

APPENDIX L  
OPINION OF PROBABLE  
CONSTRUCTION COSTS

**PANTANO WASH BANK PROTECTION  
PRELIMINARY CONSTRUCTION COST ESTIMATES  
(in millions)**

PHASE I				
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Segment 1 (Mullins Landfill - FEMA #318)	0.72	0.72	0.72	0.72
Segment 2 (Pantano Townhomes - FEMA #320)	1.39	1.39	1.33	1.33
Segment 3 (Kolb Executive Park - FEMA #311)	1.11	1.30	1.11	1.30
<b>TOTAL FOR FEMA PROJECTS</b>	<b>3.22</b>	<b>3.41</b>	<b>3.16</b>	<b>3.35</b>
Segment 4 (Reach North of FEMA #311)	1.29	1.29	1.29	1.29
Segment 5 (Mullins Grade Control Improvements)	0.32	0.32	0.32	0.32
Segment 6 (Reach South of FEMA #311)	0.47	0.47	0.47	0.47
<b>TOTAL FOR NON-FEMA PROJECTS</b>	<b>2.08</b>	<b>2.08</b>	<b>2.08</b>	<b>2.08</b>
<b>TOTAL PHASE I</b>	<b>5.30</b>	<b>5.49</b>	<b>5.24</b>	<b>5.43</b>
PHASE II				
<b>TOTAL PHASE II</b>	<b>3.59</b>	<b>3.78</b>	<b>3.51</b>	<b>3.71</b>
<b>TOTAL PHASES I &amp; II</b>	<b>8.89</b>	<b>9.27</b>	<b>8.75</b>	<b>9.14</b>

**ALTERNATIVE 1**

West Bank - 100-year bank protection along undeveloped area, 10-year along existing developments

East Bank - Alignment in front of power poles, top of bank protection set 1'± above 100-year WSEL.

Backfill sloped maximum 4:1 to match existing adjacent grade at Pantano Townhomes property line

**ALTERNATIVE 2**

West Bank - 100-year bank protection along entire alignment, top of bank protection set to existing adjacent grade

East Bank - Alignment in front of power poles, top of bank protection set 1'± above 100-year WSEL.

Backfill sloped maximum 4:1 to match existing adjacent grade at Pantano Townhomes property line

**ALTERNATIVE 3**

West Bank - 100-year bank protection along undeveloped area, 10-year along Existing Developments

East Bank - Alignment behind power poles, top of bank protection set to match existing adjacent grade at Pantano Townhomes property line

**ALTERNATIVE 4**

West Bank - 100-year bank protection along entire alignment, top of bank protection set to match existing adjacent top of bank grade at properties

East Bank - Alignment behind power poles, top of bank protection set to match existing adjacent grade

