GENERAL RE-EVALUATION REPORT
APPENDIX C: ENGINEERING

SAVANNAH HARBOR EXPANSION PROJECT

Chatham County, Georgia and Jasper County, South Carolina

January 2012

ATTACHMENT 2

MCACES-MII Cost Estimate and Total Project Cost Summary (TCPS) Agency Technical Review (ATR) Certification

US Army Corps of Engineers
Savannah District
South Atlantic Division

SAS – SAVANNAH HARBOR EXPANSION PROJECT
USACE- SAVANNAH DISTRICT

COST ENGINEERING DX - TPCS ATR CERTIFICATION UPDATE

The Savannah Harbor Expansion Project for Savannah District has undergone a successful Cost Agency Technical Review (ATR), performed by the Walla Walla Cost DX ATR representatives. The Cost ATR included an updated study of the project scope, report, cost estimates, schedules, escalation, and risk-based contingencies in accordance with ER 1110-2-1150 Engineering and Design for Civil Works Projects and ER 1110-2-1302 Civil Works Cost Engineering.

As of 5 January 2012, the Walla Walla District, Cost Engineering Directory of Expertise (DX) for Civil Works, certifies the estimated total project cost for the NED Plan 47' depth:

FY 2013 Price Level:	$640,899,000
Fully Funded Amount:	$688,118,000

It remains the responsibility of the District to correctly reflect these cost values within the Final Report and to implement effective project controls and implementation procedures.

5 Jan 2012
Date

Kim C. Callan, PE, CCE, PM1
Chief, Cost Engineering
Walla Walla District

****** TOTAL PROJECT COST SUMMARY ******

PROJECT: **Savannah Harbor Expansion GRR - Tentative NED Plan - 47-FT DESIGN DEPTH**
LOCATION: **Savannah, Georgia**

DISTRICT: Savannah District PREPARED: 12/12/2011
POC: CHIEF, COST ENGINEERING, CESAW

This Estimate reflects the scope and schedule in report; GENERAL RE-EVALUATION REPORT

OCTOBER 1, 2010 PRICE LEVEL						Program Year (Budget EC): 2013 Effective Price Level Date: 1 OCT 12				FULLY FUNDED PROJECT ESTIMATE				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	BASE COST TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	FIRST COST TOTAL ($K)	($K)		COST ($K)	CNTG ($K)	FULL ($K)
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
06	FISH & WILDLIFE FACILITIES	$169,835	$42,459	25%	$212,294	4.7%	$177,756	$44,439	**$222,195**			$184,397	$46,099	$230,497
12	NAVIGATION PORTS & HARBORS	$207,023	$51,756	25%	$258,779	8.1%	$223,834	$55,959	**$279,793**			$234,085	$58,521	$292,606
18	CULTURAL RESOURCE PRESERVATION	$11,132	$2,783	25%	$13,915	5.7%	$11,771	$2,943	**$14,713**			$12,017	$3,004	$15,022
						-								
						-								
	CONSTRUCTION ESTIMATE TOTALS:	$387,990	$96,998		**$484,988**	6.5%	$413,361	$103,340	**$516,701**			$430,499	$107,625	$538,124
01	LANDS AND DAMAGES	$14,885	$3,721	25%	$18,606	4.7%	$15,579	$3,895	**$19,474**			$15,642	$3,910	$19,552
30	PLANNING, ENGINEERING & DESIGN	$21,806	$5,452	25%	$27,258	3.6%	$22,592	$5,648	**$28,241**			$23,675	$5,919	$29,593
31	CONSTRUCTION MANAGEMENT	$59,057	$14,764	25%	$73,821	3.6%	$61,187	$15,297	**$76,484**			$80,678	$20,170	$100,848
	PROJECT COST TOTALS:	$483,738	$120,935	25%	**$604,673**	6.0%	$512,719	$128,180	**$640,899**			$550,494	$137,624	$688,118

CHIEF, COST ENGINEERING, CESAW

PROJECT MANAGER, CESAS

CHIEF, REAL ESTATE, CESAS

CHIEF, PLANNING, CESAS

CHIEF, ENGINEERING, CESAS

CHIEF, OPERATIONS, CESAS

CHIEF, CONSTRUCTION, CESAS

CHIEF, CONTRACTING, CESAS

CHIEF, PM-C, CESAS

CHIEF, DPM, CESAS

ESTIMATED FEDERAL COST:	70%	**$481,683**
ESTIMATED NON-FEDERAL COST:	30%	**$206,435**
ESTIMATED TOTAL PROJECT COST:		**$688,118**

