CONSTRUCTION OVERHEAD CALCULATIONS

I. Construction Facilities

In the past Construction Facilities have been estimated as a field overhead line item, although they are accounted(reported) as part of direct feature costs. Construction Facilities will now be estimated separately and in detail as a direct cost. The estimate will NOT prorate these costs back to the direct features. For clarity, a discussion of Construction Facilities will follow.

A. Definition: Construction Facilities are general support activities that benefit more than one direct construction cost account. Examples include(numbers 1-13 are labor items, 14-16 are nonpermanent materials which are listed in estimates as "Other".):

1. Site mobilization
2. Site demobilization
3. Employee proccessing
4. Maintenance of construction roads, buildings, and facilities
5. General cleanup of project
6. Providing temporary power
7. Providing temporary water
8. Providing temporary air
9. General scaffolding
10. General hauling
11. Providing drinking water
12. Repairing and dispensing small tools
13. Other labor items not listed above
14. Small tools
15. Consumables(i.e. gloves, rags, etc.)
16. Other nonpermanent materials specific to the project

B. Refer to the attached Capital and O&M Cost Estimate - Cost Categories to see that Construction Facility labor is included in "Direct Craft Labor" and Construction Facility material is included in "Other."

II. Field General Expense (Non-Manual Labor)

A. Definition: Field General Expense includes labor costs for non-manual supervision, engineering, inspection, clerical, and administrative salaries and benefits and other expenses necessary for the non-manual work force to operate, such as supplies, office expenses, travel and per diem, vehicles, and other costs.

B. Refer to the attached Capital and O&M Cost Estimate - Cost Categories for directions in estimating Field General Expense

III. Partner Expenses/Charges

Refer to the attached Capital and O&M Cost Estimate - Cost Categories for definitions and directions in estimating Partner Expenses/Charges.

IV. Plant Overhead Charge for Procurement & Handling of Materials

Refer to the attached Capital and O&M Cost Estimate - Cost Categories for definitions and directions in estimating these charges.

V. Overheads Which Will NOT Be Included in Project Estimates

A. Allowance for Funds Used During Construction(AFUDC). See Section 7.2.

B. TVA Corporate Overheads

C. TVA Divisional Overheads

COST ESTIMATE PACKAGE

KINGSTON FOSSIL PLANT
(KIF450) GYPSUM PENNISULA DISPOSAL STAGE 1 + STAGE 2
PHASE 2 COST ESTIMATE
ϕ6ϕ47 & ϕ6ϕ48

KINGSTON FOSSIL PLANT
(KIF450) STAGE 1 GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Estimate Number	06047R3	**Option:**	0	**PCN Number:**	KIF450
Plant:	KIF	**Revision:**	3	**Estimate Type:**	Preliminary
Cost Engineer:	C. L. Toney	**Unit #:**		**Estimate Accuracy:**	+/- 20%
Requesting Engr:	H. L. Petty	**Phase:**	2	**Estimate Issue Date**	04/19/2006

	Hours	Dollars
Phase I		
Engineering		$0
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase I		***$0***
Phase II		
Engineering		$330,288
Long Lead Procurement		$72,000
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase II		***$402,288***
Phase III		
Construction (Partner)		
Permanent Material		$987,869
Labor (T&L)	56,288.57	$2,096,180
Labor (Non-Manual)	5,542.96	$254,790
Equipment		$1,302,756
Subcontracts		$285,600
Partner Fee		$3,439
Partner Insurance		$2,063
Escalation		$369,420
Construction Risk Dollars		$0
Other		$365,286
Total Construction Cost		$5,667,403
Engineering		$209,850
Direct plant support + TVA Other Costs		$0
Project Risk Dollars		$0
Other / Other Organizations		$0
Total Phase III		***$5,877,253***
All Phases		
Construction Partner	61,831.53	$5,667,403
Long Lead Procurement		$72,000
Engineering		$540,138
Other / Other Organizations		$0
Total Risk Dollars		$0
Total Project Costs	**61,831.53**	**$6,279,541**
For Information only Total Environmental		**$0**
For Information only Total Demolition Costs		**$0**

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KINGSTON FOSSIL PLANT
(KIF450) STAGE 1 GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Project name	KIF/06047R3/STG 1 GYP PND
Estimator	C. L. Toney
Labor rate table	KIF 40 2005
Equipment rate table	TVA Equipment
Project	Earthwork
Plant	KIF
Estimate #	06047R3
PCN #	KIF450
Requesting Engr	S. M. Haber
Option	0
Revision	3
Phase	2
Estimate Type	Preliminary
Estimate Accuracy	+/- 20%
Est. Issue Date	04/19/2006
Funding Type	Capital
Notes	Cost estimate is based in 2008 dollars. Revision 3 cost estimate has been revised based on revision 4 estimate provided by HED on 4-18-06. Revision 2 cost estimate has been revised based on revision 2 estimate provided by HED. Also, contingency for this estimate has been removed. Revision 1 cost estimate has been revised based on information from Lynn Petty based on revised design & quantities provided by GeoSyntec Consultants. Short Term Storage. Construction earthwork portion of estimate provided by HED. Remainder provided by ESS Group.
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
HASE 3 (BOP)												
	17-Pumps & Pipe											
		100 HP Submersible Pump For Phase 1 Stormwater Pond	1.00 ea	84.000	84.00 mh	2,937	60,000	-	308	-	63,244.70	63,245
		Structural Excavation For 18" Diameter Pipe (2,000 lf)	3,260.00 cy	0.200	652.00 mh	16,311	-	-	8,150	-	7.50	24,461
		Bottom Ash Pipe Bedding	112.00 cy	0.500	56.00 mh	1,514	-	-	574	-	18.65	2,088
		18" Diameter Discharge HDPE Pipe, SDR11	2,000.00 lf	0.325	650.40 mh	19,976	92,484	-	9,080	-	60.77	121,539
		Structural Backfill For 18" Diameter Pipe (2,000 lf)	3,014.00 cy	0.320	964.48 mh	24,128	-	-	23,398	-	15.77	47,527
		Platforms Steel	5.00 ton	60.000	300.00 mh	10,087	26,250	-	2,376	-	7,742.43	38,712
		17-Pumps & Pipe			**2,706.88 hrs**	**74,953**	**178,734**		**43,885**			**297,572**
	18-Electrical											
		Phase 1 Transformer 200 kva (13.8 kV to 480 v)	1.00 ls	120.000	120.00 mh	4,193	12,000	-	450	-	16,643.28	16,643
		4/0 600 Volt Cable	200.00 lf	0.100	20.00 mh	708	2,200	-	-	-	14.54	2,908
		3" Diameter GRC Conduit	200.00 lf	0.619	123.80 mh	4,383	8,140	-	-	-	62.62	12,523
		13 kV Amp Pole Mount Fuse Disconnect	1.00 ea	12.000	12.00 mh	425	1,500	-	-	-	1,924.86	1,925
		18-Electrical			**275.80 hrs**	**9,709**	**23,840**		**450**			**33,999**
	xConst Facilities											
		Mobilize, Drug Test, Miscellaneous Other, & Demobilize	1.00 ls	207.893	207.89 mh	5,900	-	-	3,100	-	9,000.00	9,000
		xConst Facilities			**207.89 hrs**	**5,900**			**3,100**			**9,000**
	zNon-Manual											
		Phase 3 Non Manual	1.00 ls	383.000	383.00 mh	19,150	-	-	-	-	19,150.00	19,1
		zNon-Manual			**383.00 hrs**	**19,150**						**19,150**
		PHASE 3 (BOP)			***3,573.57 hrs***	***109,712***	***202,574***		***47,435***			***359,722***
HASE 3 (HED)												
	HED Installation											
		Construction Labor	1.00 ls	53,098.000	53,098.00 mh	2,005,618	-	-	-	-	2,005,617.66	2,005,618
		Non Manual Labor	1.00 ls	5,159.962	5,159.96 mh	***235,640***	-	-	-	-	235,640.00	235,640
		TVA-HED Subcontracts	1.00 ls		-	-	-	285,600	-	-	285,600.00	285,600
		Partner Purchased Material	1.00 ls		-	-	857,295	-	-	-	857,295.00	857,295
		Construction Heavy Equipment	1.00 ls		-	-	-	-	1,255,321	-	1,255,321.00	1,255,321
		Small Tools	1.00 ls		-	-	-	-	-	5,310	5,310.00	5,310
		Supplies, Consumables & Expendable Tools	1.00 ls		-	-	-	-	-	15,929	15,929.00	15,929
		TVA-HED - Central Command	1.00 ls		-	-	-	-	-	338,415	338,415.00	338,415
		HED Installation			**58,257.96 hrs**	**2,241,258**	**857,295**	**285,600**	**1,255,321**	**359,654**		**4,999,128**
		PHASE 3 (HED)			***58,257.96 hrs***	***2,241,258***	***857,295***	***285,600***	***1,255,321***	***359,654***		***4,999,128***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis
Labor	2.350.970		61.831.535 hrs		
Material	1.059.869				
Subcontract	285.600				
Equipment	1.302.756		1.970.471 hrs		
Other	359.654				
	5.358.849	5.358.849			
Engineered Materials - Ph 2	72.000			100.000 %	C
Adjustment - Engr Materials	(72.000)			(100.000) %	C
		5.358.849			
Small Tools Expense (BOP)	1.435			0.026 $/hr	H
Consum & Expendables (BOP)	3.622			0.173 %	C
Office Supplies & Exp (BOP)	575			0.226 %	C
	5.632	5.364.481			
Escalation - Craft Labor	203.329			9.700 %	C
Escalation - Subcontract	19.421			6.800 %	C
Escalation - Perm Materials	40.275			3.800 %	C
Escalation - HED Equipment	75.319			6.000 %	C
Escalation - Small Tools	1.914			0.034 $/hr	H
Escalation - Consumables	4.192			0.200 %	C
Escalation - Non-Manual Labor	24.460			9.600 %	C
Escalation - Office Supplies	510			0.200 %	C
	369.420	5.733.901			
Partner Insurance (BOP)	2.063			0.088 %	C
Partner Award Fee (BOP)	3.439			0.146 %	C
	5.502	5.739.403			
FPG Proj Engr - Phase 2	4.200		100.000 hrs	0.162 % @ 42.00	A
FPG Civil Engr - Phase 2	21.000		500.001 hrs	0.809 % @ 42.00	A
GeoSyntec Engr - Phase 2	302.400		4.200.000 hrs	6.793 % @ 72.00	A
FPG Proj Cntrl Cost - Phase 2	672		16.002 hrs	0.026 % @ 42.00	A
FPG Cost Estimating - Phase 2	1.680		39.999 hrs	0.065 % @ 42.00	A
FPG Engr Records - Phase 2	336		8.001 hrs	0.013 % @ 42.00	A
	330.288	6.069.691			
FPG Proj Engr - Phase 3	3.150		75.002 hrs	0.121 % @ 42.00	A
FPG Civil Engr - Phase 3	6.300		149.997 hrs	0.243 % @ 42.00	A
GeoSyntec Engr - Phase 3	50.400		700.001 hrs	1.132 % @ 72.00	A
Mac Tec QA/QC & Certf - Ph 3	150.000		2.083.333 hrs	3.369 % @ 72.00	A
	209.850	6.279.541			
Total		6.279.541			

KINGSTON FOSSIL PLANT
(KIF450) TOTAL BUILDOUT OF GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Estimate Number	06048R1	**Option:**	0	**PCN Number:**	KIF450
Plant:	KIF	**Revision:**	1	**Estimate Type:**	Preliminary
Cost Engineer:	C. L. Toney	**Unit #:**		**Estimate Accuracy:**	+/- 20%
Requesting Engr:	S. M. Haber	**Phase:**	2	**Estimate Issue Date**	01/26/2006

	Hours	Dollars
Phase I		
Engineering		$0
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase I		***$0***
Phase II		
Engineering		$0
Long Lead Procurement		$72,000
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase II		***$72,000***
Phase III		
Construction (Partner)		
Permanent Material		$2,102,943
Labor (T&L)	146,406.92	$5,503,636
Labor (Non-Manual)	19,583.00	$791,950
Equipment		$2,550,085
Subcontracts		$754,600
Partner Fee		$8,858
Partner Insurance		$5,315
Escalation		$912,323
Construction Risk Dollars		$0
Other		$959,060
Total Construction Cost		$13,588,770
Engineering		$419,700
Direct plant support + TVA Other Costs		$0
Project Risk Dollars		$2,819,530
Other / Other Organizations		$0
Total Phase III		***$16,828,000***
All Phases		
Construction Partner	165,989.92	$13,588,770
Long Lead Procurement		$72,000
Engineering		$419,700
Other / Other Organizations		$0
Total Risk Dollars		$2,819,530
Total Project Costs	**165,989.92**	**$16,900,000**
For Information only Total Environmental		**$0**
For Information only Total Demolition Costs		**$0**

KINGSTON FOSSIL PLANT
(KIF450) TOTAL BUILDOUT OF GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Project name	KIF/06048R1/STG 2 GYP PND
Estimator	C. L. Toney
Labor rate table	KIF 40 2005
Equipment rate table	TVA Equipment
Project	Earthwork
Plant	KIF
Estimate #	06048R1
PCN #	KIF450
Requesting Engr	S. M. Haber
Option	0
Revision	1
Phase	2
Estimate Type	Preliminary
Estimate Accuracy	+/- 20%
Est. Issue Date	01/26/2006
Funding Type	Capital
Notes	Cost estimate is based in 2008 dollars. Revision 1 cost estimate has been revised based on info from Lynn Petty based on revised design & quantities provided by GeoSyntec Consultants. Gypsum Long Term Rim Ditch Stack. Construction earthwork portion of estimate provided by HED. Remainder provided by ESS Group.
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
PHASE 3 (BOP)												
	17-Pumps & Pipe Ph 1											
		100 HP Submersible Pump For Phase 1 Stormwater Pond	1.00 ea	84.000	84.00 mh	2,937	60,000	-	308	-	63,244.70	63,245
		Structural Excavation For 18" Diameter Pipe (2,000 lf)	3,260.00 cy	0.200	652.00 mh	16,311	-	-	8,150	-	7.50	24,461
		Bottom Ash Pipe Bedding	112.00 cy	0.500	56.00 mh	1,514	-	-	574	-	18.65	2,088
		18" Diameter Discharge HDPE Pipe, SDR11	2,000.00 lf	0.325	650.40 mh	19,976	92,484	-	9,080	-	60.77	121,539
		Structural Backfill For 18" Diameter Pipe (2,000 lf)	3,014.00 cy	0.320	964.48 mh	24,126	-	-	23,398	-	15.77	47,527
		Platform Steel	5.00 ton	60.000	300.00 mh	10,087	26,250	-	2,376	-	7,742.43	38,712
		17-Pumps & Pipe Ph 1			**2,706.88 hrs**	**74,953**	**178,734**		**43,885**			**297,572**
	18-Electrical Ph 1											
		Phase 1 Transformer 200 kva (13.8 kV to 480 v)	1.00 ls	120.000	120.00 mh	4,193	12,000	-	450	-	16,643.28	16,643
		4/0 600 Volt Cable	200.00 lf	0.100	20.00 mh	708	2,200	-	-	-	14.54	2,908
		3" Diameter GRC Conduit	200.00 lf	0.619	123.80 mh	4,383	8,140	-	-	-	62.62	12,523
		13 kV Amp Pole Mount Fuse Disconnect	1.00 ea	12.000	12.00 mh	425	1,500	-	-	-	1,924.86	1,925
		18-Electrical Ph 1			**275.80 hrs**	**9,709**	**23,840**		**450**			**33,999**
	xConst Facilities											
		Mobilize, Drug Test, Miscellaneous Other, & Demobilize	1.00 ls	207.893	207.89 mh	5,900	-	-	3,100	-	9,000.00	9,000
		xConst Facilities			**207.89 hrs**	**5,900**			**3,100**			**9,**
	zNon-Manual											
		Phase 3 Non Manual	1.00 ls	383.000	383.00 mh	19,150	-	-	-	-	19,150.00	19,150
		zNon-Manual			**383.00 hrs**	**19,150**						**19,150**
		PHASE 3 (BOP)			***3,573.57 hrs***	***109,712***	***202,574***		***47,435***			***359,722***
PHASE 3 (HED)												
	HED Install Ph1+Ph2											
		Construction Labor (Phase 1) Mh's Limited To Timberline Program	1.00 ls	76,830.266	76,830.27 mh	***2,926,849***	-	-	-	-	2,926,849.00	2,926,849
		Construction Labor (Phase 2) Balance Of Mh's Required For Estimate	1.00 ls	66,386.078	66,386.08 mh	***2,486,225***	-	-	-	-	2,486,225.00	2,486,225
		Non Manual Labor	1.00 ls	19,200.000	19,200.00 mh	772,800	-	-	-	-	772,800.00	772,800
		TVA-HED Subcontracts	1.00 ls		-	-	-	754,600	-	-	754,600.00	754,600
		Partner Purchased Material	1.00 ls		-	-	1,972,369	-	-	-	1,972,369.00	1,972,369
		Construction Heavy Equipment	1.00 ls		-	-	-	-	2,502,650	-	2,502,650.00	2,502,650
		Small Tools	1.00 ls		-	-	-	-	-	14,322	14,322.00	14,322
		Supplies, Consumables & Expendable Tools	1.00 ls		-	-	-	-	-	42,965	42,965.00	42,965
		TVA-HED - Central Command	1.00 ls		-	-	-	-	-	891,284	891,284.00	891,284
		HED Install Ph1+Ph2			**162,416.34 hrs**	**6,185,874**	**1,972,369**	**754,600**	**2,502,650**	**948,571**		**12,364,064**
		PHASE 3 (HED)			***162,416.34 hrs***	***6,185,874***	***1,972,369***	***754,600***	***2,502,650***	***948,571***		***12,364,064***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis
Labor	6.295.586		######### hrs		
Material	2.174.943				
Subcontract	754.600				
Equipment	2.550.085		1.970.471 hrs		
Other	948.571				
	12.723.785	12.723.785			
Engineered Materials - Ph 2	72.000			100.000 %	C
Adjustment - Engr Materials	(72.000)			(100.000) %	C
		12.723.785			
Small Tools Expense (BOP)	2.596			0.018 $/hr	H
Consum & Expendables (BOP)	6.453			0.117 %	C
Office Supplies & Exp (BOP)	1.441			0.182 %	C
	10.490	12.734.275			
Escalation - Craft Labor	533.853			9.700 %	C
Escalation - Subcontract	52.067			6.900 %	C
Escalation - Perm Materials	82.648			3.800 %	C
Escalation - HED Equipment	150.159			6.000 %	C
Escalation - Small Tools	4.978			0.034 $/hr	H
Escalation - Consumables	11.007			0.200 %	C
Escalation - Non-Manual Labor	76.027			9.600 %	C
Escalation - Office Supplies	1.584			0.200 %	C
	912.323	13.646.598			
Partner Insurance (BOP)	5.315			0.084 %	C
Partner Award Fee (BOP)	8.858			0.141 %	C
	14.173	13.660.771			
FPG Proj Engr - Phase 3	6.300		150.005 hrs	0.090 % @ 42.00	A
FPG Civil Engr - Phase 3	12.600		299.994 hrs	0.181 % @ 42.00	A
GeoSyntec Engr - Phase 3	100.799		1.399.992 hrs	0.843 % @ 72.00	A
Mac Tec QA/QC & Certf - Ph 3	300.000		7.142.862 hrs	4.303 % @ 42.00	A
	419.699	14.080.470			
Contingency Ttl Project @ 20%	2.819.530				L
	2.819.530	16.900.000			
Total		16.900.000			

ESTIMATE INPUT/BACKUP

PCN Number: | **PCN Description:** KIF - Gypsum Disposal Area - Pennisula - Stage 1

Current Phase: 1 | **Phase Request:** 2 | **Date:** 11/17/2005

	Phase I		Phase II		Phase III		Prin/RE Engr
	Hours	$	Hours	$	Hours	$	
Project Engr		$0	100	$4,200	75	$3,150	
Mech Engr		$0		$0		$0	
Elec Engr I		$0		$0		$0	
Elec Engr II		$0		$0		$0	
Civil Engr		$0	500	$21,000	150	$6,300	
Air, Gas, Wtr, Yard Systems		$0		$0		$0	
Comb Proc, Wtr Treatment		$0		$0		$0	
Steam Cycle Systems		$0		$0		$0	
Other Systems Engr (specify)		$0		$0		$0	
Non-TVA Engr		$0	4200	$302,400	700	$50,400	
Other Orgs (specify) (MacTec QA/QC & certification)		$0		$0		$150,000	
Project Controls Scheduling		$0		$0		$0	
Project Controls Cost		$0	16	$672		$0	
Cost Estimating		$0	40	$1,680		$0	
Engr Records			8	$336		$0	
CAD Dwg Support-Enter # Dwgs:						$0	
Sub Totals:	0	$0	4864	$330,288	925	$ 209,850	
Project Totals:	**5,789**	**Hours**	**$540,138**	**Dollars**			

Long Lead Material - Dollars	

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KIF Gypsum on Peninsula
Phase 1 - Gypsum Long Term Rim Ditch Stack

ITEM	DESCRIPTION	UNITS	QUANTITY	T-1 Spec	Comments/Assumptions
7.00	Gypsum Stack Peninsula (7.00 through 18.00)				
7.01	Clear and Grub				
7.02	Clear and grub	ac	30		C - Tree line only
7.03	Strip 1 ft vegetation and topsoil - spoil at stockpile	cy	100,000		C - 62 acres - Phase 1 & Stormwater Pond area
8.00	Erosion Controls / Stromwater Pond				
8.01	Erect silt fence	lf	5,400		C -
8.02	Cut for stormwater runoff ponds	cy	25,851		C -
8.03	Fill for stormwater runoff ponds	cy	99,550	119,460	C - gross fill volume; subtract cut to obtain net fill volume
8.04	Drop inlet to the Pond	ea	2		
8.05	Inlet pipes to the Pond (2 - 48 in dia RCP)	lf	100		
8.06	Riprap for stormwater runoff pond (if needed)	ton	8,102		C - Pond perimeter = 2588 ft @ midslope, 57 ft slope length
8.07	CMP for Emergency Spillway (2 x 36 in dia)	lf	120		C
9.00	Relocated Access Roads				Assume 6000' long road, 20 ft wide
9.01	Bottom Ash	cy	2,300		C - 6" bottom ash
9.02	Crushed stone base	ton	2,200		C - 4" stone with an assumed unit weight = 110 pcf
9.03	Crushed stone base - parking lot	ton	275		C - Assume 100 ft x 100 ft w/6 in crushed stone (110 pcf)
10.00	Fencing (Excluding Dewatering Facility)				
10.01	New fencing (including grounding)	lf	200		C - Assume chain link fence to block road only
10.02	Gates	ea	2		C - 1 @ each end
11.00	Seed/Mulch				
11.01	Seed/Mulch disturbed areas	ac	25		C - Disturbed areas include areas outside perimeter road, stormwater pond, and relolcated access road
12.00	Borrow Area Development				
12.01	Clear and Grub	ac	34		C
12.02	Erect silt fence	lf	5,000		C
12.03	Temporary perimeter ditch	cy			C
12.04	Additional items related to stormwater management	ls	1		C
13.00	Gypsum Disposal Facility Constrcution				
13.01	Earthwork cut	cy	359,932	431,918	C - to shape base in phase I gypsum stack area
13.02	Proofroll subgrade	ac	52		C - Phase 1 area
13.03	Earthwork fill	cy	315,546	378,655	C - subtract cut and fill volume to get the net volume
13.04	Geologic buffer	cy	227,163	273,796	C - 3' thick geologic buffer
13.05	8 oz nonwoven geotextile for centerline underdrain	sy	63,600		C - Wrapped around pipe bedding, includes 10% waste & overlap
13.06	36" depth crushed stone (110 pcf)	ton	37,900		C - 1530' long, 150' wide, 3' deep
13.07	12-in. dia HDPE centerline underdrain piping	lf	10,360		C - 6 pipes @ 1726' long each

BANK 443,860cy

Diff 53,263cy Loose

ITEM	DESCRIPTION	UNITS	QUANTITY	T-1 Spec	Comments/Assumptions
13.08	24-in Phase 2 discharge pipe	lf	1,726		
13.09	HDPE Fittings	ea	13		C - 5 tees, 2 elbows, 6 caps
13.10	Drainage pipe from sump to stormwater pond	lf	580		C -
13.11	Lift Station to stormwater pond	ea	1		C -
13.12	Drop inlet for diversion pipes	ea	3		C - North of stormwater pond
13.13	Diversion pipes beneath stormwater pond	lf	1,830		C - 3 - 48 in dia Reinforced concrete pipe
13.14	Flood Gate	ea	3		C -
13.15	Perimeter road - bottom ash base	cy	3,100		C - Assume 6" base layer - length 8250 ft, 20' wide roadway around perimeter soil dike and storm water pond
13.16	Perimeter road - crushed stone	ton	3,100		C - Assume 4" stone layer around perimeter w/unit wt = 110 pcf
14.00	Gypsum Stack Operation				
14.01	6" dia perforated HDPE perimeter toe underdrains	lf			O&M
14.02	crushed stone surrounding pipe (110 pcf)	ton			O&M
14.03	8-oz nonwoven geotextile for perimeter underdrain	sy			O&M - Wrapped around stone envelope
14.04	6" dia solid HDPE SDR 17 lateral outlet pipes	lf			O&M
14.05	Wet Cast Gypsum Dike	cy			O&M - From crown elevation of initial soil berm to 850
14.06	Cut Rim Ditches	cy			O&M
14.07	Gypsum Disposal Stack (wet sluice)	cy			O&M
14.08	Life of Gypsum Disposal Stack	yr			O&M -
15.00	Construction parking				
15.01	Earthwork cut	bcy			C
15.02	Earthwork fill	bcy			C
15.03	Crushed stone base - parking lot	ton	620		C - Assume 150' x 150' area w/6" crushed stone @ 110 pcf
16.00	Engineering				
16.01	Engineering	ls	1		Assume 10% of construction cost
17.00	Lift Stations				
17.01	underdrain lift station	ea	1		See 10W427- 24
17.02	Stormwater lift station	ea	1		See 10W427- 25
18.00	Electrical				

Notes:

1 C - Capital cost
2 O&M - Operation and Maintenance Cost
3 Prior to construction,the contractor shall verify material quantities based on constrcution drawings.

TVA – Heavy Equipment Division
Estimate for
Kingston – Phase 1 Gypsum Disposal Facility Pond Construction
Revision #04

04/18/06

Mr. Calvin Toney,

We thank you for the opportunity to provide this estimate for the TVA - Kingston (Phase 1) Gypsum Disposal Facility Pond Construction. The below estimate is based upon the provided Parsons Engineering quantities and Preliminary drawings @50% Design.

The TVA-HED Scope of Work for the project is as follows:

"Erosion Controls / SWPPP":

- Provide all technical support, supervision, labor, equipment and materials to join together all the various phases of the work and deliver a complete project.
- Install a total of approximately 10,400 lf of Type "C" silt fence w/ 10% estimated for straw bales.
- Construct construction parking area.
- Cut approximately 88,500 CY of clay for storm-water runoff pond construction and haul to Gypsum Disposal Facility for new construction use.
- Install 12 lf of 72" Outlet Structure.
- Install 14 lf of 48" riser.
- Install 150 lf of 48" principle spillway.
- Pour concrete "anti-seep" collars at all joints.
- Allowance - Clean out Gypsum Stack storm-water runoff pond as needed. (approximately 1,000 cy)
- Clear and Grub approximately 30 acres at Gypsum Stack Peninsula. (Includes clear cut logging as well with clearing support by HED).
- Mulch with grinder all remaining stumps and tree laps not carried off site by Logging Company.

"Borrow Area Development":

- Clear and Grub approximately 34 acres at borrow site.
- Clear cut all timber on approximately 34 acres for clay borrow site.
- Mulch with grinder all remaining stumps and tree laps not carried off site by Logging Company.

"Haul / Access Roads":

- Build / Improve & maintain haul roads to and from the borrow sites (Clay and Bottom Ash) consisting of approximately 1.5 miles of roadway.
- Build Gypsum Disposal Facility Access Roadways with 2,200 TN of new stone.
- Build Gypsum Disposal Facility Access Roadways with 2,760 CY of Bottom Ash.

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

- Install Fence and gates at road. (200 lf w/ 1 personnel and 1 swing gate.)

"Disposal Facility Construction":

- Proof-roll all Gypsum Stack sub-grade. (52 acres)
- Install geologic buffer. Over-excavate 3' depth in Gypsum Stack liner area (approximately 52 acres), then re-place and re-compact liner material. (272,596 cy)
- Cut existing clay inside Gypsum Stack area to shape base inside Gypsum Stack area. (approximately 431,918 cy)
- Install centerline underdrain piping inside new Gypsum Stack (10,360 lf).
- Install 63,600 sy of non-woven geotextile fabric in new centerline underdrain.
- Install 37,900 tn of 36" deep crushed stone in new centerline underdrain.
- Install Perimeter road with 6" of Bottom Ash topped with 4" of crushed stone. (1 mile of 20' wide roadway)
- Install 48" RCP Phase 2 Discharge Pipe. (1,726 lf)
- Install drainage pipe from sump to stormwater pond. (580 lf)
- Install 48" RCP diversion pipes beneath stormwater pond. (1,830 lf)
- Install perimeter road bottom ash. (3,700 cy)
- Install perimeter road crushed stone. (3,100 tn)

"Clarifications to Estimated Scope of Work":

- No "rock removal / excavation" costs are included in cost estimate or project schedule duration.
- All craft / supervisor labor wage rates are FY 2005 wage rates.
- All equipment rates are TVA - HED FY 2005 equipment rates utilizing TVA - HED heavy equipment.
- All "Bank Cubic Yard" quantities provided are escalated 20% for compaction / shrinkage.
- Estimate includes 2 weeks contingency for inclement weather.
- Estimate assumes TVA - HED to be sole General Contractor responsible for said Gypsum Stack Construction scope of work.
- Estimate includes sub-contract costs for Fence Contractor, TVA Surveyors to provide layout, and project control points during various stages of the work for the identified schedule duration as needed, Geotechnical Engineers to provide compaction test results as required, and mulching of tree stumps, laps, etc. after clearing of trees is completed.
- Seed and Mulch all disturbed areas outside dikes. (approximately 25 acres) is included.

"Schedule":

All work is currently estimated for 4 – 10 hour shifts per work week with no overtime included.

Individual project schedules end dates per activity shall vary from one to another. We propose to complete all work identified above within 11 months from start of project as

stated on "Estimate Summary" sheet provided with this estimate.

If you have questions regarding this work as estimated, please feel free to contact us at the below numbers.

Total Estimated Cost - $4,999,128.00 Lump Sum

Thank You,
Brad Workman
TVA - HED
(931) 320-1044

cc: Larry Radford
TVA – HED

Kenny Lowery
TVA - HED

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

96047 R3

HED ESTIMATE SUMMARY

REV # 4

0

LOCATION: KINGSTON
SHORT CODE: KENNY LOWERY

UNIT NO: PHASE 1

PRINT DATE: 18-Apr-06
ESTIMATE DATE: 17-Mar-06

PROJECT DESCRIPTION: GYPSUM POND CONSTRUCTION (PHASE 1)

WORKSCOPE: DEVELOP BORROW AREA, DEWATER BOTTOM ASH POND BORROW AREA, PERFORM EROSION CONTROL WORK PER STANDARD SWPPP, BUILD HAUL ROADS, BUILD ACCESS ROADS, BUILD CONSTRUCTION PARKING AREA, BUILD PHASE 1 OF GYPSUM POND.

DURATION: ***11 MONTHS FOR PHASE 1 ROAD CONSTRUCTION / POND CONSTRUCTION.*** WITH 2 WEEKS CONTINGENCY FOR WEATHER

ESTIMATE PHASE	2	TYPE OF FUNDING
		CAPITAL > 100K

PREPARED BY: B. WORKMAN (HED)

				Comments
1. TVA-HED LABOR COSTS				
Craft Augmented Labor		MANHOURS	53098	Includes all aspects of Phase 1 work.
		COST	$2,005,618	Based on FY 2005 labor rates.
Non-Manual Labor		MANHOURS	5,160	(1) Supervisor and (2) Mechanics full time.
		COST	$235,640	Includes Hourly Rates & Per Diem for both men.
Contingency	0.00%	MANHOURS	0	
		COST	$0	
SUBTOTAL TVA-HED LABOR		MANHOURS	58,258	
		COST	**$2,241,258**	
2. TVA-HED OTHER COSTS				
TVA-HED Subcontracts			$285,600	Survey / Layout / Fence Cont./ Compac. Testing
TVA-HED Subcontract Fee			$0	
Travel & Living Expenses			See "Non-Manual Labor"	
TVA-HED Material Purchases			$0	
HED Other Costs			$0	
Contingency	0%		$0	
SUBTOTAL TVA-HED OTHER			**$285,600**	
TOTAL TVA-HED COSTS			**$2,526,858**	
3. ITEMS MANAGED BY TVA-HED				
Permanent Materials			$857,295	Per Quantities Peovided by Parsons E & C.
Heavy Equipment			$1,255,321	Based on FY 2005 (HED) Equipment Rates.
Tagged & 3rd Party Rental Equipment			$0	
Small Tools			$5,310	
Supplies, Consumables & Expendable Tools			$15,929	
Office Supplies & Expenses			$0	
Other TVA-HED Costs			$0	
TVA subcontracts (By Others)			$0	
Partner or OCIP Insurance			$0	
TVA-HED - Overhead	10.00%		$338,415	
Contingency	0%		$0	
SUBTOTAL TVA-HED MANAGED			**$2,472,270**	
TOTAL TVA-HED COSTS			**$4,999,128**	

APPROVALS: **ESTIMATE TOTAL** 4,999,128

TVA-HED Estimator — Date:

TVA - Project Manager — Date:

TVA - Project Engineer — Date:

TVA - Site Environmental Engineer — Date:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1									CRAFT LABOR				MATERIAL	
2	MAT.	CODE	CODE	ACT.	CODE				UNIT	MAN	WAGE	TOTAL		TOTAL
3	CODE	WORK ORDER		SCH.	CRFT	DESCRIPTION	QTY	UNIT	MH	HOURS	RATE	LABOR		MATERIAL
9						**GYPSUM POND CONSTRUCTION (PHASE 1)**								
10														
11						**CLEAR AND GRUB**								
12			102		OEA	CLEAR FOR BORROW @ PENINSULA, SED. PONDS, DIKES		AC	80		$40.00			
13			100		OEA	STRIP TOPSOIL	100000	CY	0.055	5500	$40.00	$220,000		
14														
15						**EROSION CONTROLS / SEED & MULCH**									
16			103		OEA	TRENCH FOR EROSION CONTROL FENCING	5400	LF	0.025	135	40	$5,400		
17			103		LBJ	INSTALL SILT FENCING / STRAW BALES	5400	LF	0.12	648	26	$16,848		
18			103		LBJ	SEED / MULCH DISTURBED AREAS	25	AC	40	1000	26	$26,000		
19			103		TMW	HAUL STRAW AND SILT FENCE ALONG PROJECT AREA	5400	LF	0.0183	98.82	32	$3,162		
20														
21						**STORMWATER RUNOFF POND CONSTRUCTION**									
22			100		OEA	GROSS CUT / FILL FOR STORMWATER RUNOFF PONDS	119460	CY	0.065	7765	$40.00	$310,596		
23			105		OEA	RIP RAP FOR PONDS	8102	TN	0.05	405	$40.00	$16,204		
24			105		OEA	72" DIA. CMP FOR OUTLET STRUCTURE	12	LF	2	24	$40.00	$960		
25			105		OEA	48 " DIA CMP FOR RISER FOR OUTLET STRUCTURE	14	LF	2	28	$40.00	$1,120		
26			105		LBJ	CUT HOLES IN RISER	6	EA.	2	12	$26.00	$312		
27			105		OEA	48" CMP OUTLET PIPE (PRINCIPLE SPILLWAY)	100	LF	1	100	$40.00	$4,000		
28			105		LBJ	CONCRETE FOR RISER BASE	9	CY	2	18	$26.00	$468		
29			105		LBJ	ANTI-SEEP COLLARS	6	CY	4	24	$26.00	$624		
30			105		OEA	PIPE BEDDING - #57 STONE	40	TN	2	80	$40.00	$3,200		
31			100		OEA	CLEAN OUT STORMWATER RUNOFF POND	1000	CY	0.065	65	$40.00	$2,600		
32														
33						**BUILD / RELOCATE ACCESS ROADS**									
34			101		OEA	BOTTOM ASH CUT / HAUL / FILL	2760	CY	0.065	179	$40.00	$7,176		
35			104		OEA	CRUSHED STONE BASE	2200	TN	0.025	55	$40.00	$2,200		
36			104		OEA	CRUSHED STONE BASE - PARKING LOT	280	TN	0.025	7	$40.00	$280		
37														
38						**FENCING - SEE SUBCONTRACTS SECTION**									
39						FENCING - SEE SUBCONTRACTS SECTION		EA.						
40														
41						**BORROW AREA DEVELOPMENT**									
42			102		OEA	CLEAR AND GRUB	34	AC	30	1020	$40.00	$40,800		
43			103		OEA	TRENCH FOR EROSION CONTROL FENCING	5000	LF	0.025	125	$40.00	$5,000		
44			103		LBJ	INSTALL SILT FENCING / STRAW BALES		LF	0.125		$26.00			
45			100		OEA	EXCAVATE TEMPORARY PERIMETER DITCH		CY	0.065		$40.00			
46			100		OEA	CUT FOR STORMWATER RUNOFF PONDS		CY	0.055		$40.00			
47			100		OEA	FILL FOR STORM WATER PONDS		CY	0.055		$40.00			
48			106		OEA	72" DIA. CMP FOR OUTLET STRUCTURE		LF	2		$40.00			
49			106		OEA	48 " DIA CMP FOR RISER FOR OUTLET STRUCTURE		LF	2		$40.00			
50			106		LBJ	CUT HOLES IN RISER		EA.	2		$26.00			
51			106		OEA	48" CMP OUTLET PIPE (PRINCIPLE SPILLWAY)		LF	1		$40.00			
52			106		LBJ	CONCRETE FOR RISER BASE		CY	2		$26.00			
53			106		LBJ	ANTI-SEEP COLLARS		CY	4		$26.00			
54			106		OEA	PIPE BEDDING - #57 STONE		TN	2		$40.00			
55			106		OEA	CLEAN OUT STORMWATER RUNOFF POND		CY	0.065		$40.00			
56														
57						**DISPOSAL FACILITY CONSTRUCTION**									
58			100		OEA	EARTHWORK CUT - SHAPE BASE INSIDE GYPSUM STACK	431918	CY	0.03	12958	$40.00	$518,302		
59			100		OEA	EARTHWORK FILL FROM BORROW AREA		CY	0.03		$40.00			
60			100		OEA	PROOFROLL SUBGRADE	52	AC	3	156	$40.00	$6,240		
61			100		OEA	CUT AND RE-COMPACT LINER (GEOLOGIC BUFFER)	272596	CY	0.035	9541	$40.00	$381,634		
62			100		OEA	INSTALL 8" HDPE CENTERLINE UNDERDRAIN PIPE	10358	LF	0.08	829	$26.00	$21,545		
63			107		LBJ	CUT FOR UNDERDRAIN SYSTEM		CY	0.073		$40.00			
64			107		OEA	INSTALL GEOTEXTILE - 8OZ NON-WOVEN FOR CL UNDERDRAIN	63600	SY	0.0063	398	$26.00	$10,335		
65			107		LBJ	INSTALL 36" DEPTH 1081 CRUSHED STONE	37900	TN	0.04	1516	$40.00	$60,640		
66			107		OEA	INSTALL UNDERDRAIN PIPING (12" DIA. HDPE)	10360	LF	0.08	829	$26.00	$21,549		
67			107		LBJ	24" PHASE 2 DISCHARGE PIPE INSTALLATION	1726	LF	0.08	138	$24.40	$3,368		
68			107		LBJ	INSTALL HDPE FITTINGS FOR UNDERDRAIN PIPING	13	EA.	0.1	1	$26.00	$34		
69			107		OEA	EXCAVATE SURFACE WATER DIVERSION DITCH		CY	0.07		$40.00			
70			107		TM3	HAUL EXCAVATED SPOILS FROM DITCH AND STOCKPILE		CY	0.027		$32.00			
71			107		OEA	RIP RAP DIVERSION DITCH		TN	0.05		$40.00			
72			107		OEA	DRAINAGE PIPE FROM SUMP TO STORMWATER POND	580	LF	0.1	58	$40.00	$2,320		
73			107			LIFT STATION	1	LOT				$10,000		
74			107		OEA	DIVERSION PIPE BENEATH STORMWATER POND	1830	LF	0.07	128	$36.21	$4,639		
75			101		OEA	INSTALL 2.5' THICK BOTTOM ASH DRAINAGE LAYER		CY	0.065		$40.00			
76			101		OEA	INSTALL 6" THICK FLY ASH LAYER (MIX)		CY	0.065		$40.00			
77			101		OEA	PERIMETER ROAD SURFACING - BOTTOM ASH	3700	CY	0.065	241	$40.00	$9,620		
78			104		OEA	PERIMETER ROAD SURFACING - CRUSHED STONE	3100	TN	0.025	78	$40.00	$3,100		
79			107		OEA	INSTALL RIP RAP DITCH		TN	0.02		$40.00			
80			107		LBJ	INSTALL 8 OZ NON-WOVEN GEOTEXTILE (IF RIP RAP IS USED)		SY	0.0063		$26.00			
81														
82						**CONSTRUCTION PARKING**									
83			100		OEA	EARTHWORK CUT		CY	0.04		$40.00			
84			100		OEA	EARTHWORK FILL		CY	0.04		$40.00			
85			104		OEA	CRUSHED STONE BASE	650	TN	0.03	20	$40.00	$780		
86														
87						**"ALLOWANCE" FOR PUMP STATION POND**									
88					OEA	PUMP STATION QUANT'S. NOT PROVIDED AT THIS TIME	2	MEN	80	160	$40.00	$6,400		
89					TM3	HAUL MATERIAL OUT	2	MEN	80	160	$29.27	$4,683		
90														
91														
92														
93														
94														
95														
96														
97														
98														
99														
100														
101														
102														
103														
104														
105														
106														
107														
109						ADD ABOVE THIS LINE IF NECESSARY	PRE-OUTAGE DIRECT							
110						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :			44498		$1,732,138		
111						**OUTAGE - DIRECT CRAFT**								
112														
113						**GYPSUM POND CONSTRUCTION (PHASE 1)**								
114														
115														

