

Tue 06 Jan 2004
Eff. Date 01/06/04

U.S. Army Corps of Engineers
PROJECT ALTS2A: Slurry Cutoff Wall - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study - S2-A

TIME 12:33:28
TITLE PAGE 1

Slurry Cutoff Wall
Clearwater Dam Major Rehab Study
Alternative S2-A 301,000 SF
Slurry Cutoff Wall

Designed By: Geo/Civil Section, Design Branch
Estimated By: Cost Engineering & Support Sec

Prepared By: George Losak

Preparation Date: 01/06/04
Effective Date of Pricing: 01/06/04
Est Construction Time: 180 Days

Sales Tax: 7.00%

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COST ENGINEERING BRANCH

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Release 5.31

LABOR ID: 03M1R0 EQUIP ID: R65299

CREW ID: NAT01A UPB ID: U01EMO

Encl 1

Alternative S2-A is an alternative to construct a 301,000 SF subterranean cutoff barrier. Construction components include excavation, slurry mixture of bentonite soil and water, and soil backfill.

ASSUMPTIONS.

1. No extended construction delays for high lake levels were considered in this cost estimate.

INCLUSIONS.

1. Sales tax of 7 percent.
2. Escalation to the midpoint of construction which was assumed to be February 2007.
3. Planning, engineering, and design is estimated to be 25 percent of the contract amount.
4. Supervision and administration of the construction contract is estimated to be 15 percent of the contract amount. The S&A includes a full-time Corps geologist on site during construction.
5. Contingency of 20 percent due to lack of design and unknown conditions at the site.

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U.S. Army Corps of Engineers
PROJECT ALTS2A: Slurry Cutoff Wall - Clearwater Dam Major Rehab Study
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** PROJECT OWNER SUMMARY **

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SUMMARY PAGE 1

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams	1.00	EA	2,247,772	282,643	506,083	3,036,498	3036498
30 Planning, Engineering and Design	1.00	EA	561,118	70,557	126,335	758,010	758009.98
31 Supervision and Administration	1.00	EA	356,671	42,334	75,801	454,806	454806.26
TOTAL Slurry Cutoff Wall	1.00	EA	3,145,561	395,534	708,219	4,249,314	4249314

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UP8 ID: U01EMO

U.S. Army Corps of Engineers
 PROJECT ALTS2A: Slurry Cutoff Wall - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - S2-A
 ** PROJECT OWNER SUMMARY - Bid Item **

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams							
04.01 Main Dam							
04.01.42 Earth and Rockfill Dam							
04.01.42.02 Site Work							
04.01.42.2_ Soil-Bentonite Slurry Barrier							
04.01.42.2_10	Excavation of Trench	33712.00	CY	80,354	10,104	18,092	108,549
04.01.42.2_20	Slurry	35712.00	CY	1,977,976	248,718	445,339	2,672,033
04.01.42.2_30	Backfill	30340.80	CY	156,583	19,689	35,254	211,526
04.01.42.2_40	Waste Containment Lagoon	13484.80	CY	2,930	368	660	3,958
04.01.42.2_50	Restore Site	3.37	ACR	29,929	3,763	6,739	40,431
	TOTAL Soil-Bentonite Slurry Barrier	301000.00	SF	2,247,772	282,643	506,083	3,036,498
	TOTAL Earth and Rockfill Dam	1.00	EA	2,247,772	282,643	506,083	3,036,498
	TOTAL Main Dam	1.00	EA	2,247,772	282,643	506,083	3,036,498
	TOTAL Dams	1.00	EA	2,247,772	282,643	506,083	3,036,498
30	Planning, Engineering and Design	1.00	EA	561,118	70,557	126,335	758,010
31	Supervision and Administration	1.00	EA	336,671	42,334	75,801	454,806
	TOTAL Slurry Cutoff Wall	1.00	EA	3,145,561	395,534	708,219	4,249,314

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U.S. Army Corps of Engineers
 PROJECT ALTS2A: Slurry Cutoff Wall - Clearwater Dam Major Rehab Study
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 ** PROJECT DIRECT SUMMARY - Feature **

TIME 12:33:28
 SUMMARY PAGE 3

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04 Dams	1.00	EA	17,052	606,215	377,098	682,566	0	1,665,878	1665878
30 Planning, Engineering and Design	1.00	EA	0	561,118	0	0	0	561,118	561118.00
31 Supervision and Administration	1.00	EA	0	336,671	0	0	0	336,671	336671.00
TOTAL Slurry Cutoff Wall	1.00	EA	17,052	1504004	377,098	682,566	0	2,563,667	2563667
OVERHEAD								249,882	
SUBTOTAL								2,813,549	
HOME OFC								134,103	
SUBTOTAL								2,947,652	
PROFIT								172,189	
SUBTOTAL								3,119,841	
BOND								25,720	
TOTAL INCL INDIRECTS								3,145,561	
ESCALATN								395,534	
SUBTOTAL								3,541,095	
CONTINGN								708,219	
TOTAL INCL OWNER COSTS								4,249,314	

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

U.S. Army Corps of Engineers
 PROJECT ALTS2A: Slurry Cutoff Wall - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - S2-A
 ** PROJECT DIRECT SUMMARY - Bid Item **

		QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST

04	Dams									
04.01	Main Dam									
04.01.42	Earth and Rockfill Dam									
04.01.42.02	Site Work									

04.01.42.2_	Soil-Bentonite Slurry Barrier									
04.01.42.2_10	Excavation of Trench	33712.00	CY	1,022	41,112	18,440	0	0	59,552	1.77
04.01.42.2_20	Slurry	33712.00	CY	14,538	503,237	292,210	0	0	1,465,926	43.48
04.01.42.2_30	Backfill	30340.80	CY	1,138	51,226	64,821	0	0	116,047	3.82
04.01.42.2_40	Waste Containment Lagoon	13484.80	CY	23	889	1,129	153	0	2,171	0.16
04.01.42.2_50	Restore Site	3.37	ACR	331	9,751	497	11,933	0	22,181	6579.69
	TOTAL Soil-Bentonite Slurry Barrier	301000.00	SF	17,052	606,215	377,098	682,566	0	1,665,878	5.53
	TOTAL Earth and Rockfill Dam	1.00	EA	17,052	606,215	377,098	682,566	0	1,665,878	1665878
	TOTAL Main Dam	1.00	EA	17,052	606,215	377,098	682,566	0	1,665,878	1665878
	TOTAL Dams	1.00	EA	17,052	606,215	377,098	682,566	0	1,665,878	1665878
30	Planning, Engineering and Design	1.00	EA	0	561,118	0	0	0	561,118	561118.00
31	Supervision and Administration	1.00	EA	0	336,671	0	0	0	336,671	336671.00
	TOTAL Slurry Cutoff Wall	1.00	EA	17,052	1504004	377,098	682,566	0	2,563,667	2563667

	OVERHEAD								249,882	
	SUBTOTAL								2,813,549	
	HOME OFC								134,103	
	SUBTOTAL								2,947,652	
	PROFIT								172,189	
	SUBTOTAL								3,119,841	
	BOND								25,720	
	TOTAL INCL INDIRECTS								3,145,561	
	ESCALATN								395,534	
	SUBTOTAL								3,541,095	
	CONTINGN								708,219	
	TOTAL INCL OWNER COSTS								4,249,314	

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Eff. Date 01/06/04

U.S. Army Corps of Engineers
PROJECT ALTS2B: Slurry Trench w/Berm Extension - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study-Alt S2-B

TIME 12:42:33
TITLE PAGE 1

FOR OFFICIAL USE ONLY

Slurry Trench w/Berm Extension
Clearwater Dam Major Rehab Study
Alternative S2-B Slurry
Barrier Wall & Seepage Berm
Extension

Designed By: Geo/Civil Section, Design Branch
Estimated By: Cost Engineering & Support Sec

Prepared By: George Losak

Preparation Date: 01/06/04
Effective Date of Pricing: 01/06/04
Est Construction Time: 520 Days
Sales Tax: 7.00%

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ORIGINAL
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Encl 2

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LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NATO1A UP8 ID: U01EMO

Alternative S2-B is an alternative to construct a subterranean cutoff barrier and a seepage berm. Construction components include excavation, slurry mixture of bentonite soil and water, and soil backfill.

ASSUMPTIONS.

1. No extended construction delays for high lake levels were considered in this cost estimate.

INCLUSIONS.

1. Sales tax of 7 percent.
2. Escalation to the midpoint of construction which was assumed to be February 2007.
3. Planning, engineering, and design is estimated to be 6 percent of the contract amount.
4. Supervision and administration of the construction contract is estimated to be 12 percent of the contract amount.
5. Contingency of 20 percent due to lack of design and unknown site conditions.

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Clearwater Dam Safety Evaluation Study-Alt S2-B
** PROJECT OWNER SUMMARY - Feature **

TIME 12:42:33
SUMMARY PAGE 1

	QUANTITY	UOM	CONTRACT	ESCALATION	CONTINGEN	TOTAL COST	UNIT COST
04 Dams	1.00	EA	8,201,505	1,031,287	1,846,558	11,079,349	11079349
30 Planning, Engineering and Design	1.00	EA	819,769	103,081	184,570	1,107,420	1107420
31 Supervision and Administration	1.00	EA	983,723	123,697	221,484	1,328,904	1328904
TOTAL Slurry Trench w/Berm Extension	1.00	EA	10,004,997	1,258,064	2,252,612	13,515,673	13515673

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

		QUANTITY	UOM	CONTRACT	ESCALATION	CONTINGEN	TOTAL COST	UNIT COST	
04 Dams									
04.01 Main Dam									
04.01.42 Earth and Rockfill Dam									
04.01.42.01 Preparatory Work									
04.01.42.01.3 Clearing and Grubbing									
04.01.42.01.3.01	Clearing and Grubbing	1.40	ACR	5,092	640	1,146	6,879	4913.39	
04.01.42.01.3.02	Haul and dispose of debris	700.00	CY	17,185	2,161	3,869	23,215	33.16	
TOTAL Clearing and Grubbing		1.40	ACR	22,277	2,801	5,016	30,094	21495.44	
TOTAL Preparatory Work		1.00	JOB	22,277	2,801	5,016	30,094	30093.61	
04.01.42.02 Site Work									
04.01.42.02.1 Compacted Off-Site Fill									
04.01.42.02.1.10	Excavate and Load	88000.00	CY	970,940	122,089	218,606	1,311,636	14.90	
04.01.42.02.1.20	Haul	99200.00	CY	1,217,669	153,114	274,157	1,644,940	16.58	
04.01.42.02.1.25	Stockpile	99200.00	CY	152,573	19,185	34,352	206,110	2.08	
04.01.42.02.1.30	Spread and Compact	80000.00	CY	124,409	15,644	28,010	168,063	2.10	
TOTAL Compacted Off-Site Fill		80000.00	CY	2,465,591	310,032	555,125	3,330,749	41.63	
04.01.42.02.2 Compacted On-Site Fill									
04.01.42.02.2.10	Excavate and Load	88000.00	CY	970,940	122,089	218,606	1,311,636	14.90	
04.01.42.02.2.20	Haul	99200.00	CY	913,252	114,836	205,617	1,233,705	12.44	
04.01.42.02.2.25	Stockpile	99200.00	CY	152,573	19,185	34,352	206,110	2.08	
04.01.42.02.2.30	Spread and Compact	80000.00	CY	93,307	11,733	21,008	126,047	1.58	
TOTAL Compacted On-Site Fill		80000.00	CY	2,130,072	267,843	479,583	2,877,498	35.97	
04.01.42.02.5 Filter Fabric									
04.01.42.02.5.04	Filter Fabric	42000.00	SY	114,018	14,337	25,671	154,026	3.67	
TOTAL Filter Fabric		42000.00	SY	114,018	14,337	25,671	154,026	3.67	
04.01.42.02.6 Sand and/or Gravel									

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04.01.42.02.6_01 Sand and/or Gravel	28000.00	CY	895,289	112,577	201,573	1,209,439	43.19
TOTAL Sand and/or Gravel	28000.00	CY	895,289	112,577	201,573	1,209,439	43.19
04.01.42.02.7_ Turfing							
04.01.42.02.7_01 Soil Preparation	9.00	ACR	510	64	115	688	76.48
04.01.42.02.7_02 Seeding	9.00	ACR	19,097	2,401	4,300	25,798	2866.45
04.01.42.02.7_03 Topsoil	7260.03	CY	311,522	39,172	70,139	420,832	57.97
TOTAL Turfing	9.00	ACR	331,128	41,637	74,553	447,319	49702.09
TOTAL Site Work	1.00	JOB	5,936,099	746,426	1,336,505	8,019,030	8019030
04.01.42.03 Soil-Bentonite Slurry Barrier							
04.01.42.03.10 Excavation of Trench	33712.00	CY	80,188	10,083	18,054	108,325	3.21
04.01.42.03.20 Slurry	33712.00	CY	1,973,891	248,204	444,419	2,666,514	79.10
04.01.42.03.30 Backfill	30340.80	CY	156,259	19,649	35,182	211,090	6.96
04.01.42.03.40 Waste Containment Lagoon	13484.80	CY	2,924	368	658	3,950	0.29
04.01.42.03.50 Restore Site	3.37	ACR	29,868	3,756	6,725	40,348	11968.42
TOTAL Soil-Bentonite Slurry Barrier	301000.00	SF	2,243,129	282,059	505,038	3,030,226	10.07
TOTAL Earth and Rockfill Dam	1.00	EA	8,201,505	1,031,287	1,846,558	11,079,349	11079349
TOTAL Main Dam	1.00	EA	8,201,505	1,031,287	1,846,558	11,079,349	11079349
TOTAL Dams	1.00	EA	8,201,505	1,031,287	1,846,558	11,079,349	11079349
30 Planning, Engineering and Design	1.00	EA	819,769	103,081	184,570	1,107,420	1107420
31 Supervision and Administration	1.00	EA	983,723	123,697	221,484	1,328,904	1328904
TOTAL Slurry Trench w/Berm Extension	1.00	EA	10,004,997	1,258,064	2,252,612	13,515,673	13515673

Tue 06 Jan 2004
 Eff. Date 01/06/04

U.S. Army Corps of Engineers
 PROJECT ALTS2B: Slurry Trench w/Berm Extension - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study-Alt S2-B
 ** PROJECT DIRECT SUMMARY - Feature **

TIME 12:42:33
 SUMMARY PAGE 4

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04 Dams	1.00	EA	49,833	2087279	1461366	2542269	0	6,090,915	6090915
30 Planning, Engineering and Design	1.00	EA	0	819,769	0	0	0	819,769	819769.00
31 Supervision and Administration	1.00	EA	0	983,723	0	0	0	983,723	983723.00
TOTAL Slurry Trench w/Berm Extension	1.00	EA	49,833	3890771	1461366	2542269	0	7,894,407	7894407
OVERHEAD								913,637	
SUBTOTAL HOME OFC								8,808,044	
SUBTOTAL PROFIT								490,319	
SUBTOTAL BOND								9,298,362	
TOTAL INCL INDIRECTS ESCALATN								629,569	
SUBTOTAL CONTINGN								9,927,932	
TOTAL INCL OWNER COSTS								77,065	
								10,004,997	
								1,258,064	
								11,263,061	
								2,252,612	
								13,515,673	

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

U.S. Army Corps of Engineers
 PROJECT ALTS2B: Slurry Trench w/Berm Extension - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study-Alt S2-B
 ** PROJECT DIRECT SUMMARY - Assembly **

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST

04 Dams									
04.01 Main Dam									
04.01.42 Earth and Rockfill Dam									
04.01.42.01 Preparatory Work									
04.01.42.01.3 Clearing and Grubbing									
04.01.42.01.3.01 Clearing and Grubbing	1.40	ACR	64	2,401	1,381	0	0	3,782	2701.15
04.01.42.01.3.02 Haul and dispose of debris	700.00	CY	159	7,594	5,168	0	0	12,762	18.23
TOTAL Clearing and Grubbing	1.40	ACR	223	9,995	6,549	0	0	16,544	11817.20
TOTAL Preparatory Work	1.00	JOB	223	9,995	6,549	0	0	16,544	16544.08
04.01.42.02 Site Work									
04.01.42.02.1 Compacted Off-Site Fill									
04.01.42.02.1.10 Excavate and Load	88000.00	CY	2,640	107,195	84,702	529,179	0	721,077	8.19
04.01.42.02.1.1.20 Haul	99200.00	CY	11,243	538,107	366,205	0	0	904,312	9.12
04.01.42.02.1.1.25 Stockpile	99200.00	CY	1,323	55,623	57,687	0	0	113,310	1.14
04.01.42.02.1.30 Spread and Compact	80000.00	CY	1,067	46,962	45,431	0	0	92,393	1.15
TOTAL Compacted Off-Site Fill	80000.00	CY	16,272	747,887	554,026	529,179	0	1,831,092	22.89
04.01.42.02.2 Compacted On-Site Fill									
04.01.42.02.2.10 Excavate and Load	88000.00	CY	2,640	107,195	84,702	529,179	0	721,077	8.19
04.01.42.02.2.20 Haul	99200.00	CY	8,432	403,580	274,654	0	0	678,234	6.84
04.01.42.02.2.25 Stockpile	99200.00	CY	1,323	55,623	57,687	0	0	113,310	1.14
04.01.42.02.2.30 Spread and Compact	80000.00	CY	800	35,222	34,073	0	0	69,295	0.87
TOTAL Compacted On-Site Fill	80000.00	CY	13,195	601,620	451,117	529,179	0	1,581,915	19.77
04.01.42.02.5 Filter Fabric									
04.01.42.02.5.04 Filter Fabric	42000.00	SY	840	26,384	4,813	53,479	0	84,676	2.02
TOTAL Filter Fabric	42000.00	SY	840	26,384	4,813	53,479	0	84,676	2.02
04.01.42.02.6 Sand and/or Gravel									

U.S. Army Corps of Engineers
 PROJECT ALTS2B: Slurry Trench w/Berm Extension - Clearwater Dam Major Rehab Study
 Cleanwater Dam Safety Evaluation Study-Alt S2-B
 ** PROJECT DIRECT SUMMARY - Assembly **