ESTIMATED TOTAL PROJECT O&M costs for 50 years **$3,907,450**
Beginning NOV 2016 and includes 25% contingency

ESTIMATED TOTAL PROJECT O&M costs INCREASE for 50 years **$506,826**
Beginning NOV 2016 and includes 25% contingency

**** TOTAL PROJECT COST SUMMARY ****

**** CONTRACT COST SUMMARY ****

PROJECT: Savannah Harbor Expansion GRR - Tentative NED Plan - 47-FT DESIGN DEPTH
LOCATION: Savannah, Georgia
This Estimate reflects the scope and schedule in report; GENERAL RE-EVALUATION REPORT

DISTRICT: Savannah District
POC: CHIEF, COST ENGINEERING,
PREPARED: 12/12/2011

MAJOR FEATURES - REAL ESTATE, DISSOLVED O2, PRE-MONITORING, CSS GEORGIA, DIKES 14A &14B, & STRIPED BASS MITIGATION

Estimate Prepared: 9-Dec-11
Effective Price Level: 1-Oct-10

Program Year (Budget EC): 2013
Effective Price Level Date: 1 OCT 12

FULLY FUNDED PROJECT ESTIMATE

WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	ESC (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
	PHASE 1													
06	FISH & WILDLIFE FACILITIES	$79,433	$19,858	25%	$99,291	4.7%	$83,138	$20,784	$103,922	2014Q3	2.5%	$85,242	$21,310	$106,552
	--Dissolved O2 system and Water Storage													
12	NAVIGATION PORTS & HARBORS	$9,500	$2,375	25%	$11,875	8.1%	$10,271	$2,568	$12,839	2014Q1	1.7%	$10,442	$2,611	$13,053
	-Raise Dikes 14A and 14B													
18	CULTURAL RESOURCE PRESERVATION	$11,132	$2,783	25%	$13,915	5.7%	$11,771	$2,943	$14,713	2014Q2	2.1%	$12,017	$3,004	$15,022
	CONSTRUCTION ESTIMATE TOTALS:	$100,065	$25,016	25%	**$125,081**		$105,180	$26,295	$131,475			$107,701	$26,925	$134,627
01	LANDS AND DAMAGES	$14,885	$3,721	25%	$18,606	4.7%	$15,579	$3,895	$19,474	2013Q2	0.4%	$15,642	$3,910	$19,552
30	PLANNING, ENGINEERING & DESIGN													
	PED	$6,268	$1,567	25%	$7,835	3.6%	$6,494	$1,624	$8,118	2013Q2	0.7%	$6,541	$1,635	$8,176
31	CONSTRUCTION MANAGEMENT													
	Construction Mgt, Monitoring, EDC,etc	$6,110	$1,528	25%	$7,638	3.6%	$6,330	$1,583	$7,913	2014Q2	5.1%	$6,653	$1,663	$8,317
	CONTRACT COST TOTALS:	$127,328	$31,832		**$159,160**		$133,583	$33,396	$166,979			$136,537	$34,134	**$170,671**

**** TOTAL PROJECT COST SUMMARY ****

**** CONTRACT COST SUMMARY ****

PROJECT: Savannah Harbor Expansion GRR - Tentative NED Plan - 47-FT DESIGN DEPTH
LOCATION: Savannah, Georgia
This Estimate reflects the scope and schedule in report; GENERAL RE-EVALUATION REPORT

DISTRICT: Savannah District
POC: CHIEF, COST ENGINEERING,
PREPARED: 12/12/2011

MAJOR FEATURES - Western McCoy's Cut, Diversion Channel, Close Rifle Cut, Deepen McCoy's Cut, Navigation AIDS, & DREDGE OUTER BAR