	PHASE 1	TOTALS
	EARTHWORK	925,026
	ASH	6,460
	RIP RAP	8102
	#57 STONE	40
	CR. STONE	44130
	FABRIC	63,600
	SILT FENCE	10,400

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1										CRAFT LABOR			MATERIAL	
2	MAT.	CODE	CODE	ACT.	CODE				UNIT	MAN	WAGE	TOTAL		TOTAL
3	CODE	WORK ORDER		SCH.	CRFT.	DESCRIPTION	QTY.	UNIT	MH	HOURS	RATE	LABOR		MATERIAL
116						ADD ABOVE THIS LINE IF NECESSARY	OUTAGE DIRECT							
117						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
118						**POST OUTAGE - DIRECT CRAFT**									
119														
120						**GYPSUM POND CONSTRUCTION (PHASE 1)**									
121														
122						ADD ABOVE THIS LINE IF NECESSARY	POST OUTAGE DIRECT							
123						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
124														
125						**TOTALS - DIRECT CRAFT**				44498		$1,732,138		
126														
127						**SUPPORT CRAFT**								
128						(QTY & UNITS MUST BE INCLUDED FOR EA. LINE ITEM)								
129														
130						**PRE-OUTAGE - SUPPORT CRAFT**									
131														
132														
133														
134														
148						**GENERAL FOREMAN / SUPPORT CRAFT (1 YR)**								
149			942		OEA	OPERATOR FOREMAN	1	MEN		1720	$46.00	$79,120		
150			942		LBJ	LABORER FOREMAN	1	MEN		1720	$29.00	$49,880		
151			902		TM3	TEAMSTER TO WATER ROADS / SUPPORT MANPOWER	1	MEN		1720	$32.00	$55,040		
152			902		LBJ	LABORER GENERAL SUPPORT / OFFICE	2	MEN		3440	$26.00	$89,440		
153														
154						ADD ABOVE THIS LINE IF NECESSARY	PRE-OUTAGE SUPPORT							
155						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :			8600		$273,480		
156						**OUTAGE - SUPPORT CRAFT**									
157														
181						ADD ABOVE THIS LINE IF NECESSARY	OUTAGE SUPPORT							
182						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
183						**POST-OUTAGE - SUPPORT CRAFT**									
184														
207						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
208						**MOBILIZATION OF CRAFT**									
209														
210														
211			901		AWJ	ADMINISTRATIVE TIME		MEN	2		$33.79			
212			901		AWJ	SAFETY MEETING		MEN	3		$33.79			
213			901		AWJ	DRUG TEST		MEN	1		$33.79			
214														
215			901		ABJ	ADMINISTRATIVE TIME		MEN	2		$27.44			
216			901		ABJ	SAFETY MEETING		MEN	3		$27.44			
217			901		ABJ	DRUG TEST		MEN	1		$27.44			
218														
219			901		BMJ	ADMINISTRATIVE TIME		MEN	2		$52.60			
220			901		BMJ	SAFETY MEETING		MEN	3		$52.60			
221			901		BMJ	DRUG TEST		MEN	1		$52.60			
222														
223			901		CAJ	ADMINISTRATIVE TIME		MEN	2		$32.26			
224			901		CAJ	SAFETY MEETING		MEN	3		$32.26			
225			901		CAJ	DRUG TEST		MEN	1		$32.26			
226														
227			901		ELJ	ADMINISTRATIVE TIME		MEN	2		$39.71			
228			901		ELJ	SAFETY MEETING		MEN	3		$39.71			
229			901		ELJ	DRUG TEST		MEN	1		$39.71			
230														
231			901		IWJ	ADMINISTRATIVE TIME		MEN	2		$37.63			
232			901		IWJ	SAFETY MEETING		MEN	3		$37.63			
233			901		IWJ	DRUG TEST		MEN	1		$37.63			
234														
235			901		LBJ	ADMINISTRATIVE TIME		MEN	2		$24.40			
236			901		LBJ	SAFETY MEETING		MEN	3		$24.40			
237			901		LBJ	DRUG TEST		MEN	1		$24.40			
238														
239			901		OEA	ADMINISTRATIVE TIME		MEN	2		$36.21			
240			901		OEA	SAFETY MEETING		MEN	3		$36.21			
241			901		OEA	DRUG TEST		MEN	1		$36.21			
242														
243			901		PAJ	ADMINISTRATIVE TIME		MEN	2		$28.98			
244			901		PAJ	SAFETY MEETING		MEN	3		$28.98			
245			901		PAJ	DRUG TEST		MEN	1		$28.98			
246														
247			901		MWJ	ADMINISTRATIVE TIME		MEN	2		$36.24			
248			901		MWJ	SAFETY MEETING		MEN	3		$36.24			
249			901		MWJ	DRUG TEST		MEN	1		$36.24			
250														
251			901		PFJ	ADMINISTRATIVE TIME		MEN	2		$39.89			
252			901		PFJ	SAFETY MEETING		MEN	3		$39.89			
253			901		PFJ	DRUG TEST		MEN	1		$39.89			
254														
255			901		SMJ	ADMINISTRATIVE TIME		MEN	2		$40.98			
256			901		SMJ	SAFETY MEETING		MEN	3		$40.98			
257			901		SMJ	DRUG TEST		MEN	1		$40.98			
258														
259			901		TMW	ADMINISTRATIVE TIME		MEN	2		$28.38			
260			901		TMW	SAFETY MEETING		MEN	3		$28.38			
261			901		TMW	DRUG TEST		MEN	1		$28.38			
262														
263														
264														
265						ADD ABOVE THIS LINE IF NECESSARY	CONSTR FAC & MOB							
266						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
267						**MISCELLANEOUS CONSTRUCTION FACILITIES**									
268														
269														
270						ADD ABOVE THIS LINE IF NECESSARY	MISC. CONSTR FAC							
271						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
272														
273						**TOTAL SUPPORT CRAFT LABOR**				8600		$273,480	13.64%	
274						**TOTAL DIRECT CRAFT LABOR**				44498		$1,732,138	86.36%	
275	**LABOR SUMMARY**					**GRAND TOTAL CRAFT LABOR**				53098		$2,005,618		
276														
277														
278						**SUBCONTRACTS - HED**									

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1										CRAFT LABOR			MATERIAL	
2	MAT CODE	CODE WORK ORDER	CODE	ACT SCH	CODE CRFT	DESCRIPTION	QTY	UNIT	UNIT MH	MAN HOURS	WAGE RATE	TOTAL LABOR		TOTAL MATERIAL
279												$130,000		
280			PSUB1		HCOST	ENGINEERING - DENSITY / COMPACTION TESTING - QA/QC						$24,000		
281			PSUB2		HCOST	TVA SURVEYING / LAYOUT						$100,000		
282			PSUB3		HCOST	SUNBELT PUMPS & SETUP (DE-WATER)						$11,600		
283			PSUB4		HCOST	FENCE CONTRACTOR						$20,000		
284			PSUB5		HCOST	STUMP / TREE GRINDING FOR MULCH								
285			PSUB6		HCOST									
286			PSUB7		HCOST									
287														
288						**SUBCONTRACTS - TVA (OTHERS)**									
289														
296														
297														
298						**MATERIALS - HED PURCHASE**									
299														
300			TMTL		HCOST	**SEE MATERIALS LIST**								
306			TMTL											
307						**MATERIALS - TVA (OTHERS) PURCHASE**									
308														
312														
313														
314						**NON-MANUAL LABOR**									
315						STAFFING (See Staff Plan for Details)									
316														
317														
318			950		STF	NON PROJECT SPECIFIC STAFF (SUPERVISION) SEE STAFF SHEET				5160		$235,640		
319			950X		HCOST	TRAVEL & LIVING EXPENSES								
320						TOTAL - NON MANUAL LABOR								
321														
322						**OTHER COSTS - MANAGED BY HED**									
323														
324														
325			STLS	STLS	HCOST	SMALL TOOLS	53098	MHRS			$0.10	$5,310		
326			CONS	CONS	HCOST	CONSUMABLES	53098	MHRS			$0.30	$15,929		
327			OSUP	OSUP	HCOST	OFFICE SUPPLIES AND EXPENSES								
328					HCOST	OTHER HED COSTS								
329						OTHER TVA COSTS								
330														
331														
332						**TVA HEAVY EQUIPMENT**									
333						Note: 1st SHIFT rate shown - 2nd shift rate is a lookup	EQUIPMENT SHIFTS OR WEEKS OF USE				1ST Shift RATE	RENTAL DOLLARS		
334														
335														
336														
337						**CLEARING AND GRUBBING**									
338			102	HED	HCOST	245 CAT TRACKHOE W/ 3 1/2 CY BUCKET	20	1ST		N/A	479	$9,580		
339			102	HED	HCOST	D8 W/ RIPPER	20	1ST		N/A	475	$9,500		
340			102	HED	HCOST	LR 322 CAT TRACHOE	20	1ST		N/A	485	$9,700		
341			102	HED	HCOST	KAWASAKI MULE	20	1ST		N/A	28	$560		
342														
343														
344						**EARTHWORK EQUIPMENT**									
345			100	HED	HCOST	637 SCRAPER - DBL	110	1ST		N/A	593	$65,230		
346			101	HED	HCOST	638 SCRAPER - DBL	110	1ST		N/A	593	$65,230		
347			102	HED	HCOST	639 SCRAPER - DBL	110	1ST		N/A	593	$65,230		
348			103	HED	HCOST	640 SCRAPER - DBL	110	1ST		N/A	593	$65,230		
349			104	HED	HCOST	641 SCRAPER - DBL	110	1ST		N/A	593	$65,230		
350			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
351			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
352			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
353			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
354			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
355			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
356			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
357			100	HED	HCOST	D8K	110	1ST		N/A	332	$36,520		
358			100	HED	HCOST	D8K	110	1ST		N/A	332	$36,520		
359			100	HED	HCOST	20 TON SHEEPFOOT ROLLER	110	1ST		N/A	200	$22,000		
360			101	HED	HCOST	21 TON SHEEPFOOT ROLLER	110	1ST		N/A	200	$22,000		
361			100	HED	HCOST	20 TON SMOOTHDRUM ROLLER	110	1ST		N/A	200	$22,000		
362			100	HED	HCOST	20 TON SMOOTHDRUM ROLLER	110	1ST		N/A	200	$22,000		
363			100	HED	HCOST	D6N	110	1ST		N/A	294	$32,340		
364			100	HED	HCOST	D6N	110	1ST		N/A	294	$32,340		
365														
366														
367						**ASH WORK EQUIPMENT**									
368			101	HED	HCOST	637 SCRAPER - DBL	15	1ST		N/A	593	$8,895		
369			102	HED	HCOST	638 SCRAPER - DBL	15	1ST		N/A	594	$8,910		
370			103	HED	HCOST	639 SCRAPER - DBL	15	1ST		N/A	595	$8,925		
371			104	HED	HCOST	640 SCRAPER - DBL	15	1ST		N/A	596	$8,940		
372			105	HED	HCOST	641 SCRAPER - DBL	15	1ST		N/A	597	$8,955		
373			106	HED	HCOST	642 SCRAPER - DBL	15	1ST		N/A	598	$8,970		
374			101	HED	HCOST	631 SCRAPER	15	1ST		N/A	455	$6,825		
375			101	HED	HCOST	631 SCRAPER	15	1ST		N/A	455	$6,825		
376			101	HED	HCOST	631 SCRAPER	15	1ST		N/A	455	$6,825		
377			101	HED	HCOST	631 SCRAPER	15	1ST		N/A	455	$6,825		
378			101	HED	HCOST	631 SCRAPER	15	1ST		N/A	455	$6,825		
379			101	HED	HCOST	631 SCRAPER	15	1ST		N/A	455	$6,825		
380			101	HED	HCOST	20 TON SMOOTHDRUM ROLLER	15	1ST		N/A	200	$3,000		
381			101	HED	HCOST	270 TRACKHOE	15	1ST		N/A	280	$4,200		
382			101	HED	HCOST	320 TRACKHOE - LONGSTICK	15	1ST		N/A	600	$9,000		
383			101	HED	HCOST	D8K	15	1ST		N/A	332	$4,980		
384			101	HED	HCOST	D6N	15	1ST		N/A	294	$4,410		
385														
386						**ERECT SILT FENCE**									
387			103	HED	HCOST	AIR COMPRESSOR	20	1ST		N/A	150	$3,000		
388			103	HED	HCOST	TRENCHER - DITCH WITCH	20	1ST		N/A	250	$5,000		
389														
390														
391						**GENERAL SUPPORT EQUIPMENT**									
392			HED	HED	HCOST	SUPERVISOR TRUCK	43	WK		N/A	140	$6,020		
393			HED	HED	HCOST	CREW TRAILER (2 EA.)	172	1ST		N/A	25	$4,300		
394			HED	HED	HCOST	TOOL TRAILER	172	1ST		N/A	14	$2,408		
395			HED	HED	HCOST	CREW TRUCK	43	WK		N/A	140	$6,020		
396			HED	HED	HCOST	TRACKHOE	43	WK		N/A	300	$12,900		
397			HED	HED	HCOST	MOTOR GRADER	43	WK		N/A	210	$9,030		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1										CRAFT LABOR			MATERIAL	
2	MAT. CODE	CODE WORK ORDER	CODE	ACT SCT	CODE CRFT	DESCRIPTION	QTY	UNIT	UNIT MH	MAN HOURS	WAGE RATE	TOTAL LABOR		TOTAL MATERIAL
3														
398			HED	HED	HCOST	RUBBER TIRE BACKHOE	172	1ST		N/A	120	$20,640		
399			HED	HED	HCOST	PORTALET (3 EA)	10	MO		N/A	300	$3,000		
400			HED	HED	HCOST	FOREMAN TRUCK (2 EA)	43	WK		N/A	160	$6,880		
401			HED	HED	HCOST	WATER TRUCK	172	1ST		N/A	130	$22,360		
402			HED	HED	HCOST	WATER TRUCK	172	1ST		N/A	130	$22,360		
403			HED	HED	HCOST	MULE	172	1ST		N/A	28	$4,816		
404			HED	HED	HCOST	MULE	172	1ST		N/A	28	$4,816		
405			HED	HED	HCOST	769 - BACKDUMP	50	1ST		N/A	300	$15,000		
406			HED	HED	HCOST	770 - BACKDUMP	50	1ST		N/A	300	$15,000		
407			HED	HED	HCOST	FUEL TRUCK	172	1ST		N/A	33	$5,676		
408			HED	HED	HCOST	MECHANICS TRUCK	172	WK		N/A	200	$34,400		
422							TOTAL - HEAVY EQUIPMENT					$1,255,321		
423														
821						ADD ABOVE THIS LINE IF NECESSARY								
823						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	TOTAL - TAGGED TOOLS							
824														
825						TAGGED TOOLS								
826		END	END	END	END	END	END	END	END	END	END	END		

INGSTON					****SUMMARY****					RUN DATE:	19-Apr-06
			TRAVEL & LIVING EXPENSES (Relocation, Per Diem, Expenses, Montl				$55,728				
YPSUM POND CONSTRUCTION (PHASE 1)			TOTAL STAFF DOLLARS				$235,640				
			TOTAL STAFF MANHOURS				5160				

TAFFING	RATE	RELOCATE/ PER DIEM EXPENSES	MONTHLY TRIPS HOME	OUTAGE DOLLARS	NON-OUTAGE DOLLARS	TOTAL STAFF DOLLARS	PRE-OUTAGE DUR (WKS) 40	OUTAGE DUR (WKS) 40	POST-OUT DUR (WKS) 40	TOTAL MANHO
ITE MANGER	$67.65	$0	$0	$0	$0	$0				0
ENERAL SUPT.	$63.90	$0	$0	$0	$0	$0				0
OILER SUPT	$49.90	$0	$0	$0	$0	$0				0
LECT SUPT	$49.90	$0	$0	$0	$0	$0				0
IECHANICAL SUPT	$49.90	$0	$0	$0	$0	$0				0
IVIL SUPT	$46.00	$37,152	$0	$0	$158,240	$158,240	86			3440
QUIPMENT MECHANIC	$45.00	$18,576	$0	$0	$77,400	$77,400	43			1720
OST SPECIALIST	$37.72	$0	$0	$0	$0	$0				0
STIMATING MGR	$55.65	$0	$0	$0	$0	$0				0
IELD TECH SPECLST	$48.73	$0	$0	$0	$0	$0				0
IELD ADMIN MGR.	$32.65	$0	$0	$0	$0	$0				0
NSULATION SERV MGR.	$51.94	$0	$0	$0	$0	$0				0
EAD FIELD ADMIN MGR	$44.15	$0	$0	$0	$0	$0				0
IATERIAL COORD.	$22.26	$0	$0	$0	$0	$0				0
AYROLL/TIMEKEEPER	$22.08	$0	$0	$0	$0	$0				
A/QC INSPECTOR	$44.52	$0	$0	$0	$0	$0	0			
AFETY COORDINATOR	$40.73	$0	$0	$0	$0	$0				0
AFETY SUPERVISOR	$48.23	$0	$0	$0	$0	$0				0
CHEDULE ANALYST	$50.45	$0	$0	$0	$0	$0				0
CHEDULER	$41.55	$0	$0	$0	$0	$0				0
ECRETARY	$25.00	$0	$0	$0	$0	$0	0			0
ITE PROJ CTRL MGR	$51.65	$0	$0	$0	$0	$0				0
ECH SUPPORT	$26.09	$0	$0	$0	$0	$0				0
IMEKEEPER	$16.32	$0	$0	$0	$0	$0				0
OTALS		$55,728	$0	$0	$235,640	$235,640				5160

GYPSUM POND CONSTRUCTION (PHASE 1)
KINGSTON
CLARIFICATIONS TO TVA-HED PROJECT ESTIMATE.
0

1	ESTIMATE IS A PHASE (2), ESTIMATE.
2	ALL MATERIALS ARE INCLUDED EXCEPT AS NOTED.
3	ESTIMATE IS BASED ON 40 HOURS PER WEEK.
4	WAGE RATES ARE PER FY2005 CRAFT AUGMENTED RATES AND NO ESCALATION IS INCLUDED FOR WAGES.
5	ESTIMATE INCLUDES 6 MONTHS FOR LOGGING OF TREES W/ HED FOREMAN ON SITE AT ALL TIMES.
6	MATERIAL / QUANTITIES LIST BASED ON INFORMATION SUPPLIED BY PARSONS ENGR.
	FUEL / WATER TRUCKS AND ASSOCIATED LABOR IS INCLUDED IN ESTIMATE.
7	ALL BORROW DIRT IS ASSUMED TO BE FROM 25 ACRE BORROW AREA @ PENINSULA.
8	ESTIMATE IS BASED ON PROVIDED PARSONS PRELIMINARY DRAWINGS AND QUANTITIES.
9	DURATION BASED ON WORKABLE WEATHER CONDITIONS.
11	GEOTECHNICAL ENGINEERING (COMPACTION TESTING) IS INCLUDED.
12	SURVEY / LAYOUT IS INCLUDED IN ESTIMATE.
13	FULL TIME MECHANIC AND MECHANICS TRUCK IS INCLUDED IN ESTIMATE.
14	ASSUMED GRINDING TREE STUMPS AND TREE LAPS ON SITE. (SUBCONTRACT)
15	SPOILS SITE FOR MULCH WILL NEED TO BE IDENTIFIED BY OTHERS AND IS ESTIMATED AT 2 MILE RD. TRIP.
16	TYPICAL SWPP IS ESTIMATED. (SILT FENCING AND SEDIMENT PONDS AS STATED IN QUANTITIES).
	10% PROFIT MARGIN INCLUDED FOR HED-SPECIAL PROJECTS.
1	

GYPSUM POND CONSTRUCTION (PHASE 1)
KINGSTON
PHASE 1
0
0

CRAFT		Pre-outage				Outage				Post Outage				P
ASBESTOS WORKER	ABJ	0		0	0		0	0	0		0		0		0
BRICKLAYER	BLJ	0		0	0		0	0	0		0		0		0
BOILERMAKER GENERAL FOREMAN	BMG					0				0				0	0
BOILERMAKER FOREMAN	BMF					0				0				0	0
BOILERMAKER	BMJ	0		0	0		0	0	0		0		0		0
CONCRETE MASON	CMJ	0		0	0		0		0		0		0		0
CARPENTER FOREMAN	CAF					0				0				0	0
CARPENTERS	CAJ	0	0	0	0		0	0	0		0	0	0		0
ELECTRICAL GENERAL FOREMAN	ELG					0				0				0	0
ELECTRICAL FOREMAN	ELF					0				0				0	0
ELECTRICAL	ELJ	0	0	0	0		0	0	0		0	0	0		0
INSULATOR GENERAL FOREMAN	AWG					0				0				0	0
INSULATOR FOREMAN	AWF					0				0				0	0
INSULATOR	AWJ	0		0	0		0	0	0		0		0		0
IRONWORKER FOREMAN	IWF					0				0				0	0
IRONWORKER	IWJ	0		0	0		0	0	0		0		0		0
MILLWRIGHT FOREMAN	MWF					0				0				0	0
MILLWRIGHT	MWJ	0		0	0		0	0	0		0		0		0
LABOR FOREMAN	LBF					1087				0				0	1086.758
LABOR	LBJ	3896.3	5160	0	9056.3		0	0	0		0	0	0		9056.32
OPERATOR	OEA	40342	1720	0	42062		0	0	0		0	0	0		42062.4
PAINT FOREMAN	PAF					0				0				0	0
PAINTER	PAJ	0	0	0	0		0	0	0		0	0	0		0
PIPEFITTER GENERAL FOREMAN	PFG					0				0				0	0
PIPE FOREMAN	PFF					0				0				0	0
PIPEFITTER	PFJ	0		0	0		0	0	0		0		0		0
SHEETMETAL FOREMAN	SMF					0				0				0	0
SHEETMETAL	SMJ	0		0	0		0	0	0		0		0		0
TRUCK DRIVER	TM3	160	1720	0	1880		0	0	0		0	0	0		1880
TEAMISTER	TMW	98.82	0	0	98.82		0	0	0		0	0	0		98.82
TOTAL		44498	8600	0		1087	0	0		0	0	0		0	54184

MATERIAL

GYPSUM POND CONSTRUCTION (PHASE 1)
KINGSTON

W.O.# 0

PA # 0

#	QT	DESCRIPTION	COST	TOTAL
63600	SY	8 oz GEOTEXTILE FABRIC - NON-WOVEN	$1.33	$84,588.00
1000	LB	KY-31 FESCUE SEED	$1.20	$1,200.00
750	LB	PERINNEAL RYE GRASS SEED	$1.45	$1,087.50
500	LB	15-15-15 FERTILIZER	$0.32	$160.00
30	ROLL	CURLEX	$48.00	$1,440.00
20716	LF	12" HDPE UNDERDRAIN PIPING	$4.76	$98,608.16
580	LF	12" HDPE PIPE BENEATH STORMWATER POND (ASSUMED)	$10.00	$5,800.00
800	EA	STRAW BALES	$3.90	$3,120.00
8102	TN	6"-12" RIP RAP	$11.50	$93,173.00
40	TN	#57 STONE	$10.00	$400.00
44130	TN	1031 CRUSHED STONE	$10.00	$441,300.00
3556	LF	48" RCP	$18.90	$67,208.40
1	LS	PIPE	$22,000.00	$22,000.00
				$0.00
				$0.00
				$0.00
				$0.00
30	ROLL	TYPE "C" SILT FENCE FABRIC	$455.00	$13,650.00
130	HUN	WIRE MESH	$72.00	$9,360.00
3050	EA	"T" POSTS	$4.00	$12,200.00
1	LS	MISC TOOLS / WIRE	$2,000.00	$2,000.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
		TOTAL		**$857,295.06**

COMMODITY CODE ROLL-UP

WorkOrder	CommCode	Description	MHs	Cost
	STLS	SMALL TOOLS	0	$ 5,309.75
	CONS	CONSUMABLES	0	$ 15,929.26
	OSUP	OFFICE SUPPLIES AND EXPENSES	0	$ -
	OTH	OTHER TVA-HED COSTS	0	$ -
	HED	HEAVY EQUIPMENT - GENERAL SUPPORT	0	$ 195,626.00
	950	SUPERVISOR & MECHANIC LABOR & PER DIEM	5160	$ 235,640.00
	950X	STAFF EXPENSES	0	$ -
	TMTL	MATERIALS	0	$ 857,295.06
	TTLS	TAGGED TOOLS	0	$ -
	PSUB1	QA/QC - COMPACTION TESTING	0	$ 130,000.00
	PSUB2	SURVEY	0	$ 24,000.00
	PSUB3	SUNBELT RENTAL PUMP	0	$ 100,000.00
	PSUB4	SUB CONTRACTOR 4	0	$ 11,600.00
	900	MOBILIZATION	0	$ -
	901	ADMINISTRATIVE TIME (CRAFT HIRE)	0	$ -
	902	SUPPORT CRAFT	5160	$ 144,480.00
	904		0	$ -
	905		0	$ -
	908		0	$ -
	912		0	$ -
	930		0	$ -
	940		0	$ -
	9424		0	$ -
	9421		0	$ -
	9423		0	$ -
	9428		0	$ -
	942	GENERAL FOREMAN & LABORER SUPPORT	3440	$ 129,000.00
	100	EARTHWORK CUT / HAUL / FILL (INC. EQUIP.)	35984.3	$ 2,058,671.92
	101	ASH CUT / HAUL / FILL (INC. EQUIP.)	419.9	$ 179,461.00
	102	CLEAR AND GRUB	1020	$ 144,280.00
	103	SILT FENCING / EROSION CONTROLS	2006.82	$ 138,565.24
	104	BUILD ROADWAYS / CONSTRUCTION PARKING	159	$ 80,530.00
	105	STORMWATER RUNOFF POND CONSTRUCTION	691.1	$ 35,843.00
	106	BORROW AREA DEVELOPMENT	0	$ 8,970.00
	107	DISPOSAL FACILITY UNDERDRAINAGE / DITCH	3896.42	$ 134,429.20
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
				$ -
				$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			OCIP	$0
		CENTRAL COMMAND - MANAGEMENT COST	CCMC	$338,415
		TOTALS	**57937.54**	**$ 4,968,045.74**

MANHOURS AND TOTAL COST FROM PA COVER 58,258 $4,999,128

TOTALS FROM THIS SHEET SHOULD BE THE SAME AS PA COVER

KINGSTON FOSSIL PLANT
(KIF450) STAGE 1 GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Estimate Number	06047R3	**Option:**	0	**PCN Number:**	KIF450
Plant:	KIF	**Revision:**	3	**Estimate Type:**	Preliminary
Cost Engineer:	C. L. Toney	**Unit #:**		**Estimate Accuracy:**	+/- 20%
Requesting Engr:	S. M. Haber	**Phase:**	2	**Estimate Issue Date**	04/18/2006

	Hours	Dollars
Phase I		
Engineering		$0
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase I		***$0***
Phase II		
Engineering		$330,288
Long Lead Procurement		$72,000
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase II		***$402,288***
Phase III		
Construction (Partner)		
Permanent Material		$987,869
Labor (T&L)	91,272.01	$3,495,526
Labor (Non-Manual)	5,542.96	$254,790
Equipment		$1,302,756
Subcontracts		$285,600
Partner Fee		$5,486
Partner Insurance		$3,291
Escalation		$509,145
Construction Risk Dollars		$0
Other		$519,216
Total Construction Cost		$7,363,679
Engineering		$209,850
Direct plant support + TVA Other Costs		$0
Project Risk Dollars		$0
Other / Other Organizations		$0
Total Phase III		***$7,573,529***
All Phases		
Construction Partner	96,814.97	$7,363,679
Long Lead Procurement		$72,000
Engineering		$540,138
Other / Other Organizations		$0
Total Risk Dollars		$0
Total Project Costs	**96,814.97**	**$7,975,817**
For Information only Total Environmental		**$0**
For Information only Total Demolition Costs		**$0**

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KINGSTON FOSSIL PLANT
(KIF450) STAGE 1 GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Project name	KIF/06047R3/STG 1 GYP PND
Estimator	C. L. Toney
Labor rate table	KIF 40 2005
Equipment rate table	TVA Equipment
Project	Earthwork
Plant	KIF
Estimate #	06047R3
PCN #	KIF450
Requesting Engr	S. M. Haber
Option	0
Revision	3
Phase	2
Estimate Type	Preliminary
Estimate Accuracy	+/- 20%
Est. Issue Date	04/18/2006
Funding Type	Capital
Notes	Cost estimate is based in 2006 dollars. Revision 3 cost estimate has been revised based on revised estimate provided by HED on 4-17-06. Revision 2 cost estimate has been revised based on revised estimate provided by HED. Also, contingency for this estimate has been removed. Revision 1 cost estimate has been revised based on information from Lynn Petty based on revised design & quantities provided by GeoSyntec Consultants. Short Term Storage. Construction earthwork portion of estimate provided by HED. Remainder provided by ESS Group.
Report format	Sorted by 'Location/Activity' 'Detail' summary

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Location	Activity	Description	Takeoff Quantity	Labor Productivity	Labor Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
IASE 3 (BOP)												
	17-Pumps & Pipe											
		100 HP Submersible Pump For Phase 1 Stormwater Pond	1.00 ea	84.000	84.00 mh	2,937	60,000	-	308	-	63,244.70	63,245
		Structural Excavation For 18" Diameter Pipe (2,000 lf)	3,260.00 cy	0.200	652.00 mh	16,311	-	-	8,150	-	7.50	24,461
		Bottom Ash Pipe Bedding	112.00 cy	0.500	56.00 mh	1,514	-	-	574	-	18.55	2,088
		18" Diameter Discharge HDPE Pipe, SDR11	2,000.00 lf	0.325	650.40 mh	19,976	92,484	-	9,080	-	60.77	121,539
		Structural Backfill For 18" Diameter Pipe (2,000 lf)	3,014.00 cy	0.320	964.48 mh	24,128	-	-	23,398	-	15.77	47,527
		Platforms Steel	5.00 ton	60.000	300.00 mh	10,087	26,250	-	2,376	-	7,742.43	38,712
		17-Pumps & Pipe			**2,706.88 hrs**	**74,953**	**178,734**		**43,885**			**297,572**
	18-Electrical											
		Phase 1 Transformer 200 kva (13.8 kV to 480 v)	1.00 ls	120.000	120.00 mh	4,193	12,000	-	450	-	16,643.28	16,643
		4/0 600 Volt Cable	200.00 lf	0.100	20.00 mh	708	2,200	-	-	-	14.54	2,908
		3" Diameter GRC Conduit	200.00 lf	0.619	123.80 mh	4,383	8,140	-	-	-	62.62	12,523
		13 kV Amp Pole Mount Fuse Disconnect	1.00 ea	12.000	12.00 mh	425	1,500	-	-	-	1,924.86	1,925
		18-Electrical			**275.80 hrs**	**9,709**	**23,840**		**450**			**33,999**
	xConst Facilities											
		Mobilize, Drug Test, Miscellaneous Other, & Demobilize	1.00 ls	207.893	207.89 mh	5,900	-	-	3,100	-	9,000.00	9,000
		xConst Facilities			**207.89 hrs**	**5,900**			**3,100**			**9,000**
	zNon-Manual											
		Phase 3 Non Manual	1.00 ls	383.000	383.00 mh	19,150	-	-	-	-	19,150.00	19,1
		zNon-Manual			**383.00 hrs**	**19,150**						**19,150**
		PHASE 3 (BOP)			***3,573.57 hrs***	***109,712***	***202,574***		***47,435***			***359,722***
HASE 3 (HED)												
	HED Installation											
		Construction Labor	1.00 ls	88,081.434	88,081.43 mh	***3,404,964***	-	-	-	-	3,404,964.00	3,404,964
		Non Manual Labor	1.00 ls	5,159.962	5,159.96 mh	***235,640***	-	-	-	-	235,640.00	235,640
		TVA-HED Subcontracts	1.00 ls		-	-	-	285,600	-	-	285,600.00	285,600
		Partner Purchased Material	1.00 ls		-	-	857,295	-	-	-	857,295.00	857,295
		Construction Heavy Equipment	1.00 ls		-	-	-	-	1,255,321	-	1,255,321.00	1,255,321
		Small Tools	1.00 ls		-	-	-	-	-	8,809	8,809.00	8,809
		Supplies, Consumables & Expendable Tools	1.00 ls		-	-	-	-	-	26,424	26,424.00	26,424
		TVA-HED - Central Command			-	-	-	-	-	478,350	478,350.00	478,350
		HED Installation			**93,241.40 hrs**	**3,640,604**	**857,295**	**285,600**	**1,255,321**	**513,583**		**6,552,403**
		PHASE 3 (HED)			***93,241.40 hrs***	***3,640,604***	***857,295***	***285,600***	***1,255,321***	***513,583***		***6,552,403***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis
Labor	3.750.316		96.814.969 hrs		
Material	1.059.869				
Subcontract	285.600				
Equipment	1.302.756		1.970.471 hrs		
Other	513.583				
	6.912.124	6.912.124			
Engineered Materials - Ph 2	72.000			100.000 %	C
Adjustment - Engr Materials	(72.000)			(100.000) %	C
		6.912.124			
Small Tools Expense (BOP)	1.436			0.016 $/hr	H
Consum & Expendables (BOP)	3.622			0.104 %	C
Office Supplies & Exp (BOP)	575			0.226 %	C
	5.633	6.917.757			
Escalation - Craft Labor	339.066			9.700 %	C
Escalation - Subcontract	19.421			6.800 %	C
Escalation - Perm Materials	40.275			3.800 %	C
Escalation - HED Equipment	75.319			6.000 %	C
Escalation - Small Tools	3.103			0.034 $/hr	H
Escalation - Consumables	6.991			0.200 %	C
Escalation - Non-Manual Labor	24.460			9.600 %	C
Escalation - Office Supplies	510			0.200 %	C
	509.145	7.426.902			
Partner Insurance (BOP)	3.291			0.088 %	C
Partner Award Fee (BOP)	5.486			0.146 %	C
	8.777	7.435.679			
FPG Proj Engr - Phase 2	4.200		100.000 hrs	0.103 % @ 42.00	A
FPG Civil Engr - Phase 2	21.000		500.001 hrs	0.516 % @ 42.00	A
GeoSyntec Engr - Phase 2	302.400		4.199.998 hrs	4.338 % @ 72.00	A
FPG Proj Cntrl Cost - Phase 2	672		16.004 hrs	0.017 % @ 42.00	A
FPG Cost Estimating - Phase 2	1.680		40.004 hrs	0.041 % @ 42.00	A
FPG Engr Records - Phase 2	336		7.997 hrs	0.008 % @ 42.00	A
	330.288	7.765.967			
FPG Proj Engr - Phase 3	3.150		75.003 hrs	0.077 % @ 42.00	A
FPG Civil Engr - Phase 3	6.300		149.995 hrs	0.155 % @ 42.00	A
GeoSyntec Engr - Phase 3	50.400		700.001 hrs	0.723 % @ 72.00	A
Mac Tec QA/QC & Certf - Ph 3	150.000		2.083.332 hrs	2.152 % @ 72.00	A
	209.850	7.975.817			
Total		7.975.817			

KIF ASD GYPSUM DISPOSAL STG 1 (06047 R3)

06047R3CLT

HED ESTIMATE SUMMARY

REV# 3

0

LOCATION: KINGSTON	UNIT NO: PHASE 1	PRINT DATE:	17-Apr-06
SHORT CODE: KENNY LOWERY		ESTIMATE DATE:	17-Mar-06

PROJECT DESCRIPTION: GYPSUM POND CONSTRUCTION (PHASE 1)

WORKSCOPE: DEVELOP BORROW AREA, DEWATER BOTTOM ASH POND BORROW AREA, PERFORM EROSION CONTROL WORK PER STANDARD SWPPP, BUILD HAUL ROADS, BUILD ACCESS ROADS, BUILD CONSTRUCTION PARKING AREA, BUILD PHASE 1 OF GYPSUM POND.