By: MED

Date 1/05/09



PANTANO WASH BANK PROTECTION  
PHASE I - ALTERNATIVE 2

PSOMAS

BID ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
<b>(MULLINS LANDFILL - FEMA NO. 318)</b>					
2010011	CLEARING AND GRUBBING	ACRE	2.5	\$1,800	\$4,500
2030451	CHANNEL EXCAVATION	C.Y.	13,800	\$5	\$69,000
4060003	ASPHALTIC CONCRETE	TON	187	\$100	\$18,700
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$15,000	\$15,000
6017101	PRECAST REINFORCED CONCRETE BOX CULVERT	EACH	1	\$20,000	\$20,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9130400	SOIL CEMENT	C.Y.	6,095	\$35	\$213,325
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	1,036	\$160	\$165,760
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	653	\$52	\$33,956
9330005	POST AND CABLE BARRIER	L.F.	405	\$12	\$4,860
9330103	ACCESS GATE	EACH	1	\$1,500	\$1,500
SUBTOTAL					\$578,801
ENGINEERING (10%)					\$57,880
CONTINGENCY (15%)					\$86,820
<b>TOTAL SEGMENT 1</b>					<b>\$723,501</b>
<b>(PANTANO TOWNHOMES - FEMA NO. 320)</b>					
2010011	CLEARING AND GRUBBING	ACRE	5.7	\$1,800	\$10,260
2030451	CHANNEL EXCAVATION	C.Y.	26,800	\$5	\$134,000
4060003	ASPHALTIC CONCRETE	TON	231	\$100	\$23,100
5011042	PIPE, REINFORCED CONCRETE, CLASS II, 36"	L.F.T.	100	\$110	\$11,000
5011047	PIPE, REINFORCED CONCRETE, CLASS II, 42"	L.F.T.	185	\$120	\$22,200
5030161	INLET STRUCTURE	EACH	3	\$25,000	\$75,000
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$20,000	\$20,000
7010005	TRAFFIC CONTROL	L.S.	1	\$5,000	\$5,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9130400	SOIL CEMENT	C.Y.	10,832	\$35	\$379,120
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	1,841	\$160	\$294,560
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	1,587	\$52	\$82,524
9330005	POST AND CABLE BARRIER	L.F.	1,866	\$12	\$22,392
SUBTOTAL					\$1,108,356
ENGINEERING (10%)					\$110,836
CONTINGENCY (15%)					\$166,253
<b>TOTAL SEGMENT 2</b>					<b>\$1,385,445</b>
<b>(KOLB EXECUTIVE PARK - FEMA NO. 311)</b>					
2010011	CLEARING AND GRUBBING	ACRE	2.80	\$1,800	\$5,040
2030451	CHANNEL EXCAVATION	C.Y.	12,939	\$5	\$64,695
4060003	ASPHALTIC CONCRETE	TON	224	\$100	\$22,400
5011022	PIPE, REINFORCED CONCRETE, CLASS II, 24"	L.F.T.	31	\$100	\$3,100
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$6,000	\$6,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9130400	SOIL CEMENT	C.Y.	12,297	\$35	\$430,395
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	2,090	\$160	\$334,400
9240048	STABILIZATION	L.S.	1	\$60,000	\$60,000
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	1,425	\$52	\$74,100
9330005	POST AND CABLE BARRIER	L.F.	700	\$12	\$8,400