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL	COST	UNIT	COST
04.01.42.02.6_01	Sand and/or Gravel		28000.00	CY	1,341	51,901	49,146	563,847	0	664,894	23.75
	TOTAL Sand and/or Gravel		28000.00	CY	1,341	51,901	49,146	563,847	0	664,894	23.75
04.01.42.02.7_01	Turfing		9.00	ACR	910	43,278	18,618	184,019	0	245,915	27323.91
04.01.42.02.7_02	Soil Preparation		9.00	ACR	105	4,400	156	8,835	0	378	42.05
04.01.42.02.7_03	Seeding		7260.03	CY	800	38,656	17,514	175,184	0	231,354	31.87
	Topsoil										
	TOTAL Turfing		9.00	ACR	910	43,278	18,618	184,019	0	245,915	27323.91
	TOTAL Site Work		1.00	JOB	32,558	1471070	1077719	1859703	0	4,408,492	4408492
04.01.42.03	Soil-Bentonite Slurry Barrier										
04.01.42.03.10	Excavation of Trench		33712.00	CY	1,022	41,112	18,440	0	0	59,552	1.77
04.01.42.03.20	Slurry		33712.00	CY	14,538	503,237	292,210	670,480	0	1,465,926	43.48
04.01.42.03.30	Backfill		30340.80	CY	1,138	51,226	64,821	0	0	116,047	3.82
04.01.42.03.40	Waste Containment Lagoon		13484.80	CY	23	889	1,129	153	0	2,171	0.16
04.01.42.03.50	Restore Site		3.37	ACR	331	9,751	497	11,933	0	22,181	6579.69
	TOTAL Soil-Bentonite Slurry Barrier		301000.00	SF	17,052	606,215	377,098	682,566	0	1,665,878	5.53
	TOTAL Earth and Rockfill Dam		1.00	EA	49,833	2087279	1461366	2542269	0	6,090,915	6090915
	TOTAL Main Dam		1.00	EA	49,833	2087279	1461366	2542269	0	6,090,915	6090915
	TOTAL Dams		1.00	EA	49,833	2087279	1461366	2542269	0	6,090,915	6090915
30	Planning, Engineering and Design		1.00	EA	0	819,769	0	0	0	819,769	819769.00
31	Supervision and Administration		1.00	EA	0	983,723	0	0	0	983,723	983723.00
	TOTAL Slurry Trench w/Berm Extension		1.00	EA	49,833	3890771	1461366	2542269	0	7,894,407	7894407
	OVERHEAD									913,637	
	SUBTOTAL									8,808,044	
	HOME OFC									490,319	
	SUBTOTAL									9,298,362	
	PROFIT									629,569	
	SUBTOTAL									9,927,932	
	BOND									77,065	
	TOTAL INCL INDIRECTS									10,004,997	
	ESCALATN									1,258,064	

Tue 06 Jan 2004
Eff. Date 01/06/04

U.S. Army Corps of Engineers
PROJECT ALTS2B: Slurry Trench w/Berm Extension - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study-Alt S2-B
** PROJECT DIRECT SUMMARY **

TIME 12:42:33
SUMMARY PAGE 7

	QUANTITY	UOM	MANHRS	LABOR EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
SUBTOTAL							11,263,061	
CONTINGN							2,252,612	
TOTAL INCL OWNER COSTS							13,515,673	

LABOR ID: 03M1R0 EQUIP ID: RG5299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Tue 06 Jan 2004
Eff. Date 01/06/04

U.S. Army Corps of Engineers
PROJECT ALTS2C: Slurry Trench w/Berm Extension - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study - S2-C

TIME 12:58:47
TITLE PAGE 1

FOR OFFICIAL USE ONLY

Slurry Trench w/Berm Extension
Clearwater Dam Major Rehab Study
Alternative S2-C Slurry Cutoff
Wall and Seepage Berm Extension

Designed By: Geo/Civil Section, Design Branch
Estimated By: Cost Engineering & Support Sec

Prepared By: George Losak

Preparation Date: 01/06/04
Effective Date of Pricing: 01/06/04
Est Construction Time: 572 Days
Sales Tax: 7.00%

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COST ENGINEERING BRANCH

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Release 5.31

LABOR ID: 03M1R0 EQUIP ID: R65299

CREW ID: NAT01A UPB ID: U01EMO

ENC 13

Alternative S2-C is an alternative to construct a subterranean cutoff barrier and a seepage berm. Construction components include excavation, slurry mixture of bentonite soil and water, and soil backfill.

ASSUMPTIONS.

1. No extended construction delays for high lake levels were considered in this cost estimate.

INCLUSIONS.

1. Sales tax of 7 percent.
2. Escalation to the midpoint of construction which was determined to be February 2007.
3. Planning, engineering, and design is estimated to be 8 percent of the contract amount.
4. Supervision and administration of the construction contract is estimated to be 12 percent of the contract amount.
5. Contingency of 20 percent due to lack of design and unknown site conditions.

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No Detailed Estimate....

No Backup Reports....

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U.S. Army Corps of Engineers
PROJECT ALTS2C: Slurry Trench w/Berm Extension - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study - S2-C
** PROJECT OWNER SUMMARY - Feature **

TIME 12:58:47
SUMMARY PAGE 1

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams							
30 Planning, Engineering and Design	1.00	EA	8,743,985	1,099,500	1,968,697	11,812,182	11812182
31 Supervision and Administration	1.00	EA	699,060	87,902	157,392	944,355	944354.77
	1.00	EA	1,050,000	132,031	236,406	1,418,437	1418437
TOTAL Slurry Trench w/Berm Extension	1.00	EA	10,493,045	1,319,433	2,362,496	14,174,973	14174973

LABOR ID: 03M1R0 EQUIP ID: RG5299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

	QUANTITY	UOM	CONTRACT	ESCALATION	CONTINGEN	TOTAL COST	UNIT COST
04 Dams							
04.01 Main Dam							
04.01.42 Earth and Rockfill Dam							
04.01.42.01 Preparatory Work							
04.01.42.01.3	Clearing and Grubbing	1.40	ACR	22,278	2,801	5,016	30,096
TOTAL Preparatory Work		1.00	JOB	22,278	2,801	5,016	30,096
04.01.42.02 Site Work							
04.01.42.02.1	Compacted Off-Site Fill	80000.00	CY	2,465,747	310,052	555,160	3,330,959
04.01.42.02.2	Compacted On-Site Fill	80000.00	CY	2,130,206	267,860	479,613	2,877,680
04.01.42.02.5	Filter Fabric	42000.00	SY	114,025	14,338	25,673	154,035
04.01.42.02.6	Sand and/or Gravel	28000.00	CY	900,824	113,273	202,819	1,216,916
04.01.42.02.7	Turfing	9.00	ACR	336,132	42,266	75,680	454,078
TOTAL Site Work		1.00	JOB	5,946,934	747,789	1,338,945	8,033,667
04.01.42.03 Soil-Bentonite Slurry Barrier							
04.01.42.03.10	Excavation of Trench	40033.00	CY	114,980	14,458	25,888	155,326
04.01.42.03.20	Slurry	40033.00	CY	2,404,826	302,391	541,444	3,248,661
04.01.42.03.30	Backfill	36029.70	CY	185,570	23,334	41,781	250,685
04.01.42.03.40	Waste Containment Lagoon	16013.20	CY	3,060	385	689	4,134
04.01.42.03.50	Restore Site	4.00	ACR	37,162	4,673	8,367	50,201
04.01.42.03.51	Load, Haul, and Disposal	4803.96	CY	29,175	3,669	6,569	39,412
TOTAL Soil-Bentonite Slurry Barrier		301000.00	SF	2,774,773	348,910	624,736	3,748,419
TOTAL Earth and Rockfill Dam		1.00	EA	8,743,985	1,099,500	1,968,697	11,812,182
TOTAL Main Dam		1.00	EA	8,743,985	1,099,500	1,968,697	11,812,182
TOTAL Dams							
30	Planning, Engineering and Design	1.00	EA	699,060	87,902	157,392	944,355
31	Supervision and Administration	1.00	EA	1,050,000	132,031	236,406	1,418,437
TOTAL Slurry Trench w/Berm Extension		1.00	EA	10,493,045	1,319,433	2,362,496	14,174,973

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams							
04.01 Main Dam							
04.01.42 Earth and Rockfill Dam							
04.01.42.01 Preparatory Work							
04.01.42.01.3 Clearing and Grubbing							
04.01.42.01.3.01	1.40	ACR	5,092	640	1,147	6,879	4913.70
04.01.42.01.3.02	700.00	CY	17,186	2,161	3,869	23,216	33.17
TOTAL Clearing and Grubbing 22,278 2,801 5,016 30,096 21496.79							
TOTAL Preparatory Work 1.00 JOB 22,278 2,801 5,016 30,096 30095.51							
04.01.42.02 site Work							
04.01.42.02.1 Compacted Off-Site Fill							
04.01.42.02.1.10	88000.00	CY	971,001	122,097	218,620	1,311,718	14.91
04.01.42.02.1.20	99200.00	CY	1,217,746	153,124	274,174	1,645,044	16.58
04.01.42.02.1.25	99200.00	CY	152,583	19,186	34,354	206,123	2.08
04.01.42.02.1.30	80000.00	CY	124,417	15,645	28,012	168,073	2.10
TOTAL Compacted Off-Site Fill 80000.00 CY 2,465,747 310,052 555,160 3,330,959 41.64							
04.01.42.02.2 Compacted On-Site Fill							
04.01.42.02.2.10	88000.00	CY	971,001	122,097	218,620	1,311,718	14.91
04.01.42.02.2.20	99200.00	CY	1,217,746	153,124	274,174	1,645,044	16.58
04.01.42.02.2.25	99200.00	CY	152,583	19,186	34,354	206,123	2.08
04.01.42.02.2.30	80000.00	CY	93,312	11,733	21,009	126,055	1.58
TOTAL Compacted On-Site Fill 80000.00 CY 2,130,206 267,860 479,613 2,877,680 35.97							
04.01.42.02.5 Filter Fabric							
04.01.42.02.5.04	42000.00	SY	114,025	14,338	25,673	154,035	3.67
TOTAL Filter Fabric 42000.00 SY 114,025 14,338 25,673 154,035 3.67							
04.01.42.02.6 Sand and/or Gravel							

U.S. Army Corps of Engineers
 PROJECT ALTS2C: Slurry Trench w/Berm Extension - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - S2-C
 ** PROJECT OWNER SUMMARY - Assembly **

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04.01.42.02.6_.01	28000.00	CY	900,824	113,273	202,819	1,216,916	43.46
TOTAL Sand and/or Gravel			900,824	113,273	202,819	1,216,916	43.46
04.01.42.02.7_ Turfing							
04.01.42.02.7_.01	9.00	ACR	510	64	115	688	76.49
04.01.42.02.7_.02	9.00	ACR	19,098	2,401	4,300	25,800	2866.63
04.01.42.02.7_.03	7260.03	CY	316,524	39,801	71,265	427,590	58.90
TOTAL Turfing	9.00	ACR	336,132	42,266	75,680	454,078	50453.07
TOTAL Site Work	1.00	JOB	5,946,934	747,789	1,338,945	8,033,667	8033667
04.01.42.03 Soil-Bentonite Slurry Barrier							
04.01.42.03.10	40033.00	CY	114,980	14,458	25,888	155,326	3.88
04.01.42.03.20	40033.00	CY	2,404,826	302,391	541,444	3,248,661	81.15
04.01.42.03.30	36029.70	CY	185,570	23,334	41,781	250,685	6.96
04.01.42.03.40	16013.20	CY	3,060	385	689	4,134	0.26
04.01.42.03.50	4.00	ACR	37,162	4,673	8,367	50,201	12539.98
04.01.42.03.51	4803.96	CY	29,175	3,669	6,569	39,412	8.20
TOTAL Soil-Bentonite Slurry Barrier	301000.00	SF	2,774,773	348,910	624,736	3,748,419	12.45
TOTAL Earth and Rockfill Dam	1.00	EA	8,743,985	1,099,500	1,968,697	11,812,182	11812182
TOTAL Main Dam	1.00	EA	8,743,985	1,099,500	1,968,697	11,812,182	11812182
TOTAL Dams	1.00	EA	8,743,985	1,099,500	1,968,697	11,812,182	11812182
30 Planning, Engineering and Design	1.00	EA	699,060	87,902	157,392	944,355	944354.77
31 Supervision and Administration	1.00	EA	1,050,000	132,031	236,406	1,418,437	1418437
TOTAL Slurry Trench w/Berm Extension	1.00	EA	10,493,045	1,319,433	2,362,496	14,174,973	14174973

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U.S. Army Corps of Engineers
 PROJECT ALTS2C: Slurry Trench w/Berm Extension - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - S2-C
 ** PROJECT DIRECT SUMMARY - Feature **

TIME 12:58:47
 SUMMARY PAGE 5

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04 Dams	1.00	EA	53,325	2299738	1536092	2657551	0	6,493,382	6493382
30 Planning, Engineering and Design	1.00	EA	0	699,060	0	0	0	699,060	699060.00
31 Supervision and Administration	1.00	EA	0	1050000	0	0	0	1,050,000	1050000
TOTAL Slurry Trench w/Berm Extension	1.00	EA	53,325	4048798	1536092	2657551	0	8,242,442	8242442
OVERHEAD								974,007	
SUBTOTAL HOME OFC								9,216,449	
SUBTOTAL PROFIT								522,717	
SUBTOTAL BOND								9,739,167	
TOTAL INCL INDIRECTS ESCALATN								671,169	
SUBTOTAL CONTINGN								10,410,336	
TOTAL INCL OWNER COSTS								82,709	
								10,493,045	
								1,319,433	
								11,812,478	
								2,562,496	
								14,174,973	

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04 Dams									
04.01 Main Dam									
04.01.42 Earth and Rockfill Dam									
04.01.42.01 Preparatory Work									
04.01.42.01.3	Clearing and Grubbing	1.40	ACR	223	9,995	6,549	0	16,544	11817.20
TOTAL Preparatory Work		1.00	JOB	223	9,995	6,549	0	16,544	16544.08
04.01.42.02 Site Work									
04.01.42.02.1	Compacted Off-Site Fill	80000.00	CY	16,272	747,887	554,026	529,179	1,831,092	22.89
04.01.42.02.2	Compacted On-Site Fill	80000.00	CY	13,195	601,620	451,117	529,179	1,581,915	19.77
04.01.42.02.5	Filter Fabric	42000.00	SY	840	26,384	4,813	53,479	84,676	2.02
04.01.42.02.6	Sand and/or Gravel	28000.00	CY	1,341	57,932	47,183	563,847	668,962	23.89
04.01.42.02.7	Turfing	9.00	ACR	910	47,597	17,999	184,019	249,615	27735.02
TOTAL Site Work		1.00	JOB	32,558	1481420	1075137	1859703	4,416,260	4416260
04.01.42.03 Soil-Bentonite Slurry Barrier									
04.01.42.03.10 Excavation of Trench									
04.01.42.03.20	Slurry	40033.00	CY	1,213	54,326	31,060	0	85,386	2.13
04.01.42.03.30	Backfill	40033.00	CY	17,255	666,424	335,903	783,524	1,785,851	44.61
04.01.42.03.40	Waste Containment Lagoon	36029.70	CY	1,351	60,831	76,975	0	137,806	3.82
04.01.42.03.50	Restore Site	16013.20	CY	23	993	1,127	153	2,272	0.14
04.01.42.03.51	Load, Haul, and Disposal	4.00	ACR	392	12,938	488	14,171	27,597	6893.47
04.01.42.03.51	Load, Haul, and Disposal	4803.96	CY	310	12,813	8,853	0	21,665	4.51
TOTAL Soil-Bentonite Slurry Barrier		301000.00	SF	20,544	808,324	454,406	797,848	2,060,577	6.85
TOTAL Earth and Rockfill Dam		1.00	EA	53,325	2299738	1536092	2657551	6,493,382	6493382
TOTAL Main Dam		1.00	EA	53,325	2299738	1536092	2657551	6,493,382	6493382
TOTAL Dams		1.00	EA	53,325	2299738	1536092	2657551	6,493,382	6493382
30 Planning, Engineering and Design									
31 Supervision and Administration									
TOTAL Slurry Trench w/Berm Extension		1.00	EA	53,325	4048798	1536092	2657551	8,242,442	8242442
OVERHEAD									
SUBTOTAL									
HOME OFC									
									974,007
									9,216,449
									522,717

Tue 06 Jan 2004
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U.S. Army Corps of Engineers
PROJECT ALLTSC: Slurry Trench w/Berm Extension - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study - S2-C
** PROJECT DIRECT SUMMARY - Bid Item **

TIME 12:58:47
SUMMARY PAGE 7

	QUANTITY	UOM	MANHRS	LABOR EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
SUBTOTAL							9,739,167	
PROFIT							671,169	
SUBTOTAL							10,410,336	
BOND							82,709	
TOTAL INCL INDIRECTS							10,493,045	
ESCALATN							1,319,433	
SUBTOTAL							11,812,478	
CONTINGN							2,362,496	
TOTAL INCL OWNER COSTS							14,174,973	

LABOR ID: 03M1R0 EQUIP ID: RGS299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

		QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST

04	Dams									
04.01	Main Dam									
04.01.42	Earth and Rockfill Dam									
04.01.42.01	Preparatory Work									
04.01.42.01.3	Clearing and Grubbing									
04.01.42.01.3.01	Clearing and Grubbing	1.40	ACR	64	2,401	1,381	0	0	3,782	2701.15
04.01.42.01.3.02	Haul and dispose of debris	700.00	CY	159	7,594	5,168	0	0	12,762	18.23
TOTAL Clearing and Grubbing		1.40	ACR	223	9,995	6,549	0	0	16,544	11817.20
TOTAL Preparatory Work		1.00	JOB	223	9,995	6,549	0	0	16,544	16544.08
04.01.42.02	Site Work									
04.01.42.02.1	Compacted Off-Site Fill									
04.01.42.02.1.10	Excavate and Load	88000.00	CY	2,640	107,195	84,702	529,179	0	721,077	8.19
04.01.42.02.1.20	Haul	99200.00	CY	11,243	538,107	366,205	0	0	904,312	9.12
04.01.42.02.1.25	Stockpile	99200.00	CY	1,323	55,623	57,687	0	0	113,310	1.14
04.01.42.02.1.30	Spread and Compact	80000.00	CY	1,067	46,962	45,431	0	0	92,393	1.15
TOTAL Compacted Off-Site Fill		80000.00	CY	16,272	747,887	554,026	529,179	0	1,831,092	22.89
04.01.42.02.2	Compacted On-Site Fill									
04.01.42.02.2.10	Excavate and Load	88000.00	CY	2,640	107,195	84,702	529,179	0	721,077	8.19
04.01.42.02.2.20	Haul	99200.00	CY	8,432	403,580	274,654	0	0	678,234	6.84
04.01.42.02.2.25	Stockpile	99200.00	CY	1,323	55,623	57,687	0	0	113,310	1.14
04.01.42.02.2.30	Spread and Compact	80000.00	CY	800	35,222	34,073	0	0	69,295	0.87
TOTAL Compacted On-Site Fill		80000.00	CY	13,195	601,620	451,117	529,179	0	1,581,915	19.77
04.01.42.02.5	Filter Fabric									
04.01.42.02.5.04	Filter Fabric	42000.00	SY	840	26,384	4,813	53,479	0	84,676	2.02
TOTAL Filter Fabric		42000.00	SY	840	26,384	4,813	53,479	0	84,676	2.02
04.01.42.02.6	Sand and/or Gravel									

U.S. Army Corps of Engineers
 PROJECT ALTISC: Slurry Trench w/Berm Extension - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - S2-C
 ** PROJECT DIRECT SUMMARY - Assembly **