Estimate Prepared: 9-Dec-11
Effective Price Level: 1-Oct-10

Program Year (Budget EC): 2013
Effective Price Level Date: 1 OCT 12

FULLY FUNDED PROJECT ESTIMATE

WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	ESC (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
	PHASE 2													
06	FISH & WILDLIFE FACILITIES	$18,103	$4,526	25%	$22,629	4.7%	$18,947	$4,737	$23,684	2015Q1	3.4%	$19,590	$4,897	$24,487
	--McCoy's Cut, Riffle Cut & Nav Aids													
12	NAVIGATION PORTS & HARBORS	$73,480	$18,370	25%	$91,850	8.1%	$79,447	$19,862	$99,309	2015Q2	3.8%	$82,491	$20,623	$103,114
	--Dredge Outer Harbor													
18	CULTURAL RESOURCE PRESERVATION													
	CONSTRUCTION ESTIMATE TOTALS:	$91,583	$22,896	25%	**$114,479**		$98,394	$24,599	$122,993			$102,081	$25,520	$127,601
01	LANDS AND DAMAGES													
30	PLANNING, ENGINEERING & DESIGN													
	PED	$6,269	$1,567	25%	$7,836	3.6%	$6,495	$1,624	$8,119	2013Q4	2.9%	$6,684	$1,671	$8,355
31	CONSTRUCTION MANAGEMENT													
	Construction Mgt, Monitoring, EDC,etc	$7,584	$1,896	25%	$9,480	3.6%	$7,858	$1,964	$9,822	2015Q2	9.4%	$8,596	$2,149	$10,745
	CONTRACT COST TOTALS:	$105,436	$26,359		**$131,795**		$112,747	$28,187	$140,934			$117,361	$29,340	**$146,701**

****** TOTAL PROJECT COST SUMMARY ******

PROJECT: Savannah Harbor Expansion GRR - Tentative NED Plan - 47-FT DESIGN DEPTH
LOCATION: Savannah, Georgia
This Estimate reflects the scope and schedule in report; GENERAL RE-EVALUATION REPORT

DISTRICT: Savannah District
POC: CHIEF, COST ENGINEERING,
PREPARED: 12/12/2011

MAJOR FEATURES - Dredge INNER HARBOR, Tidegate & Embankment, Rock Sill Back River, Fill Broad Berm, Fish Passage, Salt Marsh 1-S, Moinitor & Dike Raises.

Estimate Prepared: 9-Dec-11
Effective Price Level: 1-Oct-10

Program Year (Budget EC): 2013
Effective Price Level Date: 1 OCT 12

FULLY FUNDED PROJECT ESTIMATE

WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	ESC (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
	PHASE 3													
06	FISH & WILDLIFE FACILITIES	$72,299	$18,075	25%	$90,374	4.7%	$75,671	$18,918	$94,589	2016Q1	5.1%	$79,566	$19,891	$99,457
	--Tidegate, Rock Sill, Broad Berm, Fish Passage, and Salt Marsh Island 1-S													
12	NAVIGATION PORTS & HARBORS	$117,429	$29,357	25%	$146,786	8.1%	$126,965	$31,741	$158,706	2016Q1	5.1%	$133,500	$33,375	$166,874
	--Dredge Inner Harbor													
18	CULTURAL RESOURCE PRESERVATION													
	CONSTRUCTION ESTIMATE TOTALS:	$189,728	$47,432	25%	**$237,160**		$202,636	$50,659	$253,295			$213,065	$53,266	$266,332
01	LANDS AND DAMAGES													
30	PLANNING, ENGINEERING & DESIGN													
	PED	$6,269	$1,567	25%	$7,836	3.6%	$6,495	$1,624	$8,119	2014Q2	5.1%	$6,827	$1,707	$8,533
31	CONSTRUCTION MANAGEMENT													
	Construction Mgt, Monitoring, EDC,etc	$7,584	$1,896	25%	$9,480	3.6%	$7,858	$1,964	$9,822	2016Q1	12.7%	$8,854	$2,214	$11,068
	CONTRACT COST TOTALS:	$203,581	$50,895		**$254,476**		$216,988	$54,247	$271,235			$228,746	$57,187	**$285,933**

****** TOTAL PROJECT COST SUMMARY ******

****** CONTRACT COST SUMMARY ******

PROJECT: Savannah Harbor Expansion GRR - Tentative NED Plan - 47-FT DESIGN DEPTH
LOCATION: Savannah, Georgia
This Estimate reflects the scope and schedule in report; GENERAL RE-EVALUATION REPORT