DURATION: ***11 MONTHS FOR PHASE 1 ROAD CONSTRUCTION / POND CONSTRUCTION.*** WITH 2 WEEKS CONTINGENCY FOR WEATHER

		TYPE OF FUNDING
ESTIMATE PHASE	2	CAPITAL > 100K

PREPARED BY: B. WORKMAN (HED)

				Comments
1. TVA-HED LABOR COSTS				
Craft Augmented Labor		MANHOURS ✓	88081 $38.6571	Includes all aspects of Phase 1 work.
		COST ✓	$3,404,964	Based on FY 2005 labor rates.
Non-Manual Labor		MANHOURS ✓	5,160 $45.6667	Supervisor and (2) Mechanics full time.
		COST ✓	$285,640	Includes Hourly Rates & Per Diem for both men.
Contingency	0.00%	MANHOURS	0	
		COST	$0	
SUBTOTAL TVA-HED LABOR		MANHOURS	93,241	
		COST	**$3,640,604**	
2. TVA-HED OTHER COSTS				
TVA-HED Subcontracts		✓	$285,600	Survey / Layout / Fence Cont./ Compac. Testing
TVA-HED Subcontract Fee			$0	
Travel & Living Expenses			See "Non-Manual Labor"	
TVA-HED Material Purchases			$0	
HED Other Costs			$0	
Contingency	0%		$0	
SUBTOTAL TVA-HED OTHER			**$285,600**	
TOTAL TVA-HED COSTS			**$3,926,204** $4783,499	
3. ITEMS MANAGED BY TVA-HED				
Permanent Materials		✓	$857,295	Per Quantities Peovided by Parsons E & C.
Heavy Equipment		✓	$1,255,321	Based on FY 2005 (HED) Equipment Rates.
Tagged & 3rd Party Rental Equipment			$0	
Small Tools		✓	$8,808	
Supplies, Consumables & Expendable Tools		✓	$26,424	
Office Supplies & Expenses			$0	
Other TVA-HED Costs			$0	
TVA subcontracts (By Others)			$0	
Partner or OCIP Insurance			$0	
TVA-HED - Overhead	10.00%		$478,350	
Contingency	0%		$0	
SUBTOTAL TVA-HED MANAGED			**$2,626,198**	
TOTAL TVA-HED COSTS			**$6,552,403**	

APPROVALS: ESTIMATE TOTAL 6,552,403

TVA-HED Estimator ____________ Date: ______

TVA - Project Manager ____________ Date: ______

TVA - Project Engineer ____________ Date: ______

TVA - Site Environmental Engineer ____________ Date: ______

TVA – Heavy Equipment Division
Estimate for
Kingston – Phase 1 Gypsum Disposal Facility Pond Construction
Revision #03

04/17/06

Mr. Calvin Toney,

We thank you for the opportunity to provide this estimate for the TVA - Kingston (Phase 1) Gypsum Disposal Facility Pond Construction. The below estimate is based upon the provided Parsons Engineering quantities and Preliminary drawings @50% Design.

The TVA-HED Scope of Work for the project is as follows:

"Erosion Controls / SWPPP":

- Provide all technical support, supervision, labor, equipment and materials to join together all the various phases of the work and deliver a complete project.
- Install a total of approximately 10,400 lf of Type "C" silt fence w/ 10% estimated for straw bales.
- Construct construction parking area.
- Cut approximately 88,500 CY of clay for storm-water runoff pond construction and haul to Gypsum Disposal Facility for new construction use.
- Install 12 lf of 72" Outlet Structure.
- Install 14 lf of 48" riser.
- Install 150 lf of 48" principle spillway.
- Pour concrete "anti-seep" collars at all joints.
- Allowance - Clean out Gypsum Stack storm-water runoff pond as needed. (approximately 1,000 cy)
- Clear and Grub approximately 30 acres at Gypsum Stack Peninsula. (Includes clear cut logging as well with clearing support by HED).
- Mulch with grinder all remaining stumps and tree laps not carried off site by Logging Company.

"Borrow Area Development":

- Clear and Grub approximately 34 acres at borrow site.
- Clear cut all timber on approximately 34 acres for clay borrow site.
- Mulch with grinder all remaining stumps and tree laps not carried off site by Logging Company.

"Haul / Access Roads":

- Build / Improve & maintain haul roads to and from the borrow sites (Clay and Bottom Ash) consisting of approximately 1.5 miles of roadway.
- Build Gypsum Disposal Facility Access Roadways with 2,200 TN of new stone.
- Build Gypsum Disposal Facility Access Roadways with 2,760 CY of Bottom Ash.

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

- Install Fence and gates at road. (200 lf w/ 1 personnel and 1 swing gate.)

"Disposal Facility Construction":

- Proof-roll all Gypsum Stack sub-grade. (52 acres)
- Install geologic buffer. Over-excavate 3' depth in Gypsum Stack liner area (approximately 52 acres), then re-place and re-compact liner material. (272,596 cy)
- Cut existing clay inside Gypsum Stack area to shape base inside Gypsum Stack area. (approximately 431,918 cy)
- Install centerline underdrain piping inside new Gypsum Stack (10,360 lf).
- Install 63,600 sy of non-woven geotextile fabric in new centerline underdrain.
- Install 37,900 tn of 36" deep crushed stone in new centerline underdrain.
- Install Perimeter road with 6" of Bottom Ash topped with 4" of crushed stone. (1 mile of 20' wide roadway)
- Install 48" RCP Phase 2 Discharge Pipe. (1,726 lf)
- Install drainage pipe from sump to stormwater pond. (580 lf)
- Install 48" RCP diversion pipes beneath stormwater pond. (1,830 lf)
- Install perimeter road bottom ash. (3,700 cy)
- Install perimeter road crushed stone. (3,100 tn)

"Clarifications to Estimated Scope of Work":

- No "rock removal / excavation" costs are included in cost estimate or project schedule duration.
- All craft / supervisor labor wage rates are FY 2005 wage rates.
- All equipment rates are TVA - HED FY 2005 equipment rates utilizing TVA - HED heavy equipment.
- All "Bank Cubic Yard" quantities provided are escalated 20% for compaction / shrinkage.
- Estimate includes 2 weeks contingency for inclement weather.
- Estimate assumes TVA - HED to be sole General Contractor responsible for said Gypsum Stack Construction scope of work.
- Estimate includes sub-contract costs for Fence Contractor, TVA Surveyors to provide layout, and project control points during various stages of the work for the identified schedule duration as needed, Geotechnical Engineers to provide compaction test results as required, and mulching of tree stumps, laps, etc. after clearing of trees is completed.
- Seed and Mulch all disturbed areas outside dikes. (approximately 25 acres) is included.

"Schedule":

All work is currently estimated for 4 – 10 hour shifts per work week with no overtime included.

Individual project schedules end dates per activity shall vary from one to another. We propose to complete all work identified above within 11 months from start of project as

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

stated on "Estimate Summary" sheet provided with this estimate.

If you have questions regarding this work as estimated, please feel free to contact us at the below numbers.

Total Estimated Cost - $6,552,403.00 Lump Sum

Thank You,
Brad Workman
TVA - HED
(931) 320-1044

cc: Larry Radford
TVA – HED

Kenny Lowery
TVA - HED

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

MAT CODE	CODE WORK ORDER	CODE	ACT SCH	CODE CRFT	DESCRIPTION	QTY	UNIT	CRAFT LABOR UNIT MH	CRAFT LABOR MAN HOURS	CRAFT LABOR WAGE RATE	CRAFT LABOR TOTAL LABOR	MATERIAL TOTAL MATERIAL
					GYPSUM POND CONSTRUCTION (PHASE 1)							
					CLEAR AND GRUB							
		102		OEA	CLEAR FOR BORROW @ PENINSULA, SED. PONDS, DIKES	30	AC	80	2400	$40.00	$96,000	
		100		OEA	STRIP TOPSOIL	100000	CY	0.055	5500	$40.00	$220,000	
					EROSION CONTROLS / SEED & MULCH							
		103		OEA	TRENCH FOR EROSION CONTROL FENCING	5400	LF	0.025	135	$40.00	$5,400	
		103		LBJ	INSTALL SILT FENCING / STRAW BALES	5400	LF	0.12	648	$26.00	$16,848	
		103		LBJ	SEED / MULCH DISTURBED AREAS	25	AC	40	1000	$26.00	$26,000	
		103		TMW	HAUL STRAW AND SILT FENCE ALONG PROJECT AREA	5400	LF	0.0183	98.82	$32.00	$3,162	
					STORMWATER RUNOFF POND CONSTRUCTION							
		100		OEA	GROSS CUT / FILL FOR STORMWATER RUNOFF PONDS	119460	CY	0.065	7765	$40.00	$310,596	
		105		OEA	RIP RAP FOR PONDS	8102	TN	0.05	405	$40.00	$16,204	
		105		OEA	72" DIA. CMP FOR OUTLET STRUCTURE	12	LF	2	24	$40.00	$960	
		105		OEA	48 " DIA CMP FOR RISER FOR OUTLET STRUCTURE	14	LF	2	28	$40.00	$1,120	
		105		LBJ	CUT HOLES IN RISER	6	EA.	2	12	$26.00	$312	
		105		OEA	48" CMP OUTLET PIPE (PRINCIPLE SPILLWAY)	100	LF	1	100	$40.00	$4,000	
		105		LBJ	CONCRETE FOR RISER BASE	9	CY	2	18	$26.00	$468	
		105		LBJ	ANTI-SEEP COLLARS	6	CY	4	24	$26.00	$624	
		105		OEA	PIPE BEDDING - #57 STONE	40	TN	2	80	$40.00	$3,200	
		100		OEA	CLEAN OUT STORMWATER RUNOFF POND	1000	CY	0.065	65	$40.00	$2,600	
					BUILD / RELOCATE ACCESS ROADS							
		101		OEA	BOTTOM ASH CUT / HAUL / FILL	2760	CY	0.065	179	$40.00	$7,176	
		104		OEA	CRUSHED STONE BASE	2200	TN	0.025	55	$40.00	$2,200	
		104		OEA	CRUSHED STONE BASE - PARKING LOT	280	TN	0.025	7	$40.00	$280	
					FENCING - SEE SUBCONTRACTS SECTION							
					FENCING - SEE SUBCONTRACTS SECTION		EA.					
					BORROW AREA DEVELOPMENT							
		102		OEA	CLEAR AND GRUB	34	AC	30	1020	$40.00	$40,800	
		103		OEA	TRENCH FOR EROSION CONTROL FENCING	5000	LF	0.025	125	$40.00	$5,000	
		103		LBJ	INSTALL SILT FENCING / STRAW BALES		LF	0.125		$26.00		
		100		OEA	EXCAVATE TEMPORARY PERIMETER DITCH		CY	0.065		$40.00		
		100		OEA	CUT FOR STORMWATER RUNOFF PONDS		CY	0.055		$40.00		
		100		OEA	FILL FOR STORM WATER PONDS		CY	0.055		$40.00		
		106		OEA	72" DIA. CMP FOR OUTLET STRUCTURE		LF	2		$40.00		
		106		OEA	48 " DIA CMP FOR RISER FOR OUTLET STRUCTURE		LF	2		$40.00		
		106		LBJ	CUT HOLES IN RISER		EA.	2		$26.00		
		106		OEA	48" CMP OUTLET PIPE (PRINCIPLE SPILLWAY)		LF	1		$40.00		
		106		LBJ	CONCRETE FOR RISER BASE		CY	2		$26.00		
		106		LBJ	ANTI-SEEP COLLARS		CY	4		$26.00		
		106		OEA	PIPE BEDDING - #57 STONE		TN	2		$40.00		
		106		OEA	CLEAN OUT STORMWATER RUNOFF POND		CY	0.065		$40.00		
					DISPOSAL FACILITY CONSTRUCTION							
		100		OEA	EARTHWORK CUT - SHAPE BASE INSIDE GYPSUM STACK	4319784	CY	0.03	12958	$40.00	$518,302	
		100		OEA	EARTHWORK FILL FROM BORROW AREA	978655	CY	0.03	11360	$40.00	$454,396	
		100		OEA	PROOFROLL SUBGRADE	52	AC	3	156	$40.00	$6,240	
		100		OEA	CUT AND RE-COMPACT LINER (GEOLOGIC BUFFER)	272596	CY	0.035	9541	$40.00	$381,634	
		107		LBJ	INSTALL 8" HDPE CENTERLINE UNDERDRAIN PIPE	10358	LF	0.08	829	$26.00	$21,545	
		107		OEA	CUT FOR UNDERDRAIN SYSTEM		CY	0.073		$40.00		
		107		LBJ	INSTALL GEOTEXTILE , 8OZ NON-WOVEN FOR CL UNDERDRAIN	63600	SY	0.0063	398	$26.00	$10,335	
		107		OEA	INSTALL 36" DEPTH 1081 CRUSHED STONE	37900	TN	0.6	22740	$40.00	$909,600	
		107		LBJ	INSTALL UNDERDRAIN PIPING (12" DIA. HDPE)	10360	LF	0.08	829	$26.00	$21,549	
		107		LBJ	24" PHASE 2 DISCHARGE PIPE INSTALLATION	1726	LF	0.08	138	$24.40	$3,368	
		107		LBJ	INSTALL HDPE FITTINGS FOR UNDERDRAIN PIPING	13	EA.	0.1	1	$26.00	$34	
		107		OEA	EXCAVATE SURFACE WATER DIVERSION DITCH		CY	0.07		$40.00		
		107		TM3	HAUL EXCAVATED SPOILS FROM DITCH AND STOCKPILE		CY	0.027		$32.00		
		107		OEA	RIP RAP DIVERSION DITCH		TN	0.05		$40.00		
		107		OEA	DRAINAGE PIPE FROM SUMP TO STORMWATER POND	580	LF	0.1	58	$40.00	$2,320	
		107			LIFT STATION	1	LOT				$10,000	
		107		OEA	DIVERSION PIPE BENEATH STORMWATER POND	1830	LF	0.07	128	$36.21	$4,639	
		101		OEA	INSTALL 2.5' THICK BOTTOM ASH DRAINAGE LAYER		CY	0.065		$40.00		
		101		OEA	INSTALL 6" THICK FLY ASH LAYER (MIX)		CY	0.065		$40.00		
		101		OEA	PERIMETER ROAD SURFACING - BOTTOM ASH	3700	CY	0.065	241	$40.00	$9,620	
		104		OEA	PERIMETER ROAD SURFACING - CRUSHED STONE	3100	TN	0.025	78	$40.00	$3,100	
		107		OEA	INSTALL RIP RAP DITCH		TN	0.02		$40.00		
		107		LBJ	INSTALL 8 OZ NON-WOVEN GEOTEXTILE (IF RIP RAP IS USED)		SY	0.0063		$26.00		
					CONSTRUCTION PARKING							
		100		OEA	EARTHWORK CUT		CY	0.04		$40.00		
		100		OEA	EARTHWORK FILL		CY	0.04		$40.00		
		104		OEA	CRUSHED STONE BASE	650	TN	0.03	20	$40.00	$780	
					"ALLOWANCE" FOR PUMP STATION POND							
				OEA	PUMP STATION QUANT'S. NOT PROVIDED AT THIS TIME	2	MEN	80	160	$40.00	$6,400	
				TM3	HAUL MATERIAL OUT	2	MEN	80	160	$29.27	$4,683	
					ADD ABOVE THIS LINE IF NECESSARY			PRE-OUTAGE DIRECT				
					DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE			SUBTOTALS :	79481		$3,131,484	
					OUTAGE - DIRECT CRAFT							
					GYPSUM POND CONSTRUCTION (PHASE 1)							

PHASE 1	TOTALS
EARTHWORK	1,303,681
ASH	6,460
RIP RAP	8102
#57 STONE	40
CR. STONE	44130
FABRIC	63,600
SILT FENCE	10,400

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1										CRAFT LABO			MATERIAL	
2	MAT	CODE	CODE	ACT	CODE				UNIT	MAN	Wage	TOTAL		TOTAL
3	CODE	WORK ORDER		SCH	CRFT	DESCRIPTION	QTY	UNIT	MH	HOURS	RATE	LABOR		MATERIAL
116						ADD ABOVE THIS LINE IF NECESSARY	OUTAGE DIRECT							
117						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
118						**POST OUTAGE - DIRECT CRAFT**									
119														
120						**GYPSUM POND CONSTRUCTION (PHASE 1)**									
121														
122						ADD ABOVE THIS LINE IF NECESSARY	POST OUTAGE DIRECT							
123						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
124														
125						**TOTALS - DIRECT CRAFT**				79481		$3,131,484		
126														
127						**SUPPORT CRAFT**								
128						(QTY & UNITS MUST BE INCLUDED FOR EA. LINE ITEM)								
129														
130						**PRE-OUTAGE - SUPPORT CRAFT**									
131														
132														
133														
134														
148						**GENERAL FOREMAN / SUPPORT CRAFT (1 YR)**								
149			942		OEA	OPERATOR FOREMAN	1	MEN		1720	$46.00	$79,120		
150			942		LBJ	LABORER FOREMAN	1	MEN		1720	$29.00	$49,880		
151			902		TM3	TEAMSTER TO WATER ROADS / SUPPORT MANPOWER	1	MEN		1720	$32.00	$55,040		
152			902		LBJ	LABORER GENERAL SUPPORT / OFFICE	2	MEN		3440	$26.00	$89,440		
153														
154						ADD ABOVE THIS LINE IF NECESSARY	PRE-OUTAGE SUPPORT							
155						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :			8600		$273,480		
156						**OUTAGE - SUPPORT CRAFT**									
157														
181						ADD ABOVE THIS LINE IF NECESSARY	OUTAGE SUPPORT							
182						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
183						**POST-OUTAGE - SUPPORT CRAFT**									
184														
207						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :								
208						**MOBILIZATION OF CRAFT**									
209														
210														
211			901		AWJ	ADMINISTRATIVE TIME		MEN	2		$33.79			
212			901		AWJ	SAFETY MEETING		MEN	3		$33.79			
213			901		AWJ	DRUG TEST		MEN	1		$33.79			
214														
215			901		ABJ	ADMINISTRATIVE TIME		MEN	2		$27.44			
216			901		ABJ	SAFETY MEETING		MEN	3		$27.44			
217			901		ABJ	DRUG TEST		MEN	1		$27.44			
218														
219			901		BMJ	ADMINISTRATIVE TIME		MEN	2		$52.60			
220			901		BMJ	SAFETY MEETING		MEN	3		$52.60			
221			901		BMJ	DRUG TEST		MEN	1		$52.60			
222														
223			901		CAJ	ADMINISTRATIVE TIME		MEN	2		$32.26			
224			901		CAJ	SAFETY MEETING		MEN	3		$32.26			
225			901		CAJ	DRUG TEST		MEN	1		$32.26			
226														
227			901		ELJ	ADMINISTRATIVE TIME		MEN	2		$39.71			
228			901		ELJ	SAFETY MEETING		MEN	3		$39.71			
229			901		ELJ	DRUG TEST		MEN	1		$39.71			
230														
231			901		IWJ	ADMINISTRATIVE TIME		MEN	2		$37.63			
232			901		IWJ	SAFETY MEETING		MEN	3		$37.63			
233			901		IWJ	DRUG TEST		MEN	1		$37.63			
234														
235			901		LBJ	ADMINISTRATIVE TIME		MEN	2		$24.40			
236			901		LBJ	SAFETY MEETING		MEN	3		$24.40			
237			901		LBJ	DRUG TEST		MEN	1		$24.40			
238														
239			901		OEA	ADMINISTRATIVE TIME		MEN	2		$36.21			
240			901		OEA	SAFETY MEETING		MEN	3		$36.21			
241			901		OEA	DRUG TEST		MEN	1		$36.21			
242														
243			901		PAJ	ADMINISTRATIVE TIME		MEN	2		$28.98			
244			901		PAJ	SAFETY MEETING		MEN	3		$28.98			
245			901		PAJ	DRUG TEST		MEN	1		$28.98			
246														
247			901		MWJ	ADMINISTRATIVE TIME		MEN	2		$36.24			
248			901		MWJ	SAFETY MEETING		MEN	3		$36.24			
249			901		MWJ	DRUG TEST		MEN	1		$36.24			
250														
251			901		PFJ	ADMINISTRATIVE TIME		MEN	2		$39.89			
252			901		PFJ	SAFETY MEETING		MEN	3		$39.89			
253			901		PFJ	DRUG TEST		MEN	1		$39.89			
254														
255			901		SMJ	ADMINISTRATIVE TIME		MEN	2		$40.98			
256			901		SMJ	SAFETY MEETING		MEN	3		$40.98			
257			901		SMJ	DRUG TEST		MEN	1		$40.98			
258														
259			901		TMW	ADMINISTRATIVE TIME		MEN	2		$28.38			
260			901		TMW	SAFETY MEETING		MEN	3		$28.38			
261			901		TMW	DRUG TEST		MEN	1		$28.38			
262														
263														
264														
265						ADD ABOVE THIS LINE IF NECESSARY	CONSTR FAC & MOB							
266						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
267						**MISCELLANEOUS CONSTRUCTION FACILITIES**									
268														
269														
270						ADD ABOVE THIS LINE IF NECESSARY	MISC. CONSTR FAC							
271						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
272														
273														
274						**TOTAL SUPPORT CRAFT LABOR**				8600		$273,480	8.03%		
275	**LABOR SUMMARY**					**TOTAL DIRECT CRAFT LABOR**				79481		$3,131,484	91.97%	
276						**GRAND TOTAL CRAFT LABOR**				88081		$3,404,964		
277														
278						**SUBCONTRACTS - HED**									

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1									CRAFT LABOR				MATERIAL	
2	MAT	CODE	CODE	ACT	CODE		QTY	UNIT	UNIT MH	MAN HOURS	WAGE RATE	TOTAL LABOR		TOTAL MATERIAL
3	CODE	WORK ORDER		SCH	CRFT	DESCRIPTION								
279														
280			PSUB1		HCOST	ENGINEERING - DENSITY / COMPACTION TESTING - QA/QC						$130,000		
281			PSUB2		HCOST	TVA SURVEYING / LAYOUT						$24,000		
282			PSUB3		HCOST	SUNBELT PUMPS & SETUP (DE-WATER)						$100,000		
283			PSUB4		HCOST	FENCE CONTRACTOR						$11,600		
284			PSUB5		HCOST	STUMP / TREE GRINDING FOR MULCH						$20,000		
285			PSUB6		HCOST									
286			PSUB7		HCOST									
287											TOTAL - SUBCONTRACTS - HED	$285,600		
288						**SUBCONTRACTS - TVA (OTHERS)**									
289														
296											TOTAL - SUBCONTRACTS - TVA (OTHERS)			
297														
298						**MATERIALS - HED PURCHASE**									
299														
300			TMTL		HCOST	**SEE MATERIALS LIST**								
306			TMTL								TOTAL - MATERIALS - HED PURCHASE	$857,295		
307						**MATERIALS - TVA (OTHERS) PURCHASE**									
308														
312											TOTAL - MATERIALS - TVA (OTHERS)			
313														
314						**NON-MANUAL LABOR**									
315						STAFFING (See Staff Plan for Details)									
316														
317										5160		$235,640		
318			950		STF	NON PROJECT SPECIFIC STAFF (SUPERVISION) SEE STAFF SHEET								
319			950X		HCOST	TRAVEL & LIVING EXPENSES								
320						TOTAL - NON MANUAL LABOR								
321											TOTAL - NON-MANUAL (ex. trvl & living)	$235,640		
322						**OTHER COSTS - MANAGED BY HED**									
323														
324														
325			STLS	STLS	HCOST	SMALL TOOLS	88081	MHRS			$0.10	$8,808		
326			CONS	CONS	HCOST	CONSUMABLES	88081	MHRS			$0.30	$26,424		
327			OSUP	OSUP	HCOST	OFFICE SUPPLIES AND EXPENSES								
328					HCOST	OTHER HED COSTS								
329						OTHER TVA COSTS								
330											TOTAL-COST MANAGED BY HED	$35,232		
331														
332						**TVA HEAVY EQUIPMENT**			EQUIPMENT			1ST Shift	RENTAL		
333						Note: 1st SHIFT rate shown - 2nd shift rate is a lookup			SHIFTS OR WEEKS OF USE			RATE	DOLLARS		
334														
335														
336														
337						**CLEARING AND GRUBBING**									
338			102	HED	HCOST	245 CAT TRACKHOE W/ 3 1/2 CY BUCKET	20	1ST		N/A		479	$9,580	
339			102	HED	HCOST	D8 W/ RIPPER	20	1ST		N/A		475	$9,500	
340			102	HED	HCOST	LR 322 CAT TRACHOE	20	1ST		N/A		485	$9,700	
341			102	HED	HCOST	KAWASAKI MULE	20	1ST		N/A		28	$560	
342														
343														
344						**EARTHWORK EQUIPMENT**									
345			100	HED	HCOST	637 SCRAPER - DBL	110	1ST		N/A		593	$65,230	
346			101	HED	HCOST	638 SCRAPER - DBL	110	1ST		N/A		593	$65,230	
347			102	HED	HCOST	639 SCRAPER - DBL	110	1ST		N/A		593	$65,230	
348			103	HED	HCOST	640 SCRAPER - DBL	110	1ST		N/A		593	$65,230	
349			104	HED	HCOST	641 SCRAPER - DBL	110	1ST		N/A		593	$65,230	
350			100	HED	HCOST	631 SCRAPER	110	1ST		N/A		455	$50,050	
351			100	HED	HCOST	631 SCRAPER	110	1ST		N/A		455	$50,050	
352			100	HED	HCOST	631 SCRAPER	110	1ST		N/A		455	$50,050	
353			100	HED	HCOST	631 SCRAPER	110	1ST		N/A		455	$50,050	
354			100	HED	HCOST	631 SCRAPER	110	1ST		N/A		455	$50,050	
355			100	HED	HCOST	631 SCRAPER	110	1ST		N/A		455	$50,050	
356			100	HED	HCOST	631 SCRAPER	110	1ST		N/A		455	$50,050	
357			100	HED	HCOST	D8K	110	1ST		N/A		332	$36,520	
358			100	HED	HCOST	D8K	110	1ST		N/A		332	$36,520	
359			100	HED	HCOST	20 TON SHEEPFOOT ROLLER	110	1ST		N/A		200	$22,000	
360			101	HED	HCOST	21 TON SHEEPFOOT ROLLER	110	1ST		N/A		200	$22,000	
361			100	HED	HCOST	20 TON SMOOTHDRUM ROLLER	110	1ST		N/A		200	$22,000	
362			100	HED	HCOST	20 TON SMOOTHDRUM ROLLER	110	1ST		N/A		200	$22,000	
363			100	HED	HCOST	D8N	110	1ST		N/A		294	$32,340	
364			100	HED	HCOST	D8N	110	1ST		N/A		294	$32,340	
365														
366														
367						**ASH WORK EQUIPMENT**									
368			101	HED	HCOST	637 SCRAPER - DBL	15	1ST		N/A		593	$8,895	
369			102	HED	HCOST	638 SCRAPER - DBL	15	1ST		N/A		594	$8,910	
370			103	HED	HCOST	639 SCRAPER - DBL	15	1ST		N/A		595	$8,925	
371			104	HED	HCOST	640 SCRAPER - DBL	15	1ST		N/A		596	$8,940	
372			105	HED	HCOST	641 SCRAPER - DBL	15	1ST		N/A		597	$8,955	
373			106	HED	HCOST	642 SCRAPER - DBL	15	1ST		N/A		598	$8,970	
374			101	HED	HCOST	631 SCRAPER	15	1ST		N/A		455	$6,825	
375			101	HED	HCOST	631 SCRAPER	15	1ST		N/A		455	$6,825	
376			101	HED	HCOST	631 SCRAPER	15	1ST		N/A		455	$6,825	
377			101	HED	HCOST	631 SCRAPER	15	1ST		N/A		455	$6,825	
378			101	HED	HCOST	631 SCRAPER	15	1ST		N/A		455	$6,825	
379			101	HED	HCOST	631 SCRAPER	15	1ST		N/A		455	$6,825	
380			101	HED	HCOST	20 TON SMOOTHDRUM ROLLER	15	1ST		N/A		200	$3,000	
381			101	HED	HCOST	270 TRACKHOE	15	1ST		N/A		280	$4,200	
382			101	HED	HCOST	320 TRACKHOE - LONGSTICK	15	1ST		N/A		600	$9,000	
383			101	HED	HCOST	D8K	15	1ST		N/A		332	$4,980	
384			101	HED	HCOST	D6N	15	1ST		N/A		294	$4,410	
385														
386						**ERECT SILT FENCE**									
387			103	HED	HCOST	AIR COMPRESSOR	20	1ST		N/A		150	$3,000	
388			103	HED	HCOST	TRENCHER - DITCH WITCH	20	1ST		N/A		250	$5,000	
389														
390														
391						**GENERAL SUPPORT EQUIPMENT**									
392			HED	HED	HCOST	SUPERVISOR TRUCK	43	WK		N/A		140	$6,020	
393			HED	HED	HCOST	CREW TRAILER (2 EA.)	172	1ST		N/A		25	$4,300	
394			HED	HED	HCOST	TOOL TRAILER	172	1ST		N/A		14	$2,408	
395			HED	HED	HCOST	CREW TRUCK	43	WK		N/A		140	$6,020	
396			HED	HED	HCOST	TRACKHOE	43	WK		N/A		300	$12,900	
397			HED	HED	HCOST	MOTOR GRADER	43	WK		N/A		210	$9,030	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1										CRAFT LABOR			MATERIAL	
2	MAT CODE	CODE WORK ORDER	CODE	ACT SCH	CODE CRFT	DESCRIPTION	QTY	UNT	UNIT MH	MAN HOURS	WAGE RATE	TOTAL LABOR		TOTAL MATERIAL
398			HED	HED	HCOST	RUBBER TIRE BACKHOE	172	1ST		N/A	120	$20,640		
399			HED	HED	HCOST	PORTALET (3 EA)	10	MO		N/A	300	$3,000		
400			HED	HED	HCOST	FOREMAN TRUCK (2 EA)	43	WK		N/A	160	$6,880		
401			HED	HED	HCOST	WATER TRUCK	172	1ST		N/A	130	$22,360		
402			HED	HED	HCOST	WATER TRUCK	172	1ST		N/A	130	$22,360		
403			HED	HED	HCOST	MULE	172	1ST		N/A	28	$4,816		
404			HED	HED	HCOST	MULE	172	1ST		N/A	28	$4,816		
405			HED	HED	HCOST	769 - BACKDUMP	50	1ST		N/A	300	$15,000		
406			HED	HED	HCOST	770 - BACKDUMP	50	1ST		N/A	300	$15,000		
407			HED	HED	HCOST	FUEL TRUCK	172	1ST		N/A	33	$5,676		
408			HED	HED	HCOST	MECHANICS TRUCK	172	WK		N/A	200	$34,400		
422														
423							TOTAL - HEAVY EQUIPMENT					$1,255,321		
821														
823						ADD ABOVE THIS LINE IF NECESSARY								
824						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	TOTAL - TAGGED TOOLS							
825						TAGGED TOOLS								
826		END	END	END	END	END	END	END	END	END	END	END		

INGSTON					****SUMMARY****					RUN DATE:	18-Apr-06
			TRAVEL & LIVING EXPENSES (Relocation, Per Diem, Expenses, Montl				$55,728				
YPSUM POND CONSTRUCTION (PHASE 1)			TOTAL STAFF DOLLARS				$235,640				
			TOTAL STAFF MANHOURS				5160				

TAFFING	RATE	RELOCATE/ PER DIEM EXPENSES	MONTHLY TRIPS HOME	OUTAGE DOLLARS	NON-OUTAGE DOLLARS	TOTAL STAFF DOLLARS	PRE-OUTAGE DUR (WKS) 40	OUTAGE DUR (WKS) 40	POST-OUT DUR (WKS) 40	TOTAL MANHO
ITE MANGER	$67.65	$0	$0	$0	$0	$0				0
ENERAL SUPT.	$63.90	$0	$0	$0	$0	$0				0
OILER SUPT	$49.90	$0	$0	$0	$0	$0				0
LECT SUPT	$49.90	$0	$0	$0	$0	$0				0
ECHANICAL SUPT	$49.90	$0	$0	$0	$0	$0				0
IVIL SUPT	$46.00	$37,152	$0	$0	$158,240	$158,240	86			3440
QUIPMENT MECHANIC	$45.00	$18,576	$0	$0	$77,400	$77,400	43			1720
OST SPECIALIST	$37.72	$0	$0	$0	$0	$0				0
STIMATING MGR	$55.65	$0	$0	$0	$0	$0				0
IELD TECH SPECLST	$48.73	$0	$0	$0	$0	$0				0
IELD ADMIN MGR.	$32.65	$0	$0	$0	$0	$0				0
NSULATION SERV MGR.	$51.94	$0	$0	$0	$0	$0				0
EAD FIELD ADMIN MGR	$44.15	$0	$0	$0	$0	$0				0
ATERIAL COORD.	$22.26	$0	$0	$0	$0	$0				0
AYROLL/TIMEKEEPER	$22.08	$0	$0	$0	$0	$0				0
A/QC INSPECTOR	$44.52	$0	$0	$0	$0	$0	0			0
AFETY COORDINATOR	$40.73	$0	$0	$0	$0	$0				0
AFETY SUPERVISOR	$48.23	$0	$0	$0	$0	$0				0
CHEDULE ANALYST	$50.45	$0	$0	$0	$0	$0				0
CHEDULER	$41.55	$0	$0	$0	$0	$0				0
ECRETARY	$25.00	$0	$0	$0	$0	$0	0			0
ITE PROJ CTRL MGR	$51.65	$0	$0	$0	$0	$0				0
ECH SUPPORT	$26.09	$0	$0	$0	$0	$0				0
IMEKEEPER	$16.32	$0	$0	$0	$0	$0				0
OTALS		$55,728	$0	$0	$235,640	$235,640				5160

MATERIAL

GYPSUM POND CONSTRUCTION (PHASE 1)
KINGSTON

W.O.# 0

PA # 0

#	QT	DESCRIPTION	COST	TOTAL
63600	SY	8 oz GEOTEXTILE FABRIC - NON-WOVEN	$1.33	$84,588.00
1000	LB	KY-31 FESCUE SEED	$1.20	$1,200.00
750	LB	PERINNEAL RYE GRASS SEED	$1.45	$1,087.50
500	LB	15-15-15 FERTILIZER	$0.32	$160.00
30	ROLL	CURLEX	$48.00	$1,440.00
20716	LF	12" HDPE UNDERDRAIN PIPING	$4.76	$98,608.16
580	LF	12" HDPE PIPE BENEATH STORMWATER POND (ASSUMED)	$10.00	$5,800.00
800	EA	STRAW BALES	$3.90	$3,120.00
8102	TN	6"-12" RIP RAP	$11.50	$93,173.00
40	TN	#57 STONE	$10.00	$400.00
44130	TN	CRUSHED STONE	$10.00	$441,300.00
3556	LF	48" RCP	$18.90	$67,208.40
1	LS	PIPE	$22,000.00	$22,000.00
				$0.00
				$0.00
				$0.00
				$0.00
30	ROLL	TYPE "C" SILT FENCE FABRIC	$455.00	$13,650.00
130	HUN	WIRE MESH	$72.00	$9,360.00
3050	EA	"T" POSTS	$4.00	$12,200.00
1	LS	MISC TOOLS / WIRE	$2,000.00	$2,000.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
		TOTAL		**$857,295.06**