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04.01.42.02.6_01 Sand and/or Gravel	28000.00	CY	1,341	57,932	47,183	563,847	0	668,962	23.89
TOTAL Sand and/or Gravel	28000.00	CY	1,341	57,932	47,183	563,847	0	668,962	23.89
04.01.42.02.7_ Turfing									
04.01.42.02.7_01 Soil Preparation	9.00	ACR	5	222	156	0	0	378	42.05
04.01.42.02.7_02 Seeding	9.00	ACR	105	4,400	948	8,835	0	14,183	1575.84
04.01.42.02.7_03 Topsoil	7260.03	CY	800	42,975	16,895	175,184	0	235,054	32.38
TOTAL Turfing	9.00	ACR	910	47,597	17,999	184,019	0	249,615	27735.02
TOTAL Site Work	1.00	JOB	32,558	1481420	1075137	1859703	0	4,416,260	4416260
04.01.42.03 Soil-Bentonite Slurry Barrier									
04.01.42.03.10 Excavation of Trench	40033.00	CY	1,213	54,326	31,060	0	0	85,386	2.13
04.01.42.03.20 Slurry Backfill	40033.00	CY	17,255	666,424	335,903	783,524	0	1,785,851	44.61
04.01.42.03.30 Waste Containment Lagoon Restore Site	36029.70	CY	1,351	60,831	76,975	0	0	137,806	3.82
04.01.42.03.40 Restore Site Load, Haul, and Disposal	16013.20	CY	23	993	1,127	153	0	2,272	0.14
04.01.42.03.50	4.00	ACR	392	12,938	488	14,171	0	27,597	6893.47
04.01.42.03.51	4803.96	CY	310	12,813	8,853	0	0	21,665	4.51
TOTAL Soil-Bentonite Slurry Barrier	301000.00	SF	20,544	808,324	454,406	797,848	0	2,060,577	6.85
TOTAL Earth and Rockfill Dam	1.00	EA	53,325	2299738	1536092	2657551	0	6,493,382	6493382
TOTAL Main Dam	1.00	EA	53,325	2299738	1536092	2657551	0	6,493,382	6493382
TOTAL Dams	1.00	EA	53,325	2299738	1536092	2657551	0	6,493,382	6493382
30 Planning, Engineering and Design	1.00	EA	0	699,060	0	0	0	699,060	699060.00
31 Supervision and Administration	1.00	EA	0	1050000	0	0	0	1,050,000	1050000
TOTAL Slurry Trench w/Berm Extension	1.00	EA	53,325	4048798	1536092	2657551	0	8,242,442	8242442
OVERHEAD								974,007	
SUBTOTAL HOME OFC								9,216,449	
SUBTOTAL PROFIT								522,717	
SUBTOTAL BOND								9,739,167	
TOTAL INCL INDIRECTS ESCALATN								671,169	
								10,410,336	
								82,709	
								10,493,045	
								1,319,433	

Tue 06 Jan 2004
Eff. Date 01/06/04

U.S. Army Corps of Engineers
PROJECT ALTS2C: Slurry Trench W/Berm Extension - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study - S2-C
** PROJECT DIRECT SUMMARY **

TIME 12:58:47
SUMMARY PAGE 10

	QUANTITY	UOM	MANHRS	LABOR EQUIP/MT	MATERIAL	OTHER	TOTAL COST	UNIT COST
SUBTOTAL							11,812,478	
CONTINGN							2,362,496	
TOTAL INCL OWNER COSTS							14,174,973	

LABOR ID: 03M1R0 EQUIP ID: RGS299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Tue 06 Jan 2004
Eff. Date 01/06/04

U.S. Army Corps of Engineers
PROJECT ALTS3 - Alt 3 - 3 Contract Work - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study - Alt S3

TIME 13:17:19
TITLE PAGE 1

Alt 3 - 3 Contract Work
Clearwater Dam Major Rehab Study
Alternative S3 Deep
Grouting, Seepage Berm and
Cutoff Barrier

Designed By: Geo/Civil Section, Design Branch
Estimated By: Cost Engineering & Support Sec

Prepared By: George Losak

Preparation Date: 01/06/04
Effective Date of Pricing: 01/06/04
Est Construction Time: 780 Days
Sales Tax: 7.00%

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COSTAL
COST ENGINEERING BRANCH

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Release 5.31

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Encl 4

Alternative S3 is an alternative to construct subterranean cutoff barriers and a seepage berm. Construction components include excavation, low strength concrete, slurry mixture of bentonite soil and water, and soil backfill.

ASSUMPTIONS.

1. No extended construction delays for high lake levels were considered in this cost estimate.

INCLUSIONS.

1. Sales tax of 7 percent.
2. Escalation to the midpoint of construction which was assumed to be February 2007.
3. Planning, engineering, and design is estimated to be 12 percent of the contract amount.
4. Supervision and administration of the construction contract is estimated to be 12 percent of the contract amount.
5. Contingency of 20 percent due to lack of design and unknown site conditions.

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No Detailed Estimate....

No Backup Reports....

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Tue 06 Jan 2004
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U.S. Army Corps of Engineers
 PROJECT ALTS3 : Alt 3 - 3 Contract Work - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - Alt S3
 ** PROJECT OWNER SUMMARY - Feature **

TIME 13:17:19
 SUMMARY PAGE 1

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams	1.00	EA	14,408,513	1,811,778	3,244,058	19,464,349	19464349
30 Planning, Engineering and Design	1.00	EA	1,730,000	217,536	389,507	2,337,044	2337044
31 Supervision and Administration	1.00	EA	1,730,000	217,536	389,507	2,337,044	2337044
TOTAL Alt 3 - 3 Contract Work	1.00	EA	17,868,513	2,246,851	4,023,073	24,138,437	24138437

LABOR ID: 03M1R0 EQUIP ID: RG5299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

U.S. Army Corps of Engineers
 PROJECT ALTS3 - Alt 3 - 3 Contract Work - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - Alt S3
 ** PROJECT OWNER SUMMARY - Bid Item **

		QUANTITY	UOM	CONTRACT	ESCALATN	CONTINEN	TOTAL COST	UNIT COST
04 Dams								
04.01 Main Dam								
04.01.42 Earth and Rockfill Dam								
04.01.42.11 Preparatory Work 1 C								
04.01.42.11.3	Clearing and Grubbing	1.40	ACR	23,245	2,923	5,234	31,402	22429.86
TOTAL Preparatory Work 1 C		1.00	JOB	23,245	2,923	5,234	31,402	31401.80
04.01.42.12 Sl-Bentonite Slurry Barrier- 1 C								
04.01.42.12.10	Excavation of Trench	26600.00	CY	79,715	10,024	17,948	107,686	4.05
04.01.42.12.20	Slurry Backfill	26600.00	CY	1,701,023	213,893	382,983	2,297,899	86.39
04.01.42.12.30	Waste Containment Lagoon	23940.00	CY	128,654	16,177	28,966	173,798	7.26
04.01.42.12.40	Restore Site	10640.00	CY	132,953	16,718	29,934	179,605	16.88
04.01.42.12.50	Load, Haul, and Disposal	2.66	ACR	26,111	3,283	5,879	35,274	13260.78
04.01.42.12.51		3192.00	CY	22,656	2,849	5,101	30,605	9.59
TOTAL Sl-Bentonite Slurry Barrier- 1 C		200000.00	SF	2,091,112	262,944	470,811	2,824,867	14.12
04.01.42.13 Piezometers - 1 Contract								
04.01.42.13.01	Piezometer Installation	1400.00	FT	286,730	36,054	64,557	387,341	276.67
TOTAL Piezometers - 1 Contract		20.00	EA	286,730	36,054	64,557	387,341	19367.04
04.01.42.21 Sitework Berm 2 Contract								
04.01.42.21.1	Compacted Off-Site Fill	80000.00	CY	2,569,482	323,096	578,515	3,471,093	43.39
04.01.42.21.2	Compacted On-Site Fill	80000.00	CY	2,219,459	279,083	499,708	2,998,250	37.48
04.01.42.21.5	Filter Fabric	42000.00	SY	118,673	14,922	26,719	160,315	3.82
04.01.42.21.6	Sand and/or Gravel	28000.00	CY	937,549	117,891	211,088	1,266,527	45.23
04.01.42.21.7	Turfing	9.00	ACR	350,721	44,101	78,964	473,787	52642.97
TOTAL Sitework Berm 2 Contract		1.00	JOB	6,195,884	779,093	1,394,995	8,369,972	8369972
04.01.42.22 Cutoff Wall Into Rock 2 C 2								
04.01.42.22.1	Drill 32" Dia Shaft in Rock	2375.00	LF	787,570	99,032	177,320	1,063,922	447.97
04.01.42.22.2	Place Concrete	498.75	CY	61,997	7,796	13,959	83,751	167.92
04.01.42.22.3	Haul Cuttings to Disposal Area	498.75	CY	9,444	1,188	2,126	12,758	25.58
TOTAL Cutoff Wall Into Rock 2 C 2		245000.00	SF	859,011	108,015	193,405	1,160,431	4.74

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04.01.42.23 Sl-Bentonite Slurry Barrier- 2 C							
04.01.42.23.10	Excavation of Trench	32585.00	CY	97,404	12,248	21,930	131,582
04.01.42.23.20	Slurry	32585.00	CY	2,055,918	258,519	462,887	2,777,324
04.01.42.23.30	Backfill	29326.50	CY	157,203	19,767	35,394	212,364
04.01.42.23.40	Waste Containment Lagoon	13034.00	CY	161,833	20,350	36,437	218,619
04.01.42.23.50	Restore Site	3.26	ACR	31,673	3,983	7,131	42,787
04.01.42.23.51	Load, Haul, and Disposal	3910.20	CY	26,058	3,277	5,867	35,202
TOTAL Sl-Bentonite Slurry Barrier- 2 C		245000.00	SF	2,530,090	318,143	569,646	3,417,879
04.01.42.31	Deep Extensn Grouting-3 Contract						13.95
04.01.42.31.1	Foundtn Work Drilling Overburden	366,844		46,128	82,595	495,567	
04.01.42.31.2	Foundation Work-Drilling Rock	492,185		61,889	110,815	664,889	
04.01.42.31.3	Foundation Work-Intree Zone Iso	91,897		11,555	20,690	124,143	
04.01.42.31.4	Foundation Work-GROUT Placement	178,110		22,396	40,101	240,608	
04.01.42.31.5	Foundation Work-Press Washing	500.00	HR	127,968	16,091	28,812	172,871
TOTAL Deep Extensn Grouting-3 Contract		15930.00	FT	1,257,005	158,060	283,013	1,698,078
04.01.42.32	Cutoff Wall Into Rock 3 Contract						106.60
04.01.42.32.1	Drill 32" Dia Shaft in Rock	3000.00	LF	997,565	125,437	224,601	1,347,603
04.01.42.32.2	Place Concrete	750.00	CY	93,487	11,755	21,048	126,290
04.01.42.32.3	Haul Cuttings to Disposal Area	660.00	CY	12,532	1,576	2,822	16,929
04.01.42.32.30	Backfill for Overburden	1800.00	CY	61,853	7,778	13,926	83,557
TOTAL Cutoff Wall Into Rock 3 Contract		15000.00	SF	1,165,437	146,546	262,397	1,574,380
TOTAL Earth and Rockfill Dam		1.00	EA	14,408,513	1,811,778	3,244,058	19,464,349
TOTAL Main Dam		1.00	EA	14,408,513	1,811,778	3,244,058	19,464,349
TOTAL Dams		1.00	EA	14,408,513	1,811,778	3,244,058	19,464,349
30 Planning, Engineering and Design		1.00	EA	1,730,000	217,536	389,507	2,337,044
31 Supervision and Administration		1.00	EA	1,730,000	217,536	389,507	2,337,044
TOTAL Alt 3 - 3 Contract Work		1.00	EA	17,868,513	2,246,851	4,023,073	24,138,437

U.S. Army Corps of Engineers
 PROJECT ALTS3 - Alt 3 - 3 Contract Work - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - Alt S3
 ** PROJECT OWNER SUMMARY - Assembly **

		QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams								
04.01 Main Dam								
04.01.42 Earth and Rockfill Dam								
04.01.42.11 Preparatory Work 1 C								
04.01.42.11.3 Clearing and Grubbing								
04.01.42.11.3.01	Clearing and Grubbing	1.40	ACR	5,313	668	1,196	7,178	5126.97
04.01.42.11.3.02	Haul and dispose of debris	700.00	CY	17,932	2,255	4,037	24,124	34.61
TOTAL Clearing and Grubbing		1.40	ACR	23,245	2,923	5,234	31,402	22429.86
TOTAL Preparatory Work 1 C		1.00	JOB	23,245	2,923	5,234	31,402	31401.80
04.01.42.12 Sl-Bentonite Slurry Barrier- 1 C								
04.01.42.12.10 Excavation of Trench								
04.01.42.12.20	Slurry	26600.00	CY	79,715	10,024	17,948	107,686	4.05
04.01.42.12.30	Backfill	26600.00	CY	1,701,023	213,893	382,983	2,297,899	86.39
04.01.42.12.40	Waste Containment Lagoon	23940.00	CY	128,654	16,177	28,966	173,798	7.26
04.01.42.12.50	Restore Site	10640.00	CY	132,953	16,718	29,934	179,605	16.88
04.01.42.12.51	Load, Haul, and Disposal	2.66	ACR	26,111	3,283	5,879	35,274	13260.78
		3192.00	CY	22,656	2,849	5,101	30,605	9.59
TOTAL Sl-Bentonite Slurry Barrier- 1 C		200000.00	SF	2,091,112	262,944	470,811	2,824,867	14.12
04.01.42.13 Piezometers - 1 Contract								
04.01.42.13.01 Piezometer Installation								
		1400.00	FT	286,730	36,054	64,557	387,341	276.67
TOTAL Piezometers - 1 Contract		20.00	EA	286,730	36,054	64,557	387,341	19367.04
04.01.42.21 SiteWork Berm 2 Contract								
04.01.42.21.1 Compacted Off-Site Fill								
04.01.42.21.1.10	Excavate and Load	88000.00	CY	1,010,587	127,075	227,532	1,365,194	15.51
04.01.42.21.1.20	Haul	99200.00	CY	1,270,602	159,770	286,074	1,716,447	17.30
04.01.42.21.1.25	Stockpile	99200.00	CY	158,804	19,969	35,754	214,527	2.16
04.01.42.21.1.30	Spread and Compact	80000.00	CY	129,489	16,282	29,154	174,925	2.19
TOTAL Compacted Off-Site Fill		80000.00	CY	2,569,482	323,096	578,515	3,471,093	43.39
04.01.42.21.2 Compacted On-Site Fill								

U.S. Army Corps of Engineers
 PROJECT ALTS3 - Alt 3 - 3 Contract Work - Cleanwater Dam Major Rehab Study
 Cleanwater Dam Safety Evaluation Study - Alt S3
 ** PROJECT OWNER SUMMARY - Assembly **

QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
88000.00	CY	1,010,587	127,075	227,532	1,365,194	15.51
99200.00	CY	952,952	119,828	214,556	1,287,335	12.98
99200.00	CY	158,804	19,969	35,754	214,527	2.16
80000.00	CY	97,117	12,212	21,866	131,194	1.64
80000.00	CY	2,219,459	279,083	499,708	2,998,250	37.48
42000.00	SY	118,673	14,922	26,719	160,315	3.82
42000.00	SY	118,673	14,922	26,719	160,315	3.82
28000.00	CY	937,549	117,891	211,088	1,266,527	45.23
28000.00	CY	937,549	117,891	211,088	1,266,527	45.23
9.00	ACR	532	67	120	718	79.81
9.00	ACR	19,927	2,506	4,487	26,919	2991.06
7260.03	CY	330,262	41,528	74,358	446,149	61.45
9.00	ACR	350,721	44,101	78,964	473,787	52642.97
1.00	JOB	6,195,884	779,093	1,394,995	8,369,972	8369972
2375.00	LF	787,570	99,032	177,320	1,063,922	447.97
498.75	CY	61,997	7,796	13,959	83,751	167.92
498.75	CY	9,444	1,188	2,126	12,758	25.58
245000.00	SF	859,011	108,015	193,405	1,160,431	4.74
32585.00	CY	97,404	12,248	21,930	131,582	4.04
32585.00	CY	2,055,918	258,519	462,887	2,777,324	85.23
29326.50	CY	157,203	19,767	35,394	212,364	7.24
13034.00	CY	161,833	20,350	36,437	218,619	16.77
3.26	ACR	31,673	3,983	7,131	42,787	13130.90
3910.20	CY	26,058	3,277	5,867	35,202	9.00

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
TOTAL Sl-Bentonite Slurry Barrier- 2 C 245000.00 SF 2,530,090 318,143 569,646 3,417,879 13.95							
04.01.42.31	1	Foundtn Work	Drilling Overburden				
04.01.42.31.1.02	10000.00	FT	207,324	26,070	46,679	280,073	28.01
04.01.42.31.1.03	10000.00	FT	159,176	20,015	35,838	215,030	21.50
04.01.42.31.1.04	30.00	CY	344	43	77	465	15.49
TOTAL Foundtn Work Drilling Overburden 366,844 46,128 82,595 495,567							
04.01.42.31.2	2	Foundation Work-Drilling	Rock				
04.01.42.31.2.02	10000.00	FT	492,185	61,889	110,815	664,889	66.49
TOTAL Foundation Work-Drilling Rock 10000.00 FT 492,185 61,889 110,815 664,889 66.49							
04.01.42.31.3	3	Foundation Work-Intfrce	Zone Iso				
04.01.42.31.3.02	118.00	EA	91,897	11,555	20,690	124,143	1052.06
TOTAL Foundation Work-Intfrce Zone Iso 118.00 EA 91,897 11,555 20,690 124,143							
04.01.42.31.4	4	Foundation Work-GROUT	Placement				
04.01.42.31.4.01	250.00	HR	178,110	22,396	40,101	240,608	962.43
TOTAL Foundation Work-GROUT Placement 250.00 HR 178,110 22,396 40,101 240,608							
04.01.42.31.5	5	Foundation Work-Press	Washing				
04.01.42.31.5.01	500.00	HR	127,968	16,091	28,812	172,871	345.74
TOTAL Foundation Work-Press Washing 500.00 HR 127,968 16,091 28,812 172,871 345.74							
TOTAL Deep Extensn Grouting-3 Contract 15930.00 FT 1,257,005 158,060 283,013 1,698,078 106.60							
04.01.42.32	1	Cutoff Wall	Into Rock 3 Contract				
04.01.42.32.1	3000.00	LF	997,565	125,437	224,601	1,347,603	449.20
04.01.42.32.2	750.00	CY	93,487	11,755	21,048	126,290	168.39
04.01.42.32.3	660.00	CY	12,532	1,576	2,822	16,929	25.65
04.01.42.32.30	1800.00	CY	61,853	7,778	13,926	83,557	46.42

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Tue 06 Jan 2004
 Eff. Date 01/06/04