DISTRICT: Savannah District
POC: CHIEF, COST ENGINEERING,
PREPARED: 12/12/2011

MAJOR FEATURES - RESTORE DIKE CAPACITY, POST CONSTRUCTION MONITORING AND ADAPTIVE MGT AFTER CONSTRUCTION

Estimate Prepared: 9-Dec-11
Effective Price Level: 1-Oct-10

Program Year (Budget EC): 2013
Effective Price Level Date: 1 OCT 12

FULLY FUNDED PROJECT ESTIMATE

WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	ESC (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
	PHASE 4													
06	FISH & WILDLIFE FACILITIES													
12	NAVIGATION PORTS & HARBORS	$6,614	$1,654	25%	$8,268	8.1%	$7,151	$1,788	$8,939	2017Q1	7.0%	$7,652	$1,913	$9,565
	--Dike Raises													
18	CULTURAL RESOURCE PRESERVATION													
	CONSTRUCTION ESTIMATE TOTALS:	$6,614	$1,654		**8,268**		$7,151	$1,788	$8,939			$7,652	$1,913	$9,565
01	LANDS AND DAMAGES													
30	PLANNING, ENGINEERING & DESIGN													
	PED	$2,500	$625	25%	$3,125	3.6%	$2,590	$648	$3,238	2014Q2	5.1%	$2,722	$681	$3,403
31	CONSTRUCTION MANAGEMENT													
	Post Monitoring & Adaptive Mgt	$34,279	$8,570	25%	$42,849	3.6%	$35,515	$8,879	$44,394	2022Q3	41.5%	$50,267	$12,567	$62,834
	CONTRACT COST TOTALS:	$43,393	$10,848		**$54,241**		$45,257	$11,314	$56,571			$60,641	$15,160	**$75,801**

****** TOTAL PROJECT COST SUMMARY ******

****** CONTRACT COST SUMMARY ******

PROJECT: Savannah Harbor Expansion GRR - Tentative NED Plan - 47-FT DESIGN DEPTH
LOCATION: Savannah, Georgia
This Estimate reflects the scope and schedule in report; GENERAL RE-EVALUATION REPORT
MAJOR FEATURES - ADAPTIVE MGT & MONITOR AFTER ADAPTIVE MGT

DISTRICT: Savannah District PREPARED: 12/12/2011
POC: CHIEF, COST ENGINEERING,

Estimate Prepared: 9-Dec-11
Effective Price Level: 1-Oct-10

Program Year (Budget EC): 2013
Effective Price Level Date: 1 OCT 12

FULLY FUNDED PROJECT ESTIMATE

WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	ESC (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
	PHASE 5													
06	FISH & WILDLIFE FACILITIES													
12	NAVIGATION PORTS & HARBORS													
18	CULTURAL RESOURCE PRESERVATION													
	CONSTRUCTION ESTIMATE TOTALS:													
01	LANDS AND DAMAGES													
30	PLANNING, ENGINEERING & DESIGN													
	PED	$500	$125	25%	$625	3.6%	$518	$130	$648	2029Q2	74.0%	$901	$225	$1,126
31	CONSTRUCTION MANAGEMENT													
	Adaptive Mgt & Monitoring	$3,500	$875	25%	$4,375	3.6%	$3,626	$907	$4,533	2029Q2	74.0%	$6,308	$1,577	$7,885
	CONTRACT COST TOTALS:	$4,000	$1,000		**$5,000**		$4,144	$1,036	$5,180			$7,209	$1,802	**$9,012**

- 47 FT DESIGN ALTERNATIVE
SAVANNAH HARBOR DEEPENING ALTERNATIVES - CURRENT WORKING ESTIMATE (CWE)

Estimated by	CESAW-TS-EE
Designed by	USACE - SAVANNAH DISTRICT
Prepared by	John C. Caldwell
Preparation Date	1/5/2012
Effective Date of Pricing	10/1/2010
Estimated Construction Time	1,500 Days