COMMODITY CODE ROLL-UP

WorkOrder	CommCode	Description	MHs	Cost
	STLS	SMALL TOOLS	0	$ 8,808.12
	CONS	CONSUMABLES	0	$ 26,424.36
	OSUP	OFFICE SUPPLIES AND EXPENSES	0	$ -
	OTH	OTHER TVA-HED COSTS	0	$ -
	HED	HEAVY EQUIPMENT - GENERAL SUPPORT	0	$ 195,626.00
	950	SUPERVISOR & MECHANIC LABOR & PER DIEM	5160	$ 235,640.00
	950X	STAFF EXPENSES	0	$ -
	TMTL	MATERIALS	0	$ 857,295.06
	TTLS	TAGGED TOOLS	0	$ -
	PSUB1	QA/QC - COMPACTION TESTING	0	$ 130,000.00
	PSUB2	SURVEY	0	$ 24,000.00
	PSUB3	SUNBELT RENTAL PUMP	0	$ 100,000.00
	PSUB4	SUB CONTRACTOR 4	0	$ 11,600.00
	900	MOBILIZATION	0	$ -
	901	ADMINISTRATIVE TIME (CRAFT HIRE)	0	$ -
	902	SUPPORT CRAFT	5160	$ 144,480.00
	904		0	$ -
	905		0	$ -
	908		0	$ -
	912		0	$ -
	930		0	$ -
	940		0	$ -
	9424		0	$ -
	9421		0	$ -
	9423		0	$ -
	9428		0	$ -
	942	GENERAL FOREMAN & LABORER SUPPORT	3440	$ 129,000.00
	100	EARTHWORK CUT / HAUL / FILL (INC. EQUIP.)	47343.95	$ 2,513,058.16
	101	ASH CUT / HAUL / FILL (INC. EQUIP.)	419.9	$ 179,461.00
	102	CLEAR AND GRUB	3420	$ 240,280.00
	103	SILT FENCING / EROSION CONTROLS	2006.82	$ 138,565.24
	104	BUILD ROADWAYS / CONSTRUCTION PARKING	159	$ 80,530.00
	105	STORMWATER RUNOFF POND CONSTRUCTION	691.1	$ 35,843.00
	106	BORROW AREA DEVELOPMENT	0	$ 8,970.00
	107	DISPOSAL FACILITY UNDERDRAINAGE / DITCH	25120.42	$ 983,389.20
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
				$ -
				$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			OCIP	$0
		CENTRAL COMMAND - MANAGEMENT COST	CCMC	$478,350
		TOTALS	**92921.19**	**$ 6,521,320.07**

MANHOURS AND TOTAL COST FROM PA COVER 93,241 $6,552,403

TOTALS FROM THIS SHEET SHOULD BE THE SAME AS PA COVER

CLARIFICATIONS

GYPSUM POND CONSTRUCTION (PHASE 1)
KINGSTON
CLARIFICATIONS TO TVA-HED PROJECT ESTIMATE.
0

1	ESTIMATE IS A PHASE (2), ESTIMATE.
2	ALL MATERIALS ARE INCLUDED EXCEPT AS NOTED.
3	ESTIMATE IS BASED ON 40 HOURS PER WEEK.
4	WAGE RATES ARE PER FY2005 CRAFT AUGMENTED RATES AND NO ESCALATION IS INCLUDED FOR WAGES.
5	ESTIMATE INCLUDES 6 MONTHS FOR LOGGING OF TREES W/ HED FOREMAN ON SITE AT ALL TIMES.
6	MATERIAL / QUANTITIES LIST BASED ON INFORMATION SUPPLIED BY PARSONS ENGR.
	FUEL / WATER TRUCKS AND ASSOCIATED LABOR IS INCLUDED IN ESTIMATE.
7	ALL BORROW DIRT IS ASSUMED TO BE FROM 25 ACRE BORROW AREA @ PENINSULA.
8	ESTIMATE IS BASED ON PROVIDED PARSONS PRELIMINARY DRAWINGS AND QUANTITIES.
9	DURATION BASED ON WORKABLE WEATHER CONDITIONS.
11	GEOTECHNICAL ENGINEERING (COMPACTION TESTING) IS INCLUDED.
12	SURVEY / LAYOUT IS INCLUDED IN ESTIMATE.
13	FULL TIME MECHANIC AND MECHANICS TRUCK IS INCLUDED IN ESTIMATE.
14	ASSUMED GRINDING TREE STUMPS AND TREE LAPS ON SITE. (SUBCONTRACT)
15	SPOILS SITE FOR MULCH WILL NEED TO BE IDENTIFIED BY OTHERS AND IS ESTIMATED AT 2 MILE RD. TRIP.
16	TYPICAL SWPP IS ESTIMATED. (SILT FENCING AND SEDIMENT PONDS AS STATED IN QUANTITIES).
	10% PROFIT MARGIN INCLUDED FOR HED-SPECIAL PROJECTS.
1	

KINGSTON FOSSIL PLANT
(KIF450) STAGE 1 GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Estimate Number	06047R2	**Option:** 0	**PCN Number:**	KIF450	
Plant:	KIF	**Revision:** 2	**Estimate Type:**	Preliminary	
Cost Engineer:	C. L. Toney	**Unit #:**	**Estimate Accuracy:**	+/- 20%	
Requesting Engr:	S. M. Haber	**Phase:** 2	**Estimate Issue Date**	03/23/2006	

	Hours	Dollars
Phase I		
Engineering		$0
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase I		***$0***
Phase II		
Engineering		$330,288
Long Lead Procurement		$72,000
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase II		***$402,288***
Phase III		
Construction (Partner)		
Permanent Material		$795,806
Labor (T&L)	62,861.57	$2,354,566
Labor (Non-Manual)	5,542.96	$254,790
Equipment		$1,302,756
Subcontracts		$285,600
Partner Fee		$5,486
Partner Insurance		$3,291
Escalation		$387,925
Construction Risk Dollars		$0
Other		$374,549
Total Construction Cost		$5,764,770
Engineering		$209,850
Direct plant support + TVA Other Costs		$0
Project Risk Dollars		$0
Other / Other Organizations		$0
Total Phase III		***$5,974,619***
All Phases		
Construction Partner	68,404.53	$5,764,770
Long Lead Procurement		$72,000
Engineering		$540,138
Other / Other Organizations		$0
Total Risk Dollars		$0
Total Project Costs	**68,404.53**	**$6,376,908**
For Information only Total Environmental		**$0**
For Information only Total Demolition Costs		**$0**

KINGSTON FOSSIL PLANT
(KIF450) STAGE 1 GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Project name	KIF/06047R2/STG 1 GYP PND
Estimator	C. L. Toney
Labor rate table	KIF 40 2005
Equipment rate table	TVA Equipment
Project	Earthwork
Plant	KIF
Estimate #	06047R2
PCN #	KIF450
Requesting Engr	S. M. Haber
Option	0
Revision	2
Phase	2
Estimate Type	Preliminary
Estimate Accuracy	+/- 20%
Est. Issue Date	03/23/2006
Funding Type	Capital
Notes	Cost estimate is based in 2008 dollars. Revision 2 cost estimate has been revised based on revised estimate provided by HED. Also, contingency for this estimate has been removed. Revision 1 cost estimate has been revised based on information from Lynn Petty based on revised design & quantities provided by GeoSyntec Consultants. Short Term Storage. Construction earthwork portion of estimate provided by HED. Remainder provided by ESS Group.
Report format	Sorted by 'Location/Activity' 'Detail' summary

Page 1
2:51 PM

Location	Activity	Description	Takeoff Quantity	Labor Productivity	Labor Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
HASE 3 (BOP)												
	17-Pumps & Pipe											
		100 HP Submersible Pump For Phase 1 Stormwater Pond	1.00 ea	84.000	84.00 mh	2,937	60,000	-	308	-	63,244.70	63,245
		Structural Excavation For 18" Diameter Pipe (2,000 lf)	3,260.00 cy	0.200	652.00 mh	16,311	-	-	8,150	-	7.50	24,461
		Bottom Ash Pipe Bedding	112.00 cy	0.500	56.00 mh	1,514	-	-	574	-	18.65	2,088
		18" Diameter Discharge HDPE Pipe, SDR11	2,000.00 lf	0.325	650.40 mh	19,976	92,484	-	9,080	-	60.77	121,539
		Structural Backfill For 18" Diameter Pipe (2,000 lf)	3,014.00 cy	0.320	964.48 mh	24,128	-	-	23,398	-	15.77	47,527
		Platforms Steel	5.00 ton	60.000	300.00 mh	10,087	26,250	-	2,376	-	7,742.43	38,712
		17-Pumps & Pipe			**2,706.88 hrs**	**74,953**	**178,734**		**43,885**			**297,572**
	18-Electrical											
		Phase 1 Transformer 200 kva (13.8 kV to 480 v)	1.00 ls	120.000	120.00 mh	4,193	12,000	-	450	-	16,643.28	16,643
		4/0 600 Volt Cable	200.00 lf	0.100	20.00 mh	708	2,200	-	-	-	14.54	2,908
		3" Diameter GRC Conduit	200.00 lf	0.619	123.80 mh	4,383	8,140	-	-	-	62.62	12,523
		13 kV Amp Pole Mount Fuse Disconnect	1.00 ea	12.000	12.00 mh	425	1,500	-	-	-	1,924.86	1,925
		18-Electrical			**275.80 hrs**	**9,709**	**23,840**		**450**			**33,999**
	xConst Facilities											
		Mobilize, Drug Test, Miscellaneous Other, & Demobilize	1.00 ls	207.893	207.89 mh	5,900	-	-	3,100	-	9,000.00	9,000
		xConst Facilities			**207.89 hrs**	**5,900**			**3,100**			**9,000**
	zNon-Manual											
		Phase 3 Non Manual	1.00 ls	383.000	383.00 mh	19,150	-	-	-	-	19,150.00	19,15
		zNon-Manual			**383.00 hrs**	**19,150**						**19,150**
		PHASE 3 (BOP)			***3,573.57 hrs***	***109,712***	***202,574***		***47,435***			***359,722***
IASE 3 (HED)												
	HED Installation											
		Construction Labor	1.00 ls	59,671.000	59,671.00 mh	***2,264,004***	-	-	-	-	2,264,004.00	2,264,004
		Non Manual Labor	1.00 ls	5,159.962	5,159.96 mh	***235,640***	-	-	-	-	235,640.00	235,640
		TVA-HED Subcontracts	1.00 ls		-	-	-	285,600	-	-	285,600.00	285,600
		Partner Purchased Material	1.00 ls		-	-	665,232	-	-	-	665,232.00	665,232
		Construction Heavy Equipment	1.00 ls		-	-	-	-	1,255,321	-	1,255,321.00	1,255,321
		Small Tools	1.00 ls		-	-	-	-	-	5,967	5,967.00	5,967
		Supplies, Consumables & Expendable Tools	1.00 ls		-	-	-	-	-	17,901	17,901.00	17,901
		TVA-HED - Central Command	1.00 ls		-	-	-	-	-	345,048	345,048.00	345,048
		HED Installation			**64,830.96 hrs**	**2,499,644**	**665,232**	**285,600**	**1,255,321**	**368,916**		**5,074,713**
		PHASE 3 (HED)			***64,830.96 hrs***	***2,499,644***	***665,232***	***285,600***	***1,255,321***	***368,916***		***5,074,713***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis
Labor	2.609.356		68.404.535 hrs		
Material	867.806				
Subcontract	285.600				
Equipment	1.302.756		1.970.471 hrs		
Other	368.916				
	5.434.434	5.434.434			
Engineered Materials - Ph 2	72.000			100.000 %	C
Adjustment - Engr Materials	(72.000)			(100.000) %	C
		5.434.434			
Small Tools Expense (BOP)	1.436			0.023 $/hr	H
Consum & Expendables (BOP)	3.622			0.154 %	C
Office Supplies & Exp (BOP)	575			0.226 %	C
	5.633	5.440.067			
Escalation - Craft Labor	228.393			9.700 %	C
Escalation - Subcontract	19.421			6.800 %	C
Escalation - Perm Materials	32.977			3.800 %	C
Escalation - HED Equipment	75.319			6.000 %	C
Escalation - Small Tools	2.137			0.034 $/hr	H
Escalation - Consumables	4.709			0.200 %	C
Escalation - Non-Manual Labor	24.460			9.600 %	C
Escalation - Office Supplies	510			0.200 %	C
	387.926	5.827.993			
Partner Insurance (BOP)	3.291			0.126 %	C
Partner Award Fee (BOP)	5.486			0.210 %	C
	8.777	5.836.770			
FPG Proj Engr - Phase 2	4.200		100.001 hrs	0.146 % @ 42.00	A
FPG Civil Engr - Phase 2	21.000		500.003 hrs	0.731 % @ 42.00	A
GeoSyntec Engr - Phase 2	302.400		4.199.997 hrs	6.140 % @ 72.00	A
FPG Proj Cntrl Cost - Phase 2	672		16.000 hrs	0.023 % @ 42.00	A
FPG Cost Estimating - Phase 2	1.680		40.003 hrs	0.058 % @ 42.00	A
FPG Engr Records - Phase 2	336		8.003 hrs	0.012 % @ 42.00	A
	330.288	6.167.058			
FPG Proj Engr - Phase 3	3.150		74.999 hrs	0.110 % @ 42.00	A
FPG Civil Engr - Phase 3	6.300		149.997 hrs	0.219 % @ 42.00	A
GeoSyntec Engr - Phase 3	50.400		699.997 hrs	1.023 % @ 72.00	A
Mac Tec QA/QC & Certf - Ph 3	150.000		2.083.335 hrs	3.046 % @ 72.00	A
	209.850	6.376.908			
Total		6.376.908			

0604TR2 cpy 0604TR1

Toney, Calvin L.

From: Workman, Brad
Sent: Monday, March 20, 2006 9:19 AM
To: Toney, Calvin L.
Cc: Radford, Larry D.; Stewart, David W.; Lowery, Kenny R.; Jones, Sonja R.; Pentecost, Tina S.; Nathan, Larry B.; Baugh, James S.
Subject: HED - Kingston Gypsum Pond Construction Estimate - Rev02
Importance: High

Calvin,
I have attached the revised Kingston - Gypsum Pond (Phase 1) Construction estimate. You will still need to escalate from 2005 wage rates to forcasted year of construction. I am still working on the Phase 2 number. Please review and comment.

2008 #'s

Thank you,
Brad Workman
TVA - HED
(931) 320-1044

KIF ASD Gypsum Disposal Stg 1 (0604TR2)

604 Costs

0604TR2

HED ESTIMATE SUMMARY

REV # 2

0

LOCATION:	KINGSTON	UNIT NO:	PHASE 1	PRINT DATE:	20-Mar-06
SHORT CODE:	KENNY LOWERY			ESTIMATE DATE:	17-Mar-06

PROJECT DESCRIPTION: GYPSUM POND CONSTRUCTION (PHASE 1)

WORKSCOPE: DEWATER BOTTOM ASH POND BORROW AREA, PERFORM EROSION CONTROL WORK PER STANDARD SWPPP, BUILD HAUL ROADS, BUILD ACCESS ROADS, BUILD CONSTRUCTION PARKING AREA, BUILD PHASE 1 OF GYPSUM POND.

DURATION: ***10 MONTHS FOR PHASE 1 ROAD CONSTRUCTION / POND CONSTRUCTION.***

	TYPE OF FUNDING
ESTIMATE PHASE 2	CAPITAL > 100K

PREPARED BY: B. WORKMAN (HED)

				Comments
1. TVA-HED LABOR COSTS				
Craft Augmented Labor		MANHOURS	59671	Includes all aspects of Phase 1 work.
		COST	$2,264,004	Based on FY 2005 labor rates.
Non-Manual Labor		MANHOURS	5,160	Supervisor and (2) Mechanics full time.
		COST	$235,640	Includes Hourly Rates & Per Diem for both men.
Contingency	0.00%	MANHOURS	0	
		COST	$0	
SUBTOTAL TVA-HED LABOR		MANHOURS	64,831	
		COST	**$2,499,644**	
2. TVA-HED OTHER COSTS				
TVA-HED Subcontracts			$285,600	Survey / Layout / Fence Cont./ Compac. Testing
TVA-HED Subcontract Fee			$0	
Travel & Living Expenses			See "Non-Manual Labor"	
TVA-HED Material Purchases			$0	
HED Other Costs			$0	
Contingency	0%		$0	
SUBTOTAL TVA-HED OTHER			**$285,600**	
TOTAL TVA-HED COSTS			**$2,785,244**	
3. ITEMS MANAGED BY TVA-HED				
Permanent Materials			$665,232	Per Quantities Peovided by Parsons E & C.
Heavy Equipment			$1,255,321	Based on FY 2005 (HED) Equipment Rates.
Tagged & 3rd Party Rental Equipment			$0	
Small Tools			$5,967	
Supplies, Consumables & Expendable Tools			$17,901	
Office Supplies & Expenses			$0	
Other TVA-HED Costs			$0	
TVA subcontracts (By Others)			$0	
Partner or OCIP Insurance			$0	
TVA-HED - Overhead	10.00%		$345,048	
Contingency	0%		$0	
SUBTOTAL TVA-HED MANAGED			**$2,289,469**	
TOTAL TVA-HED COSTS			**$5,074,713**	

APPROVALS: **ESTIMATE TOTAL** 5,074,713

ESC To 2008 DOLLARS

TVA-HED Estimator — Date:

TVA - Project Manager — Date:

TVA - Project Engineer — Date:

TVA - Site Environmental Engineer — Date:

PCN Number:		PCN Description:	KIF - Gypsum Disposal Area - Pennisula - Stage 1				
Current Phase:	1	Phase Request:	2	Date:	11/17/2005		
	Phase I		Phase II		Phase III		Prin/RE Engr
	Hours	$	Hours	$	Hours	$	
Project Engr		$0	100	$4,200	75	$3,150	
Mech Engr		$0		$0		$0	
Elec Engr I		$0		$0		$0	
Elec Engr II		$0		$0		$0	
Civil Engr		$0	500	$21,000	150	$6,300	
Air, Gas, Wtr, Yard Systems		$0		$0		$0	
Comb Proc, Wtr Treatment		$0		$0		$0	
Steam Cycle Systems		$0		$0		$0	
Other Systems Engr (specify)		$0		$0		$0	
Non-TVA Engr		$0	4200	$302,400	700	$50,400	
Other Orgs (specify) (MacTec QA/QC & certification)		$0		$0		$150,000	
Project Controls Scheduling		$0		$0		$0	
Project Controls Cost		$0	16	$672		$0	
Cost Estimating		$0	40	$1,680		$0	
Engr Records			8	$336		$0	
CAD Dwg Support-Enter # Dwgs:						$0	
Sub Totals:	0	$0	4864	$330,288	925	$ 209,850	
Project Totals:	**5,789**	**Hours**	**$540,138**	**Dollars**			

Long Lead Material - Dollars	

Print Save As...

TVA – Heavy Equipment Division
Estimate for
Kingston – Phase 1 Gypsum Disposal Facility Pond Construction
Revision #02

03/17/06

Mr. Calvin Toney,

We thank you for the opportunity to provide the following estimate for the TVA - Kingston (Phase 1) Gypsum Disposal Facility Pond Construction. The below estimate is based upon the provided Parsons Engineering quantities and Preliminary drawings, as well as meetings with TVA Project Managers and TVA Engineering.

The understood TVA-HED Scope of Work for the project is as follows:

"Erosion Controls / SWPPP":

- Provide all technical support, supervision, labor, equipment and materials to join together all the various phases of the work and deliver a complete project.
- Install a total of approximately 7,150 lf of Type "C" silt fence w/ 10% estimated for straw bales.
- Construct construction parking area.
- Cut approximately 43,223 CY of clay for stormwater runoff pond construction and haul to Gypsum Disposal Facility for new construction use.
- Install 12 lf of 72" Outlet Structure.
- Install 14 lf of 48" riser.
- Install 150 lf of 48" principle spillway.
- Pour concrete "anti-seep" collars at all joints.
- Allowance - Clean out Gypsum Stack stormwater runoff pond as needed. (approximately 1,000 cy)

"Haul / Access Roads":

- Build / Improve & maintain haul roads to and from the borrow sites (Clay and Bottom Ash) consisting of approximately 1.5 miles of roadway.
- Build Gypsum Disposal Facility Access Roadways with 2,200 TN of new stone.
- Build Gypsum Disposal Facility Access Roadways with 1,956 CY of Bottom Ash.
- Install Fence and gates at road. (200 lf w/ 1 personnel and 1 swing gate.)

"Disposal Facility Construction":

- Proof-roll all Gypsum Stack sub-grade. (50 acres)
- Over-excavate 3' depth in Gypsum Stack liner area (approximately 50 acres), then re-place and re-compact liner material. (211,362 cy)
- Cut existing clay inside Gypsum Stack area to shape base inside Gypsum Stack area. (approximately 337,228 cy)

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

- Install centerline underdrain piping inside new Gypsum Stack.
- Install 58,282 sy of non-woven geotextile fabric in new centerline underdrain.
- Excavate and install 4,000 lf total of 8" HDPE underdrain piping around perimeter of Stack.
- Install 14,260 tn of 12" deep crushed stone in new centerline underdrain.
- Install Perimeter road with 6" of Bottom Ash topped with 4" of crushed stone. (1 mile of 20' wide roadway)
- Install rip-rap diversion ditch (approximately 12,000 tn).

"Clarifications to Estimated Scope of Work":

- Allowance Included – 15% Double handling of liner material foreseen as risk due to unsuitable soil for liner construction encountered during over-excavation. This cost is included in estimate.
- No "rock removal / excavation" costs are included in cost estimate or project schedule duration.
- All craft / supervisor labor wage rates are FY 2005 wage rates.
- All equipment rates are TVA - HED FY 2005 equipment rates utilizing TVA - HED heavy equipment.
- All "Bank Cubic Yard" quantities provided are escalated 20% for compaction / shrinkage.
- Estimate includes contingencies for inclement weather.
- Estimate assumes TVA - HED to be sole General Contractor responsible for said Gypsum Stack Construction scope of work.
- Estimate includes sub-contract costs for Fence Contractor, TVA Surveyors to provide layout, and project control points during various stages of the work for the identified schedule duration as needed and Geotechnical Engineers to provide compaction test results as required.
- Seed and Mulch all disturbed areas outside dikes. (approximately 16 acres) is included.
- If and when proof-roll tests fail, we will over-excavate on a T&M basis above this estimated cost to get sub-grade back to passing proof-roll status.

"Schedule":

All work is currently estimated for 4 – 10 hour shifts per work week with no overtime included.

Individual project schedules end dates per activity shall vary from one to another. We propose to complete all work identified above within 10 months from start of project as stated on "Estimate Summary" sheet provided with this estimate.

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

If you have questions regarding this work as estimated, please feel free to contact us at the below numbers.

Total Estimated Cost - $5,074,713.00 Lump Sum

Thank You,
Brad Workman
TVA HED
(931) 320-1044

cc: Kenny Lewery
TVA – HED
(256) 762-6401

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

HED ESTIMATE SUMMARY

REV # 2

0

LOCATION: KINGSTON
SHORT CODE: KENNY LOWERY

UNIT NO: PHASE 1

PRINT DATE: 22-Mar-06
ESTIMATE DATE: 17-Mar-06

PROJECT DESCRIPTION: GYPSUM POND CONSTRUCTION (PHASE 1)

WORKSCOPE: DEWATER BOTTOM ASH POND BORROW AREA, PERFORM EROSION CONTROL WORK PER STANDARD SWPPP, BUILD HAUL ROADS, BUILD ACCESS ROADS, BUILD CONSTRUCTION PARKING AREA, BUILD PHASE 1 OF GYPSUM POND.

DURATION: ***10 MONTHS FOR PHASE 1 ROAD CONSTRUCTION / POND CONSTRUCTION.***

ESTIMATE PHASE	2	TYPE OF FUNDING
		CAPITAL > 100K

PREPARED BY: B. WORKMAN (HED)

				Comments
1. TVA-HED LABOR COSTS				
Craft Augmented Labor		MANHOURS	59671	Includes all aspects of Phase 1 work.
		COST	$2,264,004	Based on FY 2005 labor rates.
Non-Manual Labor		MANHOURS	5,160	Supervisor and (2) Mechanics full time.
		COST	$235,640	Includes Hourly Rates & Per Diem for both men.
Contingency	0.00%	MANHOURS	0	
		COST	$0	
SUBTOTAL TVA-HED LABOR		MANHOURS	64,831	
		COST	**$2,499,644**	
2. TVA-HED OTHER COSTS				
TVA-HED Subcontracts			$285,600	Survey / Layout / Fence Cont./ Compac. Testing
TVA-HED Subcontract Fee			$0	
Travel & Living Expenses			See "Non-Manual Labor"	
TVA-HED Material Purchases			$0	
HED Other Costs			$0	
Contingency	0%		$0	
SUBTOTAL TVA-HED OTHER			**$285,600**	
TOTAL TVA-HED COSTS			**$2,785,244**	
3. ITEMS MANAGED BY TVA-HED				
Permanent Materials			$665,232	Per Quantities Peovided by Parsons E & C.
Heavy Equipment			$1,255,321	Based on FY 2005 (HED) Equipment Rates.
Tagged & 3rd Party Rental Equipment			$0	
Small Tools			$5,967	
Supplies, Consumables & Expendable Tools			$17,901	
Office Supplies & Expenses			$0	
Other TVA-HED Costs			$0	
TVA subcontracts (By Others)			$0	
Partner or OCIP Insurance			$0	
TVA-HED - Overhead	10.00%		$345,048	
Contingency	0%		$0	
SUBTOTAL TVA-HED MANAGED			**$2,289,469**	
TOTAL TVA-HED COSTS			**$5,074,713**	

APPROVALS: **ESTIMATE TOTAL** **5,074,713**

TVA-HED Estimator — Date:

TVA - Project Manager — Date:

TVA - Project Engineer — Date:

TVA - Site Environmental Engineer — Date:

MAT CODE	CODE WORK ORDER	CODE	ACT SCH	CODE CRFT	DESCRIPTION	QTY	UNIT	UNIT MH	CRAFT LABOR MAN HOURS	WAGE RATE	TOTAL LABOR	MATERIAL TOTAL MATERIAL
					GYPSUM POND CONSTRUCTION (PHASE 1)							
					CLEAR AND GRUB							
		102		OEA	CLEAR FOR BORROW @ PENINSULA, SED. PONDS, DIKES	30	AC	80	2400	17% $40.00	17.6% $96,000	
		100		OEA	STRIP TOPSOIL	100000	CY	0.055	5500	$40.00	$220,000	
					EROSION CONTROLS / SEED & MULCH							
		103		OEA	TRENCH FOR EROSION CONTROL FENCING	7150	LF	0.025	179	23% $40.00	15% $7,150	
		103		LBJ	INSTALL SILT FENCING / STRAW BALES	7150	LF	0.12	858	$26.00	$22,308	
		103		LBJ	SEED / MULCH DISTURBED AREAS	16	AC	40	640	26% $26.00	$16,640	
		103		TMW	HAUL STRAW AND SILT FENCE ALONG PROJECT AREA	7150	LF	0.0183	131	26% $32.00	23% $4,187	
					STORMWATER RUNOFF POND CONSTRUCTION							
		100		OEA	GROSS CUT / FILL FOR STORMWATER RUNOFF PONDS	43223	CY	0.065	2809	$40.00	$112,380	
		105		OEA	RIP RAP FOR PONDS	8102	TN	0.05	405	$40.00	$16,204	
		105		OEA	72" DIA. CMP FOR OUTLET STRUCTURE	12	LF	2	24	$40.00	$960	
		105		OEA	48 " DIA CMP FOR RISER FOR OUTLET STRUCTURE	14	LF	2	28	$40.00	$1,120	
		105		LBJ	CUT HOLES IN RISER	6	EA.	2	12	$26.00	$312	
		105		OEA	48" CMP OUTLET PIPE (PRINCIPLE SPILLWAY)	150	LF	1	150	$40.00	$6,000	
		105		LBJ	CONCRETE FOR RISER BASE	9	CY	2	18	$26.00	$468	
		105		LBJ	ANTI-SEEP COLLARS	6	CY	4	24	$26.00	$624	
		105		OEA	PIPE BEDDING - #57 STONE	40	TN	2	80	$40.00	$3,200	
		100		OEA	CLEAN OUT STORMWATER RUNOFF POND	1000	CY	0.065	65	$40.00	$2,600	
					BUILD ACCESS ROADS							
		101		OEA	BOTTOM ASH CUT / HAUL / FILL	2593	CY	0.065	169	$40.00	$6,742	
		104		OEA	CRUSHED STONE BASE	2566	TN	0.025	64	$40.00	$2,566	
		104		OEA	CRUSHED STONE BASE - PARKING LOT	275	TN	0.025	7	$40.00	$275	
					FENCING - SEE SUBCONTRACTS SECTION							
					FENCING - SEE SUBCONTRACTS SECTION		EA.					
					BORROW AREA DEVELOPMENT							
		102		OEA	CLEAR AND GRUB		AC	80		$40.00		
		103		OEA	TRENCH FOR EROSION CONTROL FENCING		LF	0.025		$40.00		
		103		LBJ	INSTALL SILT FENCING / STRAW BALES		LF	0.125		$26.00		
		100		OEA	EXCAVATE TEMPORARY PERIMETER DITCH		CY	0.065		$40.00		
		100		OEA	CUT FOR STORMWATER RUNOFF PONDS		CY	0.055		$40.00		
		100		OEA	FILL FOR STORM WATER PONDS		CY	0.055		$40.00		
		106		OEA	72" DIA. CMP FOR OUTLET STRUCTURE		LF	2		$40.00		
		106		OEA	48 " DIA CMP FOR RISER FOR OUTLET STRUCTURE		LF	2		$40.00		
		106		LBJ	CUT HOLES IN RISER		EA.	2		$26.00		
		106		OEA	48" CMP OUTLET PIPE (PRINCIPLE SPILLWAY)		LF	1		$40.00		
		106		LBJ	CONCRETE FOR RISER BASE		CY	2		$26.00		
		106		LBJ	ANTI-SEEP COLLARS		CY	4		$26.00		
		106		OEA	PIPE BEDDING - #57 STONE		TN	2		$40.00		
		106		OEA	CLEAN OUT STORMWATER RUNOFF POND		CY	0.065		$40.00		
					DISPOSAL FACILITY CONSTRUCTION							
		100		OEA	EARTHWORK CUT - SHAPE BASE INSIDE GYPSUM STACK	337228	CY	0.03	10117	$40.00	$404,673	
		100		OEA	EARTHWORK FILL FROM BORROW AREA	89714	CY	0.03	2691	$40.00	$107,657	
		100		OEA	PROOFROLL SUBGRADE	45	AC	3	135	$40.00	$5,400	
		100		OEA	CUT AND RE-COMPACT LINER	211362	CY	0.035	7398	$40.00	$295,907	
		100		OEA	(ALLOWANCE FOR DOUBLE HANDLING - 15% OF LINER MATERIAL)	31704	CY	0.035	1110	$40.00	$44,386	
		107		LBJ	INSTALL 8" HDPE CENTERLINE UNDERDRAIN PIPE	10358	LF	0.08	829	$26.00	$21,545	
		107		OEA	CUT FOR UNDERDRAIN SYSTEM		CY	0.073		$40.00		
		107		LBJ	INSTALL GEOTEXTILE - 8OZ NON-WOVEN FOR CL UNDERDRAIN	58282	SY	0.0063	364	$26.00	$9,471	
		107		OEA	INSTALL 12" DEPTH 1081 CRUSHED STONE	14260	TN	0.6	8556	$40.00	$342,240	
		107		LBJ	INSTALL UNDERDRAIN PIPING (8" DIA. HDPE)	10358	LF	0.08	829	$26.00	$21,545	
		107		LBJ	INSTALL HDPE FITTINGS FOR UNDERDRAIN PIPING	13	EA.	0.1	1	$26.00	$34	
		107		OEA	EXCAVATE SURFACE WATER DIVERSION DITCH	43333	CY	0.07	3033	$40.00	$121,332	
		107		TM3	HAUL EXCAVATED SPOILS FROM DITCH AND STOCKPILE	43333	CY	0.027	1170	$32.00	$37,440	
		107		OEA	RIP RAP DIVERSION DITCH	12000	TN	0.05	600	$40.00	$24,000	
		107		OEA	DRAINAGE PIPE FROM SUMP TO STORMWATER POND	580	LF	0.1	58	$40.00	$2,320	
		107			LIFT STATION	1	LOT				$10,000	
		107		OEA	DIVERSION PIPE BENEATH STORMWATER POND	580	LF	0.07	41	3% $36.21	6.5% $1,470	
		101		OEA	INSTALL 2.5' THICK BOTTOM ASH DRAINAGE LAYER		CY	0.065		$40.00		
		101		OEA	INSTALL 6" THICK FLY ASH LAYER (MIX)		CY	0.065		$40.00		
		101		OEA	PERIMETER ROAD SURFACING - BOTTOM ASH	2616	CY	0.065	170	$40.00	$6,802	
		104		OEA	PERIMETER ROAD SURFACING - CRUSHED STONE	2592	TN	0.025	65	$40.00	$2,592	
		107		OEA	INSTALL RIP RAP DITCH		TN	0.02		$40.00		
		107		LBJ	INSTALL 8 OZ NON-WOVEN GEOTEXTILE (IF RIP RAP IS USED)		SY	0.0063		$26.00		
					CONSTRUCTION PARKING							
		100		OEA	EARTHWORK CUT		CY	0.04		$40.00		
		100		OEA	EARTHWORK FILL		CY	0.04		$40.00		
		104		OEA	CRUSHED STONE BASE	744	TN	0.03	22	$40.00	$893	
					"ALLOWANCE" FOR PUMP STATION POND							
				OEA	PUMP STATION QUANT'S. NOT PROVIDED AT THIS TIME	2	MEN	80	160	$40.00	$6,400	
				TM3	HAUL MATERIAL OUT	2	MEN	80	160	12% $29.27	12.6% $4,683	
					ADD ABOVE THIS LINE IF NECESSARY	PRE-OUTAGE DIRECT						
					DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :			51071		$1,990,524	
					OUTAGE - DIRECT CRAFT							
					GYPSUM POND CONSTRUCTION (PHASE 1)							

PHASE 1 TOTALS	
EARTHWORK	857,609
ASH	5,209
RIP RAP	20102
#57 STONE	40
CR. STONE	20437
FABRIC	58,282
SILT FENCE	7,150

INCREASE FOR STAFF AUGMENTED LABOR PLUS possibly 5% Increase for manual work

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1										CRAFT LABO			MATERIAL	
2	MAT	CODE	CODE	ACT	CODE				UNIT	MAN	WAGE	TOTAL		TOTAL
3	CODE	WORK ORDER		SCH	CRFT	DESCRIPTION	QTY	UNIT	MH	HOURS	RATE	LABOR	QTY UNIT	MATERIAL
116						ADD ABOVE THIS LINE IF NECESSARY	OUTAGE DIRECT							
117						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
118						**POST OUTAGE - DIRECT CRAFT**									
119														
120						**GYPSUM POND CONSTRUCTION (PHASE 1)**									
121														
122						ADD ABOVE THIS LINE IF NECESSARY	POST OUTAGE DIRECT							
123						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
124														
125						**TOTALS - DIRECT CRAFT**				51071		$1,990,524		
126														
127						**SUPPORT CRAFT**								
128						(QTY & UNITS MUST BE INCLUDED FOR EA. LINE ITEM)								
129														
130						**PRE-OUTAGE - SUPPORT CRAFT**									
131														
132														
133														
134														
148						**GENERAL FOREMAN / SUPPORT CRAFT (1 YR)**								
149			942		OEA	OPERATOR FOREMAN	1	MEN		1720	$46.00	$79,120		
150			942		LBJ	LABORER FOREMAN	1	MEN		1720	$29.00	$49,880		
151			902		TM3	TEAMSTER TO WATER ROADS / SUPPORT MANPOWER	1	MEN		1720	$32.00	$55,040		
152			902		LBJ	LABORER GENERAL SUPPORT / OFFICE	2	MEN		3440	$26.00	$89,440		
153														
154						ADD ABOVE THIS LINE IF NECESSARY	PRE-OUTAGE SUPPORT							
155						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :			8600		$273,480		
156						**OUTAGE - SUPPORT CRAFT**									
157														
181						ADD ABOVE THIS LINE IF NECESSARY	OUTAGE SUPPORT							
182						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
183						**POST-OUTAGE - SUPPORT CRAFT**									
184														
207						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
208						**MOBILIZATION OF CRAFT**								
209														
210														
211			901		AWJ	ADMINISTRATIVE TIME		MEN	2		$33.79			
212			901		AWJ	SAFETY MEETING		MEN	3		$33.79			
213			901		AWJ	DRUG TEST		MEN	1		$33.79			
214														
215			901		ABJ	ADMINISTRATIVE TIME		MEN	2		$27.44			
216			901		ABJ	SAFETY MEETING		MEN	3		$27.44			
217			901		ABJ	DRUG TEST		MEN	1		$27.44			
218														
219			901		BMJ	ADMINISTRATIVE TIME		MEN	2		$52.60			
220			901		BMJ	SAFETY MEETING		MEN	3		$52.60			
221			901		BMJ	DRUG TEST		MEN	1		$52.60			
222														
223			901		CAJ	ADMINISTRATIVE TIME		MEN	2		$32.26			
224			901		CAJ	SAFETY MEETING		MEN	3		$32.26			
225			901		CAJ	DRUG TEST		MEN	1		$32.26			
226														
227			901		ELJ	ADMINISTRATIVE TIME		MEN	2		$39.71			
228			901		ELJ	SAFETY MEETING		MEN	3		$39.71			
229			901		ELJ	DRUG TEST		MEN	1		$39.71			
230														
231			901		IWJ	ADMINISTRATIVE TIME		MEN	2		$37.63			
232			901		IWJ	SAFETY MEETING		MEN	3		$37.63			
233			901		IWJ	DRUG TEST		MEN	1		$37.63			
234														
235			901		LBJ	ADMINISTRATIVE TIME		MEN	2		$24.40			
236			901		LBJ	SAFETY MEETING		MEN	3		$24.40			
237			901		LBJ	DRUG TEST		MEN	1		$24.40			
238														
239			901		OEA	ADMINISTRATIVE TIME		MEN	2		$36.21			
240			901		OEA	SAFETY MEETING		MEN	3		$36.21			
241			901		OEA	DRUG TEST		MEN	1		$36.21			
242														
243			901		PAJ	ADMINISTRATIVE TIME		MEN	2		$28.98			
244			901		PAJ	SAFETY MEETING		MEN	3		$28.98			
245			901		PAJ	DRUG TEST		MEN	1		$28.98			
246														
247			901		MWJ	ADMINISTRATIVE TIME		MEN	2		$36.24			
248			901		MWJ	SAFETY MEETING		MEN	3		$36.24			
249			901		MWJ	DRUG TEST		MEN	1		$36.24			
250														
251			901		PFJ	ADMINISTRATIVE TIME		MEN	2		$39.89			
252			901		PFJ	SAFETY MEETING		MEN	3		$39.89			
253			901		PFJ	DRUG TEST		MEN	1		$39.89			
254														
255			901		SMJ	ADMINISTRATIVE TIME		MEN	2		$40.98			
256			901		SMJ	SAFETY MEETING		MEN	3		$40.98			
257			901		SMJ	DRUG TEST		MEN	1		$40.98			
258														
259			901		TMW	ADMINISTRATIVE TIME		MEN	2		$28.38			
260			901		TMW	SAFETY MEETING		MEN	3		$28.38			
261			901		TMW	DRUG TEST		MEN	1		$28.38			
262														
263														
264														
265						ADD ABOVE THIS LINE IF NECESSARY	CONSTR FAC & MOB							
266						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
267						**MISCELLANEOUS CONSTRUCTION FACILITIES**									
268														
269														
270						ADD ABOVE THIS LINE IF NECESSARY	MISC. CONSTR FAC							
271						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	SUBTOTALS :							
272														
273														
274						**TOTAL SUPPORT CRAFT LABOR**				8600		$273,480	12.08%	
275	**LABOR SUMMARY**					**TOTAL DIRECT CRAFT LABOR**				51071		$1,990,524	87.92%	
276						**GRAND TOTAL CRAFT LABOR**				59671		$2,264,004		
277														
278						**SUBCONTRACTS - HED**									