U.S. Army Corps of Engineers
 PROJECT ALTS3 : Alt 3 - 3 Contract Work - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - Alt S3
 ** PROJECT OWNER SUMMARY - Assembly **

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 SUMMARY PAGE 7

	QUANTITY	UOM	CONTRACT	ESCALATION	CONTINGEN	TOTAL COST	UNIT COST
TOTAL Cutoff Wall Into Rock 3 Contract	15000.00	SF	1,165,437	146,546	262,397	1,574,380	104.96
TOTAL Earth and Rockfill Dam	1.00	EA	14,408,513	1,811,778	3,244,058	19,464,349	19464349
TOTAL Main Dam	1.00	EA	14,408,513	1,811,778	3,244,058	19,464,349	19464349
TOTAL Dams	1.00	EA	14,408,513	1,811,778	3,244,058	19,464,349	19464349
30 Planning, Engineering and Design	1.00	EA	1,730,000	217,536	389,507	2,337,044	2337044
31 Supervision and Administration	1.00	EA	1,730,000	217,536	389,507	2,337,044	2337044
TOTAL Alt 3 - 3 Contract Work	1.00	EA	17,868,513	2,246,851	4,023,073	24,138,437	24138437

LABOR ID: 03M1R0 EQUIP ID: R65299

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CREW ID: NAT01A UPB ID: U01EMO

Tue 06 Jan 2004
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U.S. Army Corps of Engineers
 PROJECT ALTS3 : Alt 3 - 3 Contract Work - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - Alt S3
 ** PROJECT DIRECT SUMMARY - Feature **

TIME 13:17:19
 SUMMARY PAGE 8

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04 Dams	1.00	EA	94,980	3971417	2735347	3560292	0	10,267,056	10267056
30 Planning, Engineering and Design	1.00	EA	0	1730000	0	0	0	1,730,000	1730000
31 Supervision and Administration	1.00	EA	0	1730000	0	0	0	1,730,000	1730000
TOTAL Alt 3 - 3 Contract Work	1.00	EA	94,980	7431417	2735347	3560292	0	13,727,056	13727056
OVERHEAD								2,053,411	
SUBTOTAL HOME OFC								15,780,468	
PROFIT								862,433	
SUBTOTAL BOND								16,642,900	
TOTAL INCL INDIRECTS ESCALATN								1,107,364	
SUBTOTAL CONTINGN								17,750,264	
TOTAL INCL OWNER COSTS								118,249	
								17,868,513	
								2,246,851	
								20,115,364	
								4,023,073	
								24,138,437	

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04 Dams									
04.01 Main Dam									
04.01.42 Earth and Rockfill Dam									
04.01.42.11 Preparatory Work 1 C									
04.01.42.11.3	Clearing and Grubbing	1.40	ACR	223	9,995	6,549	0	16,544	11817.20
TOTAL Preparatory Work		1.00	JOB	223	9,995	6,549	0	16,544	16544.08
04.01.42.12 Sl-Bentonite Slurry Barrier- 1 C									
04.01.42.12.10	Excavation of Trench	26600.00	CY	806	36,097	20,638	0	56,735	2.13
04.01.42.12.20	Slurry	26600.00	CY	11,482	443,515	223,847	0	1,210,651	45.51
04.01.42.12.30	Backfill	23940.00	CY	898	40,419	51,146	0	91,566	3.82
04.01.42.12.40	Waste Containment Lagoon	10640.00	CY	534	18,587	2,111	0	94,625	8.89
04.01.42.12.50	Restore Site	2.66	ACR	263	8,705	463	0	18,584	6986.46
04.01.42.12.51	Load, Haul, and Disposal	3192.00	CY	238	9,823	6,302	0	16,125	5.05
TOTAL Sl-Bentonite Slurry Barrier-		20000.00	SF	14,221	557,147	304,506	0	1,488,285	7.44
04.01.42.13 Piezometers - 1 Contract									
04.01.42.13.01	Piezometer Installation	1400.00	FT	1,708	67,183	29,654	107,234	204,071	145.76
TOTAL Piezometers -		20.00	EA	1,708	67,183	29,654	107,234	204,071	10203.55
04.01.42.21 SiteWork Berm 2 Contract									
04.01.42.21.1	Compacted Off-Site Fill	80000.00	CY	16,272	747,887	554,026	529,179	1,831,092	22.89
04.01.42.21.2	Compacted On-Site Fill	80000.00	CY	13,195	601,620	451,117	529,179	1,581,915	19.77
04.01.42.21.5	Filter Fabric	42000.00	SY	840	26,384	4,813	53,479	84,676	2.02
04.01.42.21.6	Sand and/or Gravel	28000.00	CY	1,341	57,932	47,183	563,847	668,962	23.89
04.01.42.21.7	Turfing	9.00	ACR	910	47,597	17,999	184,019	249,615	27735.02
TOTAL SiteWork Berm		1.00	JOB	32,558	1481420	1075137	1859703	4,416,260	4416260
04.01.42.22 Cutoff Wall Into Rock 2 C 2									
04.01.42.22.1	Drill 32" Dia Shaft in Rock	2375.00	LF	8,164	340,415	218,299	3,235	561,949	236.61
04.01.42.22.2	Place Concrete	498.75	CY	83	3,201	1,812	39,224	44,236	88.69
04.01.42.22.3	Haul Cuttings to Disposal Area	498.75	CY	133	4,578	2,161	0	6,739	13.51
TOTAL Cutoff Wall Into Rock		24500.00	SF	8,380	348,194	222,271	42,459	612,924	2.50

LABOR ID: 03MTR0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

U.S. Army Corps of Engineers
 PROJECT ALT3_ : Alt 3 - 3 Contract Work - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - Alt S3
 ** PROJECT DIRECT SUMMARY - Bid Item **

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST

04.01.42.23	Sl-Bentonite Slurry Barrier- 2 C								
04.01.42.23.10	Excavation of Trench	32585.00	CY	987	44,219	25,281	0	69,500	2.13
04.01.42.23.20	Slurry	32585.00	CY	14,054	542,839	273,780	0	1,466,944	45.02
04.01.42.23.30	Backfill	29326.50	CY	1,100	49,514	62,654	0	112,168	3.82
04.01.42.23.40	Waste Containment Lagoon	13034.00	CY	649	22,546	2,400	0	115,472	8.86
04.01.42.23.50	Restore Site	3.26	ACR	320	10,591	4,474	0	22,600	6935.56
04.01.42.23.51	Load, Haul, and Disposal	3910.20	CY	270	11,155	7,458	0	18,593	4.76
	TOTAL Sl-Bentonite Slurry Barrier- 2 C	245000.00	SF	17,381	680,864	372,028	0	1,805,276	7.37

04.01.42.31	Deep Extensn Grouting-3 Contract								
04.01.42.31.1	Foundtn Work Drilling Overburden	10000.00	FT	2,397	92,862	92,367	75,801	0	261,029
04.01.42.31.2	Foundation Work-Drilling Rock	81	HR	4,000	152,722	197,494	0	350,216	35.02
04.01.42.31.3	Foundation Work-Intfrce Zone Iso	831	HR	831	32,490	32,899	0	65,390	65.390
04.01.42.31.4	Foundation Work-GROUT Placement	500.00	HR	1,694	70,461	50,603	5,671	126,735	126.735
04.01.42.31.5	Foundation Work-Press Washing	500.00	HR	720	27,153	63,903	0	91,056	182.11
	TOTAL Deep Extensn Grouting-3 Contract	15930.00	FT	9,662	375,688	437,266	81,472	894,426	56.15

04.01.42.32	Cutoff Wall Into Rock 3 Contract								
04.01.42.32.1	Drill 32" Dia Shaft in Rock	3000.00	LF	10,313	429,998	275,746	4,077	709,821	236.61
04.01.42.32.2	Place Concrete	750.00	CY	125	4,813	2,724	58,984	0	66,521
04.01.42.32.3	Haul Cuttings to Disposal Area	660.00	CY	176	6,058	2,859	0	8,917	13.51
04.01.42.32.30	Backfill for Overburden	1800.00	CY	234	10,058	6,605	27,349	0	44,012
	TOTAL Cutoff Wall Into Rock 3 Contract	15000.00	SF	10,847	450,927	287,934	90,410	829,271	55.28
	TOTAL Earth and Rockfill Dam	1.00	EA	94,980	3971417	2735347	3560292	0	10,267,056
	TOTAL Main Dam	1.00	EA	94,980	3971417	2735347	3560292	0	10,267,056
	TOTAL Dams	1.00	EA	94,980	3971417	2735347	3560292	0	10,267,056
30	Planning, Engineering and Design	1.00	EA	0	1730000	0	0	1,730,000	1730000
31	Supervision and Administration	1.00	EA	0	1730000	0	0	1,730,000	1730000
	TOTAL Alt 3 - 3 Contract Work	1.00	EA	94,980	7431417	2735347	3560292	0	13,727,056

	OVERHEAD							2,053,411	
	SUBTOTAL							15,780,468	
	HOME OFC							862,433	
	SUBTOTAL							16,642,900	
	PROFIT							1,107,364	

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U.S. Army Corps of Engineers
PROJECT ALTS3 - Alt 3 - 3 Contract Work - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study - Alt S3
** PROJECT DIRECT SUMMARY - Bid Item **

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SUMMARY PAGE 11

	QUANTITY	UOM	MANHRS	LABOR EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
SUBTOTAL							17,750,264	
BOND							118,249	
TOTAL INCL INDIRECTS							17,868,513	
ESCALATN							2,246,851	
SUBTOTAL							20,115,364	
CONTINGN							4,023,073	
TOTAL INCL OWNER COSTS							24,138,437	

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04 Dams									
04.01 Main Dam									
04.01.42 Earth and Rockfill Dam									
04.01.42.11 Preparatory Work 1 C									
04.01.42.11.3 Clearing and Grubbing									
04.01.42.11.3.01 Clearing and Grubbing	1.40	ACR	64	2,401	1,381	0	0	3,782	2701.15
04.01.42.11.3.02 Haul and dispose of debris	700.00	CY	159	7,594	5,168	0	0	12,762	18.23
TOTAL Clearing and Grubbing	1.40	ACR	223	9,995	6,549	0	0	16,544	11817.20
TOTAL Preparatory Work 1 C	1.00	JOB	223	9,995	6,549	0	0	16,544	16544.08
04.01.42.12 Sl-Bentonite Slurry Barrier- 1 C									
04.01.42.12.10 Excavation of Trench	26600.00	CY	806	36,097	20,638	0	0	56,735	2.13
04.01.42.12.20 Slurry Backfill	23940.00	CY	11,482	443,515	223,847	543,289	0	1,210,651	45.51
04.01.42.12.30 Waste Containment Lagoon Restore Site	10640.00	CY	898	40,419	51,146	0	0	91,566	3.82
04.01.42.12.50 Load, Haul, and Disposal	2.66	ACR	534	18,587	2,111	73,926	0	94,625	8.89
TOTAL Sl-Bentonite Slurry Barrier- 1 C	3192.00	CY	238	9,823	6,302	0	0	16,125	5.05
04.01.42.13 Piezometers - 1 Contract									
04.01.42.13.01 Piezometer Installation	1400.00	FT	1,708	67,183	29,654	107,234	0	204,071	145.76
TOTAL Piezometers - 1 Contract	20.00	EA	1,708	67,183	29,654	107,234	0	204,071	10203.55
04.01.42.21 SiteWork Berm 2 Contract									
04.01.42.21.1 Compacted Off-Site Fill									
04.01.42.21.1.10 Excavate and Load	88000.00	CY	2,640	107,195	84,702	529,179	0	721,077	8.19
04.01.42.21.1.20 Haul	99200.00	CY	11,243	538,107	366,205	0	0	904,312	9.12
04.01.42.21.1.25 Stockpile	99200.00	CY	1,323	55,623	57,687	0	0	113,310	1.14
04.01.42.21.1.30 Spread and Compact	80000.00	CY	1,067	46,962	45,431	0	0	92,393	1.15
TOTAL Compacted Off-Site Fill	80000.00	CY	16,272	747,887	554,026	529,179	0	1,831,092	22.89
04.01.42.21.2 Compacted On-Site Fill									

U.S. Army Corps of Engineers
 PROJECT ALTS3 : Alt 3 - 3 Contract Work - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - Alt S3
 ** PROJECT DIRECT SUMMARY - Assembly **

	QUANTITY UOM	MANHRS	LABOR EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04.01.42.21.2.10	Excavate and Load	88000.00 CY	2,640	107,195	84,702	529,179	721,077
04.01.42.21.2.20	Haul	99200.00 CY	8,432	403,580	274,654	0	678,234
04.01.42.21.2.25	Stockpile	99200.00 CY	1,323	55,623	57,687	0	113,310
04.01.42.21.2.30	Spread and Compact	80000.00 CY	800	35,222	34,073	0	69,295
	TOTAL Compacted On-Site Fill	80000.00 CY	13,195	601,620	451,117	529,179	1,581,915
04.01.42.21.5	Filter Fabric						
04.01.42.21.5.04	Filter Fabric	42000.00 SY	840	26,384	4,813	53,479	84,676
	TOTAL Filter Fabric	42000.00 SY	840	26,384	4,813	53,479	84,676
04.01.42.21.6	Sand and/or Gravel						
04.01.42.21.6.01	Sand and/or Gravel	28000.00 CY	1,341	57,932	47,183	563,847	668,962
	TOTAL Sand and/or Gravel	28000.00 CY	1,341	57,932	47,183	563,847	668,962
04.01.42.21.7	Turfing						
04.01.42.21.7.01	Soil Preparation	9.00 ACR	5	222	156	0	378
04.01.42.21.7.02	Seeding	9.00 ACR	105	4,400	948	8,835	14,183
04.01.42.21.7.03	Topsoil	7260.03 CY	800	42,975	16,895	175,184	235,054
	TOTAL Turfing	9.00 ACR	910	47,597	17,999	184,019	249,615
	TOTAL SiteWork Berm 2 Contract	1.00 JOB	32,558	1481420	1075137	1859703	4,416,260
04.01.42.22	Cutoff Wall Into Rock 2 C 2						
04.01.42.22.1	Drill 32" Dia Shaft in Rock	2375.00 LF	8,164	340,415	218,299	3,235	561,949
04.01.42.22.2	Place Concrete	498.75 CY	83	3,201	1,812	39,224	44,236
04.01.42.22.3	Haul Cuttings to Disposal Area	498.75 CY	133	4,578	2,161	0	6,739
	TOTAL Cutoff Wall Into Rock 2 C 2	245000.00 SF	8,380	348,194	222,271	42,459	612,924
04.01.42.23	Sl-Bentonite Slurry Barrier- 2 C						
04.01.42.23.10	Excavation of Trench	32585.00 CY	987	44,219	25,281	0	69,500
04.01.42.23.20	Slurry	32585.00 CY	14,054	542,839	273,780	650,324	1,466,944
04.01.42.23.30	Backfill	29326.50 CY	1,100	49,514	62,654	0	112,168
04.01.42.23.40	Waste Containment Lagoon	13034.00 CY	649	22,546	2,400	90,525	115,472
04.01.42.23.50	Restore Site	3.26 ACR	320	10,591	4,74	11,535	22,600
04.01.42.23.51	Load, Haul, and Disposal	3910.20 CY	270	11,155	7,458	0	18,593

	QUANTITY UOM	MANHRS	LABOR EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST

TOTAL Sl-Bentonite Slurry Barrier- 2 C 245000.00 SF		17,381	680,864	372,028	752,384	0	1,805,276
04.01.42.31 Deep Extensn Grouting-3 Contract							7.37
04.01.42.31. 1 Foundtn Work Drilling Overburden							
04.01.42.31. 1.02 Drilling Through Overburden	10000.00 FT	1,765	67,377	80,145	0	0	147,522
04.01.42.31. 1.03 Installation of Standpipe	10000.00 FT	630	25,365	12,096	75,801	0	113,262
04.01.42.31. 1.04 Collection & Disposal of Debris	30.00 CY	3	119	126	0	0	245
TOTAL Foundtn Work Drilling Overburden		2,397	92,862	92,367	75,801	0	261,029
04.01.42.31. 2 Foundation Work-Drilling Rock							
04.01.42.31. 2.02 Drilling Through Rock	10000.00 FT	4,000	152,722	197,494	0	0	350,216
TOTAL Foundation Work-Drilling Rock		4,000	152,722	197,494	0	0	350,216
04.01.42.31. 3 Foundation Work-Intfrce Zone Iso							
04.01.42.31. 3.02 Interface Zone Isolation	118.00 EA	851	32,490	32,899	0	0	65,390
TOTAL Foundation Work-Intfrce Zone Iso		851	32,490	32,899	0	0	65,390
04.01.42.31. 4 Foundation Work-GROUT Placement							
04.01.42.31. 4.01 GROUT Placement	250.00 HR	1,694	70,461	50,603	5,671	0	126,735
TOTAL Foundation Work-GROUT Placement		1,694	70,461	50,603	5,671	0	126,735
04.01.42.31. 5 Foundation Work-Press Washing							
04.01.42.31. 5.01 Pressure Testing/Washing	500.00 HR	720	27,153	63,903	0	0	91,056
TOTAL Foundation Work-Press Washing		720	27,153	63,903	0	0	91,056
TOTAL Deep Extensn Grouting-3 Contract	15930.00 FT	9,662	375,688	437,266	81,472	0	894,426
04.01.42.32 Cutoff Wall Into Rock 3 Contract							
04.01.42.32. 1 Drill 32" Dia Shaft in Rock	3000.00 LF	10,313	429,998	275,746	4,077	0	709,821
04.01.42.32. 2 Place Concrete	750.00 CY	125	4,813	2,724	58,984	0	66,521
04.01.42.32. 3 Haul Cuttings to Disposal Area	660.00 CY	176	6,058	2,859	0	0	8,917
04.01.42.32.30 Backfill for Overburden	1800.00 CY	234	10,058	6,605	27,349	0	44,012

U.S. Army Corps of Engineers
 PROJECT ALTS3 - Alt 3 - 3 Contract Work - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - Alt S3
 ** PROJECT DIRECT SUMMARY - Assembly **

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
TOTAL Cutoff Wall Into Rock 3 Contract	15000.00	SF	10,847	450,927	287,934	90,410	0	829,271	55.28
TOTAL Earth and Rockfill Dam	1.00	EA	94,980	3971417	2735347	3560292	0	10,267,056	10267056
TOTAL Main Dam	1.00	EA	94,980	3971417	2735347	3560292	0	10,267,056	10267056
TOTAL Dams	1.00	EA	94,980	3971417	2735347	3560292	0	10,267,056	10267056
30 Planning, Engineering and Design	1.00	EA	0	1730000	0	0	0	1,730,000	1730000
31 Supervision and Administration	1.00	EA	0	1730000	0	0	0	1,730,000	1730000
TOTAL Alt 3 - 3 Contract Work	1.00	EA	94,980	7431417	2735347	3560292	0	13,727,056	13727056
OVERHEAD								2,053,411	
SUBTOTAL HOME OFC								15,780,468	
SUBTOTAL PROFIT								862,433	
SUBTOTAL BOND								16,642,900	
TOTAL INCL INDIRECTS								1,107,364	
ESCALATN								17,750,264	
SUBTOTAL CONTINGN								118,249	
TOTAL INCL OWNER COSTS								17,868,513	
								2,246,851	
								20,115,364	
								4,023,073	
								24,138,437	

Tue 06 Jan 2004
Eff. Date 01/06/04

U.S. Army Corps of Engineers
PROJECT ALTS4A: Alt S4-A Concrete Wall & Berm Ex - Clearwater Dam Major
Clearwater Dam Safety Evaluation Study- Alt S4-A

TIME 13:02:57
TITLE PAGE 1

FOR OFFICIAL USE ONLY

Alt S4-A Concrete Wall & Berm Ex
Clearwater Dam Major
Rehabilitatin Study
Alt S4-A 301,000 SF Concrete
Cutoff Wall and Seepage Berm Ext

Designed By: Geo/Civil Section, Design Branch
Estimated By: Cost Engineering & Support Sec

Prepared By: George Losak

Preparation Date: 01/06/04
Effective Date of Pricing: 01/06/04
Est Construction Time: 780 Days
Sales Tax: 7.00%

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ORIGINAL
COST ENGINEERING BRANCH

M C A C E S G O L D E D I T I O N
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Release 5.31

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Enc 1 S

Alternative S4-A is an alternative to construct a subterranean concrete cutoff barrier and a seepage berm. Construction components include drilling through unclassified overburden and installation of concrete secant piling.