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Date	Author	Note
10/29/2010	CESAW-TS-EE CESAW-TS-EE	This detail estimate is for the 47-FT design depth deepening and mitigation.The Cost Engineering narrative, Section 10 of the Engineering Appendix, was prepared to describe the Current Working Estimate (CWE) alternatives of plan selection for the Savannah Harbor Expansion Project (SHEP) deepening. The alternatives evaluated were to deepen the harbor design depth from an existing 42 ft to a design depth between 44 ft and 48 ft below MLLW. The costs are summarized and listed below in the Code of Accounts format based upon October 2010 price levels. A CWE for construction and non-construction features was developed for each design depth alternative. The existing design depth for the Savannah Harbor is 42 ft below MLLW. Existing advance maintenance depths range from 2 to 8 ft below the design depth at various locations and also include 2-ft of allowable overdepth. A summary of costs with contingencies for all design depths (44 to 48 FT) is shown in TABLE 10-5 of the main GRR and TABLE 13.1-1 of the Engineering Appendix.Evaluations of impacts and benefits determined the National Economic Development (NED) plan to be a 47-FT design depth. The CWE for the 47-FT design depth includes new deepening quantities, 2-feet allowable overdepth quantities, meeting area dredge requirements, required mitigation features including onsite dissolved oxygen injection system, raising existing disposal area dikes, cadmium sediment removal, removal of the Confederate vessel CSS Georgia, Real Estate, Planning, Engineering and Design, Construction Management, and the addition of Navigation Aids.The CWE and Code of Account features for 47-FT design depth are further broken down into more detail in this Microcomputer Aided Cost Estimating System (MCACES) estimate TRACES MII Version 4.1.4. A Total Project Cost Summary (TPCS), Attachment 2 of the Engineering Appendix, identifies the CWE for the 47-FT design depth for October 2010 as $483,738,000 ($604,673,000 with 25% contingency) and fully funded to midpoint of construction as $688,118,000 with contingency. TPCS estimate certification from the Walla Walla Cost Center DX is included in Attachment-2 of the Engineering Appendix C. The Corps of Engineers Dredge Estimating Program (CEDEP) was used in developing dredging costs throughout the project for medium hopper dredges and large pipeline cutterhead dredges. A Cost Risk and Schedule Analysis (CRSA) was conducted with the Project Delivery Team and the Center of Expertise at Walla Walla District to support a 25% contingency percentage for risk and uncertainty. An updated and final CRSA is incorporated into the final GRR. A final copy of the Cost Risk Report and Risk Register is included in Appendix C-Engineering, Attachment 4.

Description	Quantity	UOM	ContractCost	Contingency	ProjectCost
Project Cost Summary Report			**483,738,075**	**0**	**483,738,075**
01 --LANDS and DAMAGES - REAL ESTATE	**1**	**LS**	**14,884,500**	**0**	**14,884,500**
06 --FISH and WILDLIFE FACILITIES	**1**	**LS**	**169,833,877**	**0**	**169,833,877**
12 --NAVIGATION, PORTS, & HARBORS	**1**	**LS**	**207,022,809**	**0**	**207,022,809**
18 --CULTURAL RESOURCE PRESERVATION	**1**	**LS**	**11,131,500**	**0**	**11,131,500**
30 --PLANNING, ENGINEERING & DESIGN	**1**	**LS**	**21,806,259**	**0**	**21,806,259**
31 --S&A-CONST MGT & MITIGATION MONITORING	**1**	**LS**	**59,059,130**	**0**	**59,059,130**