9330103	ACCESS GATES	EACH	1	\$1,500	\$1,500
SUBTOTAL					\$1,042,230
ENGINEERING (10%)					\$104,223
CONTINGENCY (15%)					\$156,335
<b>TOTAL SEGMENT 3</b>					<b>\$1,302,788</b>
<b>(AREA NORTH OF FEMA NO. 311)</b>					
2010011	CLEARING AND GRUBBING	ACRE	2.70	\$1,800	\$4,860
2030451	CHANNEL EXCAVATION	C.Y.	47,315	\$5	\$236,575
4060003	ASPHALTIC CONCRETE	TON	208	\$100	\$20,800
5011022	PIPE, REINFORCED CONCRETE, CLASS II, 24"	L.F.T.	107	\$100	\$10,700
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$15,000	\$15,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9130400	SOIL CEMENT	C.Y.	9,880	\$35	\$345,800
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	1,679	\$160	\$268,640
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	1,590	\$52	\$82,680
9330005	POST AND CABLE BARRIER	L.F.	1,430	\$12	\$17,160
9330103	ACCESS GATES	EACH	1	\$1,500	\$1,500
SUBTOTAL					\$1,035,915
ENGINEERING (10%)					\$103,592
CONTINGENCY (15%)					\$155,387
<b>TOTAL SEGMENT 4</b>					<b>\$1,294,894</b>
<b>MULLINS LANDFILL GRADE CONTROL IMPROVEMENTS</b>					
2030451	CHANNEL EXCAVATION	C.Y.	935	\$5	\$4,675
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$15,000	\$15,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9080501	SOIL CEMENT	C.Y.	935	\$55	\$51,425
9130001	RIPRAP (DUMPED) (Onsite Materials - Moving and Placement Only)	C.Y.	6,400	\$20	\$128,000
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	159	\$160	\$25,440
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
SUBTOTAL					\$256,740
ENGINEERING (10%)					\$25,674
CONTINGENCY (15%)					\$38,511
<b>TOTAL SEGMENT 5</b>					<b>\$320,925</b>
<b>(AREA SOUTH OF FEMA NO. 311)</b>					
2030451	CHANNEL EXCAVATION	C.Y.	997	\$5	\$4,985
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$15,000	\$15,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9080501	SOIL CEMENT	C.Y.	2,764	\$55	\$152,020
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	470	\$160	\$75,200
4060003	ASPHALTIC CONCRETE	TON	100	\$100	\$10,000
6017101	PRECAST REINFORCED CONCRETE BOX CULVERT	EACH	1	\$20,000	\$20,000
5011012	PIPE, REINFORCED CONCRETE, CLASS II, 18"	L.F.T.	22	\$100	\$2,200
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	683	\$52	\$35,516
2020014	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.S.	1	\$15,000	\$15,000
9330005	POST AND CABLE BARRIER	L.F.	846	\$12	\$10,152
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
SUBTOTAL					\$372,273
ENGINEERING (10%)					\$37,227
CONTINGENCY (15%)					\$55,841
<b>TOTAL SEGMENT 6</b>					<b>\$465,341</b>
<b>PHASE I TOTAL</b>					<b>\$5,492,894</b>