ASSUMPTIONS.

1. No extended construction delays for high lake levels were considered in this cost estimate.

INCLUSIONS.

1. Sales tax of 7 percent.
2. Escalation to the midpoint of construction which was assumed to be February 2007.
3. Planning, engineering, and design is estimated to be 5 percent of the contract amount.
4. Supervision and administration of the construction contract is estimated to be 12 percent of the contract amount. This amount includes a Corps geologist on site during construction.
5. Contingency of 20 percent due to lack of design and unknown site conditions.

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No Detailed Estimate....

No Backup Reports....

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U.S. Army Corps of Engineers
 PROJECT ALTS4A: Alt S4-A Concrete Wall & Berm Ex - Clearwater Dam Major
 Clearwater Dam Safety Evaluation Study- Alt S4-A
 ** PROJECT OWNER SUMMARY - Feature **

SUMMARY PAGE 1

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams	1.00	EA	22,302,398	2,804,383	5,021,356	30,128,137	30128137
30 Planning, Engineering and Design	1.00	EA	1,110,000	139,575	249,915	1,499,490	1499490
31 Supervision and Administration	1.00	EA	2,670,000	335,735	601,147	3,606,882	3606882
TOTAL Alt S4-A Concrete Wall & Berm Ex	1.00	EA	26,082,398	3,279,694	5,872,418	35,234,510	35234510

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams							
04.01 Main Dam							
04.01.42 Earth and Rockfill Dam							
04.01.42.11 Preparatory Work 1 C							
04.01.42.11.3	Clearing and Grubbing	1.40	ACR	23,233	2,921	5,231	31,386
TOTAL Preparatory Work 1 C		1.00	JOB	23,233	2,921	5,231	31,386
04.01.42.21 SiteWork Berm							
04.01.42.21.1	Compacted Off-Site Fill	80000.00	CY	2,571,445	323,343	578,958	3,473,746
04.01.42.21.2	Compacted On-Site Fill	80000.00	CY	2,221,521	279,342	500,173	3,001,036
04.01.42.21.5	Filter Fabric	42000.00	SY	118,913	14,953	26,773	160,638
04.01.42.21.6	Sand and/or Gravel	28000.00	CY	939,439	118,128	211,514	1,269,081
04.01.42.21.7	Turfing	9.00	ACR	350,540	44,078	78,924	473,542
TOTAL SiteWork Berm		1.00	JOB	6,201,859	779,844	1,396,341	8,378,043
04.01.42.22 Concrete Cutoff Wall in Overburd							
04.01.42.22.1	Drill 32" Dia Shaft in Overburdn	116700.00	LF	12,559,831	1,579,318	2,827,830	16,966,979
04.01.42.22.2	Place Concrete	24507.00	CY	3,052,484	383,830	687,263	4,123,577
04.01.42.22.3	Haul Cuttings to Disposal Area	24507.00	CY	464,990	58,470	104,692	628,152
TOTAL Concrete Cutoff Wall in Overburd		301000.00	SF	16,077,306	2,021,618	3,619,785	21,718,708
TOTAL Earth and Rockfill Dam		1.00	EA	22,302,398	2,804,383	5,021,356	30,128,137
TOTAL Main Dam		1.00	EA	22,302,398	2,804,383	5,021,356	30,128,137
TOTAL Dams							
30	Planning, Engineering and Design	1.00	EA	1,110,000	139,575	249,915	1,499,490
31	Supervision and Administration	1.00	EA	2,670,000	335,735	601,147	3,606,882
TOTAL Alt S4-A Concrete Wall & Berm Ex		1.00	EA	26,082,398	3,279,694	5,872,418	35,234,510

	QUANTITY	UOM	CONTRACT	ESCALATION	CONTINGEN	TOTAL COST	UNIT COST
04 Dams							
04.01 Main Dam							
04.01.42 Earth and Rockfill Dam							
04.01.42.11 Preparatory Work 1 C							
04.01.42.11.3 Clearing and Grubbing							
04.01.42.11.3.01	1.40	ACR	5,311	668	1,196	7,174	5124.33
04.01.42.11.3.02	700.00	CY	17,923	2,254	4,035	24,212	34.59
TOTAL Clearing and Grubbing	1.40	ACR	23,233	2,921	5,231	31,386	22418.29
TOTAL Preparatory Work 1 C	1.00	JOB	23,233	2,921	5,231	31,386	31385.60
04.01.42.21 Sitework Berm							
04.01.42.21.1 Compacted Off-Site Fill							
04.01.42.21.1.10 Excavate and Load							
04.01.42.21.1.1.20	88000.00	CY	1,012,625	127,331	227,991	1,367,947	15.54
04.01.42.21.1.1.25	99200.00	CY	1,269,947	159,688	285,927	1,715,561	17.29
04.01.42.21.1.1.30	99200.00	CY	159,124	20,009	35,827	214,959	2.17
TOTAL Compacted Off-Site Fill	80000.00	CY	2,571,445	323,343	578,958	3,473,746	43.42
04.01.42.21.2 Compacted On-Site Fill							
04.01.42.21.2.10 Excavate and Load							
04.01.42.21.2.2.20	88000.00	CY	1,012,625	127,331	227,991	1,367,947	15.54
04.01.42.21.2.2.25	99200.00	CY	952,460	119,766	214,445	1,286,671	12.97
04.01.42.21.2.2.30	99200.00	CY	159,124	20,009	35,827	214,959	2.17
TOTAL Compacted On-Site Fill	80000.00	CY	97,312	12,236	21,910	131,459	1.64
04.01.42.21.5 Filter Fabric							
04.01.42.21.5.04	42000.00	SY	118,913	14,953	26,773	160,638	3.82
TOTAL Filter Fabric	42000.00	SY	118,913	14,953	26,773	160,638	3.82
04.01.42.21.6 Sand and/or Gravel							

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04.01.42.21.6_.01 Sand and/or Gravel	28000.00	CY	939,439	118,128	211,514	1,269,081	45.32
TOTAL Sand and/or Gravel	28000.00	CY	939,439	118,128	211,514	1,269,081	45.32
04.01.42.21.7_ Turfing							
04.01.42.21.7_.01 Soil Preparation	9.00	ACR	531	67	120	718	79.77
04.01.42.21.7_.02 Seeding	9.00	ACR	19,917	2,504	4,484	26,906	2989.51
04.01.42.21.7_.03 Topsoil	7260.03	CY	330,092	41,507	74,320	445,919	61.42
TOTAL Turfing	9.00	ACR	350,540	44,078	78,924	473,542	52615.82
TOTAL SiteWork Berm	1.00	JOB	6,201,859	779,844	1,396,341	8,378,043	8378043
04.01.42.22 Concrete Cutoff Wall in Overburd							
04.01.42.22.1 Drill 32" Dia Shaft in Overburdn	116700.00	LF	12,559,831	1,579,318	2,827,830	16,966,979	145.39
04.01.42.22.2 Place Concrete	24507.00	CY	3,052,484	383,830	687,263	4,123,577	168.26
04.01.42.22.3 Haul Cuttings to Disposal Area	24507.00	CY	464,990	58,470	104,692	628,152	25.63
TOTAL Concrete Cutoff Wall in Overburd	301000.00	SF	16,077,306	2,021,618	3,619,785	21,718,708	72.16
TOTAL Earth and Rockfill Dam	1.00	EA	22,302,398	2,804,383	5,021,356	30,128,137	30128137
TOTAL Main Dam	1.00	EA	22,302,398	2,804,383	5,021,356	30,128,137	30128137
TOTAL Dams	1.00	EA	22,302,398	2,804,383	5,021,356	30,128,137	30128137
30 Planning, Engineering and Design	1.00	EA	1,110,000	139,575	249,915	1,499,490	1499490
31 Supervision and Administration	1.00	EA	2,670,000	335,735	601,147	3,606,882	3606882
TOTAL Alt S4-A Concrete Wall & Berm EX	1.00	EA	26,082,398	3,279,694	5,872,418	35,234,510	35234510

Tue 06 Jan 2004
 Eff. Date 01/06/04

U.S. Army Corps of Engineers
 PROJECT ALTS4A: Alt S4-A Concrete Wall & Berm Ex - Clearwater Dam Major
 Clearwater Dam Safety Evaluation Study- Alt S4-A
 ** PROJECT DIRECT SUMMARY - Feature **

TIME 13:02:57
 SUMMARY PAGE 5

	QUANTITY	UOM	MANHRS	LABOR EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04 Dams	1.00	EA	171,771	7226238	4709360	3945640	0	15,881,238
30 Planning, Engineering and Design	1.00	EA	0	1110000	0	0	0	1,110,000
31 Supervision and Administration	1.00	EA	0	2670000	0	0	0	2,670,000
TOTAL Alt S4-A Concrete Wall & Berm Ex	1.00	EA	171,771	11006238	4709360	3945640	0	19,661,238
OVERHEAD								3,176,248
SUBTOTAL								22,837,486
HOME OFC								1,334,024
SUBTOTAL								24,171,510
PROFIT								1,712,887
SUBTOTAL								25,884,396
BOND								198,001
TOTAL INCL INDIRECTS								26,082,398
ESCALATN								3,279,694
SUBTOTAL								29,362,092
CONTINGN								5,872,418
TOTAL INCL OWNER COSTS								35,234,510

LABOR ID: 03M1R0 EQUIP ID: RG5299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

----- QUANTITY UOM MANHRS LABOR EQUIPMNT MATERIAL OTHER TOTAL COST UNIT COST -----

04 Dams

04.01 Main Dam

04.01.42 Earth and Rockfill Dam

04.01.42.11 Preparatory Work 1 C

04.01.42.11.3 Clearing and Grubbing

TOTAL Preparatory Work 1 C

04.01.42.21 SiteWork Berm

04.01.42.21.1 Compacted Off-Site Fill

04.01.42.21.2 Compacted On-Site Fill

04.01.42.21.5 Filter Fabric

04.01.42.21.6 Sand and/or Gravel

04.01.42.21.7 Turfing

TOTAL SiteWork Berm

04.01.42.22 Concrete Cutoff Wall in Overburd

04.01.42.22.1 Drill 32" Dia Shaft in Overburdn

04.01.42.22.2 Place Concrete

04.01.42.22.3 Haul Cuttings to Disposal Area

TOTAL Concrete Cutoff Wall in Overburd

TOTAL Earth and Rockfill Dam

TOTAL Main Dam

TOTAL Dams

30 Planning, Engineering and Design

31 Supervision and Administration

TOTAL Alt S4-A Concrete Wall & Berm Ex

OVERHEAD
 SUBTOTAL
 HOME OFC
 SUBTOTAL
 PROFIT

DESCRIPTION	QUANTITY	UOM	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04.01.42.22.1 Drill 32" Dia Shaft in Overburdn	116700.00	LF	128,370	5352618	3432485	158,584	0	8,943,687	76.64
04.01.42.22.2 Place Concrete	24507.00	CY	4,085	157,263	89,017	1927353	0	2,173,633	88.69
04.01.42.22.3 Haul Cuttings to Disposal Area	24507.00	CY	6,535	224,942	106,172	0	0	331,113	13.51
TOTAL Concrete Cutoff Wall in Overburd	301000.00	SF	138,990	5734823	3627674	2085937	0	11,448,433	38.03
TOTAL Earth and Rockfill Dam		EA	171,771	7226238	4709360	3945640	0	15,881,238	15881238
TOTAL Main Dam		EA	171,771	7226238	4709360	3945640	0	15,881,238	15881238
TOTAL Dams		EA	171,771	7226238	4709360	3945640	0	15,881,238	15881238
30 Planning, Engineering and Design		EA	0	1110000	0	0	0	1,110,000	1110000
31 Supervision and Administration		EA	0	2670000	0	0	0	2,670,000	2670000
TOTAL Alt S4-A Concrete Wall & Berm Ex		EA	171,771	11006238	4709360	3945640	0	19,661,238	19661238
OVERHEAD								3,176,248	
SUBTOTAL								22,837,486	
HOME OFC								1,334,024	
SUBTOTAL								24,171,510	
PROFIT								1,712,887	

Tue 06 Jan 2004
Eff. Date 01/06/04

U.S. Army Corps of Engineers
PROJECT ALTS4A: Alt S4-A Concrete Wall & Berm Ex - Clearwater Dam Major
Clearwater Dam Safety Evaluation Study- Alt S4-A
** PROJECT DIRECT SUMMARY - Bid Item **

TIME 13:02:57
SUMMARY PAGE 7

	QUANTITY	UOM	MANHRS	LABOR EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
SUBTOTAL							25,884,396	
BOND							198,001	
TOTAL INCL INDIRECTS							26,082,398	
ESCALATN							3,279,694	
SUBTOTAL							29,362,092	
CONTINGN							5,872,418	
TOTAL INCL OWNER COSTS							35,234,510	

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

U.S. Army Corps of Engineers
 PROJECT ALTS4A: Alt S4-A Concrete Wall & Berm Ex - Clearwater Dam Major
 Clearwater Dam Safety Evaluation Study - Alt S4-A
 ** PROJECT DIRECT SUMMARY - Assembly **

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST

04 Dams									
04.01 Main Dam									
04.01.42 Earth and Rockfill Dam									
04.01.42.11 Preparatory Work 1 C									
04.01.42.11.3 Clearing and Grubbing									
04.01.42.11.3.01 Clearing and Grubbing	1.40	ACR	64	2,401	1,381	0	0	3,782	2701.15
04.01.42.11.3.02 Haul and dispose of debris	700.00	CY	159	7,594	5,168	0	0	12,762	18.23
TOTAL Clearing and Grubbing	1.40	ACR	223	9,995	6,549	0	0	16,544	11817.20
TOTAL Preparatory Work 1 C	1.00	JOB	223	9,995	6,549	0	0	16,544	16544.08
04.01.42.21 SiteWork Berm									
04.01.42.21.1 Compacted Off-Site Fill									
04.01.42.21.1.10 Excavate and Load	88000.00	CY	2,640	107,195	84,702	529,179	0	721,077	8.19
04.01.42.21.1.20 Haul	99200.00	CY	11,243	538,107	366,205	0	0	904,312	9.12
04.01.42.21.1.25 Stockpile	99200.00	CY	1,323	55,623	57,687	0	0	113,310	1.14
04.01.42.21.1.30 Spread and Compact	80000.00	CY	1,067	46,962	45,431	0	0	92,393	1.15
TOTAL Compacted Off-Site Fill	80000.00	CY	16,272	747,887	554,026	529,179	0	1,831,092	22.89
04.01.42.21.2 Compacted On-Site Fill									
04.01.42.21.2.10 Excavate and Load	88000.00	CY	2,640	107,195	84,702	529,179	0	721,077	8.19
04.01.42.21.2.20 Haul	99200.00	CY	8,432	403,580	274,654	0	0	678,234	6.84
04.01.42.21.2.25 Stockpile	99200.00	CY	1,323	55,623	57,687	0	0	113,310	1.14
04.01.42.21.2.30 Spread and Compact	80000.00	CY	800	35,222	34,073	0	0	69,295	0.87
TOTAL Compacted On-Site Fill	80000.00	CY	13,195	601,620	451,117	529,179	0	1,581,915	19.77
04.01.42.21.5 Filter Fabric									
04.01.42.21.5.04 Filter Fabric	42000.00	SY	840	26,384	4,813	53,479	0	84,676	2.02
TOTAL Filter Fabric	42000.00	SY	840	26,384	4,813	53,479	0	84,676	2.02
04.01.42.21.6 Sand and/or Gravel									

U.S. Army Corps of Engineers
 PROJECT ALTS4A: Alt S4-A Concrete Wall & Berm Ex - Clearwater Dam Major
 Clearwater Dam Safety Evaluation Study- Alt S4-A
 ** PROJECT DIRECT SUMMARY - Assembly **

		QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04.01.42.21.6_01	Sand and/or Gravel	28000.00	CY	1,341	57,932	47,183	563,847	0	668,962	23.89
	TOTAL Sand and/or Gravel	28000.00	CY	1,341	57,932	47,183	563,847	0	668,962	23.89
04.01.42.21.7_01	Turfing									
04.01.42.21.7_01	Soil Preparation	9.00	ACR	5	222	156	0	0	378	42.05
04.01.42.21.7_02	Seeding	9.00	ACR	105	4,400	948	8,835	0	14,183	1575.84
04.01.42.21.7_03	Topsoil	7260.03	CY	800	42,975	16,895	175,184	0	235,054	32.38
	TOTAL Turfing	9.00	ACR	910	47,597	17,999	184,019	0	249,615	27735.02
	TOTAL SiteWork Berm	1.00	JOB	32,558	1481420	1075137	1859703	0	4,416,260	4416260
04.01.42.22	Concrete Cutoff Wall in Overburd									
04.01.42.22.1	Drill 32" Dia Shaft in Overburdn	116700.00	LF	128,370	5352618	3432485	158,584	0	8,943,687	76.64
04.01.42.22.2	Place Concrete	24507.00	CY	4,085	157,263	89,017	1927353	0	2,173,633	88.69
04.01.42.22.3	Haul Cuttings to Disposal Area	24507.00	CY	6,535	224,942	106,172	0	0	331,113	13.51
	TOTAL Concrete Cutoff Wall in Overburd 301000.00 SF	138,990	SF	5734823	3627674	2085937	0	11,448,433	38.03	
	TOTAL Earth and Rockfill Dam	1.00	EA	171,771	7226238	4709360	3945640	0	15,881,238	15881238
	TOTAL Main Dam	1.00	EA	171,771	7226238	4709360	3945640	0	15,881,238	15881238
	TOTAL Dams	1.00	EA	171,771	7226238	4709360	3945640	0	15,881,238	15881238
30	Planning, Engineering and Design	1.00	EA	0	1110000	0	0	0	1,110,000	1110000
31	Supervision and Administration	1.00	EA	0	2670000	0	0	0	2,670,000	2670000
	TOTAL Alt S4-A Concrete Wall & Berm Ex	1.00	EA	171,771	11006238	4709360	3945640	0	19,661,238	19661238
	OVERHEAD								3,176,248	
	SUBTOTAL HOME OFC								22,837,486	
	SUBTOTAL PROFIT								1,534,024	
	SUBTOTAL BOND								24,171,510	
	TOTAL INCL INDIRECTS ESCALATN								1,712,887	
	SUBTOTAL CONTINGN								25,884,396	
									198,001	
									26,082,398	
									3,279,694	
									29,362,092	
									5,872,418	

Tue 06 Jan 2004
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U.S. Army Corps of Engineers
PROJECT ALTS4A: Alt S4-A Concrete Wall & Berm EX - Clearwater Dam Major
Clearwater Dam Safety Evaluation Study- Alt S4-A
** PROJECT DIRECT SUMMARY **

TIME 13:02:57
SUMMARY PAGE 10

QUANTITY UOM MANHRS LABOR EQUIPMNT MATERIAL OTHER TOTAL COST UNIT COST

TOTAL INCL OWNER COSTS 35,234,510

LABOR ID: 03MTR0 EQUIP ID: RG5299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Med 07 Jan 2004
Eff. Date 01/06/04

U.S. Army Corps of Engineers
PROJECT ALTS4B: Alt S4-B 559,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study- Alt S4-B

TIME 10:06:04
TITLE PAGE 1

FOR OFFICIAL USE ONLY

Alt S4-B 559,000 SF Concrete Wall
Clearwater Dam Major Rehab Study
Alternative S4-B 559,000
Concrete Seepage Barrier and
Seepage Berm Extension

Designed By: Geo/Civil Section, Design Branch
Estimated By: Cost Engineering & Support Sec

Prepared By: George Losak

Preparation Date: 01/06/04
Effective Date of Pricing: 01/06/04
Est Construction Time: 1040 Days
Sales Tax: 7.00%

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ORIGINAL
COST ENGINEERING BRANCH

ENC 6
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Release 5.31

LABOR ID: 03M1R0 EQUIP ID: R65299

CREW ID: NAT01A UPB ID: U01EMO

Alternative S4-B is an alternative to construct a subterranean cutoff concrete barrier and a seepage berm. Construction components include excavation, low strength concrete, and soil backfill. It is assumed that the cutoff wall will be constructed using secant cast in-place unreinforced concrete piling.

