Appendix K

ALTERNATIVE COSTS

HNC DEEPENING FEASIBILTY STUDY - PRELIMINARY SCHEDULE FOR CONSTRUCTION CONTRACT AWARD

			CONTRAC				NING FEASIBIL ERNATIVE ADJ	.ITY STUDY IACENT DISPOSAL (-	-15) FEET					
CONSTRUCTION YEAR/CONTRACT NO.	CONTRACT NAME	CONTRACT START DATE	CONTRACT END DATE	CHANNEL IMPROVEMENT COST	RELOCATIONS COST*	SUBTOTAL	ENGINEERING & DESIGN**	SUPERVISION & ADMINISTRATION***	CONTINGENCY****	REAL ESTATE	Environmental Mitigation	ANNUAL TOTAL		
1	1 Mile 36.3 to Mile 26.5 September 2017 May 2020 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0													
2	1 mile 0.3 10 mile 0.3 sopenine 2017 mile 2021 30 30 30 30 30 30 30 30 30 30 30 30 30													
3	Mile 11.9 to Mile 6.4	December 2020	August 2023	\$0	\$0	\$0	\$0	\$0	\$0			\$0		
4	Mile 36.3 to Mile 22	August 2022	April 2024	\$0	\$0	\$0	\$0	\$0	\$0			\$0		
5	Mile 22 to Mile 11.5	April 2023	December 2024	\$0	\$0	\$0	\$0	\$0	\$0			\$0		
6	Mile 11.5 to Mile 6.0	December 2023	April 2025	\$0	\$0	\$0	\$0	\$0	\$0			\$0		
7	Mile 6.0 to Mile 0.0	April 2024	August 2025	\$0	\$0	\$0	\$0	\$0	\$0			\$0		
8	Mile 0 to Mile -3.5	August 2024	June 2026	\$0	\$0	\$0	\$0	\$0	\$0			\$0		
	TOTAL			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		

				HOUMA N	AVIGATION CA	ANAL DEEPE	NING FEASIBIL	ITY STUDY				
			CONTRACT	AWARD SCHEDU	LE - CONSTRU	CTION ALTE	RNATIVE 1A AI	JACENT DISPOSAL	(-18) FEET			
CONSTRUCTION YEAR/CONTRACT NO.	CONTRACT NAME	CONTRACT START DATE	CONTRACT END DATE	CHANNEL IMPROVEMENT COST	RELOCATIONS COST*	SUBTOTAL	ENGINEERING & DESIGN**	SUPERVISION & ADMINISTRATION***	CONTINGENCY****	REAL ESTATE	Environmental Mitigation	ANNUAL TOTAL
1	Mile 36.3 to Mile 26.5	September 2017	May 2020	\$0	\$5,333,764	\$5,333,764	\$640,052	\$480,039	\$1,493,454	\$10,628,890	\$428,000	\$19,004,198
2	Mile 26.5 to Mile 11.9	May 2019	December 2021	\$0	\$5,245,740	\$5,245,740	\$629,489	\$472,117	\$1,468,807			\$7,816,152
3	Mile 11.9 to Mile 6.4	December 2020	August 2023	\$0	\$5,933,768	\$5,933,768	\$712,052	\$534,039	\$1,661,455			\$8,841,315
4	Mile 36.3 to Mile 22	August 2022	April 2024	\$20,862,739	\$0	\$20,862,739	\$2,503,529	\$1,877,647	\$5,841,567			\$31,085,481
5	Mile 22 to Mile 11.5	April 2023	December 2024	\$49,838,092	\$0	\$49,838,092	\$5,980,571	\$2,491,905	\$13,954,666			\$72,265,233
6	Mile 11.5 to Mile 6.0	December 2023	April 2025	\$5,506,660	\$0	\$5,506,660	\$660,799	\$495,599	\$1,541,865			\$8,204,923
7	Mile 6.0 to Mile 0.0	April 2024	August 2025	\$4,845,147	\$0	\$4,845,147	\$581,418	\$581,418	\$1,356,641			\$7,364,623

\$87,139,127 \$16,513,272 \$103,652,399 \$12,438,288

\$0

\$6.086.489

				HOUMA N	AVIGATION C.	ANAL DEEPEN	NING FEASIBIL	ITY STUDY						
		CONTRACT	AWARD SCH	EDULE - CONST	RUCTION ALTH	ERNATIVE 1B	Earthen Retention	on in Terrebonne Bay &	k Isle Deniers (-18) F	EET				
CONSTRUCTION YEAR/CONTRACT NO.	CONTRACT NAME	CONTRACT START DATE	CONTRACT END DATE	CHANNEL IMPROVEMENT COST	RELOCATIONS COST*	SUBTOTAL	ENGINEERING & DESIGN**	SUPERVISION & ADMINISTRATION***	CONTINGENCY****	REAL ESTATE	Environmental Mitigation	ANNUAL TOTAL		
1	1 Mile 36.3 to Mile 26.5 September 2017 May 2020 \$0 \$5,333,764 \$5,333,764 \$640,052 \$480,039 \$1,546,791 \$10,628,890 \$428,000 \$19,057,535													
2	2 Mile 26.5 to Mile 11.9 May 2019 December 2021 S0 \$5,245,740 \$5,245,740 \$6,29,489 \$472,117 \$1,521,264 \$10,0000 \$10,000 \$10,0000 \$10,000 \$10,000 \$10,000 \$10,0000 \$10,													
3	Mile 11.9 to Mile 6.4	December 2020	August 2023	\$0	\$5,933,768	\$5,933,768	\$712,052	\$534,039	\$1,720,793			\$8,900,653		
4	Mile 36.3 to Mile 22	August 2022	April 2024	\$20,862,739	\$0	\$20,862,739	\$2,503,529	\$1,877,647	\$6,050,194			\$31,294,109		
5	Mile 22 to Mile 11.5	April 2023	December 2024	\$49,838,092	\$0	\$49,838,092	\$5,980,571	\$2,491,905	\$14,453,047			\$72,763,614		
6	Mile 11.5 to Mile 5.0	December 2023	April 2025	\$10,793,224	\$0	\$10,793,224	\$1,295,187	\$971,390	\$3,130,035			\$16,189,836		
7	Mile 5.0 to Mile 0	April 2024	August 2025	\$12,088,230	\$0	\$12,088,230	\$1,450,588	\$1,087,941	\$3,505,587			\$18,132,345		
8	Mile 0 to Mile -3.5	August 2024	June 2026	\$8,590,697	\$0	\$8,590,697	\$1,030,884	\$773,163	\$2,491,302			\$12,886,046		
	TOTAL			\$102,172,982	\$16,513,272	\$118,686,254	\$14,242,350	\$8,688,239	\$34,419,014	\$10,628,890	\$428,000	\$187,092,747		

\$6,086,489

\$730.379

\$547,784

\$7,480,547

\$1,704,217

\$29,022,672

\$9,068,869

\$10,628,890 \$428,000 \$163,650,795

							rr							
				HOUMA N	AVIGATION CA	ANAL DEEPEN	NING FEASIBIL	ITY STUDY						
		CONTRAC	T AWARD SC	HEDULE - CONST	FRUCTION ALT	ERNATIVE 1	C Rock Retention	in Terrebonne Bay &	Isle Deniers (-18) FE	ET				
NO.	CONTRACT NAME	CONTRACT START DATE	CONTRACT END DATE	CHANNEL IMPROVEMENT COST	RELOCATIONS COST*	SUBTOTAL	ENGINEERING & DESIGN**	SUPERVISION & ADMINISTRATION***	CONTINGENCY****	REAL ESTATE	Environmental Mitigation	ANNUAL TOTAL		
1	1 Mile 36.3 to Mile 26.5 September 2017 May 2020 \$0 \$5,333,764 \$5,333,764 \$640,052 \$480,039 \$1,546,791 \$10,628,890 \$428,000 \$19,057,535													
2	Mile 26.5 to Mile 11.9	May 2019	December 2021	\$0	\$5,245,740	\$5,245,740	\$629,489	\$472,117	\$1,521,264			\$7,868,609		
3	Mile 11.9 to Mile 6.4	December 2020	August 2023	\$0	\$5,933,768	\$5,933,768	\$712,052	\$534,039	\$1,720,793			\$8,900,653		
4	Mile 36.3 to Mile 22	August 2022	April 2024	\$20,862,739	\$0	\$20,862,739	\$2,503,529	\$1,877,647	\$6,050,194			\$31,294,109		
5	Mile 22 to Mile 11.5	April 2023	December 2024	\$49,838,092	\$0	\$49,838,092	\$5,980,571	\$2,491,905	\$14,453,047			\$72,763,614		
6	Mile 11.5 to Mile 5.0	December 2023	April 2025	\$12,207,872	\$0	\$12,207,872	\$1,464,945	\$1,098,708	\$3,540,283			\$18,311,808		
7	Mile 5.0 to Mile 0	April 2024	August 2025	\$35,756,074	\$0	\$35,756,074	\$4,290,729	\$2,502,925	\$10,369,261			\$52,918,990		
8	Mile 0 to Mile -3.5	August 2024	June 2026	\$8,590,697	\$0	\$8,590,697	\$1,030,884	\$773,163	\$2,491,302			\$12,886,046		
	TOTAL 5127.255.474 \$16.513.272 \$143.768.746 \$17.252.249 \$10.230.542 \$41.692.936 \$10.628.890 \$428.000 \$224.001.363													

NOTES:

Mile 0 to Mile -3 5

TOTAL

August 2024

June 2026

NOTES: *Resposible party for relocations will be determined by Determination of Compensability completed by MVN's Real Estate Division Relocation cost totals are rolled up totals that include 35% contingency, 10% E&D, and 8% S&A **Engineering & Design Cost assumed to be a flat 12% of construction costs **Supervision & Administraction assumed to be based on the following <1SM - 15% \$1.5M - 12% \$2.5M - 9% \$2.5M - 9% \$2.5M - 5% ***Contingency Calculated using Abreviated Risk Analysis (Appendix O). TSP contingency will be calculated using Crystal Ball Risk Analysis.

			CONTRACT				NING FEASIBIL RNATIVE 2A AD	ITY STUDY JACENT DISPOSAL	(-20) FEET					
CONSTRUCTION YEAR/CONTRACT NO.		CONTRACT START DATE	CONTRACT END DATE	CHANNEL IMPROVEMENT COST	RELOCATIONS COST*	SUBTOTAL	ENGINEERING & DESIGN**	SUPERVISION & ADMINISTRATION***	CONTINGENCY****	REAL ESTATE	Environmental Mitigation	ANNUAL TOTAL		
1	1 Mile 36.3 to Mile 26.5 September 2017 May 2020 \$0 \$6,700,751 \$6,700,751 \$804,090 \$603,068 \$1,943,218 \$10,628,890 \$917,000 \$21,597,017													
2	1 Mile 26.5 to Mile 1.9 May 2019 December 2021 \$0 \$6.458.249 \$6.458.249 \$5774.990 \$581.242 \$1.872.892 \$1.002.609 \$174.00 \$317.0000 \$317.000 \$317.00													
3	Mile 11.9 to Mile 6.4	December 2020	August 2023	\$0	\$6,568,657	\$6,568,657	\$788,239	\$591,179	\$1,904,911			\$9,852,986		
4	Mile 36.3 to Mile 22	August 2022	April 2024	\$22,139,113	\$0	\$22,139,113	\$2,656,694	\$1,992,520	\$6,420,343			\$33,208,670		
5	Mile 22 to Mile 11.5	April 2023	December 2024	\$50,987,368	\$0	\$50,987,368	\$6,118,484	\$2,549,368	\$14,786,337			\$74,441,557		
6	Mile 11.5 to Mile 6.0	December 2023	April 2025	\$5,911,929	\$0	\$5,911,929	\$709,431	\$532,074	\$1,714,459			\$8,867,894		
7	Mile 6.0 to Mile 0	April 2024	August 2025	\$5,670,409	\$0	\$5,670,409	\$680,449	\$510,337	\$1,644,419			\$8,505,614		
8	8 Mile 0 to Mile -3.7 August 2024 June 2026 \$6,273,990 \$0 \$6,273,990 \$752,879 \$564,659 \$1,819,457 \$9,410,985													
	TOTAL \$90,982,809 \$19,727,658 \$110,710,467 \$13,285,256 \$7,924,447 \$32,106,035 \$10,628,890 \$917,000 \$175,572,096													