PANTANO WASH BANK PROTECTION  
PHASE I - ALTERNATIVE 3

PSOMAS

BID ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
<b>(MULLINS LANDFILL - FEMA NO. 318)</b>					
2010011	CLEARING AND GRUBBING	ACRE	2.5	\$1,800	\$4,500
2030451	CHANNEL EXCAVATION	C.Y.	13,800	\$5	\$69,000
4060003	ASPHALTIC CONCRETE	TON	187	\$100	\$18,700
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$15,000	\$15,000
6017101	PRECAST REINFORCED CONCRETE BOX CULVERT	EACH	1	\$20,000	\$20,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9130400	SOIL CEMENT	C.Y.	6,095	\$35	\$213,325
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	1,036	\$160	\$165,760
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	653	\$52	\$33,956
9330005	POST AND CABLE BARRIER	L.F.	405	\$12	\$4,860
9330103	ACCESS GATE	EACH	1	\$1,500	\$1,500
SUBTOTAL					\$578,801
ENGINEERING (10%)					\$57,880
CONTINGENCY (15%)					\$86,820
<b>TOTAL SEGMENT 1</b>					<b>\$723,501</b>
<b>(PANTANO TOWNHOMES - FEMA NO. 320)</b>					
2010011	CLEARING AND GRUBBING	ACRE	5.7	\$1,800	\$10,260
2030451	CHANNEL EXCAVATION	C.Y.	26,800	\$5	\$134,000
4060003	ASPHALTIC CONCRETE	TON	231	\$100	\$23,100
5011042	PIPE, REINFORCED CONCRETE, CLASS II, 36"	L.F.T.	100	\$110	\$11,000
5011047	PIPE, REINFORCED CONCRETE, CLASS II, 42"	L.F.T.	185	\$120	\$22,200
5030161	INLET STRUCTURE	EACH	3	\$25,000	\$75,000
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$20,000	\$20,000
7010005	TRAFFIC CONTROL	L.S.	1	\$5,000	\$5,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9130400	SOIL CEMENT	C.Y.	10,832	\$31	\$335,792
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	1,841	\$160	\$294,560
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	1,587	\$52	\$82,524
9330005	POST AND CABLE BARRIER	L.F.	1,866	\$12	\$22,392
SUBTOTAL					\$1,065,028
ENGINEERING (10%)					\$106,503
CONTINGENCY (15%)					\$159,754
<b>TOTAL SEGMENT 2</b>					<b>\$1,331,285</b>
<b>(KOLB EXECUTIVE PARK - FEMA NO. 311)</b>					
2010011	CLEARING AND GRUBBING	ACRE	2.80	\$1,800	\$5,040
2030451	CHANNEL EXCAVATION	C.Y.	12,939	\$5	\$64,695
4060003	ASPHALTIC CONCRETE	TON	224	\$100	\$22,400
5011022	PIPE, REINFORCED CONCRETE, CLASS II, 24"	L.F.T.	31	\$100	\$3,100
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$6,000	\$6,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9130400	GABIONS	C.Y.	300	\$190	\$57,000
9130400	SOIL CEMENT	C.Y.	8,910	\$35	\$311,850
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	1,515	\$160	\$242,400
9240048	MISCELLANEOUS WORK (TEMPORARY BANK STABILIZATION)	L.S.	1	\$60,000	\$60,000
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	1,425	\$52	\$74,100
9330005	POST AND CABLE BARRIER	L.F.	700	\$12	\$8,400
9330103	ACCESS GATES	EACH	1	\$1,500	\$1,500
SUBTOTAL					\$888,685
ENGINEERING (10%)					\$88,869
CONTINGENCY (15%)					\$133,303
<b>TOTAL SEGMENT 3</b>					<b>\$1,110,856</b>
<b>(AREA NORTH OF FEMA NO. 311)</b>					
2010011	CLEARING AND GRUBBING	ACRE	2.70	\$1,800	\$4,860
2030451	CHANNEL EXCAVATION	C.Y.	47,315	\$5	\$236,575
4060003	ASPHALTIC CONCRETE	TON	208	\$100	\$20,800
5011022	PIPE, REINFORCED CONCRETE, CLASS II, 24"	L.F.T.	107	\$100	\$10,700
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$15,000	\$15,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9130400	SOIL CEMENT	C.Y.	9,880	\$35	\$345,800
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	1,679	\$160	\$268,640
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	1,590	\$52	\$82,680
9330005	POST AND CABLE BARRIER	L.F.	1,430	\$12	\$17,160
9330103	ACCESS GATES	EACH	1	\$1,500	\$1,500
SUBTOTAL					\$1,035,915
ENGINEERING (10%)					\$103,592
CONTINGENCY (15%)					\$155,387
<b>TOTAL SEGMENT 4</b>					<b>\$1,294,894</b>
<b>MULLINS LANDFILL GRADE CONTROL IMPROVEMENTS</b>					
2030451	CHANNEL EXCAVATION	C.Y.	935	\$5	\$4,675
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$15,000	\$15,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9080501	SOIL CEMENT	C.Y.	935	\$55	\$51,425
9130001	RIIRAP (DUMPED) (Onsite Materials - Moving and Placement Only)	C.Y.	6,400	\$20	\$128,000
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
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ENGINEERING (10%)					\$25,674
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<b>TOTAL SEGMENT 5</b>					<b>\$320,925</b>
<b>(AREA SOUTH OF FEMA NO. 311)</b>					
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5150001	MISC. UTILITY RELOCATION	L.S.	1	\$15,000	\$15,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9080501	SOIL CEMENT	C.Y.	2,764	\$55	\$152,020
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	470	\$160	\$75,200
4060003	ASPHALTIC CONCRETE	TON	100	\$100	\$10,000
6017101	PRECAST REINFORCED CONCRETE BOX CULVERT	EACH	1	\$20,000	\$20,000
5011012	PIPE, REINFORCED CONCRETE, CLASS II, 18"	L.F.T.	23	\$100	\$2,300
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	683	\$52	\$35,516
2020014	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.S.	1	\$15,000	\$15,000
9330005	POST AND CABLE BARRIER	L.F.	846	\$12	\$10,152
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
SUBTOTAL					\$372,273
ENGINEERING (10%)					\$37,227
CONTINGENCY (15%)					\$55,841
<b>TOTAL SEGMENT 6</b>					<b>\$465,341</b>
<b>PHASE I TOTAL</b>					<b>\$5,246,803</b>