ASSUMPTIONS.

1. No extended construction delays for high lake levels were considered in this cost estimate.

INCLUSIONS.

1. Sales tax of 7 percent.
2. Escalation to the midpoint of construction which was assumed to be February 2007.
3. Planning, engineering, and design is estimated to be 2 percent of the contract amount.
4. Supervision and administration of the construction contract is estimated to be 7.5 percent of the contract amount.
5. Contingency of 10 percent due to lack of design and unknown site conditions.

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PROJECT DIRECT SUMMARY - Assembly.....	9

No Detailed Estimate....

No Backup Reports....

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Wed 07 Jan 2004
 Eff. Date 01/06/04

U.S. Army Corps of Engineers
 PROJECT ALTS4B: Alt S4-B 559,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study- Alt S4-B
 ** PROJECT OWNER SUMMARY - Feature **

TIME 10:06:04
 SUMMARY PAGE 1

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams							
30 Planning, Engineering and Design	1.00	EA	59,552,769	7,488,378	6,704,115	73,745,261	73745261
31 Supervision and Administration	1.00	EA	1,190,000	149,635	133,963	1,473,598	1473598
			4,470,000	562,074	1,006,415	6,038,489	6038489
TOTAL Alt S4-B 559,000 SF Concrete Wall	1.00	EA	65,212,769	8,200,087	7,844,493	81,257,348	81257348

LABOR ID: 03M1R0 EQUIP ID: RG5299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

		QUANTITY	UOM	CONTRACT	ESCALATION	CONTINGEN	TOTAL COST	UNIT COST
04 Dams								
04.01 Main Dam								
04.01.42 Earth and Rockfill Dam								
04.01.42.11 Preparatory Work 1 C								
04.01.42.11.3 Clearing and Grubbing								
		1.40	ACR	23,239	2,922	2,616	28,777	20555.21
TOTAL Preparatory Work 1 C		1.00	JOB	23,239	2,922	2,616	28,777	28777.30
04.01.42.21 Sitework Berm								
04.01.42.21.1 Compacted Off-Site Fill		80000.00	CY	2,572,086	323,423	289,551	3,185,060	39.81
04.01.42.21.2 Compacted On-Site Fill		80000.00	CY	2,222,074	279,412	250,149	2,751,634	34.40
04.01.42.21.5 Filter Fabric		42000.00	SY	118,942	14,956	13,390	147,288	5.51
04.01.42.21.6 Sand and/or Gravel		28000.00	CY	939,673	118,158	105,783	1,163,614	41.56
04.01.42.21.7 Turfing		9.00	ACR	350,628	44,089	39,472	434,189	48243.18
TOTAL Sitework Berm		1.00	JOB	6,203,403	780,038	698,344	7,681,785	7681785
04.01.42.22 Concrete Cutoff Wall in Overburd								
04.01.42.22.1 Drill 32" Dia Shaft in Overburd		112350.00	LF	12,094,694	1,520,830	1,361,552	14,977,076	133.31
04.01.42.22.2 Place Concrete		23593.50	CY	2,939,434	369,615	330,905	3,639,954	154.28
04.01.42.22.3 Haul Cuttings to Disposal Area		23593.50	CY	447,769	56,304	50,407	554,480	23.50
TOTAL Concrete Cutoff Wall in Overburd		301000.00	SF	15,481,897	1,946,749	1,742,865	19,171,510	63.69
04.01.42.32 Concrete Cutoff Wall Into Rock								
04.01.42.32.1 Drill 32" Dia Shaft in Rock		104325.00	LF	34,672,975	4,359,904	3,903,288	42,936,166	411.56
04.01.42.32.2 Place Concrete		22116.90	CY	2,755,470	346,483	310,195	3,412,147	154.28
04.01.42.32.3 Haul Cuttings to Disposal Area		21908.25	CY	415,786	52,282	46,807	514,875	23.50
TOTAL Concrete Cutoff Wall Into Rock		258000.00	SF	37,844,230	4,758,669	4,260,290	46,863,188	181.64
TOTAL Earth and Rockfill Dam								
		1.00	EA	59,552,769	7,488,378	6,704,115	73,745,261	73745261
TOTAL Main Dam								
		1.00	EA	59,552,769	7,488,378	6,704,115	73,745,261	73745261
TOTAL Dams								
		1.00	EA	59,552,769	7,488,378	6,704,115	73,745,261	73745261
30 Planning, Engineering and Design		1.00	EA	1,190,000	149,635	133,963	1,473,598	1473598
31 Supervision and Administration		1.00	EA	4,470,000	562,074	1,006,415	6,038,489	6038489

Wed 07 Jan 2004
Eff. Date 01/06/04

PROJECT ALTS4B: U.S. Army Corps of Engineers
Alt S4-B 559,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study- Alt S4-B
** PROJECT OWNER SUMMARY - Bid Item **

TIME 10:06:04
SUMMARY PAGE 3

QUANTITY UOM CONTRACT ESCALATN CONTINGN TOTAL COST UNIT COST

TOTAL Alt S4-B 559,000 SF Concrete Wall 1.00 EA 65,212,769 8,200,087 7,844,493 81,257,348 81257348

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams							
04.01 Main Dam							
04.01.42 Earth and Rockfill Dam							
04.01.42.11 Preparatory Work 1 C							
04.01.42.11.3 Clearing and Grubbing							
04.01.42.11.3.01	1.40	ACR	5,312	668	598	6,578	4698.47
04.01.42.11.3.02	700.00	CY	17,927	2,254	2,018	22,199	31.71
TOTAL Clearing and Grubbing	1.40	ACR	23,239	2,922	2,616	28,777	20555.21
TOTAL Preparatory Work 1 C	1.00	JOB	23,239	2,922	2,616	28,777	28777.30
04.01.42.21 SiteWork Berm							
04.01.42.21.1 Compacted Off-Site Fill							
04.01.42.21.1.10	88000.00	CY	1,012,877	127,363	114,024	1,254,264	14.25
04.01.42.21.1.20	99200.00	CY	1,270,263	159,727	142,999	1,572,989	15.86
04.01.42.21.1.25	99200.00	CY	159,163	20,014	17,918	197,095	1.99
04.01.42.21.1.30	80000.00	CY	129,782	16,319	14,610	160,712	2.01
TOTAL Compacted Off-Site Fill	80000.00	CY	2,572,086	323,423	289,551	3,185,060	39.81
04.01.42.21.2 Compacted On-Site Fill							
04.01.42.21.2.10	88000.00	CY	1,012,877	127,363	114,024	1,254,264	14.25
04.01.42.21.2.20	99200.00	CY	952,697	119,796	107,249	1,179,742	11.89
04.01.42.21.2.25	99200.00	CY	159,163	20,014	17,918	197,095	1.99
04.01.42.21.2.30	80000.00	CY	97,337	12,239	10,958	120,534	1.51
TOTAL Compacted On-Site Fill	80000.00	CY	2,222,074	279,412	250,149	2,751,634	34.40
04.01.42.21.5 Filter Fabric							
04.01.42.21.5.04	42000.00	SY	118,942	14,956	13,390	147,288	3.51
TOTAL Filter Fabric	42000.00	SY	118,942	14,956	13,390	147,288	3.51
04.01.42.21.6 Sand and/or Gravel							

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04.01.42.21.6_.01	28000.00	CY	939,673	118,158	105,783	1,163,614	41.56
TOTAL Sand and/or Gravel	28000.00	CY	939,673	118,158	105,783	1,163,614	41.56
04.01.42.21.7_							
Turfting							
04.01.42.21.7_.01	9.00	ACR	532	67	60	658	73.14
Soil Preparation	9.00	ACR	19,922	2,505	2,243	24,670	2741.07
04.01.42.21.7_.02	7260.03	CY	330,174	41,517	37,169	408,861	56.32
Seeding	7260.03	CY	330,174	41,517	37,169	408,861	56.32
04.01.42.21.7_.03							
Topsoil							
TOTAL Turfting	9.00	ACR	350,628	44,089	39,472	434,189	48243.18
TOTAL SiteWork Berm	1.00	JOB	6,203,403	780,038	698,344	7,681,785	7681785
04.01.42.22							
Concrete Cutoff Wall in Overburd							
04.01.42.22.1	112350.00	LF	12,094,694	1,520,830	1,361,552	14,977,076	133.31
Drill 32" Dia Shaft in Overburdn	112350.00	LF	12,094,694	1,520,830	1,361,552	14,977,076	133.31
04.01.42.22.2	23593.50	CY	2,939,434	369,615	330,905	3,639,954	154.28
Place Concrete	23593.50	CY	2,939,434	369,615	330,905	3,639,954	154.28
04.01.42.22.3	23593.50	CY	447,769	56,304	50,407	554,480	23.50
Haul Cuttings to Disposal Area	23593.50	CY	447,769	56,304	50,407	554,480	23.50
TOTAL Concrete Cutoff Wall in Overburd	301000.00	SF	15,481,897	1,946,749	1,742,865	19,171,510	63.69
04.01.42.32							
Concrete Cutoff Wall Into Rock							
04.01.42.32.1	104325.00	LF	34,672,975	4,359,904	3,903,288	42,936,166	411.56
Drill 32" Dia Shaft in Rock	104325.00	LF	34,672,975	4,359,904	3,903,288	42,936,166	411.56
04.01.42.32.2	22116.90	CY	2,755,470	346,483	310,195	3,412,147	154.28
Place Concrete	22116.90	CY	2,755,470	346,483	310,195	3,412,147	154.28
04.01.42.32.3	21908.25	CY	415,786	52,282	46,807	514,875	23.50
Haul Cuttings to Disposal Area	21908.25	CY	415,786	52,282	46,807	514,875	23.50
TOTAL Concrete Cutoff Wall Into Rock	258000.00	SF	37,844,230	4,758,669	4,260,290	46,863,188	181.64
TOTAL Earth and Rockfill Dam	1.00	EA	59,552,769	7,488,378	6,704,115	73,745,261	73745261
TOTAL Main Dam	1.00	EA	59,552,769	7,488,378	6,704,115	73,745,261	73745261
TOTAL Dams	1.00	EA	59,552,769	7,488,378	6,704,115	73,745,261	73745261
30 Planning, Engineering and Design	1.00	EA	1,190,000	149,635	133,963	1,473,598	1473598
31 Supervision and Administration	1.00	EA	4,470,000	562,074	1,006,415	6,038,489	6038489
TOTAL Alt S4-B 559,000 SF Concrete Wall	1.00	EA	65,212,769	8,200,087	7,844,493	81,257,348	81257348

Wed 07 Jan 2004
 Eff. Date 01/06/04

U.S. Army Corps of Engineers
 PROJECT ALTS4B: Alt S4-B 559,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study- Alt S4-B
 ** PROJECT DIRECT SUMMARY - Feature **

TIME 10:06:04
 SUMMARY PAGE 6

	QUANTITY	UOM	MANHRS	LABOR EQUIP	MNT MATERIAL	OTHER	TOTAL COST	UNIT COST
04 Dams								
30 Planning, Engineering and Design	1.00	EA	534,735	22308676	14338452	5749044	0	42,396,172
31 Supervision and Administration	1.00	EA	0	1190000	0	0	0	1,190,000
TOTAL Alt S4-B 559,000 SF Concrete Wall	1.00	EA	534,735	27968676	14338452	5749044	0	48,056,172
OVERHEAD							0	48,056,172
SUBTOTAL							8,479,234	
HOME OFC							56,535,406	
SUBTOTAL							3,561,278	
PROFIT							60,096,684	
SUBTOTAL							4,572,681	
BOND							64,669,366	
TOTAL INCL INDIRECTS							543,403	
ESCALATN							65,212,769	
SUBTOTAL							8,200,087	
CONTINGN							73,412,855	
TOTAL INCL OWNER COSTS							7,844,493	
							81,257,348	

LABOR ID: 03M1R0 EQUIP ID: RG5299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

		QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL	COST	UNIT	COST

04	Dams											
04.01	Main Dam											
04.01.42	Earth and Rockfill Dam											
04.01.42.11	Preparatory Work 1 C											
04.01.42.11.3	Clearing and Grubbing	1.40	ACR	223	9,995	6,549	0	0	16,544	11817.20		
	TOTAL Preparatory Work 1 C	1.00	JOB	223	9,995	6,549	0	0	16,544	16544.08		
04.01.42.21	SiteWork Berm											
04.01.42.21.1	Compacted Off-Site Fill	80000.00	CY	16,272	747,887	554,026	529,179	0	1,831,092	22.89		
04.01.42.21.2	Compacted On-Site Fill	80000.00	CY	13,195	601,620	451,117	529,179	0	1,581,915	19.77		
04.01.42.21.5	Filter Fabric	42000.00	SY	840	26,384	4,813	53,479	0	84,676	2.02		
04.01.42.21.6	Sand and/or Gravel	28000.00	CY	1,341	57,932	47,183	563,847	0	668,962	23.89		
04.01.42.21.7	Turfing	9.00	ACR	910	47,597	17,999	184,019	0	249,615	27735.02		
	TOTAL SiteWork Berm	1.00	JOB	32,558	1481420	1075137	1859703	0	4,416,260	4416260		
04.01.42.22	Concrete Cutoff Wall in Overburd											
04.01.42.22.1	Drill 32" Dia Shaft in Overburdn	112350.00	LF	123,585	5153099	3304539	152,687	0	8,610,325	76.64		
04.01.42.22.2	Place Concrete	23593.50	CY	3,932	151,401	85,699	185511	0	2,092,611	88.69		
04.01.42.22.3	Haul Cuttings to Disposal Area	23593.50	CY	6,292	216,557	102,214	0	0	318,771	13.51		
	TOTAL Concrete Cutoff Wall in Overburd	301000.00	SF	133,809	5521057	3492452	2008198	0	11,021,707	36.62		
04.01.42.32	Concrete Cutoff Wall Into Rock											
04.01.42.32.1	Drill 32" Dia Shaft in Rock	104325.00	LF	358,617	14953189	9589065	141,760	0	24,684,014	236.61		
04.01.42.32.2	Place Concrete	22116.90	CY	3,686	141,926	80,335	1739384	0	1,961,645	88.69		
04.01.42.32.3	Haul Cuttings to Disposal Area	21908.25	CY	5,842	201,089	94,913	0	0	296,002	13.51		
	TOTAL Concrete Cutoff Wall Into Rock	258000.00	SF	368,146	15296204	9764313	1881144	0	26,941,660	104.43		
	TOTAL Earth and Rockfill Dam	1.00	EA	534,735	22308676	14338452	5749044	0	42,396,172	42396172		
	TOTAL Main Dam	1.00	EA	534,735	22308676	14338452	5749044	0	42,396,172	42396172		
	TOTAL Dams	1.00	EA	534,735	22308676	14338452	5749044	0	42,396,172	42396172		
30	Planning, Engineering and Design	1.00	EA	0	1190000	0	0	0	1,190,000	1190000		
31	Supervision and Administration	1.00	EA	0	4470000	0	0	0	4,470,000	4470000		

Wed 07 Jan 2004
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U.S. Army Corps of Engineers
PROJECT ALTS4B: Alt S4-B 559,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study- Alt S4-B
** PROJECT DIRECT SUMMARY - Bid Item **

TIME 10:06:04
SUMMARY PAGE 8

	QUANTITY	UOM	MANHRS	LABOR EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
OVERHEAD							0	48,056,172
TOTAL Alt S4-B 559,000 SF Concrete Wall	1.00	EA	534,735	27968676	14338452	5749044	0	48,056,172
SUBTOTAL								8,479,234
HOME OFC								56,535,406
PROFIT								3,561,278
SUBTOTAL								60,096,684
BOND								4,572,681
SUBTOTAL								64,669,366
TOTAL INCL INDIRECTS								543,403
ESCALATN								65,212,769
SUBTOTAL								8,200,087
CONTINGN								73,412,855
TOTAL INCL OWNER COSTS								7,844,493
								81,257,348

LABOR ID: 03M1R0 EQUIP ID: RG5299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