HNC DEEPENING FEASIBILTY STUDY - PRELIMINARY SCHEDULE FOR CONSTRUCTION CONTRACT AWARD

				HOUMA N	AVIGATION CA	ANAL DEEPEN	NING FEASIBIL	ITY STUDY				
		CONTRACT	AWARD SCH	EDULE - CONSTR	RUCTION ALTE	RNATIVE 2B	Earthen Retentio	on in Terrebonne Bay &	k Isle Deniers (-20) F	EET		
CONSTRUCTION YEAR/CONTRACT NO.		CONTRACT START DATE	CONTRACT END DATE	CHANNEL IMPROVEMENT COST	RELOCATIONS COST*	SUBTOTAL	ENGINEERING & DESIGN**	SUPERVISION & ADMINISTRATION***	CONTINGENCY****	REAL ESTATE	Environmental Mitigation	ANNUAL TOTAL
1	Mile 36.3 to Mile 26.5	September 2017	May 2020	\$0	\$6,700,751	\$6,700,751	\$804,090	\$603,068	\$1,943,218	\$10,628,890	\$917,000	\$21,597,017
2	Mile 26.5 to Mile 11.9	May 2019	December 2021	\$0	\$6,458,249	\$6,458,249	\$774,990	\$581,242	\$1,872,892			\$9,687,374
3	Mile 11.9 to Mile 6.4	December 2020	August 2023	\$0	\$6,568,657	\$6,568,657	\$788,239	\$591,179	\$1,904,911			\$9,852,986
4	Mile 36.3 to Mile 22	August 2022	April 2024	\$22,060,185	\$0	\$22,060,185	\$2,647,222	\$1,985,417	\$6,397,454			\$33,090,278
5	Mile 22 to Mile 11.5	April 2023	December 2024	\$50,619,866	\$0	\$50,619,866	\$6,074,384	\$2,530,993	\$14,679,761			\$73,905,004
6	Mile 11.5 to Mile 5.0	December 2023	April 2025	\$12,613,258	\$0	\$12,613,258	\$1,513,591	\$1,135,193	\$3,657,845			\$18,919,887
7	Mile 5.0 to Mile 0	April 2024	August 2025	\$12,735,884	\$0	\$12,735,884	\$1,528,306	\$1,146,230	\$3,693,406			\$19,103,826
8	Mile 0 to Mile -3.7	August 2024	June 2026	\$14,203,620	\$0	\$14,203,620	\$1,704,434	\$1,278,326	\$4,119,050			\$21,305,430
	TOTAL			\$112,232,813	\$19,727,658	\$131,960,471	\$15,835,256	\$9,851,648	\$38,268,537	\$10,628,890	\$917,000	\$207,461,802

				HOUMA N	AVIGATION CA	ANAL DEEPEN	NING FEASIBIL	ITY STUDY						
		CONTRAC	T AWARD SC	HEDULE - CONST	RUCTION ALT	ERNATIVE 20	C Rock Retention	in Terrebonne Bay &	Isle Deniers (-20) FE	ET				
CONSTRUCTION YEAR/CONTRACT NO.	CONTRACT NAME	CONTRACT START DATE	CONTRACT END DATE	CHANNEL IMPROVEMENT COST	RELOCATIONS COST*	SUBTOTAL	ENGINEERING & DESIGN**	SUPERVISION & ADMINISTRATION***	CONTINGENCY****	REAL ESTATE	Environmental Mitigation	ANNUAL TOTAL		
	1 Mile 36.3 to Mile 26.5 September 2017 May 2020 \$0 \$6,700,751 \$6,700,751 \$804,090 \$603,068 \$1,943,218 \$10,628,890 \$917,000 \$21,597,017													
2	1 Mile 26.5 to Mile 1.19 May 2019 December 2021 S0 \$6,458,249 \$6,458,249 \$774,990 \$581,242 \$1,872,892 \$1,600 \$10,000 \$1,000 \$1,000 \$10,000 \$1,000 \$10,0000 \$10,0000 \$10,0000 \$10,0000 \$10,0000 \$10,0000 \$10,0000 \$10,0													
3	Mile 11.9 to Mile 6.4	December 2020	August 2023	\$0	\$6,568,657	\$6,568,657	\$788,239	\$591,179	\$1,904,911			\$9,852,986		
4	Mile 36.3 to Mile 22	August 2022	April 2024	\$22,139,113	\$0	\$22,139,113	\$2,656,694	\$1,992,520	\$6,420,343			\$33,208,670		
5	Mile 22 to Mile 11.5	April 2023	December 2024	\$50,987,368	\$0	\$50,987,368	\$6,118,484	\$2,549,368	\$14,786,337			\$74,441,557		
6	Mile 11.5 to Mile 5.0	December 2023	April 2025	\$13,798,723	\$0	\$13,798,723	\$1,655,847	\$1,241,885	\$4,001,630			\$20,698,085		
7	Mile 5.0 to Mile 0	April 2024	August 2025	\$38,200,966	\$0	\$38,200,966	\$4,584,116	\$2,674,068	\$11,078,280			\$56,537,430		
8	8 Mile 0 to Mile -3.7 August 2024 June 2026 \$14,203,620 \$0 \$14,203,620 \$1,704,434 \$1,278,326 \$4,119,050 \$21,305,430													
	TOTAL			\$139,329,790	\$19,727,658	\$159,057,448	\$19,086,894	\$11,511,656	\$46,126,660	\$10,628,890	\$917,000	\$247,328,548		

NOTES:

*Resposible party for relocations will be determined by Determination of Compensability completed by MVN's Real Estate Division Relocation cost totals are rolled up totals that include 35% contingency, 10% E&D, and 8% S&A **Engineering & Design Cost assumed to be a flat 12% of construction costs

***Supervision & Administraction assumed to be based on the following

<1\$M - 15% \$1-5M - 12%

\$5-25M - 9%

\$25M - 40M - 7%

>\$40M - 5%

**** Contingency Calculated using Abreviated Risk Analysis (Appendix O). TSP contingency will be calculated using Crystal Ball Risk Analysis.

	HNC CHANNEL DEEPENING - PROJECT COST SUMMARY											
Alternative	No Action	1A - 18' Adjacent	1B - 18' Earthen	1C - 18' Rock	2A - 20' Adjacent	2B - 20' Earthen	2C - 20' Rock					
Construction	\$0	\$163,650,795	\$187,092,747	\$224,001,363	\$175,572,096	\$207,461,802	\$247,328,548					
Incremental Maintenance	\$0	\$99,731,862	\$435,099,122	\$567,182,287	\$125,191,064	\$460,444,659	\$620,921,902					
TOTALS	\$0	\$263,382,657	\$622,191,869	\$791,183,650	\$300,763,160	\$667,906,461	\$868,250,449					

Feasibility Level Cost Estimate

Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015

Multiple Disposal Sites

Houma, Terrebonne Parish, Louisiana C Maintenance Cost Adjacent Disposal -15ft MLG

Project: Houma Navigation Canal Deepening

Costs for 10-Year Cycle to be Repeated 5 Times Over 50 Years

Mile 36.3 to Mile (-3.5) to -15 Foot Elevation w/ Advanced Maintenance Included Summary Page

Contract No.	Summary Page Description	Cycle Frequency (Years)	Units	Quantity	Estimated Unit Price Per Cycle	Estimated Cycle Cost	Estimated Total Cost (50- Year)
						• • - • • • •	
1	Mobilization/Demobilization	10	LS	1		\$871,046	\$4,355,230
	Mile 36.3 to Mile 34.0	10	CY	99,650	\$7.52	\$749,198	\$3,745,991
	Mile 24.0 to Mile 22.0	10	CY	99,650	\$10.91	\$1,086,876	\$5,434,378
	Mile 22.0 to Mile 20.0	10	CY	99,650	\$7.14	\$711,557	\$3,557,787
	Mobilization/Demobilization	2	LS	1		\$857,241	\$21,431,025
	Mile 11.0 to Mile 0.0	2	CY	1,269,100	\$4.50	\$5,706,754	\$142,668,852
2	Mobilization/Demobilization	2	LS	1		\$1,060,480	\$26,512,000
	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$11.56	\$5,781,650	\$144,541,250
3	Mobilization/Demobilization	2	LS	1		\$857,241	
	Mile 11.0 to Mile 0.0	2	CY	1,269,100	\$4.50	\$5,706,754	
4	Mobilization/Demobilization	2	LS	1		\$1,060,480	
	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$11.56	\$5,781,650	
5	Mobilization/Demobilization	2	LS	1		\$857,241	
	Mile 11.0 to Mile 0.0	2	CY	1,269,100	\$4.50	\$5,706,754	
6	Mobilization/Demobilization	10	LS	1		\$939,307	\$4,696,535
	Mile 36.3 to Mile 34.0	10	CY	99,650	\$7.52	\$749,198	\$3,745,991
	Mile 34.0 to Mile 32.0	10	CY	199,600	\$7.64	\$1,525,298	\$7,626,491
	Mile 32.0 to Mile 29.5	10	CY	150,700	\$10.76	\$1,620,880	\$8,104,400
	Mile 29.5 to Mile 28.0	10	CY	150,700	\$5.75	\$867,156	\$4,335,778
	Mile 28.0 to Mile 26.0	10	CY	199,600	\$8.49	\$1,694,418	\$8,472,092
	Mile 26.0 to Mile 24.0	10	CY	199,600	\$18.52	\$3,696,075	\$18,480,376
	Mile 24.0 to Mile 22.0	10	CY	99,650	\$10.91	\$1,086,876	\$5,434,378
	Mile 22.0 to Mile 20.0	10	CY	99,650	\$8.29	\$826,102	\$4,130,508
	Mobilization/Demobilization	2	LS	1		\$1,060,480	
	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$11.56	\$5,781,650	
7	Mobilization/Demobilization	10	LS	1		\$939,307	\$4,696,535
	Mile 20.0 to Mile 18.0	10	CY	199,600	\$4.30	\$859,065	\$4,295,324
	Mile 18.0 to Mile 16.0	10	CY	199,600	\$4.04	\$805,430	\$4,027,149
	Mile 16.0 to Mile 13.0	10	CY	301,300	\$4.78	\$1,441,417	\$7,207,083
	Mile 13.0 to Mile 11.0	10	CY	231,400	\$4.93	\$1,141,091	\$5,705,454
	Mobilization/Demobilization	2	LS	1		\$857,241	
	Mile 11.0 to Mile 0.0	2	CY	1,269,100	\$4.50	\$5,706,754	
8	Mobilization/Demobilization	2	LS	1		\$1,060,480	
	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$11.56	\$5,781,650	
9	Mobilization/Demobilization	2	LS	1		\$857,241	
	Mile 11.0 to Mile 0.0	2	CY	1,269,100	\$4.50	\$5,706,754	
10	Mobilization/Demobilization	2	LS	1		\$1,060,480	
	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$11.56	\$5,781,650	
			Total:	11,275,500	\$7.86	\$88,640,922	\$443,204,608

Note: Unit costs reflected on summary sheet include all disposal area dike refurbishment within each specified reach, if necessary * Three reaches specified in Contract 1 require a maintenance cycle every 5 years. 5 years after maintenance Contract 1 reaches at 36.3, 24.0, and 22.0 will undergo maintenance under Contract 6 (10-Year cycle). 5 Years after maintenance Contract 6 those reaches will be maintained under a new 5-year cycle (Contract 11). Following this sequence, contract 6 will be required four additional times over the 50 year project life after Contract 6 is completed.

	Feasibility Level Cos	st Estimate			
Project:	Houma Navigation Canal Deepening	Quantities	& Line Items -		15
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	mos - Aug 201	4	
	Maintenance Cost Adjacent Disposal -15ft MLG				
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 &	11.0 to 0.0 t	o -15 Foot Elev	ation	
	w/ 2 and 3 Feet of Advanced				
	Maintenance Included	-	isposal Sites		
	Contract No. 1	Channel M	laintenance -	2 and 5 year	
Item	Description	Units	Estimated	Unit Price	Estimated
			Quantity		Cost
1A	Mobilization and Demobolization	LS	1	\$871,046	\$871,046
		LO	•	φ0/1,040	φ071,040
	Dredging and Disposal (Mile 36.3 to Mile 20.0)				
	Channel to be excavated to -18 NAVD88; 1v/2h side				
	slope/150-foot bottom width				
	•				
1B	HNC Mile 36.3 to HNC Mile 34.0 (Year 5 through 25)	CY	99,650	\$5.77	\$575,260
	Material to be placed within confined upland Site 1				
	(Port Commision site) opposite Short Cut Canal. No				
	height restriction. Dike construction/maintenance				
	not required.				
				•	• · · • • • • •
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.29	\$505,000	\$146,450
40		0)/	00.050	C 40	()
1B	HNC Mile 36.3 to HNC Mile 34.0 (Year 30 through 50)	CY	99,650	\$6.13	\$610,974
	Material to be placed within confined upland Site 3				
	opposite HNC Mile 35.5 No height restriction. Dike				
	construction/maintenance not required.				
	construction/maintenance net required.				
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550
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1D	HNC Mile 24.0 to HNC Mile 22.0	CY	99,650	\$8.01	\$798,476
					-
	Material to be placed semi-confined within Wetland				
	Site 15 between HNC Mile 23.0 and 22.5 along the				
	west bank of the HNC WW. The initial buildup of mtl.				
	shall begin in the north east corner, and to proceed				
	outward in a west-southwesterly direction. Earthen				
	closures will be required along the west side of the				
	disposal area adjacent to the p/l canal intersecting				
	the disposal area. A 200-foot wide construction				
	access corridor along the entrance of the waterway				
	will be provided for the Contractors use. Elevation				
	of material NTE +3.0' NAVD88 (See dwgs for details).				
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.28	\$505,000	\$141,400
	Surveying, Shore Grew, Fipeline Grew, and Grewboat	IVIO	0.20	φ303,000	φ141,400
1F	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000
			∠,-тоо	φυυ.υυ	ψιτι,000