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1										CRAFT LABC			MATERIAL	
2	MAT.	CODE	CODE	ACT	CODE				UNIT	MAN	Wage	TOTAL		TOTAL
3	CODE	WORK ORDER		SCH	CRFT	DESCRIPTION	QTY	UNIT	MH	HOURS	RATE	LABOR		MATERIAL
279														
280			PSUB1		HCOST	ENGINEERING - DENSITY / COMPACTION TESTING - QA/QC						$130,000		
281			PSUB2		HCOST	TVA SURVEYING / LAYOUT						$24,000		
282			PSUB3		HCOST	SUNBELT PUMPS & SETUP (DE-WATER)						$100,000		
283			PSUB4		HCOST	FENCE CONTRACTOR						$11,600		
284			PSUB5		HCOST	STUMP / TREE GRINDING FOR MULCH						$20,000		
285			PSUB6		HCOST									
286			PSUB7		HCOST									
287														
288						**SUBCONTRACTS - TVA (OTHERS)**									
289														
296														
297														
298						**MATERIALS - HED PURCHASE**									
299														
300			TMTL		HCOST	**SEE MATERIALS LIST**								
306			TMTL											
307						**MATERIALS - TVA (OTHERS) PURCHASE**								
308														
312														
313														
314						**NON-MANUAL LABOR**									
315						STAFFING (See Staff Plan for Details)									
316														
317														
318			950		STF	NON PROJECT SPECIFIC STAFF (SUPERVISION) SEE STAFF SHEET				5160		$235,640		
319			950X		HCOST	TRAVEL & LIVING EXPENSES								
320						TOTAL - NON MANUAL LABOR								
321														
322						**OTHER COSTS - MANAGED BY HED**									
323														
324														
325			STLS	STLS	HCOST	SMALL TOOLS	59671	MHRS			$0.10	$5,967		
326			CONS	CONS	HCOST	CONSUMABLES	59671	MHRS			$0.30	$17,901		
327			OSUP	OSUP	HCOST	OFFICE SUPPLIES AND EXPENSES								
328					HCOST	OTHER HED COSTS								
329						OTHER TVA COSTS								
330														
331														
332						**TVA HEAVY EQUIPMENT**									
333						Note: 1st SHIFT rate shown - 2nd shift rate is a lookup	EQUIPMENT				1ST Shift	RENTAL		
334							SHIFTS OR WEEKS OF USE				RATE	DOLLARS		
335														
336														
337						**CLEARING AND GRUBBING**									
338			102	HED	HCOST	245 CAT TRACKHOE W/ 3 1/2 CY BUCKET	20	1ST		N/A	479	$9,580		
339			102	HED	HCOST	D8 W/ RIPPER	20	1ST		N/A	475	$9,500		
340			102	HED	HCOST	LR 322 CAT TRACHOE	20	1ST		N/A	485	$9,700		
341			102	HED	HCOST	KAWASAKI MULE	20	1ST		N/A	28	$560		
342														
343														
344						**EARTHWORK EQUIPMENT**									
345			100	HED	HCOST	637 SCRAPER - DBL	110	1ST		N/A	593	$65,230		
346			101	HED	HCOST	638 SCRAPER - DBL	110	1ST		N/A	593	$65,230		
347			102	HED	HCOST	639 SCRAPER - DBL	110	1ST		N/A	593	$65,230		
348			103	HED	HCOST	640 SCRAPER - DBL	110	1ST		N/A	593	$65,230		
349			104	HED	HCOST	641 SCRAPER - DBL	110	1ST		N/A	593	$65,230		
350			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
351			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
352			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
353			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
354			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
355			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
356			100	HED	HCOST	631 SCRAPER	110	1ST		N/A	455	$50,050		
357			100	HED	HCOST	D8K	110	1ST		N/A	332	$36,520		
358			100	HED	HCOST	D8K	110	1ST		N/A	332	$36,520		
359			100	HED	HCOST	20 TON SHEEPFOOT ROLLER	110	1ST		N/A	200	$22,000		
360			101	HED	HCOST	21 TON SHEEPFOOT ROLLER	110	1ST		N/A	200	$22,000		
361			100	HED	HCOST	20 TON SMOOTHDRUM ROLLER	110	1ST		N/A	200	$22,000		
362			100	HED	HCOST	20 TON SMOOTHDRUM ROLLER	110	1ST		N/A	200	$22,000		
363			100	HED	HCOST	D6N	110	1ST		N/A	294	$32,340		
364			100	HED	HCOST	D6N	110	1ST		N/A	294	$32,340		
365														
366														
367						**ASH WORK EQUIPMENT**									
368			101	HED	HCOST	637 SCRAPER - DBL	15	1ST		N/A	593	$8,895		
369			102	HED	HCOST	638 SCRAPER - DBL	15	1ST		N/A	594	$8,910		
370			103	HED	HCOST	639 SCRAPER - DBL	15	1ST		N/A	595	$8,925		
371			104	HED	HCOST	640 SCRAPER - DBL	15	1ST		N/A	596	$8,940		
372			105	HED	HCOST	641 SCRAPER - DBL	15	1ST		N/A	597	$8,955		
373			106	HED	HCOST	642 SCRAPER - DBL	15	1ST		N/A	598	$8,970		
374			101	HED	HCOST	631 SCRAPER	15	1ST		N/A	455	$6,825		
375			101	HED	HCOST	631 SCRAPER	15	1ST		N/A	455	$6,825		
376			101	HED	HCOST	631 SCRAPER	15	1ST		N/A	455	$6,825		
377			101	HED	HCOST	631 SCRAPER	15	1ST		N/A	455	$6,825		
378			101	HED	HCOST	631 SCRAPER	15	1ST		N/A	455	$6,825		
379			101	HED	HCOST	631 SCRAPER	15	1ST		N/A	455	$6,825		
380			101	HED	HCOST	20 TON SMOOTHDRUM ROLLER	15	1ST		N/A	200	$3,000		
381			101	HED	HCOST	270 TRACKHOE	15	1ST		N/A	280	$4,200		
382			101	HED	HCOST	320 TRACKHOE - LONGSTICK	15	1ST		N/A	600	$9,000		
383			101	HED	HCOST	D8K	15	1ST		N/A	332	$4,980		
384			101	HED	HCOST	D6N	15	1ST		N/A	294	$4,410		
385														
386						**ERECT SILT FENCE**									
387			103	HED	HCOST	AIR COMPRESSOR	20	1ST		N/A	150	$3,000		
388			103	HED	HCOST	TRENCHER - DITCH WITCH	20	1ST		N/A	250	$5,000		
389														
390														
391						**GENERAL SUPPORT EQUIPMENT**									
392			HED	HED	HCOST	SUPERVISOR TRUCK	43	WK		N/A	140	$6,020		
393			HED	HED	HCOST	CREW TRAILER (2 EA)	172	1ST		N/A	25	$4,300		
394			HED	HED	HCOST	TOOL TRAILER	172	1ST		N/A	14	$2,408		
395			HED	HED	HCOST	CREW TRUCK	43	WK		N/A	140	$6,020		
396			HED	HED	HCOST	TRACKHOE	43	WK		N/A	300	$12,900		
397			HED	HED	HCOST	MOTOR GRADER	43	WK		N/A	210	$9,030		

TVA-00029139

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1										CRAFT LABO			MATERIAL	
2	MAT	CODE	CODE	ACT	CODE				UNIT	MAN	WAGE	TOTAL		TOTAL
3	CODE	WORKORDER		SCH	CRFT	DESCRIPTION	QTY	UNIT	MH	HOURS	RATE	LABOR		MATERIAL
398			HED	HED	HCOST	RUBBER TIRE BACKHOE	172	1ST		N/A	120	$20,640		
399			HED	HED	HCOST	PORTALET (3 EA)	10	MO		N/A	300	$3,000		
400			HED	HED	HCOST	FOREMAN TRUCK (2 EA)	43	WK		N/A	160	$6,880		
401			HED	HED	HCOST	WATER TRUCK	172	1ST		N/A	130	$22,360		
402			HED	HED	HCOST	WATER TRUCK	172	1ST		N/A	130	$22,360		
403			HED	HED	HCOST	MULE	172	1ST		N/A	28	$4,816		
404			HED	HED	HCOST	MULE	172	1ST		N/A	28	$4,816		
405			HED	HED	HCOST	769 - BACKDUMP	50	1ST		N/A	300	$15,000		
406			HED	HED	HCOST	770 - BACKDUMP	50	1ST		N/A	300	$15,000		
407			HED	HED	HCOST	FUEL TRUCK	172	1ST		N/A	33	$5,676		
408			HED	HED	HCOST	MECHANICS TRUCK	172	WK		N/A	200	$34,400		
422														
423							TOTAL - HEAVY EQUIPMENT					$1,255,321		
821														
823						ADD ABOVE THIS LINE IF NECESSARY								
824						DO NOT DELETE THIS LINE UNLESS DELETING PRE-OUTAGE SECTION OF ESTIMATE	TOTAL - TAGGED TOOLS							
825						TAGGED TOOLS								
826		END	END	END	END	END	END	END	END	END	END	END		

NGSTON					****SUMMARY****					RUN DATE:	22-Mar-06
			TRAVEL & LIVING EXPENSES (Relocation, Per Diem, Expenses, Monti				$55,728				
YPSUM POND CONSTRUCTION (PHASE 1)			TOTAL STAFF DOLLARS				$235,640				
			TOTAL STAFF MANHOURS				5160				

TAFFING	RATE	RELOCATE/ PER DIEM EXPENSES	MONTHLY TRIPS HOME	OUTAGE DOLLARS	NON-OUTAGE DOLLARS	TOTAL STAFF DOLLARS	PRE-OUTAGE DUR (WKS) 40	OUTAGE DUR (WKS) 40	POST-OUT DUR (WKS) 40	TOTAL MANHO
TE MANGER	$67.65	$0	$0	$0	$0	$0				0
ENERAL SUPT.	$63.90	$0	$0	$0	$0	$0				0
OILER SUPT	$49.90	$0	$0	$0	$0	$0				0
LECT SUPT	$49.90	$0	$0	$0	$0	$0				0
ECHANICAL SUPT	$49.90	$0	$0	$0	$0	$0				0
IVIL SUPT	$46.00	$37,152	$0	$0	$158,240	$158,240	86			3440
QUIPMENT MECHANIC	$45.00	$18,576	$0	$0	$77,400	$77,400	43			1720
OST SPECIALIST	$37.72	$0	$0	$0	$0	$0				0
STIMATING MGR	$55.65	$0	$0	$0	$0	$0				0
ELD TECH SPECLST	$48.73	$0	$0	$0	$0	$0				0
ELD ADMIN MGR.	$32.65	$0	$0	$0	$0	$0				0
ISULATION SERV MGR.	$51.94	$0	$0	$0	$0	$0				0
EAD FIELD ADMIN MGR	$44.15	$0	$0	$0	$0	$0				0
ATERIAL COORD.	$22.26	$0	$0	$0	$0	$0				0
AYROLL/TIMEKEEPER	$22.08	$0	$0	$0	$0	$0				0
A/QC INSPECTOR	$44.52	$0	$0	$0	$0	$0	0			0
AFETY COORDINATOR	$40.73	$0	$0	$0	$0	$0				0
AFETY SUPERVISOR	$48.23	$0	$0	$0	$0	$0				0
CHEDULE ANALYST	$50.45	$0	$0	$0	$0	$0				0
CHEDULER	$41.55	$0	$0	$0	$0	$0				0
ECRETARY	$25.00	$0	$0	$0	$0	$0	0			0
ITE PROJ CTRL MGR	$51.65	$0	$0	$0	$0	$0				0
ECH SUPPORT	$26.09	$0	$0	$0	$0	$0				0
IMEKEEPER	$16.32	$0	$0	$0	$0	$0				0
OTALS		$55,728	$0	$0	$235,640	$235,640				5160

0
0
3440
1720
0
0
0
0
0

MATERIAL

GYPSUM POND CONSTRUCTION (PHASE 1)

GYPSUM POND CONSTRUCTION (PHASE 1

KINGSTON

W.O.# 0

PA # 0

#	QT	DESCRIPTION	COST	TOTAL
58282	SY	8 oz GEOTEXTILE FABRIC - NON-WOVEN	$1.33	$77,515.06
1000	LB	KY-31 FESCUE SEED	$1.20	$1,200.00
750	LB	PERINNEAL RYE GRASS SEED	$1.45	$1,087.50
500	LB	15-15-15 FERTILIZER	$0.32	$160.00
30	ROLL	CURLEX	$48.00	$1,440.00
20716	LF	8" HDPE UNDERDRAIN PIPING	$3.85	$79,756.60
580	LF	12" HDPE PIPE BENEATH STORMWATER POND (ASSUMED)	$10.00	$5,800.00
800	EA	STRAW BALES	$3.90	$3,120.00
20102	TN	6"-12" RIP RAP	$11.50	$231,173.00
40	TN	#57 STONE	$10.00	$400.00
20437	TN	CRUSHED STONE	$10.00	$204,370.00
				$0.00
1	LS	PIPE	$22,000.00	$22,000.00
				$0.00
				$0.00
				$0.00
				$0.00
30	ROLL	TYPE "C" SILT FENCE FABRIC	$455.00	$13,650.00
130	HUN	WIRE MESH	$72.00	$9,360.00
3050	EA	"T" POSTS	$4.00	$12,200.00
1	LS	MISC TOOLS / WIRE	$2,000.00	$2,000.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
		TOTAL		**$665,232.16**

COMMODITY CODE ROLL-UP

WorkOrder	CommCode	Description	MHs	Cost
	STLS	SMALL TOOLS	0	$ 5,967.12
	CONS	CONSUMABLES	0	$ 17,901.37
	OSUP	OFFICE SUPPLIES AND EXPENSES	0	$ -
	OTH	OTHER TVA-HED COSTS	0	$ -
	HED	HEAVY EQUIPMENT - GENERAL SUPPORT	0	$ 195,626.00
	950	SUPERVISOR & MECHANIC LABOR & PER DIEM	5160	$ 235,640.00
	950X	STAFF EXPENSES	0	$ -
	TMTL	MATERIALS	0	$ 665,232.16
	TTLS	TAGGED TOOLS	0	$ -
	PSUB1	QA/QC - COMPACTION TESTING	0	$ 130,000.00
	PSUB2	SURVEY	0	$ 24,000.00
	PSUB3	SUNBELT RENTAL PUMP	0	$ 100,000.00
	PSUB4	SUB CONTRACTOR 4	0	$ 11,600.00
	900	MOBILIZATION	0	$ -
	901	ADMINISTRATIVE TIME (CRAFT HIRE)	0	$ -
	902	SUPPORT CRAFT	5160	$ 144,480.00
	904		0	$ -
	905		0	$ -
	908		0	$ -
	912		0	$ -
	930		0	$ -
	940		0	$ -
	9424		0	$ -
	9421		0	$ -
	9423		0	$ -
	9428		0	$ -
	942	GENERAL FOREMAN & LABORER SUPPORT	3440	$ 129,000.00
	100	EARTHWORK CUT / HAUL / FILL (INC. EQUIP.)	29825.08	$ 1,812,303.02
	101	ASH CUT / HAUL / FILL (INC. EQUIP.)	338.585	$ 176,208.40
	102	CLEAR AND GRUB	2400	$ 199,480.00
	103	SILT FENCING / EROSION CONTROLS	1807.595	$ 132,440.04
	104	BUILD ROADWAYS / CONSTRUCTION PARKING	158.145	$ 80,495.80
	105	STORMWATER RUNOFF POND CONSTRUCTION	741.1	$ 37,843.00
	106	BORROW AREA DEVELOPMENT	0	$ 8,970.00
	107	DISPOSAL FACILITY UNDERDRAINAGE / DITCH	15480.74	$ 591,396.14
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
				$ -
				$ -
			0	$ -
			0	$ -
			0	$ -
			0	$ -
			OCIP	$0
		CENTRAL COMMAND - MANAGEMENT COST	CCMC	$345,048
		TOTALS	**64511.24**	**$ 5,043,630.68**

MANHOURS AND TOTAL COST FROM PA COVER 64,831 $5,074,713

TOTALS FROM THIS SHEET SHOULD BE THE SAME AS PA COVER

GYPSUM POND CONSTRUCTION (PHASE 1)
KINGSTON
CLARIFICATIONS TO TVA-HED PROJECT ESTIMATE.
0

1	ESTIMATE IS A PHASE (2), ESTIMATE.
2	ALL MATERIALS ARE INCLUDED EXCEPT AS NOTED.
3	ESTIMATE IS BASED ON 40 HOURS PER WEEK.
4	WAGE RATES ARE PER FY2005 CRAFT AUGMENTED RATES AND NO ESCALATION IS INCLUDED FOR WAGES.
5	ESTIMATE INCLUDES 6 MONTHS FOR LOGGING OF TREES W/ HED FOREMAN ON SITE AT ALL TIMES.
6	MATERIAL / QUANTITIES LIST BASED ON INFORMATION SUPPLIED BY PARSONS ENGR.
	FUEL / WATER TRUCKS AND ASSOCIATED LABOR IS INCLUDED IN ESTIMATE.
7	ALL BORROW DIRT IS ASSUMED TO BE FROM 25 ACRE BORROW AREA @ PENINSULA.
8	ESTIMATE IS BASED ON PROVIDED PARSONS PRELIMINARY DRAWINGS AND QUANTITIES.
9	DURATION BASED ON WORKABLE WEATHER CONDITIONS.
11	GEOTECHNICAL ENGINEERING (COMPACTION TESTING) IS INCLUDED.
12	SURVEY / LAYOUT IS INCLUDED IN ESTIMATE.
13	FULL TIME MECHANIC AND MECHANICS TRUCK IS INCLUDED IN ESTIMATE.
14	ASSUMED GRINDING TREE STUMPS AND TREE LAPS ON SITE. (SUBCONTRACT)
15	SPOILS SITE FOR MULCH WILL NEED TO BE IDENTIFIED BY OTHERS AND IS ESTIMATED AT 2 MILE RD. TRIP.
16	TYPICAL SWPP IS ESTIMATED. (SILT FENCING AND SEDIMENT PONDS AS STATED IN QUANTITIES).
	10% PROFIT MARGIN INCLUDED FOR HED-SPECIAL PROJECTS.
1	

GYPSUM POND CONSTRUCTION (PHASE 1)
KINGSTON
PHASE 1
0
0

CRAFT		Pre-outage				Outage				Post Outage				P
ASBESTOS WORKER	ABJ	0		0	0		0	0	0		0		0		0
BRICKLAYER	BLJ	0		0	0		0	0	0		0		0		0
BOILERMAKER GENERAL FOREMAN	BMG					0				0				0	0
BOILERMAKER FOREMAN	BMF					0				0				0	0
BOILERMAKER	BMJ	0		0	0		0	0	0		0		0		0
CONCRETE MASON	CMJ	0		0	0		0		0		0		0		0
CARPENTER FOREMAN	CAF					0				0				0	0
CARPENTERS	CAJ	0	0	0	0		0	0	0		0	0	0		0
ELECTRICAL GENERAL FOREMAN	ELG					0				0				0	0
ELECTRICAL FOREMAN	ELF					0				0				0	0
ELECTRICAL	ELJ	0	0	0	0		0	0	0		0	0	0		0
INSULATOR GENERAL FOREMAN	AWG					0				0				0	0
INSULATOR FOREMAN	AWF					0				0				0	0
INSULATOR	AWJ	0		0	0		0	0	0		0		0		0
IRONWORKER FOREMAN	IWF					0				0				0	0
IRONWORKER	IWJ	0		0	0		0	0	0		0		0		0
MILLWRIGHT FOREMAN	MWF					0				0				0	0
MILLWRIGHT	MWJ	0		0	0		0	0	0		0		0		0
LABOR FOREMAN	LBF					1048				0				0	1048.181
LABOR	LBJ	3574.8	5160	0	8734.8		0	0	0		0	0	0		8734.843
OPERATOR	OEA	46036	1720	0	47756		0	0	0		0	0	0		47755.57
PAINT FOREMAN	PAF					0				0				0	0
PAINTER	PAJ	0	0	0	0		0	0	0		0	0	0		0
PIPEFITTER GENERAL FOREMAN	PFG					0				0				0	0
PIPE FOREMAN	PFF					0				0				0	0
PIPEFITTER	PFJ	0		0	0		0	0	0		0		0		0
SHEETMETAL FOREMAN	SMF					0				0				0	0
SHEETMETAL	SMJ	0		0	0		0	0	0		0		0		0
TRUCK DRIVER	TM3	1330	1720	0	3050		0	0	0		0	0	0		3049.991
TEAMISTER	TMW	130.85	0	0	130.85		0	0	0		0	0	0		130.845
TOTAL		51071	8600	0		1048	0	0		0	0	0		0	60719

KINGSTON FOSSIL PLANT
(KIF450) STAGE 1 GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Estimate Number	06047R1	**Option:**	0	**PCN Number:**	KIF450
Plant:	KIF	**Revision:**	1	**Estimate Type:**	Preliminary
Cost Engineer:	C. L. Toney	**Unit #:**		**Estimate Accuracy:**	+/- 20%
Requesting Engr:	S. M. Haber	**Phase:**	2	**Estimate Issue Date**	01/26/2006

	Hours	Dollars
Phase I		
Engineering		$0
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase I		***$0***
Phase II		
Engineering		$330,288
Long Lead Procurement		$72,000
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase II		***$402,288***
Phase III		
Construction (Partner)		
Permanent Material		$795,806
Labor (T&L)	80,020.84	$3,017,411
Labor (Non-Manual)	11,583.00	$469,950
Equipment		$1,522,370
Subcontracts		$440,600
Partner Fee		$4,736
Partner Insurance		$2,841
Escalation		$498,933
Construction Risk Dollars		$0
Other		$484,006
Total Construction Cost		$7,236,653
Engineering		$209,850
Direct plant support + TVA Other Costs		$0
Project Risk Dollars		$1,551,209
Other / Other Organizations		$0
Total Phase III		***$8,997,712***
All Phases		
Construction Partner	91,603.84	$7,236,653
Long Lead Procurement		$72,000
Engineering		$540,138
Other / Other Organizations		$0
Total Risk Dollars		$1,551,209
Total Project Costs	**91,603.84**	**$9,400,000**
For Information only Total Environmental		**$0**
For Information only Total Demolition Costs		**$0**

KINGSTON FOSSIL PLANT
(KIF450) STAGE 1 GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Project name	KIF/06047R1/STG 1 GYP PND
Estimator	C. L. Toney
Labor rate table	KIF 40 2005
Equipment rate table	TVA Equipment
Project	Earthwork
Plant	KIF
Estimate #	06047R1
PCN #	KIF450
Requesting Engr	S. M. Haber
Option	0
Revision	1
Phase	2
Estimate Type	Preliminary
Estimate Accuracy	+/- 20%
Est. Issue Date	01/26/2006
Funding Type	Capital
Notes	Cost estimate is based in 2008 dollars. Revision 1 cost estimate has been revised based on information from Lynn Petty based on revised design & quantities provided by GeoSyntec Consultants. Short Term Storage. Construction earthwork portion of estimate provided by HED. Remainder provided by ESS Group.
Report format	Sorted by 'Location/Activity' 'Detail' summary

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Location	Activity	Description	Takeoff Quantity	Labor Productivity	Labor Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
HASE 3 (BOP)												
	17-Pumps & Pipe											
		100 HP Submersible Pump For Phase 1 Stormwater Pond	1.00 ea	84.000	84.00 mh	2,937	60,000	-	308	-	63,244.70	63,245
		Structural Excavation For 18" Diameter Pipe (2,000 lf)	3,260.00 cy	0.200	652.00 mh	16,311	-	-	8,150	-	7.50	24,461
		Bottom Ash Pipe Bedding	112.00 cy	0.500	56.00 mh	1,514	-	-	574	-	18.65	2,088
		18" Diameter Discharge HDPE Pipe, SDR11	2,000.00 lf	0.325	650.40 mh	19,976	92,484	-	9,080	-	60.77	121,539
		Structural Backfill For 18" Diameter Pipe (2,000 lf)	3,014.00 cy	0.320	964.48 mh	24,128	-	-	23,398	-	15.77	47,527
		Platforms Steel	5.00 ton	60.000	300.00 mh	10,067	26,250	-	2,376	-	7,742.43	38,712
		17-Pumps & Pipe			**2,706.88 hrs**	**74,953**	**178,734**		**43,885**			**297,572**
	18-Electrical											
		Phase 1 Transformer 200 kva (13.8 kV to 480 v)	1.00 ls	120.000	120.00 mh	4,193	12,000	-	450	-	16,643.28	16,643
		4/0 600 Volt Cable	200.00 lf	0.100	20.00 mh	708	2,200	-	-	-	14.54	2,908
		3" Diameter GRC Conduit	200.00 lf	0.619	123.80 mh	4,383	8,140	-	-	-	62.62	12,523
		13 kV Amp Pole Mount Fuse Disconnect	1.00 ea	12.000	12.00 mh	425	1,500	-	-	-	1,924.86	1,925
		18-Electrical			**275.80 hrs**	**9,709**	**23,840**		**450**			**33,999**
	xConst Facilities											
		Mobilize, Drug Test, Miscellaneous Other, & Demobilize	1.00 ls	207.893	207.89 mh	5,900	-	-	3,100	-	9,000.00	9,000
		xConst Facilities			**207.89 hrs**	**5,900**			**3,100**			**9,000**
	zNon-Manual											
		Phase 3 Non Manual	1.00 ls	383.000	383.00 mh	19,150	-	-	-	-	19,150.00	19,1
		zNon-Manual			**383.00 hrs**	**19,150**						**19,150**
		PHASE 3 (BOP)			***3,573.57 hrs***	***109,712***	***202,574***		***47,435***			***359,722***
HASE 3 (HED)												
	HED Installation											
		Construction Labor	1.00 ls	76,830.266	76,830.27 mh	***2,926,849***	-	-	-	-	2,926,849.00	2,926,849
		Non Manual Labor	1.00 ls	11,200.000	11,200.00 mh	450,800	-	-	-	-	450,800.00	450,800
		TVA-HED Subcontracts	1.00 ls		-	-	-	440,600	-	-	440,600.00	440,600
		Partner Purchased Material	1.00 ls		-	-	665,232	-	-	-	665,232.00	665,232
		Construction Heavy Equipment	1.00 ls		-	-	-	-	1,474,935	-	1,474,935.00	1,474,935
		Small Tools	1.00 ls		-	-	-	-	-	7,683	7,683.00	7,683
		Supplies, Consumables & Expendable Tools	1.00 ls		-	-	-	-	-	23,049	23,049.00	23,049
		TVA-HED - Central Command	1.00 ls		-	-	-	-	-	448,349	448,349.00	448,349
		HED Installation			**88,030.27 hrs**	**3,377,649**	**665,232**	**440,600**	**1,474,935**	**479,081**		**6,437,497**
		PHASE 3 (HED)			***88,030.27 hrs***	***3,377,649***	***665,232***	***440,600***	***1,474,935***	***479,081***		***6,437,497***

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis
Labor	3,487,361		91,603.839 hrs		
Material	867,806				
Subcontract	440,600				
Equipment	1,522,370		1,970.471 hrs		
Other	479,081				
	6,797,218	6,797,218			
Engineered Materials - Ph 2	72,000			100.000 %	C
Adjustment - Engr Materials	(72,000)			(100.000) %	C
		6,797,218			
Small Tools Expense (BOP)	1,185			0.015 $/hr	H
Consum & Expendables (BOP)	2,960			0.098 %	C
Office Supplies & Exp (BOP)	779			0.166 %	C
	4,924	6,802,142			
Escalation - Craft Labor	292,689			9.700 %	C
Escalation - Subcontract	29,961			6.800 %	C
Escalation - Perm Materials	32,977			3.800 %	C
Escalation - HED Equipment	88,496			6.000 %	C
Escalation - Small Tools	2,721			0.034 $/hr	H
Escalation - Consumables	6,035			0.200 %	C
Escalation - Non-Manual Labor	45,115			9.600 %	C
Escalation - Office Supplies	940			0.200 %	C
	498,934	7,301,076			
Partner Insurance (BOP)	2,841			0.081 %	C
Partner Award Fee (BOP)	4,736			0.136 %	C
	7,577	7,308,653			
FPG Proj Engr - Phase 2	4,200		100.004 hrs	0.109 % @ 42.00	A
FPG Civil Engr - Phase 2	21,000		500.001 hrs	0.546 % @ 42.00	A
GeoSyntec Engr - Phase 2	302,400		4,199.999 hrs	4.585 % @ 72.00	A
FPG Proj Cntrl Cost - Phase 2	672		16.003 hrs	0.017 % @ 42.00	A
FPG Cost Estimating - Phase 2	1,680		40.003 hrs	0.044 % @ 42.00	A
FPG Engr Records - Phase 2	336		7.997 hrs	0.009 % @ 42.00	A
	330,288	7,638,941			
FPG Proj Engr - Phase 3	3,150		74.996 hrs	0.082 % @ 42.00	A
FPG Civil Engr - Phase 3	6,300		150.001 hrs	0.164 % @ 42.00	A
GeoSyntec Engr - Phase 3	50,400		700.000 hrs	0.764 % @ 72.00	A
Mac Tec QA/QC & Certf - Ph 3	150,000		2,083.337 hrs	2.274 % @ 72.00	A
	209,850	7,848,791			
Contingency Ttl Project @ 20%	1,551,209				L
	1,551,209	9,400,000			
Total		9,400,000			

KINGSTON FOSSIL PLANT
(KIF450) TOTAL BUILDOUT OF GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Estimate Number	06048R1	**Option:** 0		**PCN Number:**	KIF450
Plant:	~~KIF~~	**Revision:** 1		**Estimate Type:**	Preliminary
Cost Engineer:	C. L. Toney	**Unit #:**		**Estimate Accuracy:**	+/- 20%
Requesting Engr:	S. M. Haber	**Phase:** 2		**Estimate Issue Date**	01/26/2006

	Hours	Dollars
Phase I		
Engineering		$0
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase I		***$0***
Phase II		
Engineering		$0
Long Lead Procurement		$130,430
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase II		***$130,430***
Phase III		
Construction (Partner)		
Permanent Material		$2,287,846
Labor (T&L)	151,483.69	$5,648,301
Labor (Non-Manual)	20,192.00	$822,400
Equipment		$2,623,914
Subcontracts		$754,600
Partner Fee		$9,104
Partner Insurance		$5,463
Escalation		$939,048
Construction Risk Dollars		$0
Other		$959,376
Total Construction Cost		$14,050,052
Engineering		$419,700
Direct plant support + TVA Other Costs		$0
Project Risk Dollars		$2,899,818
Other / Other Organizations		$0
Total Phase III		***$17,369,570***
All Phases		
Construction Partner	171,675.69	$14,050,052
Long Lead Procurement		$130,430
Engineering		$419,700
Other / Other Organizations		$0
Total Risk Dollars		$2,899,818
Total Project Costs	**171,675.69**	**$17,500,000**
For Information only Total Environmental		**$0**
For Information only Total Demolition Costs		**$0**

Removed pump, pipe + electrical for second pond from this estimate. See markup on estimate.

KINGSTON FOSSIL PLANT
(KIF450) TOTAL BUILDOUT OF GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Project name	KIF/06048R1/STG 2 GYP PND
Estimator	C. L. Toney
Labor rate table	KIF 40 2005
Equipment rate table	TVA Equipment
Project	Earthwork
Plant	KIF
Estimate #	06048R1
PCN #	KIF450
Requesting Engr	S. M. Haber
Option	0
Revision	1
Phase	2
Estimate Type	Preliminary
Estimate Accuracy	+/- 20%
Est. Issue Date	01/26/2006
Funding Type	Capital
Notes	Cost estimate is based in 2008 dollars. Revision 1 cost estimate has been revised based on info from Lynn Petty based on revised design & quantities provided by GeoSyntec Consultants. Gypsum Long Term Rim Ditch Stack. Construction earthwork portion of estimate provided by HED. Remainder provided by ESS Group.
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
HASE 3 (BOP)												
	17-Pumps & Pipe Ph 1											
		100 HP Submersible Pump For Phase 1 Stormwater Pond	1.00 ea	84.000	84.00 mh	2,937	60,000	-	308	-	63,244.70	63,245
		Structural Excavation For 18" Diameter Pipe (2,000 lf)	3,200.00 cy	0.200	652.00 mh	16,311	-	-	8,150	-	7.50	24,461
		Bottom Ash Pipe Bedding	112.00 cy	0.500	56.00 mh	1,514	-	-	574	-	18.65	2,088
		18" Diameter Discharge HDPE Pipe, SDR11	2,000.00 lf	0.325	650.40 mh	19,976	92,484	-	9,080	-	60.77	121,539
		Structural Backfill For 18" Diameter Pipe (2,000 lf)	3,014.00 cy	0.320	964.48 mh	24,128	-	-	23,398	-	15.77	47,527
		Platform Steel	5.00 ton	60.000	300.00 mh	10,087	25,250	-	2,376	-	7,742.43	38,712
		17-Pumps & Pipe Ph 1			**2,706.88 hrs**	**74,953**	**178,734**		**43,885**			**297,572**
	17-Pumps & Pipe Ph 2											
		50 HP Submersible Pump For Phase 2 Stormwater Pond	1.00 ea	54.000	54.00 mh	1,888	38,000	-	205	-	40,093.20	40,093
		Structural Excavation For 12" Diameter Pipe (4,500 lf)	5,250.00 cy	0.200	1,050.00 mh	26,268	-	-	13,125	-	7.50	39,393
		Bottom Ash Pipe Bedding	167.00 cy	0.500	83.50 mh	2,257	-	-	856	-	18.65	3,114
		12" Diameter Discharge HDPE Pipe, SDR11	4,500.00 lf	0.175	788.40 mh	24,214	104,423	-	11,006	-	31.09	139,643
		Structural Backfill For 12" Diameter Pipe (4,500 lf)	4,952.00 cy	0.320	1,584.64 mh	39,643	-	-	38,443	-	15.77	78,086
		Platform Steel	5.00 ton	60.000	300.00 mh	10,087	26,250	-	2,376	-	7,742.43	38,712
		17-Pumps & Pipe Ph 2			**3,860.54 hrs**	**104,357**	**168,673**		**66,011**			**339,041**
	18-Electrical Ph 1											
		Phase 1 Transformer 200 kva (13.8 kV to 480 v)	1.00 ls	120.000	120.00 mh	4,193	12,000	-	450	-	16,643.28	16,6
		4/0 600 Volt Cable	200.00 lf	0.100	20.00 mh	708	2,200	-	-	-	14.54	2,9
		3" Diameter GRC Conduit	200.00 lf	0.619	123.80 mh	4,383	8,140	-	-	-	62.62	12,523
		13 kV Amp Pole Mount Fuse Disconnect	1.00 ea	12.000	12.00 mh	425	1,500	-	-	-	1,924.86	1,925
		18-Electrical Ph 1			**275.80 hrs**	**9,709**	**23,840**		**450**			**33,999**
	18-Electrical Ph 2											
		Phase 1 Transformer 200 kva (13.8 kV to 480 v)	1.00 ls	120.000	120.00 mh	4,193	12,000	-	450	-	16,643.28	16,643
		4/0 600 Volt Cable	200.00 lf	0.100	20.00 mh	708	2,200	-	-	-	14.54	2,908
		3" Diameter GRC Conduit	200.00 lf	0.619	123.80 mh	4,383	8,140	-	-	-	62.62	12,523
		13 kV Amp Pole Mount Fuse Disconnect	1.00 ea	12.000	12.00 mh	425	1,500	-	-	-	1,924.86	1,925
		No 6 15 kvolt Overhead Cable	4,500.00 lf	0.080	360.00 mh	12,746	**42,390**		-	-	12.25	55,136
		Poles Between Ponds (Assumed 40' Wood Pole w/4' Cross Arm)	15.00 ea	16.000	240.00 mh	8,152	8,430	-	2,067	-	1,243.27	18,649
		18-Electrical Ph 2			**875.80 hrs**	**30,607**	**74,660**		**2,517**			**107,784**
	xConst Facilities											
		Mobilize, Drug Test, Miscellaneous Other, & Demobilize	1.00 ls	548.330	548.33 mh	15,600	-	-	8,400	-	24,000.00	24,000
		xConst Facilities			**548.33 hrs**	**15,600**			**8,400**			**24,000**
	zNon-Manual											
		Phase 3 Non Manual	1.00 ls	992.000	992.00 mh	49,600	-	-	-	-	49,600.00	49,600
		zNon-Manual			**992.00 hrs**	**49,600**						**49,600**
		PHASE 3 (BOP)			***9,259.35 hrs***	***284,827***	***445,907***		***121,264***			***851,997***
PHASE 3 (HED)												
	HED Install Ph1+Ph2											
		Construction Labor (Phase 1) Mh's Limited To Timberline Program	1.00 ls	76,830.266	76,830.27 mh	***2,926,849***	-	-	-	-	2,926,849.00	2,926,849
		Construction Labor (Phase 2) Balance Of Mh's Required For Estimate	1.00 ls	66,386.078	66,386.08 mh	***2,486,225***	-	-	-	-	2,486,225.00	2,486,225
		Non Manual Labor	1.00 ls	19,200.000	19,200.00 mh	772,800	-	-	-	-	772,800.00	772,800
		TVA-HED Subcontracts	1.00 ls		-	-	-	754,600	-	-	754,600.00	754,600
		Partner Purchased Material	1.00 ls		-	-	1,972,369	-	-	-	1,972,369.00	1,972,369
		Construction Heavy Equipment	1.00 ls		-	-	-	-	2,502,650	-	2,502,650.00	2,502,650
		Small Tools	1.00 ls		-	-	-	-	-	14,322	14,322.00	14,322
		Supplies, Consumables & Expendable Tools	1.00 ls		-	-	-	-	-	42,965	42,965.00	42,965
		TVA-HED - Central Command	1.00 ls		-	-	-	-	-	891,284	891,284.00	891,284
		HED Install Ph1+Ph2			**162,416.34 hrs**	**6,185,874**	**1,972,369**	**754,600**	**2,502,650**	**948,571**		**12,364,064**
		PHASE 3 (HED)			***162,416.34 hrs***	***6,185,874***	***1,972,369***	***754,600***	***2,502,650***	***948,571***		***12,364,064***

Person Performing Activity
1/31/06

Person Performing Activity
1/31/06

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis
Labor	6.470.701		######### hrs		
Material	2.418.276				
Subcontract	754.600				
Equipment	2.623.914		4.985.891 hrs		
Other	948.571				
	13.216.062	13.216.062			
Engineered Materials - Ph 2	130.430			100.000 %	C
Adjustment - Engr Materials	(130.430)			(100.000) %	C
		13.216.062			
Small Tools Expense (BOP)	2.686			0.018 $/hr	H
Consum & Expendables (BOP)	6.623			0.117 %	C
Office Supplies & Exp (BOP)	1.497			0.182 %	C
	10.806	13.226.868			
Escalation - Craft Labor	547.885			9.700 %	C
Escalation - Subcontract	52.067			6.900 %	C
Escalation - Perm Materials	91.894			3.800 %	C
Escalation - HED Equipment	150.159			6.000 %	C
Escalation - Small Tools	5.150			0.034 $/hr	H
Escalation - Consumables	11.297			0.200 %	C
Escalation - Non-Manual Labor	78.950			9.600 %	C
Escalation - Office Supplies	1.645			0.200 %	C
	939.047	14.165.915			
Partner Insurance (BOP)	5.463			0.084 %	C
Partner Award Fee (BOP)	9.104			0.141 %	C
	14.567	14.180.482			
FPG Proj Engr - Phase 3	6.300		149.993 hrs	0.087 % @ 42.00	A
FPG Civil Engr - Phase 3	12.600		300.003 hrs	0.175 % @ 42.00	A
GeoSyntec Engr - Phase 3	100.800		1.399.998 hrs	0.815 % @ 72.00	A
Mac Tec QA/QC & Certf - Ph 3	300.000		7.142.859 hrs	4.161 % @ 42.00	A
	419.700	14.600.182			
Contingency Ttl Project @ 20%	2.899.818				L
	2.899.818	17.500.000			
Total		17.500.000			

Toney, Calvin L.

