)

Project name SHE/0316302B/GYPSUM STACK

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757-8088

Estimator C. L. TONEY

Labor rate table SHF 40 2003

Equipment rate table TVA Equipment

Project SCRUBBER GYPSUM STCK
Locatn Code(4 Dig) SHAWNEE FOSSIL
EST No./Rev: 0316302B
Agreement Type PIMMA

Notes
The concept for this design will stack the gypsum in the existing ash pond area. This option (2B) stacks gypsum like 2A, but also fills the void area between the ash disposal portion and the gypsum stack depicted in Option 1A.

Construction of the earthen dike will require borrow material be brought over.

For comparison purpose all work is assumed to be in present day (2003) dollars.

Report format Sorted by Location/Activity
Detail summary

Location	Activity	Description	Takeoff Quantity	Labor Productivity	Labor Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
02	Erosion Controls	Erect Silt Fence (Trench Bottom Of Fence, 10% Hay Bales)	2,200.00 lf	0.069	150.85	3,368	1,087		684		2.34	5,139
		Rock Ck Dams	100.00 ln	0.200	20.00	456	1,000		420		18.76	1,876
		Construct Temporary Pond Within Pond To Detain Stormwtr During Constr	12,000.00 cy	0.036	426.72	10,387			8,403		1.57	18,790
		72" Dia. CMP For Outlet Structure	6.00 lf	2.000	12.00	257	1,800		69		354.19	2,125
		48" Dia. CMP For Riser For Outlet Structure	7.00 lf	1.091	7.64	163	910		44		159.56	1,117
		48" Dia. CMP Outlet Pipe (Principle Spillway)	150.00 lf	0.820	93.00	1,988	7,280		631		65.33	9,800
		Cut Holes In Riser	3.00 ea	1.000	3.00	56			15		23.80	71
		Remove Temporary Pond Within Pond To Detain Stormwater During Constr	12,000.00 cy	0.047	560.04	13,298			8,652		1.83	21,950
		Composite Concrete For Riser Base (Assume 7' x 7' x 2')	4.00 cy	10.000	40.00	982	800		103		471.12	1,884
		Anti-Sleep Collars (Assume Concrete)	7.00 ea	75.000	525.00	12,888	4,935		1,346		2,738.38	19,169
		Erosion Controls			1,838.25	43,844	17,812		20,266			81,921
		02			1,838.25	43,844	17,812		20,266			81,921
03	Roads	Bottom Ash (South Access Road)	2,400.00 cy	1,804.000	1.26	2,359			3,057		2.26	5,416
		Crushed Stone Base (South Access Road)	2,900.00 ln	0.120	348.00	8,713	24,360		3,350		12.56	36,422
		Roads			438.76	11,071	24,360		6,407			41,838
		03			438.76	11,071	24,360		6,407			41,838
11	Seed/Mulch	Seed / Mulch Disturbed Areas	26.00 ac					60,403				60,403
		Seed/Mulch						60,403				60,403
		11						60,403				60,403
20	Gypsum Disp Facility	Earthwork Fill (Obtain From Nearby Borrow Area)	728,296.00 cy	1,120.000	650.26	1,819,980			1,677,734		4.80	3,497,714
		Drainage Layer (4 Ft Thick) For Liner (No. 57 Stone)	820,900.00 ln	0.096	78,806.40	1,904,357	5,567,200		1,231,350		11.82	9,702,907
		Riprap For Ditch	18,200.00 ln	0.200	3,640.00	82,988	182,000		76,521		18.76	341,510
		Ditch For Riprap (24' wide x 2' deep)	5,600.00 lf	0.046	255.98	6,743			10,119		3.01	16,862
		Geotextile (If Riprap Is Used)	14,400.00 sy	0.015	216.00	4,761	18,900		720		1.69	24,381
		Geotextile Fabric For Underdrain Pipe	10,000.00 sy	0.011	105.00	2,314	13,125		350		1.58	15,789
		8" Dia. HDPE, SDR 17 Perforated Pipe	11,200.00 lf	0.200	2,240.00	46,511	18,228		9,332		6.61	74,072
		8" Dia. HDPE Standard Fittings	90.00 ea	0.200	18.00	338	720		4,807		11.76	1,058
		Concrete Anchors For Underdrain Piping	150.00 ea	12.500	1,875.00	46,028	17,625		4,807		456.40	68,460
		Gypsum Disp Facility			159,985.98	3,914,021	6,817,798		3,010,934			13,742,753
		20			#####	3,914,021	6,817,798		3,010,934			#####
30	Stack Closure	Place 1 Ft Low Permeable Clay (Obtain From Future On-Site Borrow Area)	181,200.00 cy	1,904.000	95.17	221,524			305,017		2.91	526,541
		Place 1.5 Ft Soil Cover (Obtain From New Future On-Site Borrow Area)	272,500.00 cy	1,904.000	143.12	241,286			362,093		2.21	603,379
		Riprap For Ditch	15,300.00 ln	0.200	3,060.00	69,765	153,000		64,328		18.76	287,093
		Ditch For Riprap (41 Ditches, 500 Ft Long 10' wide x 1' deep)	20,500.00 lf	0.019	389.97	10,114			15,183		1.23	25,296
		Geotextile For Riprap Ditches	25,000.00 sy	0.015	375.00	8,265	32,813		1,250		1.69	42,328
		4" Dia. ADS HDPE Drain Tubing	150,000.00 lf	0.184	27,651.00	574,145	118,125		115,200		5.38	807,470
		Seed / Mulch	111.60 ac					259,269			2,323.20	259,269
		Stack Closure			49,004.42	1,125,100	303,938	259,269	863,072			2,551,379
		30			49,004.42	1,125,100	303,938	259,269	863,072			2,551,379
40	Borrow Area Develop	Disc Future Borrow Area	335.00 ac	6.000	55.83	25,478			14,517		119.39	39,995
		Seed / Fertilize / Lime Future Borrow Area	335.00 ac					778,272			2,323.20	778,272
		Borrow Area Develop			893.33	25,478		778,272	14,517			818,287