	Feasibility Level Cos				
Project:	Houma Navigation Canal Deepening		& Line Items -		15
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	nmos - Aug 201	4	
	Maintenance Cost Adjacent Disposal -15ft MLG				
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & 7	11.0 to 0.0 t	o -15 Foot Elev	ation	
	w/ 2 and 3 Feet of Advanced				
	Maintenance Included	Multiple D	isposal Sites		
	Contract No. 1		Maintenance -	2 and 5 year	frequency
	Description		Estimated		Estimated
Item	Description	Units	Quantity	Unit Price	Cost
			-		
1G	HNC Mile 22.0 to HNC Mile 20.0	CY	99,650	\$5.72	\$570,157
	Material to be placed unconfined within Wetland Site				
	16 opposite and adjacent to HNC Mile 21.4 along the				
	west bank of the HNC WW. The discharge will be				
	positioned to the west and placed a minimum 1,500 ft				
	beyond the bank rim or erosion control structure				
	at the front of the disposal area. Elevation of material				
	placed within the open water area(s) NTE +3.0'				
	NAVD 88 (See dwgs for details).				
	INAVD 66 (See dwys for details).				
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.28	\$505,000	\$141,400
	Surveying, Shore Crew, Fipeline Crew, and Crewboar		0.20	\$505,000	φ141,400
11	Mobilization and Demobilization	LS	1	\$857,241	\$857,241
- 11		LS	I	φου7,241	φο07,241
	Dredging and Disposal (Mile 11 to Mile 0.0)				
	Channel to be excavated to -18' NAVD88; 1v/2h side				
	slopes by 150' bottom width				
41	HNC Mile 11 to HNC Mile 8.0	CY	221.000	¢2.62	¢1 100 014
1J		Cr	331,000	\$3.62	\$1,199,014
	Material to be placed upconfined at the single point				
	Material to be placed unconfined at the single point				
	discharge location opposite HNC Mile 8.8 a minimum				
	1000' west of the channel centerline (See dwgs for				
	details).				
			0.45		0007 050
1K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.45	\$505,000	\$227,250
				• • • -	
1L	HNC Mile 8.0 to HNC Mile 6.0	CY	228,300	\$4.15	\$946,806
	Material to be placed unconfined at the single point				
	discharge location opposite HNC Mile 7.0 a minimum				
	1000' west of the channel centerline (See dwgs for				
	details).				
1M	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550
1N	HNC Mile 6.0 to HNC Mile 4.0	CY	236,600	\$3.75	\$887,345
	Material to be placed unconfined at the single point				
	discharge location opposite HNC Mile 5.0 a minimum				
	1000-feet west of the channel centerline (See dwgs				
	for details).				

	Feasibility Level Cos	t Estimate)		
Project:	Houma Navigation Canal Deepening		s & Line Items - I	Puls - Aug 20	15
	Houma, Terrebonne Parish, Louisiana	Costs - R	amos - Aug 2014	4	
	Maintenance Cost Adjacent Disposal -15ft MLG				
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & 7	11.0 to 0.0	to -15 Foot Eleva	ation	
	w/ 2 and 3 Feet of Advanced				
	Maintenance Included	Multiple	Disposal Sites		
	Contract No. 1	Channel	Maintenance - 2	2 and 5 year f	frequency
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
10	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700
1P	HNC Mile 4.0 to HNC Mile 2.0	CY	236,600	\$3.75	\$887,345
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs				
	for details).				
1Q	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700
1R	HNC Mile 2.0 to HNC Mile 0.0	CY	236,600	\$3.75	\$887,345
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west				
	of the channel centerline (See dwgs for details).				
1S	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700
				Total:	\$8,362,428
	Contract Duration	DY	93		
	Notes:				
	Channel Quantities do not reflect overdepth.				
	Dredging:		1,568,050 CY		
	Survey/Crew/Boat:		2.9 MO		

	Feasibility Level Cost	Estimate			
Project	: Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug 2	2015
	Houma, Terrebonne Parish, Louisiana	Costs - R	amos - Aug 20)15	
	Maintenance Cost Adjacent Disposal -15ft MLG				
	Mile 0.0 to (-3.5) to -15 Foot Elevation w/ 4 Feet of Adva	anced Maint	tenance Includ	ed	
	Contract No. 2	Channel	Maintenance	- 2 year freq	uency
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
2A	Mobilization and Demobilization	LS	1	\$1,060,480	\$1,060,480
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -19' NAVD88; 1v/2h side slopes by 300' bottom width				
2B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$9.28	\$4,640,000
	Material to be placed at the SPD Mile -1.7 and Mile -2.5				
2C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.77	\$645,000	\$1,141,650
				Total:	\$6,842,130
	Contract Duration	DY	58		
	Notes:				
	Channel Quantities do not reflect overdepth.				
	Dredging	J:	500,000 CY		
	Survey/Crew/Boa	t:	1.8 MO		

	Feasibility Level Cost	Estimate							
Project:	Houma Navigation Canal Deepening			ms - Puls - Au	g 2015				
	Houma, Terrebonne Parish, Louisiana	Costs -	Ramos - Aug	2015					
	Maintenance Cost Adjacent Disposal -15ft MLG Mile 11.0 to 0.0 to -15 Foot Elevation w/ 3 Feet of Advanced Maintenance Included								
Contract No. 3 Channel Maintenance - 2 year frequ									
lt a m			Estimated	-	Estimated				
Item	Description	Units	Quantity	Unit Price	Cost				
ЗA	Mobilization and Demobilization	LS	1	\$857,241	\$857,241				
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -18' NAVD88; 1v/2h side slopes by 150' bottom width								
3B	HNC Mile 11 to HNC Mile 8.0	CY	331,000	\$3.62	\$1,199,014				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).								
3C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.45	\$505,000	\$227,250				
3D	HNC Mile 8.0 to HNC Mile 6.0	CY	228,300	\$4.15	\$946,806				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).								
3E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550				
3F	HNC Mile 6.0 to HNC Mile 4.0	CY	236,600	\$3.75	\$887,345				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
3G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700				
ЗH	HNC Mile 4.0 to HNC Mile 2.0	CY	236,600	\$3.75	\$887,345				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
31	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.34	\$505,000	\$171,700				
3J	HNC Mile 2.0 to HNC Mile 0.0	CY	236,600	\$3.75	\$887,345				
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).								

	Feasibility Level Cost Es	timate								
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015								
	Houma, Terrebonne Parish, Louisiana									
	Maintenance Cost Adjacent Disposal -15ft MLG									
	Mile 11.0 to 0.0 to -15 Foot Elevation w/ 3 Feet of Advanced Maintenance Included									
	Contract No. 3	Chanr	nel Maintenanc	e - 2 year fre	quency					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost					
3K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.34	\$505,000	\$171,700					
				Total:	\$6,563,995					
	Contract Duration	DY	58							
	Note:									
	Channel Quantities do not reflect overdepth.									
	Dredging:	:	1,269,100 CY							
	Survey/Crew/Boat	:	1.8 MO							

	Feasibility Level Cost	Estimate			
Project	: Houma Navigation Canal Deepening		s & Line Items	•	2015
	Houma, Terrebonne Parish, Louisiana	Costs - R	amos - Aug 20	015	
	Maintenance Cost Adjacent Disposal -15ft MLG				
	Mile 0.0 to (-3.5) to -15 Foot Elevation w/ 4 Feet of Adva	anced Maint	enance Includ	ed	
	Contract No. 4	Channel	Maintenance	- 2 year freq	uency
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
4A	Mobilization and Demobilization	LS	1	\$1,060,480	\$1,060,480
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -19' NAVD88; 1v/2h side slopes by 300' bottom width				
4B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$9.28	\$4,640,000
	Material to be placed at the SPD Mile -1.7 and Mile -2.5				
4C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.77	\$645,000	\$1,141,65
				Total:	\$6,842,13
	Contract Duration	DY	58		
	Notes:				
	Channel Quantities do not reflect overdepth.				
	Dredging	J:	500,000 CY		
	Survey/Crew/Boa	t:	1.8 MO		

	Feasibility Level Cost E							
Project:	Houma Navigation Canal Deepening			ems - Puls - A	ug 2015			
	Houma, Terrebonne Parish, Louisiana	Costs -	Ramos - Au	g 2015				
	Maintenance Cost Adjacent Disposal -15ft MLG Mile 11.0 to 0.0 to -15 Foot Elevation w/ 3 Feet of Advanced Maintenance Included							
	Contract No. 5			ea 1 ce - 2 year f	roquonov			
	Contract No. 5		Estimated	ice - z year i	Estimated			
ltem	Description	Units	Quantity	Unit Price	Cost			
5A	Mobilization and Demobilization	LS	1	\$857,241	\$857,241			
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -18' NAVD88; 1v/2h side slopes by 150' bottom width							
5B	HNC Mile 11 to HNC Mile 8.0	CY	331,000	\$3.62	\$1,199,014			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).							
5C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.45	\$505,000	\$227,250			
5D	HNC Mile 8.0 to HNC Mile 6.0	CY	228,300	\$4.15	\$946,806			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).							
5E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550			
5F	HNC Mile 6.0 to HNC Mile 4.0	CY	236,600	\$3.75	\$887,345			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).							
5G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700			
5H	HNC Mile 4.0 to HNC Mile 2.0	CY	236,600	\$3.75	\$887,345			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).							
51	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700			
5J	HNC Mile 2.0 to HNC Mile 0.0	CY	236,600	\$3.75	\$887,345			
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).							

	Feasibility Level Cost Est	imate			
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2			ug 2015
	Houma, Terrebonne Parish, Louisiana	Costs	- Ramos - Aug	2015	
	Maintenance Cost Adjacent Disposal -15ft MLG				
	Mile 11.0 to 0.0 to -15 Foot Elevation w/ 3 Feet of Advanced	d Mainte	nance Included	t	
	Contract No. 5	Chann	el Maintenano	ce - 2 year f	requency
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
5K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.34	\$505,000	\$171,700
				Total:	\$6,563,995
	Contract Duration	DY	58		
	Note:				
	Channel Quantities do not reflect overdepth.				
	Dredging	:	1,269,101 CY		
			,,		
	Survey/Crew/Boat	:	1.8 MO		

Proiect:	Feasibility Level Cost Estimate ct: Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2						
Flojeci.	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015					
	Maintenance Cost Adjacent Disposal -15ft MLG	00010 / 1	unios nugzo				
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -15 Foot						
	Elevation w/ 2 Feet of Advanced Maintenance Included		Multiple Disp	ocal Sitos			
			-	ear frequency	w.		
		Internative -	Estimated		y Estimated		
ltem	Description	Units	Quantity	Unit Price	Cost		
6A	Mobilization and Demobolization	LS	1	\$939,307	\$939,307		
	Dredging and Disposal (Mile 36.3 to Mile 20.0) Channel to be excavated to -17 NAVD88; 1v/2h side slope/150-foot bottom width						
6B	HNC Mile 36.3 to HNC Mile 34.0 (Year 5 through 25)	CY	99,650	\$5.77	\$575,260		
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.						
6C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.29	\$505,000	\$146,450		
6B	HNC Mile 36.3 to HNC Mile 34.0 (Year 30 through 50)	CY	99,650	\$6.13	\$610,974		
	Material to be placed within confined upland Site 3 opposite HNC Mile 35.5 No height restriction. Dike construction/maintenance not required.						
6C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550		
6D	NHC Mile 34.0 to HNC Mile 32.0	CY	199,600	\$4.45	\$889,098		
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).						
6E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.44	\$505,000	\$222,200		
6F	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000		

Drojant	Feasibility Level Cost Estimate ect: Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2						
Projeci.	Houma, Terrebonne Parish, Louisiana		•				
			Costs - Ramos - Aug 2015				
	Maintenance Cost Adjacent Disposal -15ft MLG						
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -15 Foot Elevation w/ 2 Feet of Advanced Maintenance Included		Multiple Dien	anal Sitan			
			Multiple Disp		.,		
	Contract No. 6 Channel Mai	ntenance -	2, 5, and 10 y	earmequenc			
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
6G	HNC Mile 32.0 to HNC Mile 29.5	CY	150,700	\$6.40	\$964,480		
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).						
6H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.48	\$505,000	\$242,400		
61	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000		
6J	HNC Mile 29.5 to HNC Mile 28.0 (Year 10 through 20)	CY	150,700	\$4.35	\$655,846		
	Material to be placed unconfined within designated Wetland Site 12B opposite approximate HNC Mile 27.0. Mtl. shall be discharged within the open water areas, a minimum 4,500 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for de	tails).					
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550		
6L	Earthen Retention Dike Refurbishment	LF	1,600	\$60.00	\$96,000		
6J	HNC Mile 29.5 to HNC Mile 28.0 (Year 30 through 50)	CY	150,700	\$3.92	\$590,262		
	Material to be placed unconfined within designated Wetland Site 12 opposite approximate HNC Mile 27.0. Mtl. shall be discharged within the open water areas, a minimum 1,950 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for de	otails).					
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.28	\$505,000	\$141,400		
6L	Earthen Retention Dike Refurbishment	LF	1,800	\$60.00	\$108,000		