From: Petty, Harold L.
Sent: Friday, January 20, 2006 7:45 AM
To: Toney, Calvin L.
Cc: Purkey, Ronald E.; Hughes, Michael
Subject: FW: One final item

Calvin:

Here are the revised capital construction quantities for the gypsum disposal area at Kingston on the peninsula.

The file is tabbed so there is one tab for phase I and another tab for phase 1&2.

The goal is to revise the estimate we had done with Dan's quantities before Thanksgiving but using these quantities.

We need the estimate back from you next Friday.

Thanks,
Lynn

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-----Original Message-----
From: Neil Davies [mailto:NDavies@GeoSyntec.com]
Sent: Friday, January 20, 2006 12:10 AM
To: Petty, Harold L.
Subject: One final item

Here is the quantity take for the cost estimate. We will bring hard copies with us.

Thanks.

Neil

R. Neil Davies, C.Eng., MICE, P.E.
Principal/Branch Manager

GeoSyntec Consultants, Inc.
1255 Roberts Blvd. Suite 200
Kennesaw, GA 30144

phone: 678-202-9500
direct: 678-202-9545
fax: 678-202-9501

www.geosyntec.com

PRELIMINARY

KIF Gypsum on Peninsula
Phase 1 - Gypsum Long Term Rim Ditch Stack

ITEM	DESCRIPTION	UNITS	QUANTITY	T-1 Spec	Comments/Assumptions
7.00	Gypsum Stack Peninsula (7.00 through 18.00)				
7.01	Clear and Grub				
7.02	Clear and grub	ac	30		C - Tree line only
7.03	Strip 1 ft vegetation and topsoil - spoil at stockpile	cy	100,000		C - 62 acres - Phase 1 & Stormwater Pond area
8.00	Erosion Controls / Ponds				
8.01	Erect silt fence	lf	7,150		C -
8.02	Cut for stormwater runoff ponds	cy	5,339		C -
8.03	Fill for stormwater runoff ponds	cy	43,223		C - gross fill volume; subtract cut to obtain net fill volume
8.04	Riprap for stormwater runoff pond (if needed)	ton	8,102		C - Pond perimeter = 2588 ft @ midslope, 57 ft slope length
8.05	CMP for outlet structure (assume 72 in dia)	lf	12		C
8.06	CMP for riser for outlet structure (assume 48 in dia)	lf	14		C
8.07	CMP outlet pipe (principal spillway - assume 48 in)	lf	150		C
8.08	Concrete for riser base (assume 7' x 7' x 2')	cy	5		C
8.09	Anti-seep collars (assume concrete)	ea	3		C -
8.10	Pipe bedding	ton	20		C
9.00	Access Roads				Assume 7000' long road, 20 ft wide
9.01	Bottom Ash	cy	2,593		C - 6" bottom ash
9.02	Crushed stone base	ton	2,566		C - 4" stone with an assumed unit weight = 110 pcf
9.03	Crushed stone base - parking lot	ton	275		C - Assume 100 ft x 100 ft w/6 in crushed stone (110 pcf)
10.00	Fencing (Excluding Dewatering Facility)				
10.01	New fencing (including grounding)	lf	200		C - Assume chain link fence to block road only
10.02	Gates	ea	2		C - 1 @ each end
11.00	Seed/Mulch				
11.01	Seed/Mulch disturbed areas	ac	16		C - Area outside perimeter berm, 100' width
12.00	Borrow Area Development				
12.01	Clear and Grub	ac	34		C
12.02	Erect silt fence	lf	5,000		C
12.03	Temporary perimeter ditch	cy			C
12.04	Additional items related to stormwater management	ls	1		C
13.00	Gypsum Disposal Facility				
13.01	Disposal Facility Construction				
13.01	Earthwork cut	cy	281,023		C - to shape base in gypsum stack area

ITEM	DESCRIPTION	UNITS	QUANTITY	T-1 Spec	Comments/Assumptions
13.02	Proofroll subgrade	ac	45		C - Phase 1 area
13.03	Earthwork fill from borrow area	cy	74,762		C - Net fill = 355784 (gross fill) - 281,023 (cut)
13.04	Cut and Recompact liner	cy	176,135		C - 3' compacted clay liner
13.05	8 oz nonwoven geotextile for centerline underdrain	sy	58,282		C - Wrapped around pipe bedding, includes 10% waste & overlap
13.06	12" depth 1081 crushed stone (110 pcf)	ton	14,260		C - 1726' long, 150' wide, 1' deep
13.07	8-in. dia HDPE centerline underdrain piping	lf	10,358		C - 6 pipes @ 1711' long each
13.08	Perimeter underdrain pipe	lf	4,000		C - at toe of soil starter berm
13.09	HDPE Fittings	ea	13		C - 5 tees, 2 elbows, 6 caps
13.10	Surface water diversion ditch	lf	3,000		C - From gypsum dewatering facility to river discharge point east of Phase II disposal area
13.11	Riprap for diversion ditch (assume D_{50} = 6 in)	ton	12,000		C - Assumes 10 ft deep w/9 ft bottom width & 3:1 side slopes
13.12	Drainage pipe from sump to stormwater pond	lf	580		C -
13.13	Lift Station to stormwater pond	ea	1		C -
13.14	Drop inlet	ea	1		C - North of stormwater pond
13.15	Diversion pipe beneath stormwater pond	lf	800		C -
13.16	Perimeter road - bottom ash base	cy	2,180		C - Assume 6" base layer - 1.1 mile, 20' wide roadway around perimeter on soil starter berm surface
13.17	Perimeter road - crushed stone	ton	2,160		C - Assume 4" stone layer around perimeter w/unit wt = 110 pcf
14.00	**Gypsum Stack Operation**				
14.01	6" dia perforated HDPE perimeter toe underdrains	lf			O&M
14.02	1081 crushed stone surrounding pipe (110 pcf)	ton			O&M
14.03	8-oz nonwoven geotextile for perimeter underdrain	sy			O&M - Wrapped around stone envelope
14.04	6" dia solid HDPE SDR 17 lateral outlet pipes	lf			O&M
14.05	Wet Cast Gypsum Dike	cy			O&M - From crown elevation of initial soil berm to 850
14.06	Cut Rim Ditches	cy			O&M
14.07	Gypsum Disposal Stack (wet sluice)	cy			O&M
14.08	Life of Gypsum Disposal Stack	yr			O&M - Assume 547,500 cu. yds. per year settled gypsum (@ 67 pcf)
15.00	**Construction parking**				
15.01	Earthwork cut	bcy			C
15.02	Earthwork fill	bcy			C
15.03	Crushed stone base - parking lot	ton	620		C - Assume 150' x 150' area w/6" crushed stone @ 110 pcf
16.00	**Engineering**				

ITEM	DESCRIPTION	UNITS	QUANTITY	T-1 Spec	Comments/Assumptions
16.01	Engineering	ls	1		Assume 10% of construction cost
17.00	**Lift Station**				
17.01	Phase 1 Pond	ea	1		
18.00	**Electrical**				

Notes:

1 C - Capital cost

2 O&M - Operation and Maintenance Cost

3 This preliminary estimate of quantities was based on conceptual drawings presented as part of the project planning documment (PPD). These quantities will be updated upon the completion of the final design drawings. Prior to construction, it is the responsibility of the contractor to verify the material quantities based on final design drawings.

Toney, Calvin L.

From: Workman, Brad
Sent: Wednesday, January 25, 2006 7:27 PM
To: Toney, Calvin L.
Cc: Petty, Harold L.; Radford, Larry D.; Oliver, Don; Lowery, Kenny R.; Jones, Sonja R.; Stewart, David W.
Subject: KIF - Gypsum Pond Const. Estimate - Phase 1

Calvin,
Please review the attached Rev 01 - Phase 1 - KIF Gypsum Pond construction estimate. If you have questions or comments, please call.

Thanks,
Brad Workman
TVA - HED
(931) 320-1044

Ø6Ø47R1

HED ESTIMATE SUMMARY

REV# 1

0

LOCATION: KINGSTON
SHORT CODE: KENNY LOWERY

UNIT NO: PHASE 1

PRINT DATE: 25-Jan-06
ESTIMATE DATE: 10-Nov-05

PROJECT DESCRIPTION: GYPSUM POND CONSTRUCTION (PHASE 1)

WORKSCOPE: DEVELOP SOIL BORROW AREA, DEWATER BOTTOM ASH POND BORROW AREA, PERFORM EROSION CONTROL WORK PER STANDARD SWPPP, BUILD HAUL ROADS, BUILD ACCESS ROADS, BUILD CONSTRUCTION PARKING AREA, BUILD PHASE 1 OF GYPSUM POND.

DURATION: 1.35 YEARS OR (70 WEEKS) IF CLEARED. THEN SITE WORK BEGINS. INCLUDES 4 WEEKS OVERALL FOR BAD WEATHER.
6 MONTHS FOR CLEARING OF TREES BY LOGGING COMPANY
10 MONTHS FOR BORROW AREA DEVELOPMENT / ROAD CONSTRUCTION / POND CONSTRUCTION.

	TYPE OF FUNDING	
PHASE 2	CAPITAL > 100K	

PREPARED BY: B. WORKMAN (HED)

			Comments
1. TVA-HED LABOR COSTS			
Craft Augmented Labor	MANHOURS	76830	Includes all aspects of Phase 1 work.
	COST	$2,926,849	Based on FY 2005 labor rates.
Non-Manual Labor	MANHOURS	11,200	Supervisor and (2) Mechanics full time for 1.35 years.
	COST	$450,800	Includes Hourly Rates & Per Diem for both men.
Contingency 0.00%	MANHOURS	0	
	COST	$0	
SUBTOTAL TVA-HED LABOR	MANHOURS	88,030	
	COST	**$3,377,649**	
2. TVA-HED OTHER COSTS			
TVA-HED Subcontracts		$440,600	Survey / Layout / Fence Cont./ Compac. Testing / Mulch Grinding Cont.
TVA-HED Subcontract Fee		$0	
Travel & Living Expenses		See "Non-Manual Labor"	
TVA-HED Material Purchases		$0	
HED Other Costs		$0	
Contingency 0%		$0	
SUBTOTAL TVA-HED OTHER		**$440,600**	
TOTAL TVA-HED COSTS		**$3,818,249**	
3. ITEMS MANAGED BY TVA-HED			
Permanent Materials		$665,232	Per Quantities Peovided by Parsons E & C.
Heavy Equipment		$1,474,935	Based on FY 2005 (HED) Equipment Rates.
Tagged & 3rd Party Rental Equipment		$0	
Small Tools		$7,683	
Supplies, Consumables & Expendable Tools		$23,049	
Office Supplies & Expenses		$0	
Other TVA-HED Costs		$0	
TVA subcontracts (By Others)		$0	
Partner or OCIP Insurance		$0	
TVA-HED - Central Command 10.00%		$448,348	
Contingency 0%		$0	
SUBTOTAL TVA-HED MANAGED		**$2,619,247**	
TOTAL TVA-HED COSTS		**$6,437,497**	

APPROVALS: **ESTIMATE TOTAL** **6,437,497**

ESC TO 2008 DOLLARS

TVA-HED Estimator — Date:

TVA - Project Manager — Date:

TVA - Project Engineer — Date:

TVA - Site Environmental Engineer — Date:

TVA – Heavy Equipment Division
Estimate for
Kingston – Phase 1 Gypsum Disposal Facility Pond Construction

01/25/06

Mr. Calvin Toney,

We thank you for the opportunity to provide the following estimate for the TVA - Kingston (Phase 1) Gypsum Disposal Facility Pond Construction. The below estimate is based upon the provided Parsons Engineering quantities and Preliminary drawings.

The understood TVA-HED Scope of Work for the project is as follows:

"Erosion Controls / SWPPP":

- Provide all technical support, supervision, labor, equipment and materials to join together all the various phases of the work and deliver a complete project.
- Install a total of approximately 7,150 lf of Type "C" silt fence w/ 10% estimated for straw bales.
- Construct construction parking area.
- Cut approximately 43,223 CY of clay for stormwater runoff pond construction and haul to Gypsum Disposal Facility for new construction use.
- Install 12 lf of 72" Outlet Structure.
- Install 14 lf of 48" riser.
- Install 150 lf of 48" principle spillway.
- Pour concrete "anti-seep" collars at all joints.
- Allowance - Clean out Gypsum Stack stormwater runoff pond as needed. (approximately 1,000 cy)
- Clear and Grub approximately 30 acres at Gypsum Stack Peninsula. (Includes clear cut logging as well).
- Mulch with grinder all remaining stumps and tree laps not carried off site by Logging Company.

"Borrow Area Development":

- Clear and Grub approximately 34 acres at borrow site.
- Clear cut all timber on approximately 34 acres for clay borrow site.
- Mulch with grinder all remaining stumps and tree laps not carried off site by Logging Company.

"Haul / Access Roads":

- Build / Improve & maintain haul roads to and from the borrow sites (Clay and Bottom Ash) consisting of approximately 1.5 miles of roadway.
- Build Gypsum Disposal Facility Access Roadways with 2,200 TN of new stone.
- Build Gypsum Disposal Facility Access Roadways with 1,956 CY of Bottom Ash.
- Install Fence and gates at road. (200 lf w/ 1 personnel and 1 swing gate.)

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

"Disposal Facility Construction":

- Proof-roll all Gypsum Stack sub-grade. (50 acres)
- Over-excavate 3' depth in Gypsum Stack liner area (approximately 50 acres), then re-place and re-compact liner material. (211,362 cy)
- Cut existing clay inside Gypsum Stack area to shape base inside Gypsum Stack area. (approximately 337,228 cy)
- Install centerline underdrain piping inside new Gypsum Stack.
- Install 58,282 sy of non-woven geotextile fabric in new centerline underdrain.
- Excavate and install 4,000 lf total of 8" HDPE underdrain piping around perimeter of Stack.
- Install 14,260 tn of 12" deep crushed stone in new centerline underdrain.
- Install Perimeter road with 6" of Bottom Ash topped with 4" of crushed stone. (1 mile of 20' wide roadway)
- Install rip-rap diversion ditch (approximately 12,000 tn).

"Clarifications to Estimated Scope of Work":

- Allowance Included – 15% Double handling of liner material foreseen as risk due to unsuitable soil for liner construction encountered during over-excavation. This cost is included in estimate.
- No "rock removal / excavation" costs are included in cost estimate or project schedule duration.
- All craft / supervisor labor wage rates are FY 2005 wage rates.
- All equipment rates are TVA - HED FY 2005 equipment rates utilizing TVA - HED heavy equipment.
- All "Bank Cubic Yard" quantities provided are escalated 20% for compaction / shrinkage.
- Estimate includes contingencies for inclement weather.
- Estimate assumes TVA - HED to be sole General Contractor responsible for said Gypsum Stack Construction scope of work.
- Estimate includes sub-contract costs for Fence Contractor, TVA Surveyors to provide layout, and project control points during various stages of the work for the identified schedule duration as needed, Geotechnical Engineers to provide compaction test results as required, and mulching of tree stumps, laps, etc. after clearing of trees is completed.
- Seed and Mulch all disturbed areas outside dikes. (approximately 16 acres) is included.

"Schedule":

All work is currently estimated for 4 – 10 hour shifts per work week with no overtime included.

Individual project schedules end dates per activity shall vary from one to another. We propose to complete all work identified above within 1.35 years from start of project as stated on "Estimate Summary" sheet provided with this estimate.

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

If you have questions regarding this work as estimated, please feel free to contact us at the below numbers.

Total Estimated Cost - $6,437,497.00 Lump Sum

Thank You,
Kenny Lowery
TVA HED
(256)762-6401

cc: Brad Workman
TVA – HED
(931) 320-1044

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

PRELIMINARY

KIF Gypsum on Peninsula
Phases 1 & 2 - Gypsum Long Term Rim Ditch Stack

ITEM	DESCRIPTION	UNITS	QUANTITY	T-1 Spec	Comments/Assumptions
7.00	Gypsum Stack Peninsula (7.00 through 18.00)				
7.01	Clear and Grub				
7.02	Clear and grub	ac	35		C - Tree line only
7.03	Strip 1 ft vegetation and topsoil - spoil at stockpile	cy	193,600		C - 120 acre area for entire site
8.00	Erosion Controls / Ponds				
8.01	Erect silt fence	lf	11,870		C - 2 stages (around Phase 1 and later around Phase 2)
8.02	Cut for stormwater runoff ponds	cy	5,339		C -
8.03	Fill for stormwater runoff ponds	cy	43,223		C - gross fill volume; subtract cut to obtain net fill volume
8.04	Riprap for stormwater runoff pond (if needed)	ton	8,102		C - Pond perimeter = 2588 ft @ midslope, 57 ft slope length
8.05	CMP for outlet structure (assume 72 in dia)	lf	12		C
8.06	CMP for riser for outlet structure (assume 48 in dia)	lf	14		C
8.07	CMP outlet pipe (principal spillway - assume 48 in)	lf	150		C
8.08	Concrete for riser base (assume 7' x 7' x 2')	cy	5		C
8.09	Anti-seep collars (assume concrete)	ea	3		C -
8.10	Pipe bedding	ton	20		C
9.00	Access Roads				Assume 7000' long road, 20 ft wide
9.01	Bottom Ash	cy	2,593		C - 6" bottom ash
9.02	Crushed stone base	ton	2,566		C - 4" stone with an assumed unit weight = 110 pcf
9.03	Crushed stone base - parking lot	ton	275		C - Assume 100 ft x 100 ft w/6 in crushed stone (110 pcf)
10.00	Fencing (Excluding Dewatering Facility)				
10.01	New fencing (including grounding)	lf	200		C - Assume chain link fence to block road only
10.02	Gates	ea	2		C - Personnel
11.00	Seed/Mulch				
11.01	Seed/Mulch disturbed areas	ac	27		C - Area outside perimeter berm (100' width)
12.00	Borrow Area Development				
12.01	Clear and Grub	ac	34		C
12.02	Erect silt fence	lf	5,000		C
12.03	Temporary perimeter ditch	cy			C
12.04	Additional items related to stormwater management	ls	1		C
13.00	Gypsum Disposal Facility				
13.01	Disposal Facility Construction				
13.01	Earthwork cut	cy	588,673		C - to shape base in gypsum stack area

ITEM	DESCRIPTION	UNITS	QUANTITY	T-1 Spec	Comments/Assumptions
13.02	Proofroll subgrade	ac	100		C - Phase 1 & 2 areas
13.03	Earthwork fill from borrow area	cy	145,344		C - Net fill = 734,016 (gross fill) - 588,673 (cut)
13.04	Cut and Recompact liner	cy	328,693		C - 3' compacted clay liner; = 176,135 (P1) + 152,558 (P2)
13.05	8 oz nonwoven geotextile for centerline underdrain	sy	730,110		C - Wrapped around pipe bedding, includes 10% waste & overlap
13.06	12" depth 1081 crushed stone (110 pcf)	ton	27,350		C - 3315' long, 150' wide, 1' deep
13.07	8-in. dia HDPE centerline underdrain piping	lf	19,890		C - 6 pipes @ 3315' long each
13.08	Perimeter underdrain pipe	lf	6,000		C - at toe of soil starter berm
13.09	HDPE Fittings	ea	13		C - 5 tees, 2 elbows, 6 caps
13.10	Surface water diversion ditch	lf	4,435		C - From gypsum dewatering facility to river discharge point east of Phase II disposal area
13.11	Riprap for diversion ditch (assume D_{50} = 6 in)	ton	18,000		C - Assumes 10 ft deep w/9 ft bottom width & 3:1 side slopes
13.12	Drainage pipe from sump to stormwater pond	lf	580		C -
13.13	Lift Station to stormwater pond	ea	1		C -
13.14	Drop inlet	ea	1		C - North of stormwater pond
13.15	Diversion pipe beneath stormwater pond	lf	800		C -
13.16	Perimeter road - bottom ash base	cy	3,755		C - Assume 6" base layer - 1.92 mile, 20' wide roadway around perimeter on soil starter berm surface
13.17	Perimeter road - crushed stone	ton	3,717		C - Assume 4" stone layer around perimeter w/unit wt = 110 pcf
14.00	**Gypsum Stack Operation**				
14.01	6" dia perforated HDPE perimeter toe underdrains	lf			O&M
14.02	1081 crushed stone surrounding pipe (110 pcf)	ton			O&M
14.03	8-oz nonwoven geotextile for perimeter underdrain	sy			O&M - Wrapped around stone envelope
14.04	6" dia solid HDPE SDR 17 lateral outlet pipes	lf			O&M
14.05	Wet Cast Gypsum Dike	cy			O&M - From crown elevation of initial soil berm to 850
14.06	Cut Rim Ditches	cy			O&M
14.07	Gypsum Disposal Stack (wet sluice)	cy			O&M
14.08	Life of Gypsum Disposal Stack	yr			O&M - Assume 547,500 cu. yds. per year settled gypsum (@ 67 pcf)
15.00	**Construction parking**				
15.01	Earthwork cut	bcy			C
15.02	Earthwork fill	bcy			C
15.03	Crushed stone base - parking lot	ton	275		C - Assume 100' x 100' area w/6" crushed stone @ 110 pcf
16.00	**Engineering**				
16.01	Engineering	ls	1		Assume 10% of construction cost

ITEM	DESCRIPTION	UNITS	QUANTITY	T-1 Spec	Comments/Assumptions
17.00	Lift Station				
17.01	Phase 1 Pond	ea	1		
18.00	Electrical				

Notes:

1 C - Capital cost
2 O&M - Operation and Maintenance Cost
3 This preliminary estimate of quantities was based on conceptual drawings presented as part of the Project Planning Documment (PPD). These quantities will be updated upon the completion of the final design drawings. Prior to construction, it is the responsibility of the contractor to verify the material quantities based on final design drawings.

Toney, Calvin L.

From: Workman, Brad
Sent: Wednesday, January 25, 2006 7:29 PM
To: Toney, Calvin L.
Cc: Petty, Harold L.; Radford, Larry D.; Lowery, Kenny R.; Oliver, Don; Jones, Sonja R.; Stewart, David W.
Subject: KIF - Gypsum Pond Const. Estimate - Phase 2

Calvin,
Please review the attached Rev 01 - Phase 2 - KIF Gypsum Pond construction estimate. If you have questions or comments, please call.

Thanks,
Brad Workman
TVA - HED
(931) 320-1044

Page 1 of 4

HED ESTIMATE SUMMARY

REV-# 1

46048R1 ADD PHASE 1 FOR TOTAL BUILDOUT

LOCATION: KINGSTON
SHORT CODE: KENNY LOWERY

UNIT NO: PHASE 2

PRINT DATE: 25-Jan-06
ESTIMATE DATE: 10-Nov-05

PROJECT DESCRIPTION: GYPSUM POND CONSTRUCTION (PHASE 2)

WORKSCOPE: DEVELOP SOIL BORROW AREA, DEWATER BOTTOM ASH POND BORROW AREA, PERFORM EROSION CONTROL WORK PER STANDARD SWPPP, BUILD HAUL ROADS, BUILD ACCESS ROADS, BUILD CONSTRUCTION PARKING AREA, BUILD PHASE 2 OF GYPSUM POND.

DURATION: 0.83 YEARS OR (45 WEEKS) IF CLEARED, THEN SITE WORK BEGINS. INCLUDES 6 WEEKS OVERALL FOR BAD WEATHER.
1 MONTH FOR CLEARING OF TREES BY LOGGING COMPANY
9 MONTHS FOR BORROW AREA DEVELOPMENT / ROAD CONSTRUCTION / POND CONSTRUCTION.

	TYPE OF FUNDING	
PHASE 2	CAPITAL > 100K	

PREPARED BY: B. WORKMAN (HED)

				Comments
1. TVA-HED LABOR COSTS				
Craft Augmented Labor $37.80		MANHOURS 143,216	66386 + 76830	Includes all aspects of Phase 1 work.
		COST 5,413,174	$2,486,225+2926149	Based on FY 2005 labor rates.
Non-Manual Labor $40.25		MANHOURS 19200	8,000+11,200	Supervisor and Mechanic full time for 1.35 years.
		COST 772,800	$322,000+450,800	Includes Hourly Rates & Per Diem for both men.
Contingency	0.00%	MANHOURS	0	
		COST	$0	
SUBTOTAL TVA-HED LABOR		MANHOURS 162416	74,386+88030	
		COST 6,185,974	**$2,808,225 + 3377,649**	
2. TVA-HED OTHER COSTS				
TVA-HED Subcontracts 754,600			$314,000+440,600	Survey / Layout / Fence Cont./ Compac. Testing / Mulch Grinding Cont.
TVA-HED Subcontract Fee			$0	
Travel & Living Expenses			See "Non-Manual Labor"	
TVA-HED Material Purchases			$0	
HED Other Costs			$0	
Contingency	0%		$0	
SUBTOTAL TVA-HED OTHER 754,600			**$314,000+440,600**	
TOTAL TVA-HED COSTS 6,940,474			**$3,122,225+3,818,249**	
3. ITEMS MANAGED BY TVA-HED				
Permanent Materials 1977,369			$1,307,137+665,232	Per Quantities Peovided by Parsons E & C.
Heavy Equipment 2502,650			$1,027,715+1,474,924	Based on FY 2005 (HED) Equipment Rates.
Tagged & 3rd Party Rental Equipment			$0	
Small Tools 14,322			$6,639+7683	
Supplies, Consumables & Expendable Tools 42,965			$19,916+23049	
Office Supplies & Expenses			$0	
Other TVA-HED Costs			$0	
TVA subcontracts (By Others)			$0	
Partner or OCIP Insurance			$0	
TVA-HED - Overhead 891,284	10.00%		$442,936+448,348	
Contingency	0%		$0	
SUBTOTAL TVA-HED MANAGED 5423,589			**$2,804,342+2,619247**	
TOTAL TVA-HED COSTS 12,364,064			**$5,926,567+6437497**	

APPROVALS: ESTIMATE TOTAL 5,926,567

ESC TO 2008 DOLLARS

TVA-HED Estimator — Date:

TVA - Project Manager — Date:

TVA - Project Engineer — Date:

TVA - Site Environmental Engineer — Date:

TVA – Heavy Equipment Division
Estimate for
Kingston – Phase 2 Gypsum Disposal Facility Pond Construction

01/25/06

Mr. Calvin Toney,

We thank you for the opportunity to provide the following estimate for the TVA - Kingston (Phase 2) Gypsum Disposal Facility Pond Construction. The below estimate is based upon the provided Parsons Engineering quantities and Preliminary drawings.

The understood TVA-HED Scope of Work for the project is as follows:

"Erosion Controls / SWPPP":

- Provide all technical support, supervision, labor, equipment and materials to join together all the various phases of the work and deliver a complete project.
- Install a total of approximately 4,720 lf of Type "C" silt fence w/ 10% estimated for straw bales.
- Clear and Grub approximately 5 acres at Gypsum Stack Peninsula. (Includes clear cut logging as well).
- Mulch with grinder all remaining stumps and tree laps not carried off site by Logging Company.

"Haul / Access Roads":

- Build / Improve & maintain haul roads to and from the borrow sites (Clay and Bottom Ash) consisting of approximately 1.5 miles of roadway.

"Disposal Facility Construction":

- Over-excavate 3' depth in Gypsum Stack liner area, then re-place and re-compact liner material. (approximately 183,070 cy)
- Cut existing clay inside Gypsum Stack area to shape base inside Gypsum Stack area. (approximately 369,180 cy)
- Install 9,532 lf of centerline underdrain piping inside new Gypsum Stack.
- Install 671,828 sy of non-woven geotextile fabric in new centerline underdrain.
- Excavate and install 2,000 lf total of 8" HDPE underdrain piping around perimeter of Stack.
- Install 13,090 tn of 12" deep crushed stone in new centerline underdrain.
- Install remaining perimeter road with 6" of Bottom Ash topped with 4" of crushed stone. (1 mile of 20' wide roadway)
- Install rip-rap diversion ditch (approximately 6,000 tn)

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

"Clarifications to Estimated Scope of Work":

- Allowance Included – 15% Double handling of liner material foreseen as risk due to unsuitable soil for liner construction encountered during over-excavation. This cost is included in estimate.
- No "rock removal / excavation" costs are included in cost estimate or project schedule duration.
- All craft / supervisor labor wage rates are FY 2005 wage rates.
- All equipment rates are TVA - HED FY 2005 equipment rates utilizing TVA - HED heavy equipment.
- All "Bank Cubic Yard" quantities provided are escalated 20% for compaction / shrinkage.
- Estimate includes contingencies for inclement weather.
- Estimate assumes TVA - HED to be sole General Contractor responsible for said Gypsum Stack Construction scope of work.
- Estimate includes sub-contract costs for TVA Surveyors to provide layout, and project control points during various stages of the work for the identified schedule duration as needed, Geotechnical Engineers to provide compaction test results as required, and mulching of tree stumps, laps, etc. after clearing of trees is completed.
- Seed and Mulch all disturbed areas outside dikes. (approximately 11 acres) is included.

"Schedule":

All work is currently estimated for 4 – 10 hour shifts per work week with no overtime included.

Individual project schedules end dates per activity shall vary from one to another. We propose to complete all work identified above within 13 months from start of project as stated on "Estimate Summary" sheet provided with this estimate.

If you have questions regarding this work as estimated, please feel free to contact us at the below numbers.

Total Estimated Cost - $5,926,567.00 Lump Sum

Thank You,
Kenny Lowery
TVA HED
(256)762-6401

cc: Brad Workman
TVA – HED
(931) 320-1044

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
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KINGSTON FOSSIL PLANT
(KIF450) STAGE 1 GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Estimate Number	06047	**Option:**	0	**PCN Number:**	KIF450 (Gypsum Disposal)
Plant:	KIF	**Revision:**	0	**Estimate Type:**	Preliminary
Cost Engineer:	C. L. Toney	**Unit #:**		**Estimate Accuracy:**	+/- 20%
Requesting Engr:	S. M. Haber	**Phase:**	2	**Estimate Issue Date**	11/17/2005

	Hours	Dollars
Phase I		
Engineering		$0
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase I		***$0***
Phase II		
Engineering		$330,288
Long Lead Procurement		$72,000
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase II		***$402,288***
Phase III		
Construction (Partner)		
Permanent Material		$885,084
Labor (T&L)	96,962.57	$3,693,018
Labor (Non-Manual)	7,583.00	$346,750
Equipment		$1,906,627
Subcontracts		$340,600
Partner Fee		$5,486
Partner Insurance		$3,291
Escalation		$574,309
Construction Risk Dollars		$0
Other		$545,660
Total Construction Cost		$8,300,825
Engineering		$209,850
Direct plant support + TVA Other Costs		$0
Project Risk Dollars		$1,787,037
Other / Other Organizations		$0
Total Phase III		***$10,297,712***
All Phases		
Construction Partner	104,545.57	$8,300,825
Long Lead Procurement		$72,000
Engineering		$540,137
Other / Other Organizations		$0
Total Risk Dollars		$1,787,037
Total Project Costs	**104,545.57**	**$10,700,000**
For Information only Total Environmental		**$0**
For Information only Total Demolition Costs		**$0**

KINGSTON FOSSIL PLANT
(KIF450) STAGE 1 GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Project name	KIF/06047/STG 1 GYP POND
Estimator	C. L. Toney
Labor rate table	KIF 40 2005
Equipment rate table	TVA Equipment
Project	Earthwork
Plant	KIF
Estimate #	06047
PCN #	KIF450
Requesting Engr	S. M. Haber
Option	0
Revision	0
Phase	2
Estimate Type	Preliminary
Estimate Accuracy	+/- 20%
Est. Issue Date	11/21/2005
Funding Type	Capital
Notes	Cost estimate is based in 2008 dollars. Short Term Storage. Construction earthwork portion of estimate provided by HED. Remainder provided by ESS Group.
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
HASE 3 (BOP)												
	17-Pumps & Pipe											
		100 HP Submersible Pump For Phase 1 Stormwater Pond	1.00 ea	84.000	84.00 mh	2,937	60,000	-	308	-	63,244.70	63,245
		Structural Excavation For 18" Diameter Pipe (2,000 lf)	3,260.00 cy	0.200	652.00 mh	16,311	-	-	8,150	-	7.50	24,461
		Bottom Ash Pipe Bedding	112.00 cy	0.500	56.00 mh	1,514	-	-	574	-	18.65	2,088
		18" Diameter Discharge HDPE Pipe, SDR11	2,000.00 lf	0.325	650.40 mh	19,976	92,464	-	9,080	-	60.77	121,539
		Structural Backfill For 18" Diameter Pipe (2,000 lf)	3,014.00 cy	0.320	964.48 mh	24,128	-	-	23,398	-	15.77	47,527
		Platforms Steel	5.00 ton	60.000	300.00 mh	10,087	26,250	-	2,376	-	7,742.43	38,712
		17-Pumps & Pipe			**2,706.88 hrs**	**74,953**	**178,734**		**43,885**			**297,572**
	18-Electrical											
		Phase 1 Transformer 200 kva (13.8 kV to 480 v)	1.00 ls	120.000	120.00 mh	4,193	12,000	-	450	-	16,643.28	16,643
		4/0 600 Volt Cable	200.00 lf	0.100	20.00 mh	708	2,200	-	-	-	14.54	2,908
		3" Diameter GRC Conduit	200.00 lf	0.619	123.80 mh	4,383	8,140	-	-	-	62.62	12,523
		13 kV Amp Pole Mount Fuse Disconnect	1.00 ea	12.000	12.00 mh	425	1,500	-	-	-	1,924.86	1,925
		18-Electrical			**275.80 hrs**	**9,709**	**23,840**		**450**			**33,999**
	xConst Facilities											
		Mobilize, Drug Test, Miscellaneous Other, & Demobilize	1.00 ls	207.893	207.89 mh	5,900	-	-	3,100	-	9,000.00	9,000
		xConst Facilities			**207.89 hrs**	**5,900**			**3,100**			**9,0**
	zNon-Manual											
		Phase 3 Non Manual	1.00 ls	383.000	383.00 mh	19,150	-	-	-	-	19,150.00	19,1
		zNon-Manual			**383.00 hrs**	**19,150**						**19,150**
		PHASE 3 (BOP)			***3,573.57 hrs***	***109,712***	***202,574***		***47,435***			***359,722***
'HASE 3 (HED)												
	HED Installation											
		Construction Labor	1.00 ls	93,772.000	93,772.00 mh	***3,602,456***	-	-	-	-	3,602,456.00	3,602,456
		Non Manual Labor	1.00 ls	7,200.000	7,200.00 mh	***327,600***	-	-	-	-	327,600.00	327,600
		TVA-HED Subcontracts	1.00 ls		-	-	-	***340,600***	-	-	340,600.00	340,600
		Partner Purchased Material	1.00 ls		-	-	***754,510***	-	-	-	754,510.00	754,510
		Construction Heavy Equipment	1.00 ls		-	-	-	-	***1,859,192***	-	1,859,192.00	1,859,192
		Small Tools	1.00 ls		-	-	-	-	-	***9,377***	9,377.00	9,377
		Supplies, Consumables & Expendable Tools	1.00 ls		-	-	-	-	-	***28,131***	28,131.00	28,131
		TVA-HED - Central Command	1.00 ls		-	-	-	-	-	***502,517***	502,517.00	502,517
		HED Installation			**100,972.00 hrs**	**3,930,056**	**754,510**	**340,600**	**1,859,192**	**540,025**		**7,424,383**
		PHASE 3 (HED)			***100,972.00 hrs***	***3,930,056***	***754,510***	***340,600***	***1,859,192***	***540,025***		***7,424,383***