PANTANO WASH BANK PROTECTION  
PHASE I - ALTERNATIVE 4

PSOMAS

BID ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
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4060003	ASPHALTIC CONCRETE	TON	187	\$100	\$18,700
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6017101	PRECAST REINFORCED CONCRETE BOX CULVERT	EACH	1	\$20,000	\$20,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9130400	SOIL CEMENT	C.Y.	6,095	\$35	\$213,325
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	1,036	\$160	\$165,760
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9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	653	\$52	\$33,956
9330005	POST AND CABLE BARRIER	L.F.	405	\$12	\$4,860
9330103	ACCESS GATE	EACH	1	\$1,500	\$1,500
					SUBTOTAL
					ENGINEERING (10%)
					CONTINGENCY (15%)
					<b>TOTAL SEGMENT 1</b>
<b>(PANTANO TOWNHOMES - FEMA NO. 320)</b>					
2010011	CLEARING AND GRUBBING	ACRE	5.7	\$1,800	\$10,260
2030451	CHANNEL EXCAVATION	C.Y.	26,800	\$5	\$134,000
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5011047	PIPE, REINFORCED CONCRETE, CLASS II, 42"	L.F.T.	185	\$120	\$22,200
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5150001	MISC. UTILITY RELOCATION	L.S.	1	\$20,000	\$20,000
7010005	TRAFFIC CONTROL	L.S.	1	\$5,000	\$5,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9130400	SOIL CEMENT	C.Y.	10,832	\$31	\$335,792
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	1,841	\$160	\$294,560
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	1,587	\$52	\$82,524
9330005	POST AND CABLE BARRIER	L.F.	1,866	\$12	\$22,392
					SUBTOTAL
					ENGINEERING (10%)
					CONTINGENCY (15%)
					<b>TOTAL SEGMENT 2</b>
<b>(KOLB EXECUTIVE PARK - FEMA NO. 311)</b>					
2010011	CLEARING AND GRUBBING	ACRE	2.80	\$1,800	\$5,040
2030451	CHANNEL EXCAVATION	C.Y.	12,939	\$5	\$64,695
4060003	ASPHALTIC CONCRETE	TON	224	\$100	\$22,400
5011022	PIPE, REINFORCED CONCRETE, CLASS II, 24"	L.F.T.	31	\$100	\$3,100
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$6,000	\$6,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9130400	SOIL CEMENT	C.Y.	12,297	\$35	\$430,395
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	2,090	\$160	\$334,400
9240048	MISCELLANEOUS WORK (TEMPORARY BANK STABILIZATION)	L.S.	1	\$60,000	\$60,000
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	1,425	\$52	\$74,100
9330005	POST AND CABLE BARRIER	L.F.	700	\$12	\$8,400
9330103	ACCESS GATES	EACH	1	\$1,500	\$1,500
					SUBTOTAL
					ENGINEERING (10%)
					CONTINGENCY (15%)
					<b>TOTAL SEGMENT 3</b>
<b>(AREA NORTH OF FEMA NO. 311)</b>					
2010011	CLEARING AND GRUBBING	ACRE	2.70	\$1,800	\$4,860
2030451	CHANNEL EXCAVATION	C.Y.	47,315	\$5	\$236,575
4060003	ASPHALTIC CONCRETE	TON	208	\$100	\$20,800
5011022	PIPE, REINFORCED CONCRETE, CLASS II, 24"	L.F.T.	107	\$100	\$10,700
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$15,000	\$15,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9130400	SOIL CEMENT	C.Y.	9,880	\$35	\$345,800
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	1,679	\$160	\$268,640
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	1,590	\$52	\$82,680
9330005	POST AND CABLE BARRIER	L.F.	1,430	\$12	\$17,160
9330103	ACCESS GATES	EACH	1	\$1,500	\$1,500
					SUBTOTAL
					ENGINEERING (10%)
					CONTINGENCY (15%)
					<b>TOTAL SEGMENT 4</b>
<b>MULLINS LANDFILL GRADE CONTROL IMPROVEMENTS</b>					
2030451	CHANNEL EXCAVATION	C.Y.	935	\$5	\$4,675
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$15,000	\$15,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9080501	SOIL CEMENT	C.Y.	935	\$55	\$51,425
9130001	RIPRAP (DUMPED) (Onsite Materials - Moving and Placement Only)	C.Y.	6,400	\$20	\$128,000
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	159	\$160	\$25,440
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
					SUBTOTAL
					ENGINEERING (10%)
					CONTINGENCY (15%)
					<b>TOTAL SEGMENT 5</b>
<b>(AREA SOUTH OF FEMA NO. 311)</b>					
2030451	CHANNEL EXCAVATION	C.Y.	997	\$5	\$4,985
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$15,000	\$15,000
7010005	TRAFFIC CONTROL	L.S.	1	\$3,000	\$3,000
9010001	MOBILIZATION	L.S.	1	\$10,000	\$10,000
9080501	SOIL CEMENT	C.Y.	2,764	\$55	\$152,020
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$1,200	\$1,200
9200451	CEMENTITIOUS MATERIAL (10%)	TON	470	\$160	\$75,200
4060003	ASPHALTIC CONCRETE	TON	100	\$100	\$10,000
6017101	PRECAST REINFORCED CONCRETE BOX CULVERT	EACH	1	\$20,000	\$20,000
5011012	PIPE, REINFORCED CONCRETE, CLASS II, 18"	L.F.T.	22	\$95	\$2,090
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F.	683	\$52	\$35,516
2020014	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.S.	1	\$15,000	\$15,000
9330005	POST AND CABLE BARRIER	L.F.	846	\$12	\$10,152
9300001	INCIDENTAL ITEMS	F.A.	1	\$18,000	\$18,000
					SUBTOTAL
					ENGINEERING (10%)
					CONTINGENCY (15%)
					<b>TOTAL SEGMENT 6</b>
					<b>PHASE I TOTAL</b>