Description	Quantity	UOM	ContractCost	Contingency	ProjectCost
Contract Cost Summary Report			**483,738,075**	**0**	**483,738,075**
01 --LANDS and DAMAGES - REAL ESTATE	**1.00**	**LS**	**14,884,500**	**0**	**14,884,500**
01_01 --Real Estate Analysis Documents	**1.00**	**LS**	**14,884,500**	**0**	**14,884,500**
1 Real Estate Analysis Documents	**1.00**	**LS**	**14,884,500**	**0**	**14,884,500**
06 --FISH and WILDLIFE FACILITIES	**1.00**	**LS**	**169,833,877**	**0**	**169,833,877**
06_03_A --MCCOY CUT DIVERSION CHANNEL - STONE & SHEETPILE	**1.00**	**LS**	**2,324,082**	**0**	**2,324,082**
1 MOB & DEMOB	**1.00**	**LS**	**211,838**	**0**	**211,838**
2 ARMOR STONE - RIP RAP McCoy Diversion	**1.00**	**LS**	**1,448,594**	**0**	**1,448,594**
3 SHEETPILE-FLOW DIVERSION	**1.00**	**LS**	**663,650**	**0**	**663,650**
06_03_B --DEEPEN MCCOY CUT to -4m	**1.00**	**LS**	**7,287,980**	**0**	**7,287,980**
1 MOB & DEMOB	**1.00**	**LS**	**353,653**	**0**	**353,653**
2 MCCOY'S EXC river, Haul, & Disposal	**1.00**	**LS**	**1,283,350**	**0**	**1,283,350**
3 LITTLE BACK RIVER EXC, Haul & Disposal	**1.00**	**LS**	**4,011,086**	**0**	**4,011,086**
4 MIDDLE BACK RIVER EXC river, Haul & Disposal	**1.00**	**LS**	**1,639,891**	**0**	**1,639,891**
06_03_A --ROCK SILL - - MOUTH OF BACK RIVER	**1.00**	**LS**	**16,824,049**	**0**	**16,824,049**
1 MOB & DEMOB	**1.00**	**LS**	**747,910**	**0**	**747,910**
2 ARMOR STONE - RIP RAP Back River Rx Sill	**1.00**	**LS**	**16,076,139**	**0**	**16,076,139**
06_03_D --CLOSE RIFLE CUT - SAND FILL + ARMOR STONE	**1.00**	**LS**	**663,131**	**0**	**663,131**
1 MOB & DEMOB	**1.00**	**LS**	**57,161**	**0**	**57,161**
2 ---SAND FILL Rifle Cut	**1.00**	**LS**	**105,970**	**0**	**105,970**
3 ARMOR STONE - RIP RAP for Rifle Cut	**1.00**	**LS**	**500,001**	**0**	**500,001**
06_03_E --REMOVE TIDEGATE ABUTMENT & PIERS	**1.00**	**LS**	**2,860,514**	**0**	**2,860,514**
1 MOB-DEMOB	**1.00**	**LS**	**258,167**	**0**	**258,167**
2 Demolition	**1.00**		**2,602,348**	**0**	**2,602,348**
06_03_F --EMBANKMENT REMOVAL at TIDE GATE	**1.00**	**LS**	**14,375,666**	**0**	**14,375,666**
1 Mob & Demob	**1.00**	**LS**	**800,000**	**0**	**800,000**

Description	Quantity	UOM	ContractCost	Contingency	ProjectCost
2 Excavation & beneficial use BY SMALL DREDGE pipelline	1.00	LS	4,500,000	0	4,500,000
3 EMBANKMENT EXC & Disposal - UNSUITABLE MATERIAL	1.00	LS	9,075,666	0	9,075,666
06_03_G --CLOSE WESTERN LOWER ARM at McCoy's Cut	1.00	LS	1,137,557	0	1,137,557
1 MOB & DEMOB	1.00	LS	96,927	0	96,927
2 ARMOR STONE - RIP RAP for western McCoy's Cut	1.00	LS	1,040,630	0	1,040,630
06_03_H --NEW BOAT RAMP, FLOATING DOCK, and PARKING	1.00	LS	499,960	0	499,960
1 NEW BOAT RAMP, FLOAT DOCK, PARKG	1.00	LS	499,960	0	499,960
06_03_I --NEW SALT MARSH HABITAT at Island "1S"	1.00	LS	14,075,959	0	14,075,959
1 Mob and Demob	1.00	LS	1,500,070	0	1,500,070
2 Excavate, GRADE DA-1S	1.00	LS	2,233,433	0	2,233,433
3 CLEAR & GRUB 42 ACRE MARSH at DA-1S	1.00	LS	145,921	0	145,921
4 Grade entrance channel BACK at DA-1S	1.00	LS	231,226	0	231,226
5 Drainage ditch	1.00	LS	40,348	0	40,348
6 EXC ENTRANCE CHANNEL TO MARSH AT DA-1S	1.00	LS	874,560	0	874,560
7 EXC MARSH AREAS , Haul & Disposal by Pumpout into existing DA	1.00	LS	9,050,401	0	9,050,401
06_03_K --FILL SEDIMENTATION BROAD BERM	1.00	LS	6,690,000	0	6,690,000
1 MOB & DEMOB - PORTABLE DREDGE	1.00	LS	1,800,000	0	1,800,000
2 FILL using PORTABLE DREDGE	1.00	LS	4,890,000	0	4,890,000
06_03_L --MITIGATION for Striped Bass - Payments	1.00	LS	2,640,000	0	2,640,000
1 Mitigation for Striped Bass	1.00	LS	2,640,000	0	2,640,000
06_03_M --CONSTRUCT DISSOLVED OXYGEN SYSTEMS	1.00	LS	56,643,000	0	56,643,000
1 Construct Diss Oxygen System	1.00	LS	56,643,000	0	56,643,000
06_03_N NEW SAVANNAH BLUFF FISH PASSAGE	1.00	LS	23,661,978	0	23,661,978
1 MOB DEMOB	1.00	LS	776,650	0	776,650
2 Armor Stone	1.00	LS	8,943,864	0	8,943,864
3 Bedding Stone	1.00	LS	1,705,340	0	1,705,340