Estimate Totals

Labor	4,039,768		104,545.573	hrs			
Material	957,084						
Subcontract	340,600						
Equipment	1,906,627		1,970.471	hrs			
Other	540,025						
	7,784,104	7,784,104			72.75%		
Engineered Materials - Ph 2	72,000		100.000	%		C	
Adjustment - Engr Materials	(72,000)		(100.000)	%		C	
		7,784,104			72.75%		
Small Tools Expense (BOP)	1,436		0.015	$/hr		H	
Consum & Expendables (BOP)	3,823		0.098	%		C	
Office Supplies & Exp (BOP)	375		0.166	%		C	
	5,634	7,789,738			72.80%		
Escalation - Craft Labor	358,223		9.700	%		C	
Escalation - Subcontract	23,501		6.900	%		C	
Escalation - Perm Materials	36,369		3.800	%		C	
Escalation - HED Equipment	111,552		6.000	%		C	
Escalation - Small Tools	3,297		0.034	$/hr		H	
Escalation - Consumables	7,386		0.200	%		C	
Escalation - Non-Manual Labor	33,288		9.600	%		C	
Escalation - Office Supplies	694		0.200	%		C	
	574,310	8,364,048			78.17%		
Partner Insurance (BOP)	3,291		0.081	%		C	
Partner Award Fee (BOP)	5,486		0.136	%		C	
	8,777	8,372,825			78.25%		
FPG Proj Engr - Phase 2	4,200		0.096	% @	42.00	A	100
FPG Civil Engr - Phase 2	21,000		0.478	% @	42.00	A	500
Parsons Engr - Phase 2	302,400		4.017	% @	72.00	A	4,200
FPG Proj Cntrl Cost - Phase 2	672		0.015	% @	42.00	A	16
FPG Cost Estimating - Phase 2	1,680		0.038	% @	42.00	A	40
FPG Engr Records - Phase 2	336		0.008	% @	42.00	A	8
	330,288	8,703,113			81.34%		
FPG Proj Engr - Phase 3	3,150		0.072	% @	42.00	A	75
FPG Civil Engr - Phase 3	6,300		0.143	% @	42.00	A	150
Parsons Engr - Phase 3	50,400		0.670	% @	72.00	A	700
Mac Tec QA/QC & Certf - Ph 3	150,000		1.993	% @	72.00	A	2,083
	209,850	8,912,963			83.30%		
Contingency Ttl Project @ 20%	1,787,037					L	
	1,787,037	10,700,000			100.00%		
	Total	***10,700,000***					

KINGSTON FOSSIL PLANT
(KIF450) TOTAL BUILDOUT OF GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Estimate Number	06048	**Option:**	0	**PCN Number:**	KIF450 (Gypsum Disposal)
Plant:	KIF	**Revision:**	0	**Estimate Type:**	Preliminary
Cost Engineer:	C. L. Toney	**Unit #:**		**Estimate Accuracy:**	+/- 20%
Requesting Engr:	S. M. Haber	**Phase:**	2	**Estimate Issue Date**	11/17/2005

	Hours	Dollars
Phase I		
Engineering		$0
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase I		***$0***
Phase II		
Engineering		$0
Long Lead Procurement		$130,430
Partner (Non-Manual)		
Other / Other Organizations		$0
Total Phase II		***$130,430***
Phase III		
Construction (Partner)		$1,457,845
Permanent Material	209,833.35	$8,024,608
Labor (T&L)	17,872.00	$817,640
Labor (Non-Manual)		$4,224,969
Equipment		$594,600
Subcontracts		$12,441
Partner Fee		$7,465
Partner Insurance		$1,229,302
Escalation		$0
Construction Risk Dollars		$1,124,680
Other		$17,493,550
Total Construction Cost		
Engineering		$419,700
Direct plant support + TVA Other Costs		$0
Project Risk Dollars		$3,656,320
Other / Other Organizations		$0
Total Phase III		***$21,569,570***
All Phases		
Construction Partner	227,705.35	$17,493,550
Long Lead Procurement		$130,430
Engineering		$419,700
Other / Other Organizations		$0
Total Risk Dollars		$3,656,320
Total Project Costs	**227,705.35**	**$21,700,000**
For Information only Total Environmental		**$0**
For Information only Total Demolition Costs		**$0**

KINGSTON FOSSIL PLANT
(KIF450) TOTAL BUILDOUT OF GYPSUM POND
PHASE 2 APPROVAL COST ESTIMATE

Project name	KIF/06048/STG 2 GYP POND
Estimator	C. L. Toney
Labor rate table	KIF 40 2005
Equipment rate table	TVA Equipment
Project	Earthwork
Plant	KIF
Estimate #	06048
PCN #	KIF450
Requesting Engr	S. M. Haber
Option	0
Revision	0
Phase	2
Estimate Type	Preliminary
Estimate Accuracy	+/- 20%
Est. Issue Date	11/21/2005
Funding Type	Capital
Notes	Cost estimate is based in 2008 dollars. Gypsum Long Term Rim Ditch Stack. Construction earthwork portion of estimate provided by HED. Remainder provided by ESS Group.
Report format	Sorted by 'Location/Activity' 'Detail' summary

Page 1
11/17/2005 10:17 AM

Estimate Totals

Labor	8,842,248		227,705.350	hrs			
Material	1,588,275						
Subcontract	594,600		4,985.891	hrs			
Equipment	4,224,969						
Other	1,110,064				75.39%		
	16,360,156	16,360,156					
Engineered Materials - Ph 2	130,430		100.000	%		C	
Adjustment - Engr Materials	(130,430)		(100.000)	%		C	
		16,360,156			75.39%		
Small Tools Expense (BOP)	3,720		0.018	$/hr		H	
Consum & Expendables (BOP)	9,409		0.117	%		C	
Office Supplies & Exp (BOP)	1,488		0.182	%		C	
	14,617	16,374,773			75.46%		
Escalation - Craft Labor	778,387		9.700	%		C	
Escalation - Subcontract	41,027		6.900	%		C	
Escalation - Perm Materials	60,354		3.800	%		C	
Escalation - HED Equipment	246,222		6.000	%		C	
Escalation - Small Tools	7,134		0.034	$/hr		H	
Escalation - Consumables	16,049		0.200	%		C	
Escalation - Non-Manual Labor	78,493		9.600	%		C	
Escalation - Office Supplies	1,635		0.200	%		C	
	1,229,301	17,604,074			81.12%		
Partner Insurance (BOP)	7,465		0.084	%		C	
Partner Award Fee (BOP)	12,441		0.141	%		C	
	19,906	17,623,980			81.22%		
FPG Proj Engr - Phase 3	6,300		0.066	% @	42.00	A	150
FPG Civil Engr - Phase 3	12,600		0.132	% @	42.00	A	300
Parsons Engr - Phase 3	100,800		0.615	% @	72.00	A	1,400
Mac Tec QA/QC & Certf - Ph 3	300,000		3.137	% @	42.00	A	7,143
	419,700	18,043,680			83.15%		
Contingency Ttl Project @ 20%	3,656,320					L	
	3,656,320	21,700,000			100.00%		
	Total	***21,700,000***					

Message

Toney, Calvin L.

From: Petty, Harold L.
Sent: Thursday, November 03, 2005 1:42 PM
To: Smith, Daniel R.; Lowery, Kenny R.; Toney, Calvin L.; Bowers, Larry C; Workman, Brad
Cc: Purkey, Ronald E.; Radford, Larry D.; Latsch, Mitchell D.
Subject: KIF - Gypsum Peninsula - coordination highlights

Here's a bullet list of what we talked about in today's meeting.

Dan Smith is to resend the drawings (as a .pdf file) and the quantities to Brad Workman & Kenny Lowery.

Kenny Lowery and Brad Workman (HED) are estimating the gypsum storage area heavy earthwork (civil) construction per the quantities that Dan is providing. Two estimates are expected. **Stage 1** - (expected construction) building the partial pond on the side closest to the plant and dewatering area. The **Stage 2** estimate is really a total build out of the entire footprint. HED's input to Calvin is due to him Nov. 10th (but can be read as in his hands the morning of Nov 14th.)

Dan (WorleyParsons) is finishing up the other input (electrical, mechanical, some civil) that includes the pumps, xformers, pump platforms, discharge line pipe, etc. That is due to Calvin on the same timeframe - Nov. 10th (but can be read as in his hands the morning of Nov 14th.).

Further to that end we identified a point (coordinates later) of where the power will be supplied to by Advatech. That serves as an interface point location to identify scope of who does what and where.....

Calvin will roll up the estimate the week of Nov 14th (he is out of the office Nov. 18th) giving him time to ask questions for clarification, etc. His roll up will be complete Nov 21st.

We also discussed the blanket underdrain and need for speedy resolution.

Our next coordination meeting will be Wednesday 11/9/05 at 10 am. I'll send out a meeting notice. Anyone who cannot attend can call in via phone.

Thanks,
Lynn

– ENGR Rollup –

	P S T A	SCOD	Activity ID	Forecast Start	Forecast Finish	Finish Target
35	A	001DQ13	VRRESKIFC1	15JUL05A	30AUG05A	
31	A	001DQ13	VRRESKIFZ4	03OCT05A	30SEP06	
39	A	001DNL4	VRRESSYSAG	03OCT05A	30SEP06	
39	A	001DNL4	VRRESSYSAH	03OCT05A	30SEP06	
35	A	001DQ13	VRRESSYSAI	03OCT05A	30SEP06	
36	A	001DQ13	VRRESSYSAJ	03OCT05A	30SEP06	
35	A	001B9NF	VRRESSYSAK	03OCT05A	30SEP06	
15	A	001DQ14	VRRESKIFPM	27FEB06*	09JUN06	
15	A	001DQ13	VRRESKIFCE	03NOV05A	29SEP06	

I

35	A	001DQ13	VRKIFSWP00	17NOV05*	06JAN06	

PAF--U3 FGD ADDITION

Phase A Preliminary Engineering

37	A	001B9NF	VRPAF200E0	25MAY05A	01JUL05A	
37	A	001B9NF	VRPAF200E1	25JUL05A	05AUG05A	
37	A	001B9NF	VRPAF200E2	25JUL05A	05AUG05A	
37	A	001B9NF	VRPAF200E3	25JUL05A	05AUG05A	
37	A	001B9NF	VRPAF200E5	16AUG05A	17AUG05A	
37	A	001B9NF	VRPAF200E6	29AUG05A	06SEP05A	
37	A	001B9NF	VRPAF200E4	14NOV05*	18NOV05	

E

35	A	001B9NF	VRRESPAFC2	29SEP03A	26SEP04A	
35	A	001B9NF	VRRESPAFC3	29SEP03A	26SEP04A	

2005 | 2006 | 2007

J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D A

CONTACT TDOT RE: TURNING LANE HWY 70

FY 06 MECH ENG SUPP - KINGSTON 6- 9 FGD ADDITIO

FY 06 FIRE PROT SUPP-KINGSTON 6- 9 FGD ADDITION

FY 06 AGW&S SUPP-KINGSTON 6- 9 FGD ADDITION

FY 06 CIVIL SUPP-KINGSTON 6- 9 FGD ADDITION

FY 06 ELECT SUPP-KINGSTON 6- 9 FGD ADDITION

FY 06 CIVIL SUPP-KINGSTON 6- 9 FGD ADDITION

FY 06 KIF450 U6-9 FGD ADD-PROJECT CONTROL SUPPOR

FY 06 KIF450 U6-9 FGD -COST ESTIMATING SUPPORT

CT KIF450 PENINSULA

50 DEVELOP SWPPP (FGD/LHF CONSTRUCT PERMIT)

200-U3 FGD - ELECTRICAL - REVIEW APS STUDY

PAF200-U3 FGD - ELECT- REVIEW ARC FLASH STUDY

PAF200 ELECT- REVW RELAY COORD.FOR 12B(ABSORBER)

PAF200 ELECT- REVW RELAY COORD.FOR 406 AREA (LS)

PAF200 ELECT- UPS FAT IN RHODE ISLAND

PAF200 ELECT- REVW PAF ELECT CALC'S (RESUBMITTAL

PAF200 ELECT- REVW CONTACTOR GROUNDING DEVICE

Start Date	08AUG00
Finish Date	30NOV07
Data Date	06NOV05
Run Date	03NOV05 13:25

Early Bar
Progress Bar
Critical Activity

FHEM - GENA

TENNESSEE VALLEY AUTHORITY

Classic Schedule Layout

Date	Revision	Checked	Approved

KIF450

Toney, Calvin L.

From: Smith, Daniel R (Chattanooga) [Daniel.R.Smith@worleyparsons.com]
Sent: Sunday, October 30, 2005 7:26 PM
To: Toney, Calvin L.; Radford, Larry D.
Cc: Petty, Harold L.; Hughes, Michael

Larry/Calvin, attached please find quantity takeoffs for the peninsula site at KIF. We will need two estimates; one for Phase 1 and another for Phase 2. Information for pumps will be provided later.

Lynn, I will probably need to schedule a meeting shortly if Larry and Calvin need to discuss. Larry, who will do the estimating for HED?

Thanks

Daniel R. (Dan) Smith, PE
Supervising Civil Engineer
WorleyParsons
633 Chestnut St., Suite 400 Ph (423)757-8088
Chattanooga, TN 37450 Fax (423)266-0922
Email: daniel.r.smith@worleyparsons.com

KIF 0323_Quantity Take-off_REV 2 11-3-05.xls

STAGE 1 - Phase 1 KIF ASD 2005 DOLLARS 11/07/2005

PRELIMINARY

: Gypsum on Peninsula
ase 1 - Gypsum Pond (Short-term Storage)

ITEM	DESCRIPTION	UNITS	QUANTITY	T-1 Spec	Comments/Assumptions
					See Note 1 at end of table
7.00	**Gypsum Stack Peninsula (7.00 through 18.00)**				
7.01	**Clear and Grub**				
7.02	Clear and grub	ac	25		C - Treeline only
7.03	Strip 1 ft vegetation and topsoil - spoil at stockpile	bcy	83,893		C - 52 ac entire site, place soil on site approximately 1 mile roundtrip.
8.00	**Erosion Controls / Ponds**				
8.01	Erect silt fence	lf	5,875		C - 6 ft post spacing, trench bottom of fence, 10% hay bales
8.02	Cut for stormwater runoff ponds	bcy	130,250		C - Phase 1 Pond: 6 ac 17' deep. Place as fill in gypsum stack area
8.03	Fill for stormwater runoff ponds	bcy	0		C - No fill will be required for Pond 1 b/c it lies in cut
8.04	Riprap for stormwater runoff pond	ton	2,713		C - Combined - 1 ft deep along inside slope
8.05	72 in dia cmp for outlet structure	lf	12		C
8.06	48 in dia cmp for riser for outlet structure	lf	14		C
8.07	Cut holes in riser	ea	6		C
8.08	48 in dia cmp outlet pipe (principle spillway)	lf	300		C
8.09	(2) Concrete for riser base (assume 7ft x 7 ft x 2 ft)	cy	9		C
8.10	Anti-seep collars (assume concrete)	ea	14		C - Assume 1.5 cy concrete per collar
8.11	Pipe bedding - #57 stone	ton	40		C
8.12	Clean out stormwater runoff pond	bcy	2,680		C - Assume 2 ft sediment, 67 cy/ac depth x 40 ac
9.00	**Access Roads**				Assume 1 mile of roadway (5280 ft); road is 20 ft wide
9.01	Bottom Ash	bcy	1956		C - Assume 6 in bottom ash
9.02	Crushed stone base	ton	1917		C - Assume 4 inch stone (1032), 110 pcf
9.03	Crushed stone base	ton	275		C - Assume 100 x 100 ft w/ 6 in crushed stone (110 pcf)
10.00	**Fencing (Exclude De-watering Facility)**				
10.01	New fencing (including grounding)	lf	200		C - Assume chain link fence to block road only - no perimeter fence
10.02	Gates, swinging	ea	1		C - personnel
10.03	Gates, sliding, w/ motorized operator	ea	1		C - 20 ft wide
11.00	**Seed/Mulch**				
11.01	Seed/Mulch disturbed areas	ac	12		C - Areas outside dike

12.00	**Borrow Area Development**				
12.01	Clear and grub	ac	8		C
12.02	Erect silt fence	lf	3,000		C
12.03	Temporary perimeter ditch	bcy	1,450		C
12.04	Cut for stormwater runoff ponds	bcy	1,106		C
12.05	Fill for stormwater runoff ponds	bcy	222		C
12.06	72 in dia cmp for outlet structure	lf	12		C
12.07	48 in dia cmp for riser for outlet structure	lf	20		C
12.08	Cut holes in riser	ea	5		C
12.09	48 in dia cmp outlet pipe (principle spillway)	lf	200		C
12.10	(2) Concrete for riser base (assume 7ft x 7 ft x 2 ft)	cy	9		C
12.11	Anti-seep collars (assume concrete)	ea	20		C - Assume 1.5 cy concrete per collar
12.12	Pipe bedding - #57 stone	ton	25		C - Assumed Unit wt = 125 pcf
12.13	Clean out stormwater runoff pond	bcy	3,226		C
13.00	**Gypsum Disposal Facility**				
13.01	**Disposal Facility Construction**				
13.01	Earthwork cut	bcy	251,537		C - to shape base in gypsum stack area
13.02	Earthwork fill from borrow area	bcy	254,073		C - Remaining fill from onsite borrow area. 635860-(251537+130250)=254073 Haul Length = 2.2 miles roundtrip
13.03	Additional spoil material	bcy	0		
13.04	Proofroll subgrade	ac	50		C
13.05	Cut and recompact liner	bcy	215,556		C - Over excavate 3' and recompact to build liner
13.06	Perimeter underdrain pipe	lf	5,250		C - 8 in dia HDPE, SDR = 17, perforated
13.07	Cut for Underdrain system	cy	1,000		C
13.08	Geotextile 8 oz nonwoven for underdrain	sy	7,500		C - Wrapped around pipe bedding
13.09	6" depth 1081 crushed stone (110 pcf)	ton	495		C - Initial bedding for underdrain piping
13.10	Underdrain piping (8" dia HDPE)	lf	9000		C
13.11	HDPE Fittings for underdrain piping	ea	65		C
13.12	2.5' thick bottom ash drainage layer	bcy	179,630		C
13.13	6" Fly ash layer	bcy	35,926		C - Mix
13.14	Perimeter road surfacing - bottom ash	cy	1956		C - 6 in bottom ash topped w/ 4 in stone - 1 mi of roadway 20 ft wide
13.15	Perimeter road surfacing - crushed stone	ton	1917		C - Assumed Unit wt = 110pcf - 1 miles of roadway
13.16	Riprap Ditch (D50 = 6 in)	ton	41,475		C - Assume 2 ft deep riprap, 5165 lf ditch, Unit wt = 110 pcf
13.17	8oz nonwoven geotextile (if riprap is used)	sy	41,894		C - Assume ditch has 9 ft bottom width, 10 ft depth and 3:1 side slopes

14.00	**Gypsum on Peninsula Disposal Cost**				
[redacted]					
15.00	**Construction parking**				
15.01	Earthwork cut	bcy	833		C
15.02	Earthwork fill	bcy	300		C
15.03	Crushed stone base	ton	675		C - Assume 150 x 150 ft x 6 in thick crushed stone base
16.00	**Engineering**				
16.01	Engineering	ls			C - Take 10% of construction cost (see Dan Smith to confirm engineering cost).
17.00	**Pump Station**				
17.01	Phase 1 Pond				Later
17.02	Phase 2 Pond				Later
18.00	**Electrical**				See Electrical takeoffs

Notes:
. Item #7 corresponds to Gypsum Disposal at the Peninsula. This numbering system matched the one used for the comparative study done in December '04.

C - Capital cost
O&M - Operation and Maintenance cost

[redacted] Red means that these O&M quantities DO NOT need to be estimated.
Yellow means that these quantities will be provided later

Message

PH 2 - Approval

0647

Toney, Calvin L.

From: Workman, Brad
Sent: Monday, November 14, 2005 12:04 PM
To: Toney, Calvin L.
Cc: Petty, Harold L.; Radford, Larry D.; Lowery, Kenny R.; Stewart, David W.
Subject: HED - KIF Phase 1 Gypsum Pond Construction Estimate

Calvin,
I have attached KIF Gypsum Pond Const. Estimate and Detailed Estimate Summary. If you have questions or comments, please give me a call.

Thank you,
Brad Workman
TVA - HED
(931) 320-1044

TVA – Heavy Equipment Division
Estimate for
Kingston – Phase 1 Gypsum Disposal Facility Pond Construction

11/14/05

Mr. Calvin Toney,

We thank you for the opportunity to provide the following estimate for the TVA - Kingston (Phase 1) Gypsum Disposal Facility Pond Construction. The below estimate is based upon the provided Parsons Engineering quantities and Preliminary drawings.

The understood TVA-HED Scope of Work for the project is as follows:

"Erosion Controls / SWPPP":

- Provide all technical support, supervision, labor, equipment and materials to join together all the various phases of the work and deliver a complete project.
- Install a total of approximately 8,875 lf of Type "C" silt fence w/ 10% estimated for straw bales.
- Construct construction parking area.
- Cut approximately 156,300 CY of clay for stormwater runoff pond construction and haul to Gypsum Disposal Facility for new construction use.
- Install 12 lf of 72" Outlet Structure.
- Install 14 lf of 48" riser.
- Install 2,713 TN of Rip Rap 1' deep inside slope of pond.
- Install 300 lf of 48" principle spillway.
- Pour concrete "anti-seep" collars at all joints.
- Allowance - Clean out Gypsum Stack stormwater runoff pond as needed. (approximately 3,216 cy)
- Clear and Grub approximately 25 acres at Gypsum Stack Peninsula. (Includes clear cut logging as well).
- Mulch with grinder all remaining stumps and tree laps not carried off site by Logging Company.
- Seed / Mulch approximately 12 acres outside Gypsum Disposal Facility dikes.

"Borrow Area Development":

- Clear and Grub approximately 8 acres at borrow site.
- Clear cut all timber on approximately 8 acres for clay borrow site.
- Mulch with grinder all remaining stumps and tree laps not carried off site by Logging Company.
- Strip approximately 83,893 CY of topsoil from the stated 8 acre borrow area, haul and spoil at Gypsum Disposal Facility site approximately ½ mile away from borrow area.
- Excavate temporary ditch on perimeter of borrow area. (approximately 1,740 CY of material to be excavated).

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

- Cut approximately 1,327 CY of clay for stormwater runoff pond construction and haul to Gypsum Disposal Facility for new construction use.
- Install 12 lf of 72" Outlet Structure.
- Install 20 lf of 48" riser.
- Install 200 lf of 48" principle spillway.
- Pour concrete "anti-seep" collars at all joints.
- Allowance - Clean out borrow area stormwater runoff pond as needed. (approximately 3,871 cy)

"Haul / Access Roads":

- Build / Improve & maintain haul roads to and from the borrow sites (Clay and Bottom Ash) consisting of approximately 1.5 miles of roadway.
- Build Gypsum Disposal Facility Access Roadways with 2,200 TN of new stone.
- Build Gypsum Disposal Facility Access Roadways with 1,956 CY of Bottom Ash.
- Install Fence and gates at road. (200 lf w/ 1 personnel and 1 swing gate.)

"Disposal Facility Construction":

- Proof-roll all Gypsum Stack sub-grade. (50 acres)
- Over-excavate 3' depth in Gypsum Stack liner area (approximately 50 acres), then re-place and re-compact liner material. (258,667 cy)
- Cut existing clay inside Gypsum Stack area to shape base inside Gypsum Stack area. (approximately 301,844 cy)
- Cut, haul and compact clay fill from borrow area inside Gypsum Stack dike base. (approximately 304,888 cy)
- Excavate and install 14,250 lf total of 8" HDPE underdrain piping around perimeter of Stack.
- Install approximately 495 ton of underdrain bedding stone.
- Wrap pipe bedding stone with 7,500 SY of 8 oz. geotextile for underdrain.
- Install 2.5' thick Bottom Ash drainage layer. (approximately 215,556 cy)
- Install 6" thick Fly Ash layer over Bottom Ash (mix). (approximately 43,111 cy)
- Install Perimeter road with 6" of Bottom Ash topped with 4" of crushed stone. (1 mile of 20' wide roadway)
- Excavate and install 2' deep rip-rap stone on 8oz. geotextile in Gypsum Stack Perimeter Ditch. (approximate ditch dimensions – 1 mile long x 10' deep x 9' wide bottom. Estimate assumes ditch will be constructed with fill dirt from borrow area while constructing stack dikes. No typical detail provided. Approximately 41,475 ton of rip-rap, and 41,894 SY of 8oz geotextile material.)

"Clarifications to Estimated Scope of Work":

- Allowance Included – 15% Double handling of liner material foreseen as risk due to unsuitable soil for liner construction encountered during over-excavation. This cost is included in estimate.
- No "rock removal / excavation" costs are included in cost estimate or project schedule duration.
- All craft / supervisor labor wage rates are FY 2005 wage rates.

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

- All equipment rates are TVA - HED FY 2005 equipment rates utilizing TVA - HED heavy equipment.
- All "Bank Cubic Yard" quantities provided are escalated 20% for compaction / shrinkage.
- Estimate includes contingencies for inclement weather.
- Estimate assumes TVA - HED to be sole General Contractor responsible for said Gypsum Stack Construction scope of work.
- Estimate includes sub-contract costs for Fence Contractor, TVA Surveyors to provide layout, and project control points during various stages of the work for the identified schedule duration as needed, Geotechnical Engineers to provide compaction test results as required, and mulching of tree stumps, laps, etc. after clearing of trees is completed.
- Seed and Mulch all disturbed areas outside dikes. (approximately 12 acres)

"Schedule":
All work is currently estimated for 4 – 10 hour shifts per work week with no overtime included.
Individual project schedules end dates per activity shall vary from one to another. We propose to complete all work identified above within 1 ½ years from start of project as stated on "Estimate Summary" sheet provided with this estimate.

If you have questions regarding this work as estimated, please feel free to contact us at the below numbers.

Total Estimated Cost - $7,424,383.00 Lump Sum

Thank You,
Kenny Lowery
TVA HED
(256)762-6401

cc: Brad Workman
(931) 320-1044

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

HED ESTIMATE SUMMARY

REV # 0

0

LOCATION: KINGSTON
SHORT CODE: KENNY LOWERY

UNIT NO: PHASE 1

PRINT DATE: 14-Nov-05
ESTIMATE DATE: 10-Nov-05

PROJECT DESCRIPTION: GYPSUM POND CONSTRUCTION (PHASE 1)

WORKSCOPE: DEVELOP SOIL BORROW AREA, DEWATER BOTTOM ASH POND BORROW AREA, PERFORM EROSION CONTROL WORK PER STANDARD SWPPP, BUILD HAUL ROADS, BUILD ACCESS ROADS, BUILD CONSTRUCTION PARKING AREA, BUILD PHASE 1 OF GYPSUM POND.

DURATION: 1.5 YEARS OR (76 WEEKS) IF CLEARED, THEN SITE WORK BEGINS. INCLUDES 4 WEEKS OVERALL FOR BAD WEATHER.
6 MONTHS FOR CLEARING OF TREES BY LOGGING COMPANY
1 YEAR FOR BORROW AREA DEVELOPMENT / ROAD CONSTRUCTION / POND CONSTRUCTION.

	TYPE OF FUNDING	
PHASE 2	CAPITAL > 100K	

PREPARED BY: B. WORKMAN (HED)

				Comments
1. TVA-HED LABOR COSTS				
Craft Augmented Labor	MANHOURS	✓	93772	Includes all aspects of Phase 1 work.
	COST	✓	$3,602,456	Based on FY 2005 labor rates.
Non-Manual Labor	MANHOURS	✓	7,200	Supervisor and Mechanic full time for 1.5 years.
	COST	✓	$327,600	Includes Hourly Rates & Per Diem for both men.
Contingency	0.00% MANHOURS		0	
	COST		$0	
SUBTOTAL TVA-HED LABOR	MANHOURS		100,972	
	COST		**$3,930,056**	
2. TVA-HED OTHER COSTS				
TVA-HED Subcontracts		✓	$340,600	Survey / Layout / Fence Cont./ Compac. Testing / Mulch Grinding Cont.
TVA-HED Subcontract Fee			$0	
Travel & Living Expenses			See "Non-Manual Labor"	
TVA-HED Material Purchases			$0	
HED Other Costs			$0	
Contingency	0%		$0	
SUBTOTAL TVA-HED OTHER			**$340,600**	
TOTAL TVA-HED COSTS		✓	**$4,270,656**	
3. ITEMS MANAGED BY TVA-HED				
Permanent Materials		✓	$754,510	Per Quantities Peovided by Parsons E & C.
Heavy Equipment		✓	$1,859,192	Based on FY 2005 (HED) Equipment Rates.
Tagged & 3rd Party Rental Equipment			$0	
Small Tools		✓	$9,377	
Supplies, Consumables & Expendable Tools		✓	$28,131	
Office Supplies & Expenses			$0	
Other TVA-HED Costs			$0	
TVA subcontracts (By Others)			$0	
Partner or OCIP Insurance			$0	
TVA-HED - Central Command	10.00%	✓	$502,517	
Contingency	0%		$0	
SUBTOTAL TVA-HED MANAGED			**$3,153,727**	
TOTAL TVA-HED COSTS			**$7,424,383**	

APPROVALS: **ESTIMATE TOTAL** **7,424,383 LS**

ESCALATE TO 2008 DOLLARS

TVA-HED Estimator — Date:

TVA - Project Manager — Date:

TVA - Project Engineer — Date:

TVA - Site Environmental Engineer — Date:

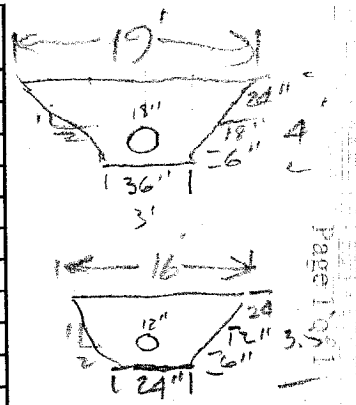
Toney, Calvin L.

From: Smith, Daniel R (Chattanooga) [Daniel.R.Smith@worleyparsons.com]
Sent: Monday, November 14, 2005 5:08 PM
To: Toney, Calvin L.
Cc: Workman, Brad; Lowery, Kenny R.; Petty, Harold L.; Hughes, Michael
Subject: KIF Peninsula - Speadsheets with electrical and pumps added

Attached are updated QTO for pumps, piping, and electrical components. A separate tab has been set up. This file name is the same as it was before, so it will overwrite any previous files. Only the electrical and pump info has been added in the separate tab – nothing else has been added.

Daniel R. (Dan) Smith, PE
Supervising Civil Engineer
WorleyParsons
633 Chestnut St., Suite 400 Ph (423)757-8088
Chattanooga, TN 37450 Fax (423)266-0922
Email: daniel.r.smith@worleyparsons.com

ITEM	DESCRIPTION	UNITS	QUANTITY	Comments/Assumptions
	Pumps & Pipe Phase 1			
17.00	100 hp pump for Phase 1 Stormwater Pond	ea	1	
17.01	18 in dia discharge HDPE pipe SDR 11	lf	2000	Bury 3.5 ft deep with bottom ash bedding
17.02	Platform steel	ton	5	
17.03	**Pumps & Pipe Full buildout**	ea	1	
17.04	50 hp pump for Phase 2 stormwater Pond	ea	1	
17.05	12 in dia discharge HDPE Pipe SDR 11	lf	4500	Bury 3.5 ft deep with bottom ash bedding
17.06	Platform steel	ton	5	
18.00	**Electrical - Phase 1**			
18.01	Phase 1 Transformer 200kva	LS	$8,000	13.8 kV to 480 v
18.02	4 /0 600 volt Cable	lf	200	underground
18.03	3 in dia conduit	lf	200	underground
18.04	13 kV 15 amp pole mount fuse disconnect	ea	1	
18.05	**Electrical - Full buildout**			
18.06	Phase 1 Transformer 200kva	LS	$8,000	13.8 kV to 480 v
18.07	4 /0 600 volt Cable	lf	200	underground
18.08	3 in dia conduit	lf	200	underground
18.09	13 kV 15 amp pole mount fuse disconnect	ea	1	
18.10	No 6 15 kvolt overhead cable	lf	4500	aboveground - see below
18.11	Poles between ponds	ea	15	Assume 300 ft spacing - aboveground on poles
18.12				
18.13				
18.14				



50HP 54mi A FOR ESTIMATE me 135K
FOR 100HP 84mi/EA FOR ESTIMATE me +29K (FACTOR 1.6)

Cast iron single stage vertical sump pumps

Mounted on steel support plate and supplied with cast iron strainer, 1750 RPM drip-proof motor, using a 20-ton hydraulic crane with 70' boom and small tools.

800 GPM, 6" discharge, 70' head, 20 HP	pj@28.5	Ea	4270.00	736.00	64.40	5070.40
1000 GPM, 6" discharge, 70' head, 30 HP	pj@28.5	Ea	4510.00	736.00	64.40	5310.40
1600 GPM, 8" discharge, 70' head, 50 HP	pj@33.6	Ea	12100.00	868.00	75.90	13043.90
2000 GPM, 8" discharge, 70' head, 60 HP	pj@37.3	Ea	9130.00	963.00	84.30	10177.30
Add for each extra column assembly 60" or less	---@10.0	Ea	--	--	23.00	23.00
Add for general purpose copper coated float switch	---@6.00	Ea	125.00	--	--	125.00
Add for 24" square steel sump cover	---@4.00	Ea	133.00	--	--	133.00
Add for 36" square steel sump cover	---@6.00	Ea	111.00	--	--	111.00
Add for 48" square steel sump cover	---@8.00	Ea	309.00	--	--	309.00
Add for 60" square steel sump cover	---@11.0	Ea	681.00	--	--	681.00
Add for 72" square steel sump cover	---@15.0	Ea	854.00	--	--	854.00

Submersible sump pumps, 15' head, 1-1/2" discharge

Using small tools.

15 gallons per minute	nb@1.67	Ea	91.00	50.60	.78	142.38
42 gallons per minute	nb@1.67	Ea	238.00	50.60	.78	289.38
52 gallons per minute	nb@2.00	Ea	444.00	60.50	.94	505.44

CSI 15-146, Submersible pumps

CSI 15-146	Craft@Hrs	Unit	Material	Labor	Equip	Total
Installed in wells to 180' (55m) deep, using a 20-ton hydraulic crane with 70' boom and small tools.						
250 to 770 gallons per hour	nt@12.2	Ea	425.00	322.00	66.60	813.60
550 to 1,600 gallons per hour	nt@14.0	Ea	553.00	369.00	76.40	998.40
800 to 2,200 gallons per hour	nt@14.0	Ea	966.00	369.00	76.40	1411.40

Submersible pump rental

using a 20-ton hydraulic crane with 70' boom and small tools.

2", per day	---@---	Day	--	--	32.00	32.00
2", per week	---@---	Week	--	--	102.00	102.00
2", per month	---@---	Mo	--	--	287.00	287.00
4", per day	---@---	Day	--	--	72.00	72.00
4", per week	---@---	Week	--	--	230.00	230.00
4", per month	---@---	Mo	--	--	659.00	659.00

Well pumps, 6" discharge

Using a 20-ton hydraulic crane with 70' boom and small tools.

50 to 125 gallons per hour, for wells, 50-150' deep	nt@20.0	Ea	1280.00	528.00	109.00	1917.00
15 to 135 gallons per hour, for wells, 200-500' deep	nt@28.0	Ea	1820.00	739.00	153.00	2712.00

CSI 15-147, Pneumatic ejectors

CSI 15-147	Craft@Hrs	Unit	Material	Labor	Equip	Total
Electronic level controls, inlet and outlet check valves, gate valves, and standard cross connections. Costs exclude air compressor, air receiver, and air piping and fittings. See CSI 15-310 for submersible sewage ejectors, using a 20-ton hydraulic crane with 70' boom and small tools.						
30 gallons per hour	nt@14.0	Ea	12100.00	369.00	76.40	12545.40
50 gallons per hour	nt@15.6	Ea	12100.00	412.00	85.20	12597.20

100 gallons per hour	nt@18.7	Ea	14500.00	493.00	102.00	15095.00
150 gallons per hour	nt@21.5	Ea	16900.00	567.00	117.00	17584.00
200 gallons per hour	nt@28.0	Ea	21800.00	739.00	153.00	22692.00
250 gallons per hour	nt@35.0	Ea	24200.00	923.00	191.00	25314.00
300 gallons per hour	nt@56.0	Ea	30300.00	1480.00	306.00	32086.00
Add for cast iron receivers	---@---	%	20.00	--	--	--
Add for mechanical level control	---@---	%	20.00	--	--	--

CSI 15-148, Pneumatic pumps

CSI 15-148	Craft@Hrs	Unit	Material	Labor	Equip	Total
Excludes air compressor cost, using small tools.						
Pumping unit, oil and gear lubrication	nb@1.67	Ea	884.00	50.60	.78	935.38
Pumping unit, grease	nb@1.67	Ea	1240.00	50.60	.78	1291.38
Pneumatic powered pumping unit accessories						
Using small tools, using small tools.						
Hose reel, 1,000 PSI, oil and lubrication	nb@1.25	Ea	602.00	37.80	.59	640.39
Hose reel, 5,000 PSI, grease	nb@1.25	Ea	692.00	37.80	.59	730.39

- Transformer 200KVA 13.8kv to 480V
Mater $12,000/ea
Lab 120 mnhrs/ea Crew 6 Journeyman

- 4/0 600V Cable 200lf
Assumed 4w/Grnd
Mater $10/lf
Lab 0.1 mnhrs/lf Crew 6 Journeyman

- 3" GRC 200lf
Mater $37/lf
Lab 0.619 mnhrs/lf Crew 6 Journeyman

- 13KV 15amp pole mount fuse disconnect
mater $1500/ea
Lab 12 mnhrs/ea Crew 6 Journeyman

- #6 15kv 4500lf
Assumed 3 conductor
3 single conductor runs
Mater $3.14/lf * 3 * 4500 = $42,390
Labor 0.08 mnhrs * 4500 = 360 mnhrs

- Poles between ponds 15 ea
mater $562/ea eq $100/ea
Labor 12 mnhrs/ea
Assumed 40' wood pole with 4' Cross arm

PCN Number: | **PCN Description:** KIF - Gypsum Disposal Area - Pennisula - Stage 1

Current Phase: 1 | **Phase Request:** 2 | **Date:** 11/17/2005

	Phase I		Phase II		Phase III		Prin/RE Engr
	Hours	$	Hours	$	Hours	$	
Project Engr		$0	100	$4,200	75	$3,150	
Mech Engr		$0		$0		$0	
Elec Engr I		$0		$0		$0	
Elec Engr II		$0		$0		$0	
Civil Engr		$0	500	$21,000	150	$6,300	
Air, Gas, Wtr, Yard Systems		$0		$0		$0	
Comb Proc, Wtr Treatment		$0		$0		$0	
Steam Cycle Systems		$0		$0		$0	
Other Systems Engr (specify)		$0		$0		$0	
Non-TVA Engr		$0	4200	$302,400	700	$50,400	
Other Orgs (specify) (MacTec QA/QC & certification)		$0		$0		$150,000	
Project Controls Scheduling		$0		$0		$0	
Project Controls Cost		$0	16	$672		$0	
Cost Estimating		$0	40	$1,680		$0	
Engr Records			8	$336		$0	
CAD Dwg Support-Enter # Dwgs:						$0	
Sub Totals:	0	$0	4864	$330,288	925	$ 209,850	
Project Totals:	**5,789**	**Hours**	**$540,138**	**Dollars**			

Long Lead Material - Dollars	

Print | Save As...