Project:	Feasibility Level Cost E Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Adjacent Disposal -15ft MLG	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015					
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -15 Foot Elevation w/ 2 Feet of Advanced Maintenance Included Contract No. 6 Channel Main	Multiple Disposal Sites ntenance - 2, 5, and 10 year frequency					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
6M	HNC Mile 28.0 to HNC Mile 26.0	CY	199,600	\$3.71	\$740,915		
	Material to be placed unconfined within designated Wetland Site A-07-A opposite approximate HNC Mile 26.5. Mtl. shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for deta	ails).					
6N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.37	\$505,000	\$186,850		
60	Earthen Retention Dike Refurbishment	LF	9,300	\$60.00	\$558,000		
6P	HNC Mile 27.6 to HNC Mile 27.4 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NA Stone quantity 20% of construction quantity	TN VD88)	1,900	\$61.46	\$116,774		
6Q	Mechanical Dredging Flotation Channel Excavation Mile 27.6 to Mile 27.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,260	\$72.92	\$91,879		
6R	HNC Mile 26.0 to HNC Mile 24.0 (Year 10 through 40)	CY	199,600	\$4.11	\$820,116		
	Material to be placed unconfined within designated Wetland Site A-07-A opposite approximate HNC Mile 26.5. Mtl. shall be discharged within the open water areas, a minimum 5,750 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for deta	ails).					
6S	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.39	\$505,000	\$196,950		
			13,000	\$60.00	\$780,000		

Feasibility Level Cost Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Adjacent Disposal -15ft MLG Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -15 Foot Elevation w/ 2 Feet of Advanced Maintenance Included Contract No. 6 Description Material to be placed unconfined within designated Vetland Site 14A opposite approximate HNC Mile 27. Mtl. shall be discharged within the open water areas, minimum 3,360 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for de Surveying, Shore Crew, Pipeline Crew, and Crewboat Earthen Retention Dike Refurbishment	Quantities Costs - R ntenance - Units CY	s & Line Items amos - Aug 20 Multiple Disp 2, 5, and 10 y Estimated Quantity 199,600 0.37	osal Sites	
Maintenance Cost Adjacent Disposal -15ft MLG Aile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -15 Foot Elevation w/ 2 Feet of Advanced Maintenance Included Contract No. 6 Channel Main Description ANC Mile 26.0 to HNC Mile 24.0 (Year 50) Material to be placed unconfined within designated Vetland Site 14A opposite approximate HNC Mile 27. Atl. shall be discharged within the open water areas, a minimum 3,360 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for de Surveying, Shore Crew, Pipeline Crew, and Crewboat	ntenance - Units CY tails).	Multiple Disp 2, 5, and 10 y Estimated Quantity 199,600	osal Sites ear frequenc Unit Price \$3.89	Estimated Cost \$776,684
Aile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -15 Foot Elevation w/ 2 Feet of Advanced Maintenance Included Contract No. 6 Channel Mai Description Anterial to be placed unconfined within designated Vetland Site 14A opposite approximate HNC Mile 27. Atl. shall be discharged within the open water areas, a minimum 3,360 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for de Surveying, Shore Crew, Pipeline Crew, and Crewboat	tails).	2, 5, and 10 y Estimated Quantity 199,600 0.37	ear frequenc Unit Price \$3.89	Estimated Cost \$776,684
Elevation w/ 2 Feet of Advanced Maintenance Included Contract No. 6 Channel Mai Description INC Mile 26.0 to HNC Mile 24.0 (Year 50) Material to be placed unconfined within designated Vetland Site 14A opposite approximate HNC Mile 27. Atl. shall be discharged within the open water areas, a minimum 3,360 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for de Surveying, Shore Crew, Pipeline Crew, and Crewboat	tails).	2, 5, and 10 y Estimated Quantity 199,600 0.37	ear frequenc Unit Price \$3.89	Estimated Cost \$776,684
Contract No. 6 Channel Mai Description INC Mile 26.0 to HNC Mile 24.0 (Year 50) Material to be placed unconfined within designated Vetland Site 14A opposite approximate HNC Mile 27. Mtl. shall be discharged within the open water areas, a minimum 3,360 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for de Surveying, Shore Crew, Pipeline Crew, and Crewboat	tails).	2, 5, and 10 y Estimated Quantity 199,600 0.37	ear frequenc Unit Price \$3.89	Estimated Cost \$776,684
Description ANC Mile 26.0 to HNC Mile 24.0 (Year 50) Material to be placed unconfined within designated Vetland Site 14A opposite approximate HNC Mile 27. Atl. shall be discharged within the open water areas, a minimum 3,360 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for de Surveying, Shore Crew, Pipeline Crew, and Crewboat	Units CY tails).	Estimated Quantity 199,600 0.37	Unit Price \$3.89	Estimated Cost \$776,684
Description ANC Mile 26.0 to HNC Mile 24.0 (Year 50) Material to be placed unconfined within designated Vetland Site 14A opposite approximate HNC Mile 27. Atl. shall be discharged within the open water areas, a minimum 3,360 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for de Surveying, Shore Crew, Pipeline Crew, and Crewboat	Units CY tails).	Estimated Quantity 199,600 0.37	Unit Price \$3.89	Estimated Cost \$776,684
Material to be placed unconfined within designated Vetland Site 14A opposite approximate HNC Mile 27. Atl. shall be discharged within the open water areas, a minimum 3,360 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for de Surveying, Shore Crew, Pipeline Crew, and Crewboat	tails). MO	0.37		
Vetland Site 14A opposite approximate HNC Mile 27. Atl. shall be discharged within the open water areas, a minimum 3,360 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for de Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO		\$505,000	\$186,850
			\$505,000	\$186,850
			<i>\\\</i> 000,000	φ100,000
arthan Ratantian Dika Rafurbishment	IF			
		9,000	\$60.00	\$540,000
INC Mile 25.9 to HNC Mile 24.1 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' N/ Stone quantity 20% of construction quantity	TN AVD88)	21,300	\$61.46	\$1,309,098
Nechanical Dredging Flotation Channel Excavation Nile 25.9 to Mile 24.1 Channel excavated at existing Irade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324
INC Mile 24.0 to HNC Mile 22.0	CY	99,650	\$8.01	\$798,476
Material to be placed semi-confined within Wetland Site 15 between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of mtl. whall begin in the north east corner, and to proceed butward in a west-southwesterly direction. Earthen closures will be required along the west side of the lisposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.28	\$505,000	\$141,400
arthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000
	oreshore Protection (Stone) Refurbishment (Dk ht. +5' N/ tone quantity 20% of construction quantity lechanical Dredging Flotation Channel Excavation lile 25.9 to Mile 24.1 Channel excavated at existing rade of -2 ft NAVD88 w/ 80-foot bottom width NC Mile 24.0 to HNC Mile 22.0 laterial to be placed semi-confined within Wetland ite 15 between HNC Mile 23.0 and 22.5 along the est bank of the HNC WW. The initial buildup of mtl. hall begin in the north east corner, and to proceed utward in a west-southwesterly direction. Earthen osures will be required along the west side of the sposal area adjacent to the p/l canal intersecting he disposal area. A 200-foot wide construction ccess corridor along the entrance of the waterway ill be provided for the Contractors use. Elevation f material NTE +3.0' NAVD88 (See dwgs for details). urveying, Shore Crew, Pipeline Crew, and Crewboat	breshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) tone quantity 20% of construction quantitylechanical Dredging Flotation Channel Excavation lile 25.9 to Mile 24.1 Channel excavated at existing rade of -2 ft NAVD88 w/ 80-foot bottom widthLFNC Mile 24.0 to HNC Mile 22.0CYlaterial to be placed semi-confined within Wetland ite 15 between HNC Mile 23.0 and 22.5 along the est bank of the HNC WW. The initial buildup of mtl. hall begin in the north east corner, and to proceed utward in a west-southwesterly direction. Earthen osures will be required along the west side of the sposal area adjacent to the p/l canal intersecting he disposal area. A 200-foot wide construction ccess corridor along the entrance of the waterway ill be provided for the Contractors use. Elevation f material NTE +3.0' NAVD88 (See dwgs for details).MO	breshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) tone quantity 20% of construction quantitylechanical Dredging Flotation Channel Excavation lile 25.9 to Mile 24.1 Channel excavated at existing rade of -2 ft NAVD88 w/ 80-foot bottom widthLF9,700NC Mile 24.0 to HNC Mile 22.0CY99,650laterial to be placed semi-confined within Wetland ite 15 between HNC Mile 23.0 and 22.5 along the est bank of the HNC WW. The initial buildup of mtl. hall begin in the north east corner, and to proceed utward in a west-southwesterly direction. Earthen osures will be required along the west side of the sposal area. A 200-foot wide construction ccess corridor along the entrance of the waterway ill be provided for the Contractors use. Elevation f material NTE +3.0' NAVD88 (See dwgs for details).MO0.28	oreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) tone quantity 20% of construction quantitylechanical Dredging Flotation Channel ExcavationLF9,700\$72.92lile 25.9 to Mile 24.1 Channel excavated at existing rade of -2 ft NAVD88 w/ 80-foot bottom widthLF9,700\$72.92NC Mile 24.0 to HNC Mile 22.0CY99,650\$8.01laterial to be placed semi-confined within Wetland ite 15 between HNC Mile 23.0 and 22.5 along the est bank of the HNC WW. The initial buildup of mtl. hall begin in the north east corner, and to proceed utward in a west-southwesterly direction. Earthen osures will be required along the west side of the sposal area adjacent to the p/l canal intersecting le disposal area. A 200-foot wide construction ccess corridor along the entrance of the waterway ill be provided for the Contractors use. Elevation f material NTE +3.0' NAVD88 (See dwgs for details).0.28\$505,000

Project	Houma Navigation Canal Deepening	Quantitio	s & Line Items	- Puls - Aura?	015	
r tojeci.	Houma, Terrebonne Parish, Louisiana			-	010	
	Maintenance Cost Adjacent Disposal -15ft MLG	Costs - Ramos - Aug 2015				
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -15 Foot					
	Elevation w/ 2 Feet of Advanced Maintenance Included		Multiple Disp	ocal Sitos		
		intononoo			.,	
	Contract No. 6 Channel Ma	intenance -	2, 5, and 10 y	earmequenc		
ltem	Description	Units	Estimated Quantity	Unit Price	Estimate Cost	
6Z	HNC Mile 22.0 to HNC Mile 20.0	CY	99,650	\$5.72	\$570,157	
	Material to be placed unconfined within Wetland Site 16 opposite and adjacent to HNC Mile 21.4 along the west bank of the HNC WW. The discharge will be positioned to the west and placed a minimum 1,550 ft beyond the bank rim or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) NTE +3.0' NAVD 88 (See dwgs for details).					
6AA	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.28	\$505,000	\$141,400	
6Z	HNC Mile 22.0 to HNC Mile 20.0	CY	99,650	\$7.92	\$789,228	
	Material to be placed semi-confined within Wetland Site 15A between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a west-southwesterly direction. Earthen closures will be required along the west side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).					
6AA	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.41	\$505,000	\$207,050	
6BB	Earthen Retention Dike Refurbishment	LF	4,800	\$60.00	\$288,00	
6CC	Mobilization and Demobilization	LS	1	\$1,060,480	\$1,060,48	
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -19' NAVD88; 1v/2h side slopes by 300' bottom width					
6DD	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$9.28	\$4,640,00	
	Material to be placed at the SPD Mile -1.7 and Mile -2.5					

	Feasibility Level Cost E	stimate			
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Adjacent Disposal -15ft MLG		Puls - Aug 2 15	015	
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -15 Foot Elevation w/ 2 Feet of Advanced Maintenance Included Contract No. 6 Channel Main	tenance ·	Multiple Dispo • 2, 5, and 10 ye		У
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
6EE	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	1.77	\$645,000	\$1,141,650
				Total:	\$15,300,748
	Contract Duration	DY	143		
	Notes:				
	Channel Quantities do not reflect overdepth.				
	Dredging:		1,699,150 CY		
	Rock:		23,200 TON		
	Flotation Channel:		10,960 LF		
	Earthen Dike:		45,150 LF		
	Survey/Crew/Boat:		4.6 MO		

Feasibility Level Cost Estimate						
Project	Houma Navigation Canal Deepening			ms - Puls - Αι	ıg 2015	
	Houma, Terrebonne Parish, Louisiana	Costs -	Ramos - Aug	2015		
	Maintenance Cost Adjacent Disposal -15ft MLG Mile 20.0 to 11.0 & Mile 11.0 to 0.0 to -15 Foot					
	Elevation w/ 3 Feet of Advanced Maintenance Included		Multiple Disp	acal Sitas		
	Contract No. 7 Channel Maintenance					
		5 - 2 anu	Estimated	lency	Estimated	
Item	Description	Units	Quantity	Unit Price	Cost	
7A	Mobilization and Demobolization	LS	1	\$939,307	\$939,307	
	Dredging and Disposal (Mile 20.0 to Mile 11.0) Channel to be excavated to -17 NAVD88; 1v/2h side slope/150-foot bottom width					
7B	HNC Mile 20.0 to HNC Mile 18.0 (Year 11 through 31)	CY	199,600	\$3.23	\$643,830	
	Material to be placed unconfined within Wetland Site 19C oppsite and adjacent to HNC Mile 19.3 along the east bank of the HNC WW. The discharge will be positioned to the east and placed a minimum 500-ft beyond the bank rim/ridge or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) of Site 19C NTE +3.0' NAVD88 (See dwgs for details).					
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.32	\$505,000	\$161,600	
7B	HNC Mile 20.0 to HNC Mile 18.0 (Year 41 through 51)	CY	199,600	\$3.46	\$689,818	
	Material to be placed semi-confined within the open water portions of Wetland Site 19D between HNC Mile 20.2 and 19.6, located beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a westerly direction a minimum distance of 2,350 ft beyond the channel centerline Earthen closures will be required along the south side of the disposal area adjacent to the open water A 200-foot wide construction access corridor along theentrance of the waterway will be provided for the Contractors at the northeast and south east portions of the disposal site. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).					
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700	
7D	Earthen Retention Dike Refurbishment	LF	1,300	\$60.00	\$78,000	