	QUANTITY	UOM	MANHRS	LABOR	EQUIPNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04 Dams									
04.01 Main Dam									
04.01.42 Earth and Rockfill Dam									
04.01.42.11 Preparatory Work 1 C									
04.01.42.11.3 Clearing and Grubbing									
04.01.42.11.3.01	1.40	ACR	64	2,401	1,381	0	0	3,782	2701.15
04.01.42.11.3.02	700.00	CY	159	7,594	5,168	0	0	12,762	18.23
TOTAL Clearing and Grubbing	1.40	ACR	223	9,995	6,549	0	0	16,544	11817.20
TOTAL Preparatory Work 1 C	1.00	JOB	223	9,995	6,549	0	0	16,544	16544.08
04.01.42.21 SiteWork Berm									
04.01.42.21.1 Compacted Off-Site Fill									
04.01.42.21.1.10	88000.00	CY	2,640	107,195	84,702	529,179	0	721,077	8.19
04.01.42.21.1.20	99200.00	CY	11,243	538,107	366,205	0	0	904,312	9.12
04.01.42.21.1.25	99200.00	CY	1,323	55,623	57,687	0	0	113,310	1.14
04.01.42.21.1.30	80000.00	CY	1,067	46,962	45,431	0	0	92,393	1.15
TOTAL Compacted Off-Site Fill	80000.00	CY	16,272	747,887	554,026	529,179	0	1,831,092	22.89
04.01.42.21.2 Compacted On-Site Fill									
04.01.42.21.2.10	88000.00	CY	2,640	107,195	84,702	529,179	0	721,077	8.19
04.01.42.21.2.20	99200.00	CY	8,432	403,580	274,654	0	0	678,234	6.84
04.01.42.21.2.25	99200.00	CY	1,323	55,623	57,687	0	0	113,310	1.14
04.01.42.21.2.30	80000.00	CY	800	35,222	34,073	0	0	69,295	0.87
TOTAL Compacted On-Site Fill	80000.00	CY	13,195	601,620	451,117	529,179	0	1,581,915	19.77
04.01.42.21.5 Filter Fabric									
04.01.42.21.5.04 Filter Fabric									
TOTAL Filter Fabric	42000.00	SY	840	26,384	4,813	53,479	0	84,676	2.02
04.01.42.21.6 Sand and/or Gravel									
TOTAL Filter Fabric	42000.00	SY	840	26,384	4,813	53,479	0	84,676	2.02

U.S. Army Corps of Engineers
 PROJECT ALTS4B: Alt S4-B 559,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study - Alt S4-B
 ** PROJECT DIRECT SUMMARY **

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04.01.42.21.6_01	Sand and/or Gravel		1,341	57,932	47,183	563,847	0	668,962	23.89
	TOTAL Sand and/or Gravel		1,341	57,932	47,183	563,847	0	668,962	23.89
04.01.42.21.7_01	Turfing								
04.01.42.21.7_01	Soil Preparation	9.00 ACR	5	222	156	0	0	378	42.05
04.01.42.21.7_02	Seeding	9.00 ACR	105	4,400	948	8,835	0	14,183	1575.84
04.01.42.21.7_03	Topsoil	7260.03 CY	800	42,975	16,895	175,184	0	235,054	32.38
	TOTAL Turfing		910	47,597	17,999	184,019	0	249,615	27735.02
	TOTAL SiteWork Berm	1.00 JOB	32,558	1481420	1075137	1859703	0	4,416,260	4416260
04.01.42.22	Concrete Cutoff Wall in Overburd								
04.01.42.22.1	Drill 32" Dia Shaft in Overburdn	112350.00 LF	123,585	5153099	3304539	152,687	0	8,610,325	76.64
04.01.42.22.2	Place Concrete	23593.50 CY	3,932	151,401	85,699	185511	0	2,092,611	88.69
04.01.42.22.3	Haul Cuttings to Disposal Area	23593.50 CY	6,292	216,557	102,214	0	0	318,771	13.51
	TOTAL Concrete Cutoff Wall in Overburd	301000.00 SF	133,809	5521057	3492452	2008198	0	11,021,707	36.62
04.01.42.32	Concrete Cutoff Wall Into Rock								
04.01.42.32.1	Drill 32" Dia Shaft in Rock	104325.00 LF	358,617	14953189	9589065	141,760	0	24,684,014	236.61
04.01.42.32.2	Place Concrete	22116.90 CY	3,686	141,926	80,335	1739384	0	1,961,645	88.69
04.01.42.32.3	Haul Cuttings to Disposal Area	21908.25 CY	5,842	201,089	94,913	0	0	296,002	13.51
	TOTAL Concrete Cutoff Wall Into Rock	258000.00 SF	368,146	15296204	9764313	1881144	0	26,941,660	104.43
	TOTAL Earth and Rockfill Dam	1.00 EA	534,735	22308676	14338452	5749044	0	42,396,172	42396172
	TOTAL Main Dam	1.00 EA	534,735	22308676	14338452	5749044	0	42,396,172	42396172
	TOTAL Dams	1.00 EA	534,735	22308676	14338452	5749044	0	42,396,172	42396172
30	Planning, Engineering and Design	1.00 EA	0	1190000	0	0	0	1,190,000	1190000
31	Supervision and Administration	1.00 EA	0	4470000	0	0	0	4,470,000	4470000
	TOTAL Alt S4-B 559,000 SF Concrete Wall	1.00 EA	534,735	27968676	14338452	5749044	0	48,056,172	48056172
	OVERHEAD							8,479,234	
	SUBTOTAL HOME OFC							56,535,406	
	SUBTOTAL PROFIT							3,561,278	
								60,096,684	
								4,572,681	

Wed 07 Jan 2004
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U.S. Army Corps of Engineers
PROJECT ALTS4B: Alt S4-B 559,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study- Alt S4-B
** PROJECT DIRECT SUMMARY **

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	QUANTITY	UOM	MANHRS	LABOR EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
SUBTOTAL							64,669,366	
BOND							543,403	
TOTAL INCL INDIRECTS							65,212,769	
ESCALATN							8,200,087	
SUBTOTAL							73,412,855	
CONTINGN							7,844,493	
TOTAL INCL OWNER COSTS							81,257,348	

LABOR ID: 03M1R0 EQUIP ID: RG5299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Wed 07 Jan 2004
Eff. Date 01/06/04
ERROR REPORT

U.S. Army Corps of Engineers
PROJECT ALTS4B: Alt S4-B 559,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study- Alt S4-B

TIME 10:06:04
ERROR PAGE 1

No errors detected...

* * * END OF ERROR REPORT * * *

LABOR ID: 03M1R0 EQUIP ID: RGS299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Wed 07 Jan 2004
Eff. Date 01/06/04

U.S. Army Corps of Engineers
PROJECT ALTS4C: Alt S4-C 860,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study-Alt S4-C

TIME 11:23:05
TITLE PAGE 1

FOR OFFICIAL USE ONLY
CONFIDENTIAL
COST ENGINEERING BRANCH

Alt S4-C 860,000 SF Concrete Wall
Clearwater Dam Major Rehab Study
Alternative S4-C Concrete
Cutoff Wall and Seepage Berm
Extension

Designed By: Geo/Civil Section, Design Branch
Estimated By: Cost Engineering & Support Sec

Prepared By: George Losak

Preparation Date: 01/06/04
Effective Date of Pricing: 01/06/04
Est Construction Time: 1014 Days
Sales Tax: 7.00%

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LABOR ID: 03M1R0 EQUIP ID: RGS299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

ENC 17

Alternative S4-C is construction of a concrete cutoff barrier at the upstream toe of the dam and construction of seepage berm. Construction components include excavation, low strength cast in-place concrete barrier, and soil backfill.

ASSUMPTIONS.

1. No extended construction delays for high lake levels were considered in this cost estimate.

INCLUSIONS.

1. Sales tax of 7 percent.
2. Escalation to the midpoint of construction which was assumed to be February 2007.
3. Planning, engineering, and design is estimated to be 2 percent of the contract amount.
4. Supervision and administration of the construction contract is estimated to be 7.5 percent of the contract amount.
5. Contingency of 10 percent due to lack of design and unknown site conditions.

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PROJECT ALTS4C: Alt S4-C 860,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study-Alt S4-C

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No Detailed Estimate....

No Backup Reports....

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U.S. Army Corps of Engineers
 PROJECT ALTS4C: Alt S4-C 860,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study-Alt S4-C
 ** PROJECT OWNER SUMMARY - Feature **

TIME 11:23:05
 SUMMARY PAGE 1

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams	1.00	EA	59,057,669	7,426,123	6,648,379	73,132,171	73132171
30 Planning, Engineering and Design	1.00	EA	1,180,000	148,377	132,838	1,461,215	1461215
31 Supervision and Administration	1.00	EA	4,430,000	557,044	498,704	5,485,748	5485748
TOTAL Alt S4-C 860,000 SF Concrete Wall	1.00	EA	64,667,669	8,131,544	7,279,921	80,079,135	80079135

LABOR ID: 03M1R0 EQUIP ID: RGS299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams							
04.01 Main Dam							
04.01.42 Earth and Rockfill Dam							
04.01.42.11 Preparatory Work 1 C							
04.01.42.11.1	Work Pltfrm- Cmpctd Off-Site Fill	18000.00	CY	645,260	81,137	72,640	799,037
04.01.42.11.3	Cleaning and Grubbing	1.40	ACR	23,440	2,947	2,639	29,027
TOTAL Preparatory Work 1 C							828,063.10
04.01.42.21 SiteWork Berm							
04.01.42.21.1	Compacted Off-Site Fill	80000.00	CY	2,777,802	349,291	312,709	3,439,802
04.01.42.21.2	Compacted On-Site Fill	80000.00	CY	2,436,980	306,435	274,341	3,017,756
04.01.42.21.5	Filter Fabric	42000.00	SY	143,549	18,050	16,160	177,760
04.01.42.21.6	Sand and/or Gravel	28000.00	CY	1,134,074	142,603	127,668	1,404,344
04.01.42.21.7	Turfing	9.00	ACR	333,071	41,881	37,495	412,447
TOTAL SiteWork Berm							8452,109
04.01.42.22 Concrete Cutoff Wall in Overburd							
04.01.42.22.1	Drill 32" Dia Shaft in Overburdn	113900.00	LF	11,647,554	1,464,605	1,311,216	14,423,375
04.01.42.22.2	Place Concrete	32689.30	CY	3,868,717	486,466	435,518	4,790,701
04.01.42.22.3	Haul Cuttings to Disposal Area	32689.30	CY	589,328	74,104	66,343	729,776
TOTAL Concrete Cutoff Wall in Overburd							19,943,852
04.01.42.32 Concrete Cutoff Wall Into Rock							
04.01.42.32.1	Drill 32" Dia Shaft in Rock	105755.00	LF	33,388,270	4,198,361	3,758,663	41,345,293
04.01.42.32.2	Place Concrete	15175.84	CY	1,796,032	225,840	202,187	2,224,059
04.01.42.32.3	Haul Cuttings to Disposal Area	15175.84	CY	273,593	34,403	30,800	338,795
TOTAL Concrete Cutoff Wall Into Rock							43,908,147
TOTAL Earth and Rockfill Dam							
TOTAL Main Dam							73132171
TOTAL Dams							
30 Planning, Engineering and Design							1461215

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U.S. Army Corps of Engineers
PROJECT ALTS4C: Alt S4-C 860,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study-Alt S4-C
** PROJECT OWNER SUMMARY - Bid Item **

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SUMMARY PAGE 3

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
31	Supervision and Administration	1.00	EA	4,430,000	557,044	498,704	5,485,748
TOTAL Alt S4-C 860,000 SF Concrete Wall		1.00	EA	64,667,669	8,131,544	7,279,921	80,079,135

LABOR ID: 03M1R0 EQUIP ID: RGS299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Wed 07 Jan 2004
 Eff. Date 01/06/04

U.S. Army Corps of Engineers
 PROJECT ALTS4C: Alt S4-C 860,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study-Alt S4-C
 ** PROJECT DIRECT SUMMARY - Feature **

TIME 11:23:05
 SUMMARY PAGE 4

	QUANTITY	UOM	MANHRS	LABOR EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04 Dams	1.00	EA	546,126	22942237	14790622	0	44,259,963	44259963
30 Planning, Engineering and Design	1.00	EA	0	1180000	0	0	1,180,000	1180000
31 Supervision and Administration	1.00	EA	0	4430000	0	0	4,430,000	4430000
TOTAL Alt S4-C 860,000 SF Concrete Wall	1.00	EA	546,126	28552237	14790622	0	49,869,963	49869963
OVERHEAD							6,196,395	
SUBTOTAL HOME OFC							56,066,358	
SUBTOTAL PROFIT							3,531,945	
SUBTOTAL BOND							59,598,303	
TOTAL INCL INDIRECTS ESCALATN							4,535,017	
SUBTOTAL CONTINGN							64,133,320	
TOTAL INCL OWNER COSTS							534,349	
							64,667,669	
							8,131,544	
							72,799,213	
							7,279,921	
							80,079,135	

QUANTITY UOM MANHRS LABOR EQUIPMNT MATERIAL OTHER TOTAL COST UNIT COST

04	Dams																		
04.01	Main Dam																		
04.01.42	Earth and Rockfill Dam																		
04.01.42.11	Preparatory Work 1 C																		
04.01.42.11.1	Work Pltfm- Cmpctd Off-site Fill	18000.00	CY	3,781	188,210	144,098	151,272	0	483,581	26.87									
04.01.42.11.3	Clearing and Grubbing	1,40	ACR	223	10,644	6,923	0	0	17,567	12547.86									
	TOTAL Preparatory Work 1 C																		
		1,00	JOB	4,004	198,854	151,021	151,272	0	501,148	501148.01									
04.01.42.21	SiteWork Berm																		
04.01.42.21.1	Compacted Off-site Fill	80000.00	CY	16,272	804,632	604,831	672,322	0	2,081,786	26.02									
04.01.42.21.2	Compacted On-site Fill	80000.00	CY	13,195	655,189	498,850	672,322	0	1,826,361	22.83									
04.01.42.21.5	Filter Fabric	42000.00	SY	840	33,521	6,115	67,945	0	107,581	2.56									
04.01.42.21.6	Sand and/or Gravel	28000.00	CY	1,341	73,603	59,946	716,368	0	849,916	30.35									
04.01.42.21.7	Turfing	9.00	ACR	910	47,597	17,999	184,019	0	249,615	27735.02									
	TOTAL SiteWork Berm																		
		1.00	JOB	32,558	1614543	1187741	2312976	0	5,115,259	5115259									
04.01.42.22	Concrete Cutoff Wall in Overburd																		
04.01.42.22.1	Drill 32" Dia Shaft in Overburdn	113900.00	LF	125,290	5224192	3350129	154,779	0	8,729,100	76.64									
04.01.42.22.2	Place Concrete	32689.30	CY	5,448	209,770	118,737	2570850	0	2,899,357	88.69									
04.01.42.22.3	Haul Cuttings to Disposal Area	32689.30	CY	8,717	300,044	141,620	0	0	441,664	13.51									
	TOTAL Concrete Cutoff Wall in Overburd	602000.00	SF	139,455	5734006	3610486	2725629	0	12,070,121	20.05									
04.01.42.32	Concrete Cutoff Wall Into Rock																		
04.01.42.32.1	Drill 32" Dia Shaft in Rock	105755.00	LF	363,533	15158155	9720504	143,723	0	25,022,382	236.61									
04.01.42.32.2	Place Concrete	15175.84	CY	2,529	97,384	55,123	1193504	0	1,346,012	88.69									
04.01.42.32.3	Haul Cuttings to Disposal Area	15175.84	CY	4,047	139,294	65,746	0	0	205,040	13.51									
	TOTAL Concrete Cutoff Wall Into Rock	258000.00	SF	370,109	15394834	9841373	1337228	0	26,573,434	103.00									
	TOTAL Earth and Rockfill Dam																		
		1.00	EA	546,126	22942237	14790622	6527104	0	44,259,963	44259963									
	TOTAL Main Dam																		
		1.00	EA	546,126	22942237	14790622	6527104	0	44,259,963	44259963									
	TOTAL Dams																		
		1.00	EA	546,126	22942237	14790622	6527104	0	44,259,963	44259963									
30	Planning, Engineering and Design																		
		1.00	EA	0	1180000	0	0	0	1,180,000	1180000									

Wed 07 Jan 2004
 Eff. Date 01/06/04

U.S. Army Corps of Engineers
 PROJECT ALTS4C: Alt S4-C 860,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study-Alt S4-C
 ** PROJECT DIRECT SUMMARY - Bid Item **
 TIME 11:23:05
 SUMMARY PAGE 6

	QUANTITY UOM	MANHRS	LABOR EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
31 Supervision and Administration	1.00 EA	0	4430000	0	0	4,430,000	4430000
TOTAL Alt S4-C 860,000 SF Concrete Wall	1.00 EA	546,126	28552237	14790622	6527104	49,869,963	49869963
OVERHEAD						6,196,395	
SUBTOTAL HOME OFC						56,066,358	
PROFIT						3,531,945	
SUBTOTAL						59,598,303	
BOND						4,535,017	
SUBTOTAL						64,133,320	
TOTAL INCL INDIRECTS ESCALATN						534,349	
SUBTOTAL CONTINGN						64,667,669	
TOTAL INCL OWNER COSTS						8,131,544	
						72,799,213	
						7,279,921	
						80,079,135	

LABOR ID: 03M1R0 EQUIP ID: RG5299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Wed 07 Jan 2004
Eff. Date 01/06/04
ERROR REPORT

U.S. Army Corps of Engineers
PROJECT ALTS4C: Alt S4-C 860,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study-Alt S4-C

TIME 11:23:05
ERROR PAGE 1

No errors detected....

* * * END OF ERROR REPORT * * *

LABOR ID: 03M1R0 EQUIP ID: RGS299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Wed 07 Jan 2004
Eff. Date 01/06/04

U.S. Army Corps of Engineers
PROJECT ALTS4D: Alt S4-D 1,002,000 SF Concrete Wl - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study-Alt S4-D

TIME 11:34:01
TITLE PAGE 1

CIVIL
COST ENGINEERING BRANCH

FOR OFFICIAL USE ONLY

Alt S4-D 1,002,000 SF Concrete Wl
Clearwater Dam Major Rehab Study
Alternative S4-D 1,002,000 SF
Concrete Cutoff Wall

Designed By: Geo/Civil Section, Design Branch
Estimated By: Cost Engineering & Support Sec

Prepared By: George Losak

Preparation Date: 01/06/04
Effective Date of Pricing: 01/06/04
Est Construction Time: 1000 Days

Sales Tax: 7.00%

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Currency in DOLLARS

LABOR ID: 03M1R0 EQUIP ID: R65299

CREW ID: NAT01A UPB ID: U01EMO

Encl 8

Alternative S4-D is an alternative to construct a 1,002,000 subterranean cutoff concrete barrier. Construction components include excavation, cast in-place concrete piling, highway earth backfill and a 500 feet 2-lane highway bridge.

ASSUMPTIONS.

1. No extended construction delays for high lake levels were considered in this cost estimate.

INCLUSIONS.