**PANTANO WASH BANK PROTECTION  
PHASE II - ALTERNATIVE 1**

**P S O M A S**

<b>PHASE II</b>					
2010011	CLEARING AND GRUBBING	ACRE	11.0	\$1,800	\$19,800
2020014	OBSTRUCTIONS	L.S.	1	\$80,000	\$80,000
2030451	CHANNEL EXCAVATION	C.Y.	56,535	\$3.50	\$197,873
4060003	ASPHALTIC CONCRETE	TON	692	\$100	\$69,200
5011022	PIPE, REINFORCED CONCRETE, CLASS II, 24"	L.FT.	37	\$100	\$3,700
5011042	36"	L.FT.	22	\$110	\$2,420
5011047	42"	L.FT.	188	\$115	\$21,620
5030181	DROP INLET	EACH	2	\$25,000	\$50,000
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$20,000	\$20,000
7010005	TRAFFIC CONTROL	L.S.	1	\$20,000	\$20,000
9010001	MOBILIZATION	L.S.	1	\$80,000	\$80,000
9130400	SOIL CEMENT	C.Y.	28,942	\$35	\$1,012,970
9130400	STRUCTURE)	C.Y.	1,500	\$55	\$82,500
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$6,000	\$6,000
9200451	CEMENTITIOUS MATERIAL (10%)	TON	5,175	\$160	\$828,000
9300001	INCIDENTAL ITEMS	F.A.	1	\$80,000	\$80,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F	4,753	\$52	\$247,156
9330005	POST AND CABLE	L.F.	3,792	\$12	\$45,504
9330103	ACCESS GATES	EACH	1	\$1,500	\$1,500
				SUBTOTAL	\$2,868,243
				ENGINEERING (10%)	\$286,824
				CONTINGENCY (15%)	\$430,236
				<b>TOTAL PHASE II</b>	<b>\$3,585,303</b>

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**PANTANO WASH BANK PROTECTION  
PHASE II - ALTERNATIVE 2**

**P S O M A S**

<b>PHASE II</b>					
2010011	CLEARING AND GRUBBING	ACRE	11.0	\$1,800	\$19,800
2020014	OBSTRUCTIONS	L.S.	1	\$80,000	\$80,000
2030451	CHANNEL EXCAVATION	C.Y.	56,535	\$3.50	\$197,873
4060003	ASPHALTIC CONCRETE	TON	692	\$100	\$69,200
5011022	PIPE, REINFORCED CONCRETE, CLASS II, 24"	L.FT.	37	\$100	\$3,700
5011042	36"	L.FT.	22	\$110	\$2,420
5011047	42"	L.FT.	188	\$115	\$21,620
5030181	DROP INLET	EACH	2	\$25,000	\$50,000
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$20,000	\$20,000
7010005	TRAFFIC CONTROL	L.S.	1	\$20,000	\$20,000
9010001	MOBILIZATION	L.S.	1	\$80,000	\$80,000
9130400	SOIL CEMENT	C.Y.	31,500	\$35	\$1,102,500
9130400	STRUCTURE)	C.Y.	1,500	\$55	\$82,500
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$6,000	\$6,000
9200451	CEMENTITIOUS MATERIAL (10%)	TON	5,610	\$160	\$897,600
9300001	INCIDENTAL ITEMS	F.A.	1	\$80,000	\$80,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F	4,753	\$52	\$247,156
9330005	POST AND CABLE	L.F.	3,792	\$12	\$45,504
9330103	ACCESS GATES	EACH	1	\$1,500	\$1,500
				SUBTOTAL	\$3,027,373
				ENGINEERING (10%)	\$302,737
				CONTINGENCY (15%)	\$454,106
				<b>TOTAL PHASE II</b>	<b>\$3,784,216</b>