	Feasibility Level Cost Est				
Project:	Houma Navigation Canal Deepening			ms - Puls - Αι	ıg 2015
	Houma, Terrebonne Parish, Louisiana	Costs -	Ramos - Aug	2015	
	Maintenance Cost Adjacent Disposal -15ft MLG				
	Mile 20.0 to 11.0 & Mile 11.0 to 0.0 to -15 Foot				
	Elevation w/ 3 Feet of Advanced Maintenance Included		Multiple Disp		
	Contract No. 7 Channel Maintena	nce - 2 and [•]	10 year frequ	iency	
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
7E	HNC Mile 18.0 HNC Mile 16.0	CY	199,600	\$3.23	\$643,830
	Material to be placed unconfined within Wetland Site 20C oppsoite HNC Mile 16.8 along the west bank of the HNC WW. A construction access corriodr, 200 feet in width, will be provided for the Contractors use at the intersection of Four Pt. Bayou with the HNC WW. The intial buildup shall occur in the east corner of the DA and to proceed outward in a westerly direction. Elevation of Mtl. NTE +3.0' NAVD88 (See dwgs for details).				
7F	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.32	\$505,000	\$161,600
7G	HNC Mile 16.0 to HNC Mile 13.0	CY	301,300	\$3.21	\$968,017
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600-feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).				
7H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.48	\$505,000	\$242,400
71	Earthen Retention Dike Re-fubishment	LF	3,850	\$60.00	\$231,000
7J	HNC Mile 13.0 to HNC Mile 11.0 (Year 11 through 21)	CY	231,400	\$2.96	\$684,204
	Material to be placed within Wetland Site 24 opposite HNC Mile 12.0 along the west bank of the HNC WW. A construction access corrdior, 200 ft in width, will be provided for the Contractors use at the entrance of the WW. The initial buildup will occur in the east corner of the DA and proceed outward in a west, south-westerly direction. Elevation of material placed within the open water area(s) NTE +3.0' NAVD88 (See dwgs for details).				
7K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700
7L	Earthen Retention Dike Refurbishment	LF	4,100	\$60.00	\$246,000

Feasibility Level Cost Estimate							
Project:	Houma Navigation Canal Deepening		ies & Line Iter		ug 2015		
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015					
	Maintenance Cost Adjacent Disposal -15ft MLG Mile 20.0 to 11.0 & Mile 11.0 to 0.0 to -15 Foot						
	Elevation w/ 3 Feet of Advanced Maintenance Included		Multiple Disp	osal Sites			
	Contract No. 7 Channel Maintena						
			Estimated		Estimated		
Item	Description	Units	Quantity	Unit Price	Cost		
7J	HNC Mile 13.0 to HNC Mile 11.0 (Year 31 through 51)	CY	231,400	\$3.24	\$749,366		
	Material to be placed within Wetland Site 21 opposite						
	HNC Mile 15.0. To prevent material runback, the						
	discharge pipe will be postioned to the SW and placed						
	approximately 600 feet west of HNC Mile 15.0. The						
	material will be placed in a west south-westerly						
	direction within the open water areas or tributaries along the back side of the disposal area. Elevation						
	of material NTE +3.0' NAVD88 (See dwgs f/details).						
7K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.37	\$505,000	\$186,850		
7L	Earthen Retention Dike Re-fubishment	LF	3,850	\$60.00	\$231,000		
7M	Mobilization and Demobilization	LS	1	\$857,241	\$857,241		
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -18' NAVD88; 1v/2h side slopes by 150' bottom width						
7N	HNC Mile 11 to HNC Mile 8.0	CY	331,000	\$3.62	\$1,199,014		
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).						
70	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.45	\$505,000	\$227,250		
7P	HNC Mile 8.0 to HNC Mile 6.0	CY	228,300	\$4.15	\$946,806		
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).						
7Q	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550		
7R	HNC Mile 6.0 to HNC Mile 4.0	CY	236,600	\$3.75	\$887,345		
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).						
7S	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.34	\$505,000	\$171,700		

	Feasibility Leve	el Cost Estimat						
Project:	Houma Navigation Canal Deepening			ities & Line Iten		ug 2015		
	Houma, Terrebonne Parish, Louisiana		Costs - Ramos - Aug 2015					
	Maintenance Cost Adjacent Disposal -15ft MLG							
	Mile 20.0 to 11.0 & Mile 11.0 to 0.0 to -15 Foot			Maltine Diam				
	Elevation w/ 3 Feet of Advanced Maintenance Include			Multiple Disp				
	Contract No. 7 Channel Maintenance - 2 and 10 year frequency							
ltem	Description		Units	Quantity	Unit Price	Estimated Cost		
7T	HNC Mile 4.0 to HNC Mile 2.0		CY	236,600	\$3.75	\$887,345		
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).							
7U	Surveying, Shore Crew, Pipeline Crew, and Crewboat		МО	0.34	\$505,000	\$171,700		
7V	HNC Mile 2.0 to HNC Mile 0.0		CY	236,600	\$3.75	\$887,345		
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).							
7W	Surveying, Shore Crew, Pipeline Crew, and Crewboat		МО	0.34	\$505,000	\$171,700		
					Total:	\$10,839,57		
	Contract Duration		DY	102				
	Note:							
	Channel Quantities do not reflect overdepth.							
		Dredging:		2,201,000 CY				
		Earthen Dike:		9,250 LF				
	Sur	vey/Crew/Boat:		3.2 MO				

	Feasibility Level Cost	<u>Estimate</u>						
Project	:: Houma Navigation Canal Deepening		s & Line Items	•	2015			
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015						
	Maintenance Cost Adjacent Disposal -15ft MLG							
	Mile 0.0 to (-3.5) to -15 Foot Elevation w/ 4 Feet of Adva	anced Maint	enance Includ	ed				
	Contract No. 8	Channel	Maintenance	- 2 year freq	uency			
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
8A	Mobilization and Demobilization	LS	1	\$1,060,480	\$1,060,48			
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -19' NAVD88; 1v/2h side slopes by 300' bottom width							
8B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$9.28	\$4,640,00			
	Material to be placed at the SPD Mile -1.7 and Mile -2.5							
8C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.77	\$645,000	\$1,141,65			
				Total:	\$6,842,13			
	Contract Duration	DY	58					
	Notes:							
	Channel Quantities do not reflect overdepth.							
	Dredging	:	500,000 CY					
	Survey/Crew/Boa	•	1.8 MO					

Feasibility Level Cost Estimate									
Project:	Houma Navigation Canal Deepening			ms - Puls - Au	g 2015				
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015							
	Maintenance Cost Adjacent Disposal -15ft MLG Mile 11.0 to 0.0 to -15 Foot Elevation w/ 3 Feet of Advanced Maintenance Included								
	Contract No. 9 Channel Maintenance - 2 year frequency								
		Estimated							
ltem	Description	Units	Quantity	Unit Price	Estimated Cost				
9A	Mobilization and Demobilization	LS	1	\$857,241	\$857,241				
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -18' NAVD88; 1v/2h side slopes by 150' bottom width								
9B	HNC Mile 11 to HNC Mile 8.0	CY	331,000	\$3.62	\$1,199,014				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).								
9C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.45	\$505,000	\$227,250				
9D	HNC Mile 8.0 to HNC Mile 6.0	CY	228,300	\$4.15	\$946,806				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).								
9E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550				
9F	HNC Mile 6.0 to HNC Mile 4.0	CY	236,600	\$3.75	\$887,345				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
9G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700				
9H	HNC Mile 4.0 to HNC Mile 2.0	CY	236,600	\$3.75	\$887,345				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
91	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.34	\$505,000	\$171,700				
9J	HNC Mile 2.0 to HNC Mile 0.0	CY	236,600	\$3.75	\$887,345				
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).								

	Feasibility Level Cost Es	timate					
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015					
	Houma, Terrebonne Parish, Louisiana	Costs	- Ramos - Aug	2015			
	Maintenance Cost Adjacent Disposal -15ft MLG						
	Mile 11.0 to 0.0 to -15 Foot Elevation w/ 3 Feet of Advanced						
	Contract No. 9	Chanr	nel Maintenanc	e - 2 year fre			
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
9K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.34	\$505,000	\$171,700		
				Total:	\$6,563,995		
	Contract Duration	DY	58				
	Note:						
	Channel Quantities do not reflect overdepth.						
	Dredging:	:	1,269,101 CY				
	Survey/Crew/Boat	:	1.8 MO				

	Feasibility Level Cost	Estimate					
Project	: Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug 2	2015		
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015					
	Maintenance Cost Adjacent Disposal -15ft MLG						
	Mile 0.0 to (-3.5) to -15 Foot Elevation w/ 4 Feet of Adva						
	Contract No. 10	Channel	Maintenance	- 2 year freq	uency		
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
10A	Mobilization and Demobilization	LS	1	\$1,060,480	\$1,060,480		
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -19' NAVD88; 1v/2h side slopes by 300' bottom width						
10B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$9.28	\$4,640,000		
	Material to be placed at the SPD Mile -1.7 and Mile -2.5						
10C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.77	\$645,000	\$1,141,650		
				Total:	\$6,842,130		
	Contract Duration	DY	58				
	Notes:						
	Channel Quantities do not reflect overdepth.						
	Dredging	:	500,000 CY				
	Survey/Crew/Boat		1.8 MO				

Reach		15	-foot (No Action Plan)				15-foot (No	o Action Plan)	
			Site 1				Site 2		
	Unit Cost	CY	Duration (months)	Mob/Demob (Per Reach)	Unit Cost	CY	Duration (months)	Mob/Demob (Per Reach)	Crew/Equipment Costs
Mob/Demob	\$871,046								\$505,000
36.3 to 34.5 (5-year)	\$5.77	99,650	0.29	\$315,563	\$6.13	99,650	0.31	\$315,563	
24.0 to 22.0 (5-year)	\$8.01	99,650	0.28	\$366,046					\$505,000
22.0 to 19.7 (5-year)	\$5.72	99,650	0.28	\$323,123					\$505,000
		1,943,892				\$610,974			
Mob/Demob (36.3 to 22.0)	\$939,307								\$505,000
36.3 to 34.0	\$5.77	99,650	0.29	\$315,563	\$6.13	99,650	0.31	\$315,563	\$505,000
34.0 to 32.0	\$4.45	199,600		\$434,307					\$505,000
32.0 to 29.5	\$6.40	150,700	0.48	\$434,307					\$505,000
29.5 to 28.0	\$4.35	150,700		\$330,985	\$3.92	150,700	0.28	\$330,985	
28.0 to 26.0	\$3.71	199,600	0.37	\$317,075					\$505,000
26.0 to 24.0	\$4.11	199,600	0.39	\$330,985	\$3.89	199,600	0.37	\$330,985	\$505,000
24.0 to 22.0	\$8.01	99,650	0.28	\$366,046					\$505,000
		5,444,191				\$1,977,919			
Mob/Demob (22.0 to 11.0)	\$828,123								\$505,000
22.0 to 20.0	\$5.72	99,650		\$323,123	\$7.92	99,650	0.41	\$323,123	\$505,000
20.0 to 18.0	\$3.23	199,600		\$320,704	\$3.46	199,600	0.34	\$320,704	\$505,000
18.0 to 16.0	\$3.23	199,600		\$320,704					\$505,000
16.0 to 13.0	\$3.21	301,300		\$320,704					\$505,000
13.0 to 11.0	\$2.96	231,400	0.34	\$320,704	\$3.24	231,400	0.37	\$320,704	\$505,000
		3,510,037				\$2,228,411			
	• • • • • • • •								
Mob/Demob (0 to 11.0)	\$857,241			-					\$505,000
11.0 to 8.0	\$3.62	331,000		\$352,241					\$505,000
8.0 to 6.0	\$4.15	228,300		\$352,241					\$505,000
6.0 to 4.0	\$3.75	236,600		\$352,241					\$505,000
4.0 to 2.0	\$3.75	236,600		\$352,241					\$505,000
2.0 to 0.0	\$3.75	236,600		\$352,241					\$505,000
		4,807,854							
Mob/Demob (0 to -3.5)	\$1,060,480			-					\$645,000
0 to -3.5	\$9.28	500,000		\$415,480					\$645,000
		4,640,000							

Project	:: Houma Navigation Canal Deepe Houma, Terrebonne Parish, Lou Consturction Cost Alternative Mile 36.3 to Mile (-3.5) to -18 Fo	uisiana C 1 A Adjacent Dis	Costs - Ramos - A Sposal -18	0	g 2015
Contract No.	Summary Page Description	Units	Estimated Quantity	Unit Price	Estimated Constructior Cost
1	Mobilization/Demobilization	LS	1	\$939,307	\$939,307
	Mile 36.3 to Mile 22.0	CY	890,000	\$22.39	\$19,923,432
2	Mobilization/Demobilization	LS	1	\$825,704	\$825,704
	Mile 22.0 to Mile 11.5	CY	571,200	\$85.81	\$49,012,388
3	Mobilization/Demobilization	LS	1	\$857,241	\$857,241
	Mile 11.5 to Mile 6.0	CY	1,641,600	\$2.83	\$4,649,419
4	Mobilization/Demobilization	LS	1	\$857,241	\$857,241
	Mile 6.0 to Mile 0.0	CY	1,033,400	\$3.86	\$3,987,906
5	Mobilization/Demobilization	LS	1	\$1,308,950	\$1,308,950
	Mile 0.0 to Mile (-3.5)	CY	668,000	\$7.15	\$4,777,539
		Total:	4,804,200	\$18.14	\$87,139,127

Note:

Unit costs reflected on summary sheet include earthen dike construction, rock dike construction, geotextile fabric, floatation channel excavation within each specified reach, crews, surveying, and boats, if applicable.