1. Sales tax of 7 percent.
2. Escalation to the midpoint of construction which was assumed to be February 2007.
3. Planning, engineering, and design is estimated to be 3 percent of the contract amount.
4. Supervision and administration of the construction contract is estimated to be 7.5 percent of the contract amount.
5. Contingency of 20 percent due to unknown site conditions and lack of design.

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Clearwater Dam Safety Evaluation Study-Alt S4-D

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No Backup Reports....

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U.S. Army Corps of Engineers
PROJECT ALTS4D: Alt S4-D 1,002,000 SF Concrete WL - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study-Alt S4-D
** PROJECT OWNER SUMMARY - Feature **

TIME 11:34:01
SUMMARY PAGE 1

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams	1.00	EA	56,479,679	7,101,957	6,358,164	69,939,799	69939799
30 Planning, Engineering and Design	1.00	EA	1,130,000	142,090	127,209	1,399,299	1399299
31 Supervision and Administration	1.00	EA	4,240,000	533,153	477,315	5,250,468	5250468
TOTAL Alt S4-D	1.00	EA	61,849,679	7,777,200	6,962,688	76,589,566	76589566

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

U.S. Army Corps of Engineers
 PROJECT ALTS4D: Alt S4-D 1,002,000 SF Concrete Wl - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study-Alt S4-D
 ** PROJECT OWNER SUMMARY - Bid Item **

		QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams								
04.01 Main Dam								
04.01.42 Earth and Rockfill Dam								
04.01.42.11 Preparatory Work 1 C								
04.01.42.22 Concrete Cutoff Wall in Overburd								
04.01.42.22.1	Drill 32" Dia Shaft in Overburdn	140600.00	LF	14,377,544	1,807,884	1,618,543	17,803,970	126.63
04.01.42.22.2	Place Concrete	42700.22	CY	5,053,355	635,427	568,878	6,257,660	146.55
04.01.42.22.3	Haul Cuttings to Disposal Area	42700.22	CY	769,786	96,796	86,658	953,240	22.32
TOTAL Concrete Cutoff Wall in Overburd		741480.00	SF	20,200,685	2,540,106	2,274,079	25,014,870	33.74
04.01.42.32 Concrete Cutoff Wall Into Rock								
04.01.42.32.1	Drill 32" Dia Shaft in Rock	107500.00	LF	33,938,263	4,267,519	3,820,578	42,026,359	390.94
04.01.42.32.2	Place Concrete	16340.00	CY	1,933,756	243,157	217,691	2,394,605	146.55
04.01.42.32.3	Haul Cuttings to Disposal Area	22575.00	CY	406,975	51,175	45,815	503,965	22.32
TOTAL Concrete Cutoff Wall Into Rock		277554.00	SF	36,278,994	4,561,851	4,084,084	44,924,929	161.86
TOTAL Earth and Rockfill Dam		1.00	EA	56,479,679	7,101,957	6,358,164	69,939,799	69939799
TOTAL Main Dam		1.00	EA	56,479,679	7,101,957	6,358,164	69,939,799	69939799
TOTAL Dams		1.00	EA	56,479,679	7,101,957	6,358,164	69,939,799	69939799
30	Planning, Engineering and Design	1.00	EA	1,130,000	142,090	127,209	1,399,299	1399299
31	Supervision and Administration	1.00	EA	4,240,000	533,153	477,315	5,250,468	5250468
TOTAL Alt S4-D 1,002,000 SF Concrete Wl		1.00	EA	61,849,679	7,777,200	6,962,688	76,589,566	76589566

Wed 07 Jan 2004
 Eff. Date 01/06/04

U.S. Army Corps of Engineers
 PROJECT ALTS4D: Alt S4-D 1,002,000 SF Concrete Wl - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study-Alt S4-D
 ** PROJECT DIRECT SUMMARY - Feature **

TIME 11:34:01
 SUMMARY PAGE 3

	QUANTITY	UOM	MANHRS	LABOR EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04 Dams	1.00	EA	551,438	22835103	14513593	4980361	0	42,329,057
30 Planning, Engineering and Design	1.00	EA	0	1130000	0	0	0	1,130,000
31 Supervision and Administration	1.00	EA	0	4240000	0	0	0	4,240,000
TOTAL Alt S4-D 1,002,000 SF Concrete Wl	1.00	EA	551,438	28205103	14513593	4980361	0	47,699,057
OVERHEAD								5,926,068
SUBTOTAL HOME OFC								53,625,125
SUBTOTAL PROFIT								3,377,859
SUBTOTAL BOND								57,002,984
TOTAL INCL INDIRECTS ESCALATN								4,337,171
SUBTOTAL CONTINGN								61,340,154
TOTAL INCL OWNER COSTS								509,524
								61,849,679
								7,777,200
								69,626,879
								6,962,688
								76,589,566

LABOR ID: 03M1R0 EQUIP ID: RGS299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL	COST	UNIT	COST

04 Dams											
04.01 Main Dam											
04.01.42 Earth and Rockfill Dam											
04.01.42.11 Preparatory Work 1 C											
04.01.42.22 Concrete Cutoff Wall in Overburd											
04.01.42.22.1 Drill 32" Dia Shaft in Overburdn	140600.00	LF	154,660	6448827	4135454	191,061	0	10,775,342		76.64	
04.01.42.22.2 Place Concrete	42700.22	CY	7,117	274,010	155,100	3358159	0	3,787,269		88.69	
04.01.42.22.3 Haul Cuttings to Disposal Area	42700.22	CY	11,387	391,931	184,990	0	0	576,921		13.51	
TOTAL Concrete Cutoff Wall in Overburd	741480.00	SF	173,163	7114769	4475463	3549220	0	15,139,533		20.42	
04.01.42.32 Concrete Cutoff Wall Into Rock											
04.01.42.32.1 Drill 32" Dia Shaft in Rock	107500.00	LF	369,531	15408271	9880896	146,082	0	25,435,248		236.61	
04.01.42.32.2 Place Concrete	16340.00	CY	2,723	104,855	59,352	1285059	0	1,449,266		88.69	
04.01.42.32.3 Haul Cuttings to Disposal Area	22575.00	CY	6,020	207,209	97,802	0	0	305,010		13.51	
TOTAL Concrete Cutoff Wall Into Rock	27754.00	SF	378,275	15720334	10038049	1431141	0	27,189,525		97.96	
TOTAL Earth and Rockfill Dam											
TOTAL Main Dam											
TOTAL Dams											
30 Planning, Engineering and Design											
31 Supervision and Administration											
TOTAL Alt S4-D 1,002,000 SF Concrete Wl	1.00	EA	551,438	28205103	14513593	4980361	0	47,699,057		47.699057	
OVERHEAD											
SUBTOTAL HOME OFC								5,926,068			
SUBTOTAL PROFIT								53,625,125			
SUBTOTAL BOND								3,377,859			
TOTAL INCL INDIRECTS ESCALATN								57,002,984			
								4,337,171			
								61,340,154			
								509,524			
								61,849,679			
								7,777,200			

Wed 07 Jan 2004
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U.S. Army Corps of Engineers
PROJECT ALTSAD: Alt S4-D 1,002,000 SF Concrete WL - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study-Alt S4-D
** PROJECT DIRECT SUMMARY - Bid Item **

TIME 11:34:01
SUMMARY PAGE 5

	QUANTITY	UOM	MANHRS	LABOR EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
SUBTOTAL							69,626,879	
CONTINGN							6,962,688	
TOTAL INCL OWNER COSTS							76,589,566	

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Wed 07 Jan 2004
Eff. Date 01/06/04
ERROR REPORT

U.S. Army Corps of Engineers
PROJECT ALTS4D: Alt S4-D 1,002,000 SF Concrete WL - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study-Alt S4-D

TIME 11:34:01
ERROR PAGE 1

No errors detected...

* * * END OF ERROR REPORT * * *

LABOR ID: 03M1R0 EQUIP ID: RG5299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Tue 06 Jan 2004
Eff. Date 01/06/04

U.S. Army Corps of Engineers
PROJECT ALTS4E: Alt S4-E 600,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study- Alt S4-E

TIME 13:35:22
TITLE PAGE 1

COST ENGINEERING BRANCH

Alt S4-E 600,000 SF Concrete Wall
Clearwater Dam Major Rehab Study
Alternative S4-E 600,000 SF
Concrete Cutoff Wall and Seepage
Berm

Designed By: Geo/Civil Section, Design Branch
Estimated By: Cost Engineering & Support Sec

Prepared By: George Losak

Preparation Date: 01/06/04
Effective Date of Pricing: 01/06/04
Est Construction Time: 884 Days
Sales Tax: 7.00%

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Currency in DOLLARS

LABOR ID: 03M1R0 EQUIP ID: R65299

CREW ID: NAT01A UPB ID: U01EMO

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Encl 9

Alternative S4-E is an alternative to construct a subterranean concrete cutoff barrier and a seepage berm. The cutoff barrier will extend down through the center of the clay core of the dam. Construction components include excavation, sonic drilling, concrete, and soil backfill.

ASSUMPTIONS.

1. No extended construction delays for high lake levels were considered in this cost estimate.

INCLUSIONS.

1. Sales tax of 7 percent.
2. Escalation to the midpoint of construction which was assumed to be February 2007.
3. Planning, engineering, and design is estimated to be 2 percent of the contract amount.
4. Supervision and administration of the construction contract is estimated to be 7.5 percent of the contract amount. This amount includes a Corps geologist on site during construction of the cutoff wall.
5. Contingency of 10 percent due to lack of design and unknown site conditions.

Tue 06 Jan 2004
Eff. Date 01/06/04
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Clearwater Dam Safety Evaluation Study- Alt S4-E

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U.S. Army Corps of Engineers
PROJECT ALTS4E: Alt S4-E 600,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study- Alt S4-E
** PROJECT OWNER SUMMARY - Feature **

TIME 13:35:22
SUMMARY PAGE 1

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams							
30 Planning, Engineering and Design	1.00	EA	51,682,484	6,498,740	5,818,122	63,999,347	63999347
31 Supervision and Administration	1.00	EA	1,030,000	129,516	115,952	1,275,467	1275467
	1.00	EA	3,880,000	487,885	435,789	4,804,674	4804674
TOTAL Alt S4-E 600,000 SF Concrete Wall	1.00	EA	56,592,484	7,116,141	6,370,863	70,079,488	70079488

LABOR ID: 03MTR0 EQUIP ID: RG5299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
04 Dams							
04.01 Main Dam							
04.01.42 Earth and Rockfill Dam							
04.01.42.11 Preparatory Work 1 C							
04.01.42.11.1	Work Pltfm- Cmpctd Off-Site Fill	18000.00	CY	645,032	81,109	72,614	798,754
04.01.42.11.3	Clearing and Grubbing	1.40	ACR	23,432	2,946	2,638	29,016
TOTAL Preparatory Work 1 C							827,771
04.01.42.21 SiteWork Berm							
04.01.42.21.1	Compacted Off-Site Fill	80000.00	CY	2,776,821	349,167	312,599	3,438,587
04.01.42.21.2	Compacted On-Site Fill	80000.00	CY	2,436,119	306,326	274,245	3,016,690
04.01.42.21.5	Filter Fabric	42000.00	SY	143,499	18,044	16,154	177,697
04.01.42.21.6	Sand and/or Gravel	28000.00	CY	1,133,674	142,552	127,623	1,403,848
04.01.42.21.7	Turfing	9.00	ACR	332,953	41,867	37,482	412,302
TOTAL SiteWork Berm							844,912
04.01.42.22 Concrete Cutoff Wall in Overburd							
04.01.42.22.1	Drill 32" Dia Shaft in Overburd	158900.00	LF	16,243,572	2,042,525	1,828,610	20,114,707
04.01.42.22.2	Place Concrete	22881.60	CY	2,707,038	340,393	304,743	3,352,174
04.01.42.22.3	Haul Cuttings to Disposal Area	22881.60	CY	412,368	51,853	46,422	510,642
TOTAL Concrete Cutoff Wall in Overburd							23,977,523
04.01.42.32 Concrete Cutoff Wall Into Rock							
04.01.42.32.1	Drill 32" Dia Shaft in Rock	73800.00	LF	23,291,410	2,928,745	2,622,015	28,842,170
04.01.42.32.2	Place Concrete	10627.20	CY	1,297,265	158,093	141,536	1,556,894
04.01.42.32.3	Haul Cuttings to Disposal Area	15498.00	CY	279,302	35,120	31,442	345,865
TOTAL Concrete Cutoff Wall Into Rock							170.81
TOTAL Earth and Rockfill Dam							
TOTAL Main Dam							63999347
TOTAL Dams							63999347
30 Planning, Engineering and Design							
TOTAL							1275467

Tue 06 Jan 2004
Eff. Date 01/06/04

U.S. Army Corps of Engineers
PROJECT ALTS4E: Alt S4-E 600,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
Clearwater Dam Safety Evaluation Study- Alt S4-E
** PROJECT OWNER SUMMARY - Bid Item **

TIME 13:35:22
SUMMARY PAGE 3

	QUANTITY	UOM	CONTRACT	ESCALATN	CONTINGN	TOTAL COST	UNIT COST
31 Supervision and Administration	1.00	EA	3,880,000	487,885	436,789	4,804,674	4804674
TOTAL Alt S4-E 600,000 SF Concrete Wall	1.00	EA	56,592,484	7,116,141	6,370,863	70,079,488	70079488

LABOR ID: 03M1R0 EQUIP ID: R65299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

Tue 06 Jan 2004
 Eff. Date 01/06/04

U.S. Army Corps of Engineers
 PROJECT ALTS4E: Alt S4-E 600,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study- Alt S4-E
 ** PROJECT DIRECT SUMMARY - Feature **

TIME 13:35:22
 SUMMARY PAGE 4

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
04 Dams	1.00	EA	480	859	20246840	13083808	5415764	0	38,746,411
30 Planning, Engineering and Design	1.00	EA	0	1030000	0	0	0	1,030,000	1030000
31 Supervision and Administration	1.00	EA	0	3880000	0	0	0	3,880,000	3880000
TOTAL Alt S4-E 600,000 SF Concrete Wall	1.00	EA	480	859	25156840	13083808	5415764	0	43,656,411
OVERHEAD									5,424,498
SUBTOTAL HOME OFC									49,080,909
SUBTOTAL PROFIT									3,091,964
SUBTOTAL BOND									52,172,873
TOTAL INCL INDIRECTS ESCALATIN									3,970,081
SUBTOTAL CONTINGN									56,142,954
TOTAL INCL OWNER COSTS									449,530
									56,592,484
									7,116,141
									63,708,625
									6,370,863
									70,079,488

LABOR ID: 03M1R0 EQUIP ID: RG5299

Currency in DOLLARS

CREW ID: NAT01A UPB ID: U01EMO

		QUANTITY UOM	MANHRS	LABOR EQUIPMT	MATERIAL	OTHER	TOTAL COST	UNIT COST
--	--	--------------	--------	---------------	----------	-------	------------	-----------

04 Dams

04.01 Main Dam

04.01.42 Earth and Rockfill Dam

04.01.42.11 Preparatory Work 1 C

04.01.42.11.1 Work Pltfm- Cmpctd Off-Site Fill 18000.00 CY 3,781 188,210 144,098 151,272 0 483,581 26.87
04.01.42.11.3 Clearing and Grubbing 1.40 ACR 223 10,644 6,923 0 0 17,567 12547.86

TOTAL Preparatory Work 1 C 1.00 JOB 4,004 198,854 151,021 151,272 0 501,148 501148.01

04.01.42.21 Sitework Berm

04.01.42.21.1 Compacted Off-Site Fill 80000.00 CY 16,272 804,632 604,831 672,322 0 2,081,786 26.02
04.01.42.21.2 Filter Fabric 42000.00 SY 840 53,521 67,945 0 0 1,826,361 22.83
04.01.42.21.5 Sand and/or Gravel 28000.00 CY 1,341 73,603 59,946 716,368 0 849,916 30.35
04.01.42.21.7 Turfing 9.00 ACR 910 47,597 17,999 184,019 0 249,615 27735.02

TOTAL Sitework Berm 1.00 JOB 32,558 1614543 1187741 2312976 0 5,115,259 5115259

04.01.42.22 Concrete Cutoff Wall in Overburd

04.01.42.22.1 Drill 32" Dia Shaft in Overburdn 158900.00 LF 174,790 7288184 4673710 215,929 0 12,177,823 76.64
04.01.42.22.2 Place Concrete 22881.60 CY 3,814 146,833 83,113 1799523 0 2,029,469 88.69
04.01.42.22.3 Haul Cuttings to Disposal Area 22881.60 CY 6,102 210,023 99,130 0 0 309,153 13.51

TOTAL Concrete Cutoff Wall in Overburd 420000.00 SF 184,705 7645039 4855952 2015453 0 14,516,444 34.56

04.01.42.32 Concrete Cutoff Wall Into Rock

04.01.42.32.1 Drill 32" Dia Shaft in Rock 73800.00 LF 253,688 10577957 6783350 100,287 0 17,461,594 236.61
04.01.42.32.2 Place Concrete 10627.20 CY 1,771 68,196 38,601 835,776 0 942,573 88.69
04.01.42.32.3 Haul Cuttings to Disposal Area 15498.00 CY 4,133 142,251 67,142 0 0 209,393 13.51

TOTAL Concrete Cutoff Wall Into Rock 180000.00 SF 259,592 10788404 6889093 936,063 0 18,613,560 103.41

TOTAL Earth and Rockfill Dam 1.00 EA 480,859 20246840 13083808 5415764 0 38,746,411 38746411

TOTAL Main Dam 1.00 EA 480,859 20246840 13083808 5415764 0 38,746,411 38746411

TOTAL Dams 1.00 EA 480,859 20246840 13083808 5415764 0 38,746,411 38746411

30 Planning, Engineering and Design 1.00 EA 0 1030000 0 0 0 1,030,000 1030000

Tue 06 Jan 2004
 Eff. Date 01/06/04

U.S. Army Corps of Engineers
 PROJECT ALTS4E: Alt S4-E 600,000 SF Concrete Wall - Clearwater Dam Major Rehab Study
 Clearwater Dam Safety Evaluation Study- Alt S4-E
 ** PROJECT DIRECT SUMMARY - Bid Item **

TIME 13:35:22
 SUMMARY PAGE 6

	QUANTITY	UOM	MANHRS	LABOR	EQUIPMNT	MATERIAL	OTHER	TOTAL COST	UNIT COST
31 Supervision and Administration	1.00	EA	0	3880000	0	0	0	3,880,000	3880000
TOTAL Alt S4-E 600,000 SF Concrete Wall	1.00	EA	480,859	25156840	13083808	5415764	0	43,656,411	43656411
OVERHEAD								5,424,498	
SUBTOTAL HOME OFC								49,080,909	
PROFIT								3,091,964	
SUBTOTAL								52,172,873	
BOND								3,970,081	
SUBTOTAL								56,142,954	
ESCALATN								449,530	
TOTAL INCL INDIRECTS								56,592,484	
CONTINGN								7,116,141	
SUBTOTAL								63,708,625	
TOTAL INCL OWNER COSTS								6,370,863	
								70,079,488	