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**PANTANO WASH BANK PROTECTION  
PHASE II - ALTERNATIVE 3**

**P S O M A S**

<b>PHASE II</b>					
2010011	CLEARING AND GRUBBING	ACRE	11.0	\$1,800	\$19,800
2020014	OBSTRUCTIONS	L.S.	1	\$80,000	\$80,000
2030451	CHANNEL EXCAVATION	C.Y.	56,535	\$3.50	\$197,873
4060003	ASPHALTIC CONCRETE	TON	692	\$100	\$69,200
5011022	PIPE, REINFORCED CONCRETE, CLASS II, 24"	L.FT.	37	\$100	\$3,700
5011042	36"	L.FT.	22	\$110	\$2,420
5011047	42"	L.FT.	188	\$115	\$21,620
5030181	DROP INLET	EACH	2	\$25,000	\$50,000
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$20,000	\$20,000
7010005	TRAFFIC CONTROL	L.S.	1	\$20,000	\$20,000
9010001	MOBILIZATION	L.S.	1	\$80,000	\$80,000
9130400	SOIL CEMENT	C.Y.	28,942	\$33	\$955,086
9130400	STRUCTURE)	C.Y.	1,500	\$55	\$82,500
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$6,000	\$6,000
9200451	CEMENTITIOUS MATERIAL (10%)	TON	5,175	\$160	\$828,000
9300001	INCIDENTAL ITEMS	F.A.	1	\$80,000	\$80,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F	4,753	\$52	\$247,156
9330005	POST AND CABLE	L.F.	3,792	\$12	\$45,504
9330103	ACCESS GATES	EACH	1	\$1,500	\$1,500
				SUBTOTAL	\$2,810,359
				ENGINEERING (10%)	\$281,036
				CONTINGENCY (15%)	\$421,554
				<b>TOTAL PHASE II</b>	<b>\$3,512,948</b>

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**PANTANO WASH BANK PROTECTION  
PHASE II - ALTERNATIVE 4**

**P S O M A S**

<b>PHASE II</b>					
2010011	CLEARING AND GRUBBING	ACRE	11.0	\$1,800	\$19,800
2020014	OBSTRUCTIONS	L.S.	1	\$80,000	\$80,000
2030451	CHANNEL EXCAVATION	C.Y.	56,535	\$3.50	\$197,873
4060003	ASPHALTIC CONCRETE	TON	692	\$100	\$69,200
5011022	PIPE, REINFORCED CONCRETE, CLASS II, 24"	L.FT.	37	\$100	\$3,700
5011042	36"	L.FT.	22	\$110	\$2,420
5011047	42"	L.FT.	188	\$115	\$21,620
5030181	DROP INLET	EACH	2	\$25,000	\$50,000
5150001	MISC. UTILITY RELOCATION	L.S.	1	\$20,000	\$20,000
7010005	TRAFFIC CONTROL	L.S.	1	\$20,000	\$20,000
9010001	MOBILIZATION	L.S.	1	\$80,000	\$80,000
9130400	SOIL CEMENT	C.Y.	31,500	\$33	\$1,039,500
9130400	STRUCTURE)	C.Y.	1,500	\$55	\$82,500
9200001	ENGINEER'S FIELD OFFICE	EACH	1	\$6,000	\$6,000
9200451	CEMENTITIOUS MATERIAL (10%)	TON	5,610	\$160	\$897,600
9300001	INCIDENTAL ITEMS	F.A.	1	\$80,000	\$80,000
9330001	BARRICADE RAILING (PC/COT SD-105)	L.F	4,753	\$52	\$247,156
9330005	POST AND CABLE	L.F.	3,792	\$12	\$45,504
9330103	ACCESS GATES	EACH	1	\$1,500	\$1,500
				SUBTOTAL	\$2,964,373
				ENGINEERING (10%)	\$296,437
				CONTINGENCY (15%)	\$444,656
				<b>TOTAL PHASE II</b>	<b>\$3,705,466</b>

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