Feasibility Level Cost Estimate							
Project	: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 1A Adjacent Disposal -18 Mile 36.3 to 22.0 to -18 Foot Elevation w/ 2 Feet of Advanced Ma	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015 aintenance Included					
	Contract No. 1						
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
1A	Mobilization and Demobolization	LS	1	\$939,307	\$939,307		
	Dredging and Disposal (Mile 36.3 to Mile 22.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width						
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	170,000	\$6.09	\$1,035,776		
	Material to be placed within confined upland Site 1 (Port Commision Site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.						
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.53	\$505,000	\$267,650		
1D	NHC Mile 34.0 to HNC Mile 32.0	CY	77,500	\$14.35	\$1,112,032		
	Material to be placed semi-confined within designated Wetland Site 7E east of HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).						
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.58	\$505,000	\$292,900		
1F	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000		
1G	HNC Mile 32.0 to HNC Mile 29.5	CY	95,500	\$7.22	\$689,434		
	Material to be placed semi-confined within designated Wetland Site 7E east of HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).						
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.36	\$505,000	\$181,800		
11	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000		

Feasibility Level Cost Estimate						
Project	roject: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 1A Adjacent Disposal -18 Mile 36.3 to 22.0 to -18 Foot Elevation w/ 2 Feet of Advanced Maintenance Included				g 2015	
ltem	Contract No. 1 Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
1J	HNC Mile 29.5 to HNC Mile 28.0	CY	88,000	\$8.79	\$773,837	
	Material to be placed unconfined within designated Wetland Site 12B east of HNC Mile 27.0. Material shall be discharged within the open water areas, a minimum 4,500 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).					
1K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.39	\$505,000	\$196,950	
1L	Earthen Retention Dike Refurbishment	LF	1,600	\$60.00	\$96,000	
1M	HNC Mile 28.0 to HNC Mile 26.0	CY	117,000	\$8.24	\$964,454	
	Material to be placed unconfined within designated Wetland Site A-07-A west of HNC Mile 26.5. Material shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).					
1N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.49	\$505,000	\$247,450	
10	Earthen Retention Dike Refurbishment	LF	9,300	\$60.00	\$558,000	
1P	HNC Mile 27.6 to HNC Mile 27.4 (West Bank) Foreshore Protection Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	1,900	\$61.46	\$116,774	
1Q	Mechanical Dredging Flotation Channel Excavation Mile 27.6 to Mile 27.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,260	\$72.92	\$91,879	
1R	HNC Mile 26.4 to HNC Mile 25.9 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	ΤN	26,600	\$61.46	\$1,634,836	
	Geotextile	SY	12,800	\$9.78	\$125,184	
1S	Mechanical Dredging Flotation Channel Excavation Mile 26.4 to Mile 25.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	2,840	\$72.92	\$207,093	

Feasibility Level Cost Estimate							
Project	 Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 1A Adjacent Disposal -18 Mile 36.3 to 22.0 to -18 Foot Elevation w/ 2 Feet of Advanced Ma Contract No. 1 	al Deepening Quantities & Line Items - Puls - Aug 2015 rish, Louisiana Costs - Ramos - Aug 2015 ernative 1A Adjacent Disposal -18					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
1T	HNC Mile 26.0 to HNC Mile 24.0	CY	171,000	\$6.22	\$1,063,757		
	Material to be placed unconfined within designated Wetland Site A-07-A west of HNC Mile 26.5. Material shall be discharged within the open water areas, a minimum 5,700 -feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).						
1U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.54	\$505,000	\$272,700		
1V	Earthen Retention Dike Refurbishment	LF	13,000	\$60.00	\$780,000		
1W	HNC Mile 25.9 to HNC Mile 24.1 (West Bank) Foreshore Protection Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	21,300	\$61.46	\$1,309,098		
1X	Mechanical Dredging Flotation Channel Excavation Mile 25.9 to Mile 24.1 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324		
1Y	HNC Mile 24.0 to HNC Mile 22.0 Material to be placed semi-confined within designated Wetland Site 15 west of HNC Mile 23.5. Material to be placed within the open water area(s), a minimum 1,270 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).	CY	171,000	\$5.27	\$901,786		
1Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.46	\$505,000	\$232,300		
1AA	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000		
1BB	HNC Mile 23.7 to HNC Mile 22.4 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88) Geotextile	TN SY	59,100 28,500	\$61.46 \$9.78	\$3,632,286 \$278,730		
1CC	Mechanical Dredging Flotation Channel Excavation Mile 23.7 to Mile 22.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897		

	Feasibility Level Cost Esti	mate			
Project: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 1A Adjacent Disposal -18 Mile 36.3 to 22.0 to -18 Foot Elevation w/ 2 Feet of Advanced Maintenance Included Contract No. 1					g 2015
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
1DD	HNC Mile 22.2 to HNC Mile 22.1 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88) Geotextile	ΤN	9,800	\$61.46	\$602,308
		SY	4,700	\$9.78	\$45,966
1EE	Mechanical Dredging Flotation Channel Excavation Mile 22.2 to Mile 22.1. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	730	\$72.92	\$53,232
				Total:	\$20,862,739
	Contract Duration	DY	106		
	Notes:				
	Dredging quantity does not reflect overdepth.				
	Dredging	:	890,000 CY		
	Rock		118,700 TON		
	Geotextile	:	46,000 SY		
	Flotation Channel	:	21,070 LF		

40,150 LF

Earthen Dike:

Survey/Crew/Boat: 3.4 MO

Feasibility Level Cost Estimate						
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 1A Adjacent Disposal -18					
	Mile 22.0 to 11.5 to -18 Foot Elevation w/ 2 Feet Advanced Maintenance Included Contract No. 2					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
2A	Mobilization and Demobilization	LS	1	\$825,704	\$825,704	
	Dredging and Disposal (Mile 22.0 to Mile 11.5) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width					
2B	HNC Mile 22.0 to HNC Mile 20.0	CY	225,000	\$4.15	\$933,120	
	Material to be placed unconfined within designated Wetland Site 16 west of HNC Mile 22. Material shall be discharged within the open water areas, a minimum 1,550 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details)).				
2C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.49	\$505,000	\$247,450	
2D	HNC Mile 20.0 to HNC Mile 18.0	CY	21,000	\$25.51	\$535,718	
	Material to be placed unconfined within Wetland Site 19C east of and adjacent to HNC Mile 19.5. The discharge will be positioned to the east and placed a minimum 500 ft beyond the bank rim/ridge or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) of Site 19C NTE +3.0' NAVD88 (See dwgs for details).					
2E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.28	\$505,000	\$141,400	
2F	HNC Mile 19.2 to HNC Mile 17.5 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88) Geotextile	TN	99,500	\$61.46	\$6,115,270	
		SY	47,900	\$9.78	\$468,462	
2G	Mechanical Dredging Flotation Channel Excavation Mile 19.2 to Mile 17.5 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,120	\$72.92	\$592,110	
2H	HNC Mile 19.1 to HNC Mile 17.8 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88) Geotextile	TN	18,200	\$61.46	\$1,118,572	
		SY	8,750	\$9.78	\$85,575	
21	Mechanical Dredging Flotation Channel Excavation Mile 19.1 to Mile 17.8 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527	

Feasibility Level Cost Estimate						
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015				
	Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 1A Adjacent Disposal -18	Costs - Ramos - Aug 2015				
	Mile 22.0 to 11.5 to -18 Foot Elevation w/ 2 Feet Advanced Maintenance Included					
	Contract No. 2					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
2J	HNC Mile 18.0 HNC Mile 16.0	CY	77,200	\$10.85	\$837,960	
	Material to be placed unconfined within designated Wetland Site 20C west of HNC Mile 17. Material shall be discharged within the open water areas, a minimum 900 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details)					
2K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.44	\$505,000	\$222,200	
2L	HNC Mile 17.7 to HNC Mile 16.7 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	67,400	\$61.46	\$4,142,404	
	Geotextile	SY	32,500	\$9.78	\$317,850	
2M	Mechanical Dredging Flotation Channel Excavation Mile 17.7 to Mile 16.7 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,480	\$72.92	\$399,602	
2N	HNC Mile 16.9 to HNC Mile 13.3 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	213,000	\$61.46	\$13,090,980	
	Geotextile	SY	102,600	\$9.78	\$1,003,428	
20	Mechanical Dredging Flotation Channel Excavation Mile 16.9 to Mile 13.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	19,200	\$72.92	\$1,400,064	
2P	HNC Mile 16.0 to HNC Mile 13.0	CY	153,000	\$8.86	\$1,355,213	
	Material to be placed semi-confined within designated Wetland Site 21 west of HNC Mile 15. Material to be placed within the open water area(s), a minimum 600 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).					
2Q	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.71	\$505,000	\$358,550	
2R	Earthen Retention Dike Refurbishment	LF	3,850	\$60.00	\$231,000	
2S	HNC Mile 15.6 to HNC Mile 14.0 (West Bank) Rock Retention Structure (site 21) (Dk ht. +6' NAVD88) Geotextile	TN	94,500	\$61.46	\$5,807,970	
		SY	45,500	\$9.78	\$444,990	

	Feasibility Level Cost	Estimate				
Project:	Houma, Terrebonne Parish, Louisiana Costs - Ramos - Aug 2015 Consturction Cost Alternative 1A Adjacent Disposal -18 Mile 22.0 to 11.5 to -18 Foot Elevation w/ 2 Feet Advanced Maintenance Included					
ltem	Contract No. 2 Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
2T	Mechanical Dredging Flotation Channel Excavation Mile 15.6 to Mile 14.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,650	\$72.92	\$630,758	
2U	HNC Mile 13.2 to HNC Mile 11.9 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	75,900	\$61.46	\$4,664,814	
	Geotextile	SY	36,600	\$9.78	\$357,948	
2V	Mechanical Dredging Flotation Channel Excavation Mile 13.1 to Mile 11.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,340	\$72.92	\$389,393	
2W	HNC Mile 13.0 to HNC Mile 11.5	CY	95,000	\$6.82	\$648,128	
	Material to be placed semi-confined within designated Wetland Site 24 west of HNC Mile 12.1. Material to be placed within the open water area(s), a minimum 900 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).					
2X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.34	\$505,000	\$171,700	
2Y	Earthen Retention Dike Refurbishment	LF	4,100	\$60.00	\$246,000	
2Z	HNC Mile 12.7 to HNC Mile 12.3 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	27,100	\$61.46	\$1,665,566	
	Geotextile	SY	13,000	\$9.78	\$127,140	

	Feasibility Level Cost Es	stimate							
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana	Quantities Costs - Ra	Puls - Aug 20 5	15					
	Consturction Cost Alternative 1A Adjacent Disposal -18 Mile 22.0 to 11.5 to -18 Foot Elevation w/ 2 Feet Advanced Maintenance Included Contract No. 2								
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost				
2AA	Mechanical Dredging Flotation Channel Excavation Mile 12.6 to Mile 12.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527				
				Total:	\$49,838,092				
	CONTRACT DURATION	DY	73						
	Note:								
	Dredging quantity does not reflect overdepth.								
	Dredging		571,200 CY						
	Rock	:	595,600 TON						
	Geotextile	:	286,850 SY						
	Flotation Channel	:	50,370 LF						
	Earthen Dike	:	7,950 LF						
	Survey/Crew/Boat	:	2.3 MO						