Description	Quantity	UOM	ContractCost	Contingency	ProjectCost
4 Wier Stone 3.5 - 4.5 ton	1.00	LS	1,523,072	0	1,523,072
5 Clear and Grub	1.00	LS	90,493	0	90,493
6 Gate Replacement	1.00	LS	4,000,000	0	4,000,000
7 Sheetpile	1.00	LS	2,367,300	0	2,367,300
8 Excavation	1.00	LS	4,020,830	0	4,020,830
9 Access Road	1.00	LS	234,429	0	234,429
06_03_O WATER STORAGE IMPOUNDMENT	1.00	LS	20,150,000	0	20,150,000
1 MOB and DEMOB	1.00	LS	51,961	0	51,961
2 Earthwork	1.00	LS	5,493,400	0	5,493,400
3 HDPE Liner	1.00	LS	1,015,000	0	1,015,000
4 Sand/Toe Drain Installation	1.00	LS	1,079,370	0	1,079,370
5 Site Piping, Valves, Accessories	1.00	LS	3,255,132	0	3,255,132
6 Mechanical Mixers	1.00	LS	94,311	0	94,311
7 Pump Sation - Pumps	1.00	LS	2,666,400	0	2,666,400
8 Pump Station, Valves and Electrical Building	1.00	LS	990,731	0	990,731
9 Standby Power, Piping, and Electrical	1.00	LS	2,289,829	0	2,289,829
10 Powered Activated Carbon Silo	1.00	LS	1,062,089	0	1,062,089
11 Misc Sitework	1.00	LS	1,842,346	0	1,842,346
12 Testing, Commissioning, Monitoring	1.00	LS	309,431	0	309,431
12 --NAVIGATION, PORTS, & HARBORS	1.00	LS	207,022,809	0	207,022,809
12_02 --Harbors	1.00	LS	207,022,809	0	207,022,809
1 Mob, Demob & Preparatory Work	1.00	LS	23,700,000	0	23,700,000
2 Inner Harb Dredging- 47ft design	1.00	LS	101,673,609	0	101,673,609
3 Ocean Bar dredging-47 ft design	1.00	LS	57,760,483	0	57,760,483
4 Berthing Area dredging	1.00	LS	2,066,851	0	2,066,851
5 Disposal Area Requirements	1.00	LS	6,613,866	0	6,613,866

Description	Quantity	UOM	ContractCost	Contingency	ProjectCost
6 Raise Dikes 14A & 14B -Cadmium	1.00	LS	9,500,000	0	9,500,000
7 Debris Removal	1.00	LS	1,688,000	0	1,688,000
8 NAVIGATION AIDS	1.00	LS	4,020,000	0	4,020,000
18 --CULTURAL RESOURCE PRESERVATION	1.00	LS	11,131,500	0	11,131,500
18_00 --Cultural Resource Preservation	1.00	LS	11,131,500	0	11,131,500
1 Recovery/Removal vessel Georgia	1.00	LS	9,500,000	0	9,500,000
2 Preservation on Site	1.00	LS	1,631,500	0	1,631,500
30 --PLANNING, ENGINEERING & DESIGN	1.00	LS	21,806,259	0	21,806,259
30_23 --Construction Contracts Documnts	1.00	LS	21,806,259	0	21,806,259
1 Plans and Specifications (P&S)	1.00	LS	21,806,259	0	21,806,259
31 --S&A-CONST MGT & MITIGATION MONITORING	1.00	LS	59,059,130	0	59,059,130
31_12 --Construction Contracts	1.00	LS	10,903,130	0	10,903,130
1 Supervision and Administration	1.00	LS	10,903,130	0	10,903,130
31_27 --Mitigation Monitor/Adaptive Mgt	1.00	LS	48,156,000	0	48,156,000
1 Preconstruction Monitoring	1.00	LS	2,893,000	0	2,893,000
2 Monitoring During Const	1.00	LS	8,734,000	0	8,734,000
3 Post Construction Monitoring	1.00	LS	16,828,000	0	16,828,000
4 Addaptive Management	1.00	LS	16,701,000	0	16,701,000
5 Monitor after Adaptive Mgt	1.00	LS	3,000,000	0	3,000,000