Toney, Calvin L.

From: Smith, Daniel R (Chattanooga) [Daniel.R.Smith@worleyparsons.com]
Sent: Wednesday, November 16, 2005 9:37 PM
To: Toney, Calvin L.
Cc: Petty, Harold L.
Subject: estimated engineering cost for peninsula engineering

Phase 2 Engineering (including permit prep) for Worley Parsons $300,000 (total all of Phase 2). This is the same for both Phase 2 and full buildout.

Phase 3 Engineering costs for WP Phase 1 - $50,000 (assume 10 hrs/week @ 50 weeks @ $100/hr)
Phase 3 Engineering costs for WP Full buildout - $100,000

QA/QC costs Phase 1 - $100,000
QA/QC costs full buildout - $200,000

Certification costs - $50,000 (phase 1)
Certification costs - $100,000 (full buildout)

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Chattanooga, TN 37450 Fax (423)266-0922
Email: daniel.r.smith@worleyparsons.com

S E C	Activity ID	Activity Description	Forecast Start	Forecast Finish	Finish Target	Total Float	Resp Engr	Prin Engr	RE	Res ID	Bdgt Mhrs	Frcst Mhrs	Actual Mhrs	2006 2008
30	Z4FBK439R2	Review Total Proj & Submit Phase 3 Approval Pkg	01NOV04A	03NOV04A			SMH	SMH	RJS		0.00	0.00	0.00	
32	Z4FBK43950	KIF439: 50% Design Review	05NOV04A				RJS	HMP	RJS		0.00	0.00	0.00	
32	Z4FBK439MT	Manufacture & Ship LL Material	05NOV04A	04MAR05A			RJS	HMP	RJS		0.00	0.00	0.00	
32	Z4FBK43990	KIF439: 100% Design Review		07JAN05A			RJS	HMP	RJS		0.00	0.00	0.00	
32	Z4FBK439ER	Issue Pkg to Engr Bids - DCN KIF-04-1067		07JAN05A			RJS	HMP	RJS		0.00	0.00	0.00	
T2	Z4FBK439AP	ERU Assemble & Issue DCN KIF-04-1067	12JAN05A	13JAN05A			DLL	DLL	RJS	TS2RU	16.00	0.00	0.00	
32	Z4FBK439ID	DCN KIF-04-1067 Issued		13JAN05	08FEB05		RJS	HMP	RJS		0.00	0.00	0.00	
30	Z4FBK439PC	Final Engineering Complete		07MAR05A			SMH	SMH	RJS		0.00	0.00	0.00	
Phase C Implementation														
30	Z4FCK439A1	Issue Partner PA	26OCT04A	26OCT04A			SMH	SMH	RJS		0.00	0.00	0.00	
30	Z4FCK439P3	FPEP Phase 3 Approval	06JAN05A	06JAN05A			SMH	SMH	RJS		0.00	0.00	0.00	
30	Z4FCK439PE	KIF439: Phase 3 Project Engr / Cntrl Support	06JAN05A	17AUG05A			SMH	SMH	RJS	TS2CT, TS2PC,	84.00	84.00	84.00	
32	Z4FCK439SY	KIF439: Phase 3 Sys Engr Support	28JAN05A	15APR05A			RJS	HMP	RJS	FSWT	40.00	51.00	51.00	
32	Z4FCK439LL	LL Material Delivery Complete		04MAR05A	04MAR05		RJS	HMP	RJS		0.00	0.00	0.00	
30	Z4FCK439OT	OUTAGE X832 - 48 DAYS	05MAR05A	15APR05A			SMH	SMH	RJS		0.00	0.00	0.00	
30	Z4FCK439PT	Project Turnover		15APR05A	21APR05		SMH	SMH	RJS		0.00	0.00	0.00	
32	Z4FCK439CD	Closure Process of DCN KIF-04-1067	22APR05A	20MAY05A			DLL	HMP	RJS	FSWT, TS2CD	24.00	0.00	0.00	
T2	Z4FCK439RU	ERU Assemble Closure Pkg - DCN KIF-04-1067	20MAY05A	23MAY05A			DLL		RJS	TS2RU	16.00	0.00	0.00	
32	Z4FCK439DC	DCN KIF-04-1067 CLOSED		23MAY05A			RJS	HMP	RJS		0.00	0.00	0.00	
30	Z4FCK439PC	Verify Benefits & Close Project		17AUG05A	19AUG05		SMH	SMH	RJS		0.00	0.00	0.00	
KIF450 U6-9 FGD (Gypsum/Peninsula Storage Area,														
Phase A Preliminary Engineering														
	DIFAGYP20	Req TAO For Parsons - Mike Hughes (HLP)		01APR05A				HLP	MSH		0.00	0.00	0.00	
	DIFAGYP22	Scoping Discussion		01APR05A				HLP	MSH		0.00	0.00	0.00	

KIF 450 FULL PROJ SCHEDULE

SEE REMARKS ON FOLLOW 16 PAGES

Start Date 01JAN89
Finish Date 15OCT14
Data Date 09OCT05
Run Date 12OCT05 08:09

Early Bar
Progress Bar
Critical Activity

FHEM

TENNESSEE VALLEY AUTHORITY

Layout 70

Sheet 103 of 178

SEC	Activity ID	Activity Description	Forecast Start	Forecast Finish	Finish Target	Total Float	Resp Engr	Prin Engr	RE	Res ID	Bdgt Mhrs	Frcst Mhrs	Actual Mhrs
	DIFAGYP18	Map of Survey - Scope to Surveying (HLP)		08APR05A				HLP	MSH		0.00	0.00	0.00
	DIFAGYP17	Scope of Drilling to MATEC (HLP)		11APR05A				HLP	MSH		0.00	0.00	0.00
	DIFAGYP12	RSO&E Survey of Holes- Predrill (Phy Layout HLP)		18APR05A				HLP	MSH		0.00	0.00	0.00
	DIFAGYP31	CEC for Drilling (Generic #5259) (HLP)		20APR05A				HLP	MSH		0.00	0.00	0.00
	DIFAGYP15	Issue MATEC TAO (HLP)		25APR05A				HLP	MSH		0.00	0.00	0.00
	DIFAGYP16	Receive MATEC Proposal (HLP)		25APR05A				HLP	MSH		0.00	0.00	0.00
	DIFAGYP13	RSO&E Prepare Hydrogeo Workplan (Hank Julian)		26APR05A				HLP	MSH		0.00	0.00	0.00
	DIFAGYP11	Env Aff Meet /TDEC - Hydrogeo Wkpln-(Amos/Larry)		27APR05A				HLP	MSH		0.00	0.00	0.00
	DIFAGYP14	MACTEC Start Drilling (HLP)		28APR05A				HLP	MSH		0.00	0.00	0.00
	DIFAGYP07	RSO&E Begin Hydrogeo Report (Draft) (H Julian)		29APR05A				HLP	MSH		0.00	0.00	0.00
	DIFAGYP21	LOA for RSO&E (HLP)		29APR05A				HLP	MSH		0.00	0.00	0.00
	DIFAGYP09	LOA for GeoProbe (HLP)		03MAY05A				HLP	MSH		0.00	0.00	0.00
35	DIFAGYP06	RSO&E Receive Prelim MACTEC Rept (TVA) (HLP)		20JUN05A			HLP	HLP	MSH		0.00	0.00	0.00
35	DIFAGYP19	Phase 1B: Issue TAO to Parsons (HLP)		15JUL05A			HLP	HLP	MSH		0.00	0.00	0.00
35	DIFAGYP25	Carrier Site Visit	20JUL05A	21JUL05A			MSH	HLP	MSH		0.00	0.00	0.00
30	DIFAGYP04	RSO&E Complete Draft to Environ Aff -Hank Julian		23AUG05A			MSH	HLP	MSH		0.00	0.00	0.00
30	DIFAGYP05	RSO&E Complete Draft to Parsons -Hank Julian		23AUG05A			MSH	HLP	MSH		0.00	0.00	0.00
35	DIFAGYP10	Receive Final Mactec Lab Results		26AUG05A			MSH	HLP	MSH		0.00	0.00	0.00
50	DIFAGYP03	Hydro Geo Final Internal Review Enviro Aff		29AUG05A			ALS	HLP	MSH		0.00	0.00	0.00
35	DIFAGYP35	Part I Application (Larry Bowers-Begin Package)		01SEP05A			MSH	HLP	MSH		0.00	0.00	0.00
35	DIFAGYP30	Nuyt update meeting		23SEP05A			MSH	HLP	MSH		0.00	0.00	0.00
35	DIFAGYP37	NOD Response by Environmental Affairs	01OCT05A	30MAR06		29	MSH	HLP	MSH		0.00	0.00	0.00
AM	DIFAGYP41	Site Meeting to Review MATEC Report -Steve Baugh	05OCT05A	05OCT05A			BSL	JSB	MSH		0.00	0.00	0.00
35	DIFAGYP32	Preliminary Footprint Drawing to JPT		10OCT05*A		200	MSH	HLP	MSH		0.00	0.00	0.00

2006 2008

Start Date 01JAN89
Finish Date 15OCT14
Data Date 09OCT05
Run Date 12OCT05 08:09

Early Bar
Progress Bar
Critical Activity

FHEM

TENNESSEE VALLEY AUTHORITY

Layout 70

SEC	Activity ID	Activity Description	Forecast Start	Forecast Finish	Finish Target	Total Float	Resp Engr	Prin Engr	RE	Res ID	Bdgt Mhrs	Frcst Mhrs	Actual Mhrs
35	DIFAGYP33	JPT Meeting - Status		19OCT05*		191	MSH	HLP	MSH		0.00	0.00	0.00
35	DIFAGYP02	Final Hydrogeo Report to Envir Aff (Hank Julian)		28OCT05*		172	MSH	HLP	MSH		0.00	0.00	0.00
35	DIFAGYP34	Quantity Takeoffs to Radford/Toney		28OCT05*A		182	MSH	HLP	MSH		0.00	0.00	0.00
35	DIFAGYP01	State Receives Hydro Geo Report		07NOV05		172	MSH	HLP	MSH		0.00	0.00	0.00
15	DIF?????	ESTIMATORS PREPARE TOTAL ESTIMATE	01NOV05	15NOV05			CLT	CLT	CLT		40		
35	DIFAGYP36	Final Estimate back from Radford/Toney		11NOV05* 15		168	MSH	HLP	MSH		0.00	0.00	0.00
35	DIFAGYP38	Final Footprint Study Drawing		15NOV05*		164	MSH	HLP	MSH		0.00	0.00	0.00
35	DIFAGYP39	PPD Preliminary to JPT		20NOV05*		159	MSH	HLP	MSH		0.00	0.00	0.00
35	DIFAGYP40	Final PPD		01DEC05*		148	MSH	HLP	MSH		0.00	0.00	0.00
	DIFAGYP08	State Approves Hydro Geo Report		15APR06*		13		HLP	MSH		0.00	0.00	0.00
30	DIFAGYPPC	Preliminary Engineering Complete (Phase 1B)		15APR06		13	SMH	HLP	MSH		0.00	0.00	0.00
Phase B Final Engineering													
50	DIFBGYP10	Part I Application to TDEC		21OCT05*A		375	MSH	HLP	MSH		0.00	0.00	0.00
35	DIFBGYP05	10% Design Review		12DEC05*		4	SMH	HLP	MSH		0.00	0.00	0.00
35	DIFBHYP15	Send Drawings to Plant 1 Week Prior to 50% Mtg		06MAR06*		665	SMH	HLP	MSH		0.00	0.00	0.00
35	DIFBGYP20	50% Design Review Meeting		15MAR06*		656	SMH	HLP	MSH		0.00	0.00	0.00
50	DIFBGYP28	Part II Application to TDEC		16MAY06*		168	SMH	HLP	MSH		0.00	0.00	0.00
50	DIFBGYP30	ARAP/404 Permit Application		16MAY06*		168	SMH	HLP	MSH		0.00	0.00	0.00
	DIFBGYP35	ARAP/404 Permit Issued		01MAY07*		244	SMH	HLP	MSH		0.00	0.00	0.00
	DIFBGYP40	TDEC Issues Solid Waste Permit		15OCT07*		77	SMH	HLP	MSH		0.00	0.00	0.00
35	DIFBGYP45	100% Design Review Meeting		15DEC07*		16	SMH	HLP	MSH		0.00	0.00	0.00
E													
39	VRRESKIF69	FY 05 AG&WS SUPPORT - KINGSTON 6- 9 FGD ADDITION	17JAN05A	30SEP05A			GTM	REJ	TJM	FSAG, FSAGS	500.00	38.00	38.00
35	VRRESKIFC0	FY 05 CIVIL SUPPORT - KINGSTON 6- 9 FGD ADDITION	04MAR05A	30SEP05A			VJD	HLP	TJM	FDCEA	50.00	32.00	32.00
31	VRRESKIFZ1	FY 05 MECH ENG SUPP - KINGSTON 6- 9 FGD ADDITION	16MAY05A	30SEP05A			MDL	DLD	TJM	FDMEA	200.00	184.00	184.00

ADD ACTIVITY FOR CALVIN TONEY

2006 2008

Start Date 01JAN89
Finish Date 15OCT14
Data Date 09OCT05
Run Date 12OCT05 08:09

Early Bar
Progress Bar
Critical Activity

T A	S E C	Activity ID	Activity Description	Forecast Start	Forecast Finish	Finish Target	Total Float	Resp Engr	Prin Engr	RE	Res ID	Bdgt Mhrs	Frcst Mhrs	Actual Mhrs
A	33	VRRESKIFZ2	FY 05 I&C ENG SUPP- KINGSTON 6-9 FGD ADDITION	06JUN05A	23SEP05A			RDG	RCO	TJM	FDEE2D	200.00	4.00	4.00
A	35	VRRESKIFC1	CONTACT TDOT RE: TURNING LANE HWY 70	15JUL05A	30AUG05A			VJD	HLP	TJM		0.00	0.00	0.00
A	31	VRRESKIFZ4	FY 06 MECH ENG SUPP - KINGSTON 6- 9 FGD ADDITION	03OCT05A	30SEP06		-1	MDL	DLD	TJM	FDMEA	800.00	800.00	0.00
A	39	VRRESSYSAG	FY 06 FIRE PROT SUPP-KINGSTON 6- 9 FGD ADDITION	03OCT05A	30SEP06		0	NCR	REJ	TJM	FSAGFP	200.00	200.00	0.00
A	39	VRRESSYSAH	FY 06 AGW&S SUPP-KINGSTON 6- 9 FGD ADDITION	03OCT05A	30SEP06		0	GTM	REJ	TJM	FSAG	2,000.00	2,000.00	0.00
A	35	VRRESSYSAI	FY 06 CIVIL SUPP-KINGSTON 6- 9 FGD ADDITION	03OCT05A	30SEP06		0	HLP	HLP	TJM	FDCEA	1,000.00	1,000.00	0.00
A	36	VRRESSYSAJ	FY 06 ELECT SUPP-KINGSTON 6- 9 FGD ADDITION	03OCT05A	30SEP06		0	RJM	MAS	TJM	FDEE2A	600.00	600.00	0.00

KIF451 - U1-4 SELECT CATALYTIC REDUC(SCR,

Phase B Final Engineering

A		Z5FBK45126	JPT Review Scope & Schedule	30MAY01A	31MAY01A					JLL		0.00	0.00	0.00
A		Z5FBK451FA	Receive FPEP Approval (Final Engr & Const)		30MAY01A					JLL		0.00	0.00	0.00
A		Z5FBK45128	Final Engr Authorization		01JUN01A					JLL		0.00	0.00	0.00
A	28	Z5FBK45100	PE SUPPORT FOR U1-4SCR	01OCT01A	23MAY03A			JLL	VWD	JLL	FDME2S, FDME2	1,620.00	369.00	369.00
A	37	Z5FBK45118	ELECTRICAL SUPPORT FOR U1-4 SCR	01OCT01A	23MAY03A			RDG			FDEE2, FDME2S,	1,7	00	00.00
A	35	Z5FBK4518C	Phase 2 Civil Support for U1-4 SCR	01OCT01A	23MAY03A			SLW		JLL			35	00 356.00
A	11	Z5FBK4518P	PCS Support for U1-4 SCR	01OCT01A	23MAY03A			MHS	RHT	JLL	TS2PC	440.00	2	212.00
A	39	Z5FBK451AB	AG&W SYSTEM Support for Phase 2	01OCT01A	23MAY03A			JG	REJ	JLL	FSAG, FSWT	400.00	296.00	296.00
A	T2	Z5FBK451RU	KIF451 U1-4 SCR ERU DCN ISSUE	01OCT01A	23MAY03A			MHS	JS	JLL	TS2RU	1,368.00	1,043.00	1,043.00
A	31	Z5FBK45119	Mech Support U1-4 SCR	03SEP02A	23MAY03A			CPW	CPW	JLL	FDME2, FDMEB,	985.00	4,077.00	4,077.00

Phase C Implementation

A	11	Z5FCK451#P	PCS Support for U1-4 SCR 03	01OCT01A	28SEP03A			MHS	RHT	JLL	TS2PC	1,000.00	271.50	271.50
A	28	Z5FCK451P#	PE SUPPORT FOR U1-4SCR 03	01OCT01A	28SEP03A			JLL	VWD	JLL	FDEE1, FDME2S,	800.00	2,043.50	2,043.50
A	35	Z5FCK4518C	Phase 3 Civil Support for U1-4 SCR	01OCT01A	02MAR04A			SLW	SLW	JLL	FDCEB	50.00	16.00	16.00
A	31	Z5FCK451#1	Mech Support U1-4 SCR 03	03SEP02A	28SEP03A			CPW	CPW	JLL	FDME2, FDME2S,	0.00	440.00	440.00

END OF KIF450

Start Date	01JAN89
Finish Date	15OCT14
Data Date	09OCT05
Run Date	12OCT05 08:09

Early Bar
Progress Bar
Critical Activity

FHEM

TENNESSEE VALLEY AUTHORITY

Layout 70

PRELIMINARY

IF Gypsum on Peninsula
hase 2 - Gypsum Long Term Rim Ditch Stack

ITEM	DESCRIPTION	UNITS	QUANTITY	T-1 Spec	Comments/Assumptions
7.00	**Gypsum Stack Peninsula (7.00 through 18.00)**				See Note 1 at end of table
7.01	**Clear and Grub**				
7.02	Clear and grub	ac	35		C - Tree line only
7.03	Strip 1 ft vegetation and topsoil - spoil at stockpile	bcy	193,600		C - 120 ac entire site, place soil on site approximately 1 mile roundtrip
8.00	**Erosion Controls / Ponds**				
8.01	Erect silt fence	lf	9,250		C - 6 ft post spacing, trench bottom of fence, 10% hay bales
8.02	Cut for stormwater runoff ponds	bcy	170,970		C - 2 ponds, Phase 1 Pond: 6 ac 17' deep, Phase 2 Pond: 6 ac 10' deep. Place as fill in gypsum stack area.
8.03	Fill for stormwater runoff ponds	bcy	16,425		C - Fill for dikes around Phase 2 pond
8.04	Riprap for stormwater runoff pond	ton	2,713		C - Combined - 1 ft deep along inside slope
8.05	72 in dia cmp for outlet structure	lf	12		C
8.06	48 in dia cmp for riser for outlet structure	lf	14		C
8.07	Cut holes in riser	ea	6		C
8.08	48 in dia cmp outlet pipe (principle spillway)	lf	300		C
8.09	(2) Concrete for riser base (assume 7ft x 7 ft x 2 ft)	cy	9		C
8.10	Anti-seep collars (assume concrete)	ea	14		C - Assume 1.5 cy concrete per collar
8.11	Pipe bedding - #57 stone	ton	40		C
8.12	Clean out stormwater runoff pond	bcy	7,150		C - Assume 2 ft sediment, 67 cy/ac depth x 110 ac
9.00	**Access Roads**				Assume 1.3 miles of roadway (7000 ft); road is 20 ft wide
9.01	Bottom Ash	bcy	2593		C - Assume 6 in bottom ash
9.02	Crushed stone base	ton	2541		C - Assume 4 inch stone (1032), 110 pcf
9.03	Crushed stone base - parking lot	ton	275		C - Assume 100 x 100 ft w/ 6 in crushed stone (110 pcf)
10.00	**Fencing (Exclude De-watering Facility)**				
10.01	New fencing (including grounding)	lf	200		C - Assume chain link fence to block road only - no perimeter fence
10.02	Gates, swinging	ea	1		C - personnel
10.03	Gates, sliding, w/ motorized operator	ea	1		C - 20 ft wide
11.00	**Seed/Mulch**				
11.01	Seed/Mulch disturbed areas	ac	25		C - Areas outside dike

12.00	**Borrow Area Development**				
12.01	Clear and grub	ac	33		C
12.02	Erect silt fence	lf	3,000		C
12.03	Temporary perimeter ditch	bcy	2,900		C - 15 acres of runoff
12.04	Cut for temporary stormwater runoff ponds	bcy	4,422		C - 33 acres*134 cy/ac
12.05	Fill for temporary stormwater runoff ponds	bcy	884		C
12.06	72 in dia cmp for outlet structure	lf	12		C
12.07	48 in dia cmp for riser for outlet structure	lf	20		C
12.08	Cut holes in riser	ea	5		C
12.09	48 in dia cmp outlet pipe (principle spillway)	lf	200		C
12.10	(2) Concrete for riser base (assume 7ft x 7 ft x 2 ft)	cy	9		C
12.11	Anti-seep collars (assume concrete)	ea	20		C - Assume 1.5 cy per collar
12.12	Pipe bedding - #57 stone	ton	25		C - Assumed Unit wt = 125 pcf
12.13	Clean out stormwater runoff pond	bcy	4,422		C - Assume 2ft sediment, 67 cy/ac @ 33 ac
13.00	**Gypsum Disposal Facility**				
13.01	**Disposal Facility Construction**				
13.01	Earthwork cut	bcy	357,647		C - to shape base in gypsum stack area
13.02	Earthwork fill from borrow area	bcy	899,679		C - Remaining fill from onsite borrow area. 1428296-(357647+170970)=899679 Haul Length = 2 miles roundtrip
13.03	Additional spoil material	bcy	0		
13.04	Proofroll subgrade	ac	100		C
13.05	Cut and recompact liner	bcy	445,944		C - Over excavate 3' and recompact to build liner
13.06	Perimeter underdrain pipe	lf	8,220		C - 8 in dia HDPE, SDR = 17, perforated
13.07	Cut for Underdrain system	cy	2,667		C
13.08	Geotextile 8oz nonwoven for underdrain	sy	20,000		C - Wrapped around pipe bedding
13.09	6" depth 1081 crushed stone (110 pcf)	ton	1,320		C - Initial bedding for underdrain piping
13.10	Underdrain piping (8" dia HDPE)	lf	24,000		C
13.11	HDPE Fittings for underdrain piping	ea	65		
13.12	2.5' thick bottom ash drainage layer	bcy	371,620		C
13.13	6" Fly ash layer	bcy	74,324		C - Mix
13.14	Perimeter road surfacing - bottom ash	cy	3130		C - 6 in bottom ash topped w/ 4 in stone - 1.6 mi of roadway 20 ft wide
13.15	Perimeter road surfacing - crushed stone	ton	3067		C - Assumed Unit wt = 110pcf - 1.6 miles of roadway
13.16	Riprap Ditch (D50 = 6 in)	ton	64,682		C - Assume riprap 2 ft depth, 8055 lf ditch, Unit wt = 110 pcf
13.17	8 oz nonwoven geotextile (if riprap is used)	sy	65,335		C - Assume ditch has 9 ft bottom width, 10 ft depth and 3:1 side slopes
14.00	**Gypsum on Peninsula Disposal Cost**				Spread the O&M Cost Over the Life of the Stack

[redacted]

15.00	**Construction parking**				
15.01	Earthwork cut	bcy	833		C
15.02	Earthwork fill	bcy	300		C
15.03	Crushed stone base	ton	675		C - Assume 150 x 150 ft x 6 in thick crushed stone base
16.00	**Engineering**				
16.01	Engineering	ls			C - Take 10% of construction cost (see Dan Smith to confirm engineering cost).
17.00	**Pump Station**				
17.01	Phase 1 Pond				Later
17.02	Phase 2 Pond				Later
18.00	**Electrical**				See Electrical takeoffs

Notes:
. Item #7 corresponds to Gypsum Disposal at the Peninsula. This numbering system matched the one used for the comparative study done in December '04.

C - Capital cost
O&M - Operation and Maintenance cost

[redacted] Red means that these O&M quantities DO NOT need to be estimated.
Yellow means that these quantities will be provided later

PHASE 2 APPROVAL
$6048

Toney, Calvin L.

From: Workman, Brad
Sent: Monday, November 14, 2005 12:07 PM
To: Toney, Calvin L.
Cc: Petty, Harold L.; Lowery, Kenny R.; Radford, Larry D.; Stewart, David W.
Subject: HED - KIF Phase 2 Gypsum Pond Construction estimate

Calvin,
I have attached the Phase 2 estimate for the KIF Gypsum Pond Construction. You will need to add this estimate total to the Phase 1 estimate total provided to obtain the total "full buildout" number. If you have questions or comments, please give me a call.

Thank you,
Brad Workman
TVA - HED
(931) 320-1044

TVA – Heavy Equipment Division
Estimate for
Kingston – Phase 2 Gypsum Disposal Facility Pond Construction

11/14/05

Mr. Calvin Toney,

We thank you for the opportunity to provide the following estimate for the TVA - Kingston (Phase 2) Gypsum Disposal Facility Pond Construction. The below estimate is based upon the provided Parsons Engineering quantities and Preliminary drawings.

The understood TVA-HED Scope of Work for the project is as follows:

"Erosion Controls / SWPPP":

- Provide all technical support, supervision, labor, equipment and materials to join together all the various phases of the work and deliver a complete project.
- Install a total of approximately 9,375 lf of Type "C" silt fence w/ 10% estimated for straw bales.
- Construct construction parking area.
- Cut approximately 47,928 CY of clay for Stormwater Runoff Pond construction and haul to Gypsum Disposal Facility for new construction use.
- Allowance - Clean out Gypsum Stack stormwater runoff pond as needed. (approximately 3,216 cy)
- Clear and Grub approximately 10 acres at Gypsum Stack Peninsula. (Includes clear cut logging as well).
- Mulch with grinder all remaining stumps and tree laps not carried off site by Logging Company.
- Seed / Mulch approximately 13 acres outside Gypsum Disposal Facility dikes.

"Borrow Area Development":

- Clear and Grub approximately 25 acres at borrow site.
- Clear cut all timber on approximately 25 acres for clay borrow site.
- Mulch with grinder all remaining stumps and tree laps not carried off site by Logging Company.
- Strip approximately 109,707 CY of topsoil from the stated 25 acre borrow area, haul and spoil at Gypsum Disposal Facility site approximately ½ mile away from borrow area.
- Excavate temporary ditch on perimeter of borrow area. (approximately 1,740 CY of material to be excavated).
- Cut approximately 3,979 CY of clay for stormwater runoff pond construction and haul to Gypsum Disposal Facility for new construction use.
- Allowance - Clean out borrow area stormwater runoff pond as needed. (approximately 1,435 cy)

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

"Haul / Access Roads":

- Build / Improve & maintain haul roads to and from the borrow sites (Clay and Bottom Ash) consisting of approximately 0.3 miles of roadway.
- Build Gypsum Disposal Facility Access Roadways with 1,213 TN of new stone.
- Build Gypsum Disposal Facility Access Roadways with 764 CY of Bottom Ash.

"Disposal Facility Construction":

- Proof-roll all Gypsum Stack sub-grade. (50 acres)
- Over-excavate 3' depth in Gypsum Stack liner area (approximately 50 acres), then re-place and re-compact liner material. (276,466 cy)
- Cut existing clay inside Gypsum Stack area to shape base inside Gypsum Stack area. (approximately 127,332 cy)
- Cut, haul and compact clay fill from borrow area inside Gypsum Stack dike base. (approximately 774,727 cy)
- Excavate and install 17,970 lf total of 8" HDPE underdrain piping around perimeter of Stack.
- Install approximately 825 ton of underdrain bedding stone.
- Wrap pipe bedding stone with 12,500 SY of 8 oz. geotextile for underdrain.
- Install 2.5' thick Bottom Ash drainage layer. (approximately 230,388 cy)
- Install 6" thick Fly Ash layer over Bottom Ash (mix). (approximately 46,078 cy)
- Install Perimeter road with 6" of Bottom Ash topped with 4" of crushed stone. (0.5 miles of 20' wide roadway)
- Excavate and install 2' deep rip-rap stone on 8oz. geotextile in Gypsum Stack Perimeter Ditch. (approximate ditch dimensions – 3,055 lf x 10' deep x 9' wide bottom. Estimate assumes ditch will be constructed with fill dirt from borrow area while constructing stack dikes. No typical detail provided. Approximately 23,207 ton of rip-rap, and 23,441 SY of 8oz geotextile material.)

"Clarifications to Estimated Scope of Work":

- Allowance Included – 15% Double handling of liner material foreseen as risk due to unsuitable soil for liner construction encountered during over-excavation. This cost is included in estimate.
- No "rock removal / excavation" costs are included in cost estimate or project schedule duration.
- All craft / supervisor labor wage rates are FY 2005 wage rates.
- All equipment rates are TVA - HED FY 2005 equipment rates utilizing TVA - HED heavy equipment.
- All "Bank Cubic Yard" quantities provided are escalated 20% for compaction / shrinkage.
- Estimate includes contingencies for inclement weather.
- Estimate assumes TVA - HED to be sole General Contractor responsible for said Gypsum Stack Construction scope of work.
- Estimate includes sub-contract costs for Fence Contractor, TVA Surveyors to provide layout, and project control points during various stages of the work for the identified schedule duration as needed, Geotechnical Engineers to provide

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933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

compaction test results as required, and Mulching Contractor of tree stumps, laps, etc. after clearing of trees is completed is included.

- Seed and Mulch all disturbed areas outside dikes. (approximately 13 acres)

"Schedule":
All work is currently estimated for 4 – 10 hour shifts per work week with no overtime included.
Individual project schedules end dates per activity shall vary from one to another. We propose to complete all work identified above within 1 ¾ years from start of project as stated on "Estimate Summary" sheet provided with this estimate.

If you have questions regarding this work as estimated, please feel free to contact us at the below numbers.

Total Estimated Cost - $8,083,776.00 Lump Sum

Thank You,
Kenny Lowery
TVA HED
(256) 762-6401

cc: Brad Workman
(931) 320-1044

TVA – HEAVY EQUIPMENT DIVISION
933 OLD FERRY ROAD
SPRING CITY, TENNESSEE 37381
PH: (423) 365-8739 FAX: (423) 365-8705

HED ESTIMATE SUMMARY

REV# 0

ADD TO PHASE 1 FOR TOTAL BUILDOUT 0

LOCATION: KINGSTON
SHORT CODE: KENNY LOWERY

UNIT NO: PHASE 2

PRINT DATE: 14-Nov-05
ESTIMATE DATE: 10-Nov-05

PROJECT DESCRIPTION: GYPSUM POND CONSTRUCTION (PHASE 2)

WORKSCOPE: DEVELOP SOIL BORROW AREA, DEWATER BOTTOM ASH POND BORROW AREA, PERFORM EROSION CONTROL WORK PER STANDARD SWPPP, MAINTAIN HAUL HAUL ROADS, MAINTAIN ACCESS ROADS, BUILD PHASE 2 OF GYPSUM POND.

DURATION: 1.75 YEARS OR (88 WEEKS) IF CLEARED, THEN SITE WORK BEGINS. INCLUDES 5 WEEKS OVERALL FOR BAD WEATHER.
4 MONTHS FOR CLEARING OF TREES BY LOGGING COMPANY
1.5 YEARS FOR PHASE 2 BORROW AREA DEVELOPMENT / POND CONSTRUCTION.

	TYPE OF FUNDING
PHASE 2	CAPITAL > 100K

PREPARED BY: B. WORKMAN (HED)

1. TVA-HED LABOR COSTS				Comments
Craft Augmented Labor $38.64	MANHOURS	201,566	107794+93,772	Includes all aspects of Phase 2 work.
	COST	7789381	$4,186,925+3602456	Based on FY 2005 labor rates.
Non-Manual Labor $45.50	MANHOURS	16,880	9,680+7200	Supervisor and Mechanic full time for 1.5 years.
	COST	768,040	$440,440+327600	Includes Hourly Rates & Per Diem for both men.
Contingency 0.00%	MANHOURS		0	
	COST		$0	
SUBTOTAL TVA-HED LABOR	MANHOURS	218,446	117,474+100972MH	
	COST	8,557,421	**$4,627,365+3930056**	
2. TVA-HED OTHER COSTS				
TVA-HED Subcontracts		594,600	$254,000+340600	Survey / Layout / Fence Cont./ Compac. Testing / Mulch Grinding Cont.
TVA-HED Subcontract Fee			$0	
Travel & Living Expenses			See "Non-Manual Labor"	
TVA-HED Material Purchases			$0	
HED Other Costs			$0	
Contingency 0%			$0	
SUBTOTAL TVA-HED OTHER		594600	**$254,000+340600**	
TOTAL TVA-HED COSTS		9,152,021	**$4,881,365+4270696**	
3. ITEMS MANAGED BY TVA-HED				
Permanent Materials		1142368	$387,858+754510	Per Quantities Peovided by Parsons E & C.
Heavy Equipment		4,103,705	$2,244,513+1859192	Based on FY 2005 (HED) Equipment Rates.
Tagged & 3rd Party Rental Equipment			$0	
Small Tools		20,156	$10,779+9377	
Supplies, Consumables & Expendable Tools		60469	$32,338+28,131	
Office Supplies & Expenses			$0	
Other TVA-HED Costs			$0	
TVA subcontracts (By Others)			$0	
Partner or OCIP Insurance			$0	
TVA-HED - Central Command		1029439 10.00%	$526,922+502517	
Contingency 0%			$0	
SUBTOTAL TVA-HED MANAGED		6356138	**$3,202,411+3155771**	
TOTAL TVA-HED COSTS		15508159	**$8,083,776+7426467**	

APPROVALS: / **ESTIMATE TOTAL** **$8,083,776 LS**

ESCALATE TO 2008 DOLLARS

TVA-HED Estimator — Date:

TVA - Project Manager — Date:

TVA - Project Engineer — Date:

TVA - Site Environmental Engineer — Date:

PCN Number: | **PCN Description:** KIF - Gypsum Disposal Area - Pennisula - Stage 2 Full Build Out

Current Phase: 1 | **Phase Request:** 2 | **Date:** 11/17/2005

	Phase I		Phase II		Phase III		Prin/RE Engr
	Hours	$	Hours	$	Hours	$	
Project Engr		$0	0	$0	150	$6,300	
Mech Engr		$0		$0		$0	
Elec Engr I		$0		$0		$0	
Elec Engr II		$0		$0		$0	
Civil Engr		$0	0	$0	300	$12,600	
Air, Gas, Wtr, Yard Systems		$0		$0		$0	
Comb Proc, Wtr Treatment		$0		$0		$0	
Steam Cycle Systems		$0		$0		$0	
Other Systems Engr (specify)		$0		$0		$0	
Non-TVA Engr		$0	0	$0	1400	$100,800	
Other Orgs (specify) (MacTec QA/QC & certification)		$0		$0		$300,000	
Project Controls Scheduling		$0		$0		$0	
Project Controls Cost		$0	0	$0		$0	
Cost Estimating		$0	0	$0		$0	
Engr Records			0	$0		$0	
CAD Dwg Support-Enter # Dwgs:						$0	
Sub Totals:	0	$0	0	$0	1850	$ 419,700	
Project Totals:	**1,850**	**Hours**	**$419,700**	**Dollars**			

Long Lead Material - Dollars	

Print | Save As...

Toney, Calvin L.

From: Smith, Daniel R (Chattanooga) [Daniel.R.Smith@worleyparsons.com]
Sent: Wednesday, November 16, 2005 9:37 PM
To: Toney, Calvin L.
Cc: Petty, Harold L.
Subject: estimated engineering cost for peninsula engineering

Phase 2 Engineering (including permit prep) for Worley Parsons $300,000 (total all of Phase 2). This is the same for both Phase 2 and full buildout.

Phase 3 Engineering costs for WP Phase 1 - $50,000 (assume 10 hrs/week @ 50 weeks @ $100/hr)
Phase 3 Engineering costs for WP Full buildout - $100,000

QA/QC costs Phase 1 - $100,000
QA/QC costs full buildout - $200,000

Certification costs - $50,000 (phase 1)
Certification costs - $100,000 (full buildout)

Daniel R. (Dan) Smith, PE
Supervising Civil Engineer
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