Project:	Feasibility Level Cost Houma Navigation Canal Deepening		ties & Line Item	s - Puls - Au	g 2015
	Houma, Terrebonne Parish, Louisiana		- Ramos - Aug 2	2015	
	Consturction Cost Alternative 1A Adjacent Disposal				
	Mile 11.5 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advance	ced Main	tenance Include	ed	
	Contract No. 3		Estimated		Estimated
ltem	Description	Units	Quantity	Unit Price	Cost
ЗA	Mobilization and Demobilization	LS	1	\$857,241	\$857,241
	Dredging and Disposal (Mile 11.5 to Mile 6.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width				
3B	HNC Mile 11.5 to Mile 10	CY	125,000	\$5.56	\$694,400
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).				
3C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.26	\$505,000	\$131,300
3D	HNC Mile 10 to HNC Mile 8.0	CY	765,800	\$2.11	\$1,617,37
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).				
3E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.61	\$505,000	\$308,050
3F	HNC Mile 8.0 to HNC Mile 6.0	CY	750,800	\$2.12	\$1,595,30
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).				
3G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.60	\$505,000	\$303,000
				Total:	\$5,506,66
	CONTRACT DURATION	DY	49		
	Note:				
	Dredging quantity does not reflect overdepth.				
	Dredging	j :	1,641,600 CY		
	Survey/Crew/Boa	+·	1.5 MO		

roject:	Houma Navigation Canal Deepening	Quanti	ties & Line Item	s - Puls - Au	g 2015
	Houma, Terrebonne Parish, Louisiana		· Ramos - Aug 2	2015	
	Consturction Cost Alternative 1A Adjacent Disposal				
	Mile 6.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advance	ed Mainte	enance Included		
	Contract No. 3		Estimated		Estimated
ltem	Description	Units	Quantity	Unit Price	Cost
4A	Mobilization and Demobilization	LS	1	\$857,241	\$857,241
	Dredging and Disposal (Mile 6.0 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width				
4B	HNC Mile 6.0 to HNC Mile 4.0	CY	373,800	\$3.06	\$1,143,529
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000' west of the channel centerline (See dwgs for details).				
4C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.43	\$505,000	\$217,150
4D	HNC Mile 4.0 to HNC Mile 2.0	CY	373,800	\$3.06	\$1,143,529
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000' west of the channel centerline (See dwgs for details).				
4E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.43	\$505,000	\$217,150
4F	HNC Mile 2.0 to HNC Mile 0.0	CY	285,800	\$3.72	\$1,064,548
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).				
4G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.40	\$505,000	\$202,000
				Total:	\$4,845,14
	CONTRACT DURATION	DY	43		
	Note:				
	Dredging quantity does not reflect overdepth.				
	Dredging	g:	1,033,400 CY		

	Feasibility Level Cos	t Estimate			
Projec	t: Houma Navigation Canal Deepening		ine Items - Puls	- Aug 2015	
	Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 1A Adjacent Disposal -	Costs - Ramos	s - Aug 2015		
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet Advance		ncluded		
	Contract No. 4				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
5A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950
	Dredging and Disposal (Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
5B	Material to be placed at the single point discharge location(s) within Cat Island Pass at approximate HNC Mile (-1.7) and Mile (-2.5) (See plans for details).	CY	668,000	\$6.04	\$4,035,789
5C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.15	\$645,000	\$741,750
				Total:	\$6,086,489
	CONTRACT DURATION	DY	40		
	Note:				
	Dredging quantity does not reflect overdepth.				
	Dredging	g:	668,000 CY		
	Survey/Crew/Boa	t:	1.2 MO		

Reach	18 foo	t depth			
	Unit Cost	СҮ	Duration (months)	Mob/Demob (Per Reach)	Crew/Equipment Costs
Mob/Demob (36.3 to 22.0)	\$939,307				\$505,000
36.3 to 34.0	\$6.09	170,000	0.53	\$327,961	\$505,000
34.0 to 32.0	\$14.35	77,500	0.58	\$434,307	\$505,000
32.0 to 29.5	\$7.22	95,500	0.36	\$434,307	\$505,000
29.5 to 28.0	\$8.79	88,000	0.39	\$327,961	\$505,000
28.0 to 26.0	\$8.24	117,000	0.49	\$327,961	\$505,000
26.0 to 24.0	\$6.22	171,000	0.54	\$327,961	\$505,000
24.0 to 22.0	\$5.27	171,000	0.46	\$327,961	\$505,000
		\$6,541,075			
Mob/Demob (22.0 to 11.5)	\$825,704				\$505,000
22.0 to 20.0	\$4.15	225,000	0.49	\$320,704	\$505,000
20.0 to 18.0	\$25.51	21,000	0.28	\$320,704	\$505,000
18.0 to 16.0	\$10.85	77,200	0.44	\$320,704	\$505,000
16.0 to 13.0	\$8.86	153,000	0.71	\$320,704	\$505,000
13.0 to 11.5	\$6.82	95,000	0.34	\$320,704	\$505,000
		\$4,310,139			
Mob/Demob (11.5 to 0.0)	\$857,241				\$505,000
11.5 to 10.0	\$5.56	125,000	0.26	\$352,241	\$505,000
10.0 to 8.0	\$2.11	765,800	0.61	\$352,241	\$505,000
8.0 to 6.0	\$2.12	750,800	0.60	\$352,241	\$505,000
6.0 to 4.0	\$3.06	373,800	0.43	\$352,241	\$505,000
4.0 to 2.0	\$3.06	373,800	0.43	\$352,241	\$505,000
2.0 to 0.0	\$3.72	285,800	0.40	\$352,241	\$505,000
		\$7,258,675			· · · · ·
Mob/Demob (0.0 to -3.5)	\$1,308,950				\$645,000
0.0 to -3.5	\$6.04	668,000	1.15	\$663,950	\$645,000
		\$4,035,789			

Project:	Houma Navigation Canal Deepe	ning	(Items - Puls - Aug	g 2015	
	Houma, Terrebonne Parish, Lou			Costs - Ramos - J	Aug 2015		
	Maintenance Cost Adjacent Di						
	Costs for 10-Year Cycle to be I					Multiple Disposal	Sites
	Mile 36.3 to Mile (-3.5) to -18 For	ot Elevation w/ Ac	Ivanced I	Maintenance Incl	uded		
	Summary Page	Cycle			Estimated Unit		
Contract No.	Description	Frequency (Years)	Units	Quantity	Price Per Cycle	Estimated Cycle Cost	Estimated Total Cost (50-Year)
1*	Mobilization/Demobilization	10	LS	1		\$871,046	\$4,355,230
	Mile 36.3 to Mile 34.0	10	CY	101,600	\$7.23	\$734,254	\$3,671,268
	Mile 24.0 to Mile 22.0	10	CY	101,600	\$10.94	\$1,111,300	\$5,556,500
	Mile 22.0 to Mile 20.0	10	CY	101,600	\$8.32	\$845,221	\$4,226,103
	Mobilization/Demobilization	2	LS	1	ψ0.02	\$857,241	\$21,431,025
	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$4.27	\$5,906,380	\$147,659,502
2	Mobilization/Demobilization	2		1		\$1,060,480	\$26,512,000
-	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$11.56	\$5,781,650	\$144,541,250
3	Mobilization/Demobilization	2		1		\$857,241	
5	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$4.27	\$5,906,380	
4	Mobilization/Demobilization	2		1		\$1,060,480	
4	Mile 0.0 to Mile (-3.5)	2 2	CY	500,000	\$11.56	\$5,781,650	
5	Mobilization/Demobilization	2		1		\$857,241	
5	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$4.27	\$5,906,380	
		2	C1	1,303,300	ψ4.27	\$3,900,300	
6	Mobilization/Demobilization	10		1		\$939,307	\$4,696,535
	Mile 36.3 to Mile 34.0	10	CY	101,600	\$7.36	\$747,687	\$3,738,437
	Mile 34.0 to Mile 32.0	10	CY	203,600	\$7.40	\$1,506,469	\$7,532,343
	Mile 32.0 to Mile 29.5	10	CY	153,700	\$10.07	\$1,548,466	\$7,742,331
	Mile 29.5 to Mile 28.0	10	CY	153,700	\$5.60	\$860,476	\$4,302,382
	Mile 28.0 to Mile 26.0	10	CY	203,600	\$10.65	\$2,167,912	\$10,839,561
	Mile 26.0 to Mile 24.0	10	CY	203,600	\$17.72	\$3,606,829	\$18,034,143
	Mile 24.0 to Mile 22.0	10	CY	101,600	\$24.49	\$2,488,347	\$12,441,736
	Mile 22.0 to Mile 20.0	10	CY	101,600	\$9.44	\$958,927	\$4,794,636
	Mobilization/Demobilization	2		1		\$1,060,480	
	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$11.56	\$5,781,650	
7	Mobilization/Demobilization	10		1		\$939,307	\$4,696,535
	Mile 20.0 to Mile 18.0	10	CY	203,600	\$14.89	\$3,030,630	\$15,153,149
	Mile 18.0 to Mile 16.0	10	CY	203,600	\$29.90	\$6,088,383	\$30,441,913
	Mile 16.0 to Mile 13.0	10	CY	307,300	\$14.75	\$4,533,250	\$22,666,249
	Mile 13.0 to Mile 11.0	10	CY	236,000	\$6.71	\$1,582,869	\$7,914,345
	Mobilization/Demobilization	2		1		\$857,241	. ,
	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$4.27	\$5,906,380	
8	Mobilization/Demobilization	2		1		\$1,060,480	
-	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$11.56	\$5,781,650	
9	Mobilization/Demobilization	2		1		\$857,241	
-	Mile 11.0 to Mile 0.0	2	CY	1,383,301	\$4.27	\$5,906,380	
10	Mobilization/Demobilization	2		1		\$1,060,480	
10	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$11.56	\$5,781,650	
			Total:	11,894,801	\$8.62	\$102,589,435	\$512,947,174

Note: Unit costs reflected on summary sheet include all disposal area dike refurbishment within each specified reach, if necessary * Three reaches specified in Contract 1 require a maintenance cycle every 5 years. 5 years after maintenance Contract 1 reaches at 36.3, 24.0, and 22.0 will undergo maintenance under Contract 6 (10-Year cycle). 5 Years after maintenance Contract 6 those reaches will be maintained under a new 5-year cycle (Contract 11). Following this sequence, contract 6 will be required four additional times over the 50 year project life after Contract 6 is completed.

asibility Level Cost	Estimate								
		es & Line Items	-	2015					
Houma, Terrebonne Parish, Louisiana Costs - Ramos - Aug 2015									
Maintenance Cost Adjacent Disposal -18ft MLG Mile 26 2 to 24 0 8 Mile 24 to 22 0 8 Mile 22 0 to 20 0 8 Mile 11 0 to 0 0 to 18 East Elevation									
Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & Mile 11.0 to 0.0 to -18 Foot Elevation w/ 2 and 3 Feet of Advanced									
		Multiple Dian							
Channel M		Multiple Disp							
Channel M	aintenance -	2 and 5 year f Estimated	requency	Estimated					
	Units	Quantity	Unit Price	Cost					
	LS	1	\$871,046	\$871,046					
le 20.0) 88; 1v/2h side									
	CY	101,600	\$5.39	\$547,502					
bland Site 1 ut Canal. No aintenance									
and Crewboat	MO	0.29	\$505,000	\$146,450					
	CY	101,600	\$5.90	\$599,521					
bland Site 3 riction. Dike									
and Crewboat	МО	0.32	\$505,000	\$161,600					
	CY	101,600	\$8.00	\$812,800					
hin designated . Material to be minimum 1,270)-ft wide rance of the Contractors AVD88 (See									
and Crewboat	MO	0.30	\$505,000	\$151,500					
	LF	2,450	\$60.00	\$147,000					
t	t	t LF	t LF 2,450	t LF 2,450 \$60.00					

Droiget	Feasibility Leve		on & Lina Hama	Dulo Auro	0015				
Project:	Houma Navigation Canal Deepening		es & Line Items	-	2015				
	Houma, Terrebonne Parish, Louisiana	Costs - I	Ramos - Aug 20)15					
	Maintenance Cost Adjacent Disposal -18ft MLG								
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.	0 & Mile 11.0 to 0.0	0 to -18 Foot Ele	evation					
	w/ 2 and 3 Feet of Advanced								
	Maintenance Included		Multiple Disp	osal Sites					
	Contract No. 1 Char	nel Maintenance							
			Estimated		Estimated				
ltem	Description	Units		Unit Price					
			Quantity		Cost				
1G	HNC Mile 22.0 to HNC Mile 20.0	CY	101,600	\$5.71	\$580,014				
411	Material to be placed unconfined within Wetland Site 16 opposite and adjacent to HNC Mile 21.4 along the west bank of the HNC WW. The discharge will be positioned to the west and placed a minimum 1,550 to beyond the bank rim or erosion control structure at the front of the disposal area. Elevation of materia placed within the open water area(s) NTE +3.0' NAVD 88 (See dwgs for details).	e it al	0.20	¢505.000	\$151 500				
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboa	at MO	0.30	\$505,000	\$151,500				
		0 1/		A	• • • • • • • • •				
1G	HNC Mile 22.0 to HNC Mile 20.0	CY	101,600	\$7.92	\$804,997				
	Material to be placed semi-confined within Wetland Site 15 between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of m shall begin in the north east corner, and to proceed outward in a west-southwesterly direction. Earthen closures will be required along the west side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details								
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboa	at MO	0.41	\$505,000	\$207,050				
11	Earthen Retention Dike Refurbishment	LF	4,800	\$60.00	\$288,000				
1J	Mobilization and Demobilization	LS	1	\$857,241	\$857,241				
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width								
1K	HNC Mile 11 to HNC Mile 8.0	CY	360,800	\$3.47	\$1,251,54				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimun 1000' west of the channel centerline (See dwgs for details).	1							
1L	Surveying, Shore Crew, Pipeline Crew, and Crewboa	at MO	0.47	\$505,000	\$237,350				