Location	Activity	Description	Takeoff Quantity	Labor Productivity	Labor Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
50	40				893.33	25,478		778,272	14,517			818,267
	Construction Parking											
		Silt Fence	1,000.00 lf	0.020	20.00	397	315				0.71	712
		Cut And Fill (Balance)	500.00 cy	2,800.000	0.18	416			572		1.98	988
		Cut & Spoil Additional Material	500.00 cy	1,904.000	0.26	443			664		2.21	1,107
		Crushed Stone Base	1,400.00 tn	0.120	168.00	4,206	11,760		1,617		12.56	17,583
		Construction Parking			220.52	5,461	12,075		2,854			20,390
	50				220.52	5,461	12,075		2,854			20,390

Estimate Totals

Labor	5,124,975	212,381,257	hrs
Material	7,175,982		
Subcontract	1,097,944		
Equipment	3,918,049	99,959,339	hrs
	<u>17,316,950</u>	<u>17,316,950</u>	
Engineered Materials - Ph 2		100,000 %	
Adjustment - Engr Materials		(100,000) %	
	<u>17,316,950</u>		
Environmental Costs		100,000 %	
Adjustment Environmental		(100,000) %	
	<u>17,316,950</u>		
Small Tools Expense	95,572	0.450 \$/hr	
Consumables & Expendables	204,999	4.000 %	
Office Supplies & Expense		3.000 %	
Subcontract Fee	<u>308,571</u>	<u>17,617,521</u>	
Escalation - Craft Labor	256,249	5.000 %	
Escalation - Subcontract	54,897	5.000 %	
Escalation - Subcontract Fee		0.350 %	
Escalation - Perm Materials	358,799	5.000 %	
Escalation - HED Equipment		5.000 %	
Escalation - Tagged Equipment		5.000 %	
Escalation - Small Tools	7,221	0.034 \$/hr	
Escalation - Consumables	10,250	0.200 %	
Escalation - Non-Manual Labor		0.200 %	
Escalation - Office Supplies	<u>687,416</u>	<u>18,304,937</u>	
Partner Insurance (FY03)	153,749	3.000 %	
Partner Award Fee (FY03)	256,249	5.000 %	
	<u>409,998</u>	<u>18,714,935</u>	
FPG Engineering - Phase 1			
FPG Engineering - Phase 2			
FPG Engineering - Phase 3			
		<u>18,714,935</u>	
Plant Ovrhd Chgs - Matl Hnding			
Phase 1 Other/Other Org			
Phase 2 Other/Other Org			
Phase 3 Other/Other Org			
		<u>18,714,935</u>	
Rounding			
		<u>18,714,935</u>	
Total		18,714,935	