Project	Feasibility Level Cost Houma Navigation Canal Deepening		es & Line Items -	Puls Aug	2015				
- roject:				•	2010				
	Houma, Terrebonne Parish, Louisiana Costs - Ramos - Aug 2015								
	Maintenance Cost Adjacent Disposal -18ft MLG								
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & Mile 11.0 to 0.0 to -18 Foot Elevation								
	w/ 2 and 3 Feet of Advanced								
	Maintenance Included		Multiple Dispo						
	Contract No. 1 Channel M	aintenance	- 2 and 5 year fr	equency					
ltem	Description	Units	Estimated	Unit Price	Estimated				
		•	Quantity	•	Cost				
1M	HNC Mile 8.0 to HNC Mile 6.0	CY	248,800	\$3.81	\$949,023				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).								
1N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550				
10	HNC Mile 6.0 to HNC Mile 4.0	CY	257,900	\$3.67	\$947,421				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
1P	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550				
1Q	HNC Mile 4.0 to HNC Mile 2.0	CY	257,900	\$3.67	\$947,421				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
1R	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550				
1S	HNC Mile 2.0 to HNC Mile 0.0	CY	257,900	\$3.67	\$947,421				
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).								
1T	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550				
				Total:	\$10,372,13				
	Contract Duration	DY	82						
	Notes:								
	Channel Quantities do not reflect overdepth.								
	Dredg	ing:	1,688,100 CY						
	Survey/Crew/Bo	oat:	2.7 MO						

	Feasibility Level Cost	Estimate			
Project:	Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug 2	2015
	Houma, Terrebonne Parish, Louisiana	Costs - R	amos - Aug 20	15	
	Maintenance Cost Adjacent Disposal -18ft MLG				
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Adva	nced Main	tenance Includ	ed	
	Contract No. 2	Channel	Maintenance	- 2 year freq	uency
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
2A	Mobilization and Demobilization	LS	1	\$1,060,480	\$1,060,480
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
2B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$9.28	\$4,640,000
	Material to be placed at the SPD Mile -1.7 and Mile -2.5				
2C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.77	\$645,000	\$1,141,650
				Total:	\$6,842,130
	Contract Duration	DY	53		
	Notes:				
	Channel Quantities do not reflect overdepth.				
	Dredging	:	500,000 CY		
	Survey/Crew/Boat	:	1.8 MO		

	Feasibility Level Cost Estimate								
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana		ies & Line Iter Ramos - Aug	ms - Puls - Au 2015	g 2015				
	Maintenance Cost Adjacent Disposal -18ft MLG Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advanc Contract No. 3			d ce - 2 year fr e	auencv				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost				
ЗA	Mobilization and Demobilization	LS	1	\$857,241	\$857,241				
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width								
ЗB	HNC Mile 11 to HNC Mile 8.0	CY	360,800	\$3.47	\$1,251,543				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).								
3C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.47	\$505,000	\$237,350				
3D	HNC Mile 8.0 to HNC Mile 6.0	CY	248,800	\$3.81	\$949,023				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).								
3E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550				
3F	HNC Mile 6.0 to HNC Mile 4.0	CY	257,900	\$3.67	\$947,421				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
3G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550				
ЗН	HNC Mile 4.0 to HNC Mile 2.0	CY	257,900	\$3.67	\$947,421				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
31	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550				
ЗJ	HNC Mile 2.0 to HNC Mile 0.0	CY	257,900	\$3.67	\$947,421				
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).								

Feasibility Level Cost Estimate								
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015						
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015						
	Maintenance Cost Adjacent Disposal -18ft MLG							
	Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advanced							
	Contract No. 3							
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
ЗK	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550			
				Total:	\$6,763,621			
	Contract Duration	DY	51					
	Note:							
	Channel Quantities do not reflect overdepth.							
	Dredging:		1,383,300 CY					
	5.5		. ,					
	Survey/Crew/Boat:		1.7 MO					

	Feasibility Level Cost	Estimate			
Project	: Houma Navigation Canal Deepening		s & Line Items	•	2015
	Houma, Terrebonne Parish, Louisiana	Costs - R	amos - Aug 20	015	
	Maintenance Cost Adjacent Disposal -18ft MLG				
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Adva	anced Maint	enance Includ	ed	
	Contract No. 4	Channel	Maintenance	- 2 year freq	uency
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
4A	Mobilization and Demobilization	LS	1	\$1,060,480	\$1,060,480
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
4B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$9.28	\$4,640,00
	Material to be placed at the SPD Mile -1.7 and Mile -2.5				
4C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	1.77	\$645,000	\$1,141,65
				Total:	\$6,842,13
	Contract Duration	DY	53		
	Notes:				
	Channel Quantities do not reflect overdepth.				
	Dredging	:	500,000 CY		
	Survey/Crew/Boa	t:	1.8 MO		

Vavigation Canal Deepening Terrebonne Parish, Louisiana ance Cost Adjacent Disposal -18ft MLG to 0.0 to -18 Foot Elevation w/ 3 Feet of Advar No. 5 Description ion and Demobilization and Disposal (Mile 11 to Mile 0.0) to be excavated to -21' NAVD88; 1v/2h side / 150' bottom width e 11 to HNC Mile 8.0 to be placed unconfined at the single point e location opposite HNC Mile 8.8 a minimum st of the channel centerline (See dwgs for g, Shore Crew, Pipeline Crew, and Crewboat e 8.0 to HNC Mile 6.0 to be placed unconfined at the single point e location opposite HNC Mile 7.0 a minimum st of the channel centerline (See dwgs for	- Costs nced Mainter	Ramos - Aug nance Include		-
ance Cost Adjacent Disposal -18ft MLG to 0.0 to -18 Foot Elevation w/ 3 Feet of Advar No. 5 Description ion and Demobilization and Disposal (Mile 11 to Mile 0.0) to be excavated to -21' NAVD88; 1v/2h side / 150' bottom width e 11 to HNC Mile 8.0 to be placed unconfined at the single point e location opposite HNC Mile 8.8 a minimum st of the channel centerline (See dwgs for g, Shore Crew, Pipeline Crew, and Crewboat e 8.0 to HNC Mile 6.0 to be placed unconfined at the single point e location opposite HNC Mile 7.0 a minimum	nced Mainter Channe Units LS CY MO	ance Include <u>el Maintenan</u> Estimated Quantity 1 360,800 0.47	d <u>ce - 2 year fre</u> <u>Unit Price</u> \$857,241 \$3.47 \$3.47	Estimated Cost \$857,241 \$1,251,543 \$237,350
Description Description Description Description Description ion and Demobilization and Disposal (Mile 11 to Mile 0.0) to be excavated to -21' NAVD88; 1v/2h side / 150' bottom width a 11 to HNC Mile 8.0 to be placed unconfined at the single point e location opposite HNC Mile 8.8 a minimum st of the channel centerline (See dwgs for g, Shore Crew, Pipeline Crew, and Crewboat a 8.0 to HNC Mile 6.0 to be placed unconfined at the single point e location opposite HNC Mile 7.0 a minimum	Channe Units LS CY MO	el Maintenan Estimated Quantity 1 360,800 0.47	ce - 2 year fre Unit Price \$857,241 \$3.47 \$505,000	Estimated Cost \$857,241 \$1,251,543 \$237,350
No. 5 Description ion and Demobilization and Disposal (Mile 11 to Mile 0.0) to be excavated to -21' NAVD88; 1v/2h side / 150' bottom width e 11 to HNC Mile 8.0 to be placed unconfined at the single point e location opposite HNC Mile 8.8 a minimum st of the channel centerline (See dwgs for g, Shore Crew, Pipeline Crew, and Crewboat e 8.0 to HNC Mile 6.0 to be placed unconfined at the single point e location opposite HNC Mile 7.0 a minimum	Channe Units LS CY MO	el Maintenan Estimated Quantity 1 360,800 0.47	ce - 2 year fre Unit Price \$857,241 \$3.47 \$505,000	Estimated Cost \$857,241 \$1,251,543 \$237,350
Description ion and Demobilization and Disposal (Mile 11 to Mile 0.0) to be excavated to -21' NAVD88; 1v/2h side / 150' bottom width e 11 to HNC Mile 8.0 to be placed unconfined at the single point e location opposite HNC Mile 8.8 a minimum st of the channel centerline (See dwgs for g, Shore Crew, Pipeline Crew, and Crewboat e 8.0 to HNC Mile 6.0 to be placed unconfined at the single point e location opposite HNC Mile 7.0 a minimum	Units LS CY MO	Estimated Quantity 1 360,800 0.47	Unit Price \$857,241 \$3.47 \$505,000	Estimated Cost \$857,241 \$1,251,543 \$237,350
ion and Demobilization and Disposal (Mile 11 to Mile 0.0) to be excavated to -21' NAVD88; 1v/2h side / 150' bottom width e 11 to HNC Mile 8.0 to be placed unconfined at the single point e location opposite HNC Mile 8.8 a minimum st of the channel centerline (See dwgs for g, Shore Crew, Pipeline Crew, and Crewboat e 8.0 to HNC Mile 6.0 to be placed unconfined at the single point e location opposite HNC Mile 7.0 a minimum	LS CY MO	1 360,800 0.47	\$857,241 \$3.47 \$505,000	\$857,241 \$1,251,543 \$237,350
and Disposal (Mile 11 to Mile 0.0) to be excavated to -21' NAVD88; 1v/2h side / 150' bottom width e 11 to HNC Mile 8.0 to be placed unconfined at the single point e location opposite HNC Mile 8.8 a minimum st of the channel centerline (See dwgs for g, Shore Crew, Pipeline Crew, and Crewboat e 8.0 to HNC Mile 6.0 to be placed unconfined at the single point e location opposite HNC Mile 7.0 a minimum	CY	360,800 0.47	\$3.47 \$505,000	\$1,251,543 \$237,350
to be excavated to -21' NAVD88; 1v/2h side / 150' bottom width e 11 to HNC Mile 8.0 to be placed unconfined at the single point e location opposite HNC Mile 8.8 a minimum st of the channel centerline (See dwgs for g, Shore Crew, Pipeline Crew, and Crewboat e 8.0 to HNC Mile 6.0 to be placed unconfined at the single point e location opposite HNC Mile 7.0 a minimum	МО	0.47	\$505,000	\$237,350
to be placed unconfined at the single point e location opposite HNC Mile 8.8 a minimum st of the channel centerline (See dwgs for g, Shore Crew, Pipeline Crew, and Crewboat e 8.0 to HNC Mile 6.0 to be placed unconfined at the single point e location opposite HNC Mile 7.0 a minimum	МО	0.47	\$505,000	\$237,350
e location opposite HNC Mile 8.8 a minimum st of the channel centerline (See dwgs for g, Shore Crew, Pipeline Crew, and Crewboat e 8.0 to HNC Mile 6.0 to be placed unconfined at the single point e location opposite HNC Mile 7.0 a minimum				
e 8.0 to HNC Mile 6.0 to be placed unconfined at the single point e location opposite HNC Mile 7.0 a minimum				
to be placed unconfined at the single point e location opposite HNC Mile 7.0 a minimum	CY	248,800	\$3.81	\$949,023
e location opposite HNC Mile 7.0 a minimum				
g, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550
e 6.0 to HNC Mile 4.0	CY	257,900	\$3.67	\$947,421
to be placed unconfined at the single point e location opposite HNC Mile 5.0 a minimum t west of the channel centerline (See dwgs s).				
g, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550
e 4.0 to HNC Mile 2.0	CY	257,900	\$3.67	\$947,421
e location opposite HNC Mile 3.0 a minimum t west of the channel centerline (See dwgs				
g, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550
e 2.0 to HNC Mile 0.0	CY	257,900	\$3.67	\$947,421
	to be placed unconfined at the single point e location opposite HNC Mile 3.0 a minimum it west of the channel centerline (See dwgs s). g, Shore Crew, Pipeline Crew, and Crewboat e 2.0 to HNC Mile 0.0 to be placed at the single point discharge opposie HNC Mile 1.0 a minimum 1000' west	to be placed unconfined at the single point e location opposite HNC Mile 3.0 a minimum it west of the channel centerline (See dwgs s). g, Shore Crew, Pipeline Crew, and Crewboat MO e 2.0 to HNC Mile 0.0 CY to be placed at the single point discharge	to be placed unconfined at the single point e location opposite HNC Mile 3.0 a minimum it west of the channel centerline (See dwgs s). g, Shore Crew, Pipeline Crew, and Crewboat MO 0.31 e 2.0 to HNC Mile 0.0 CY 257,900 to be placed at the single point discharge opposie HNC Mile 1.0 a minimum 1000' west	to be placed unconfined at the single point e location opposite HNC Mile 3.0 a minimum it west of the channel centerline (See dwgs s). g, Shore Crew, Pipeline Crew, and Crewboat MO 0.31 \$505,000 e 2.0 to HNC Mile 0.0 CY 257,900 \$3.67 to be placed at the single point discharge opposie HNC Mile 1.0 a minimum 1000' west

Feasibility Level Cost Estimate								
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015						
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015						
	Maintenance Cost Adjacent Disposal -18ft MLG							
	Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advance	dvanced Maintenance Included						
	Contract No. 5	Chanı	nel Maintenanc	e - 2 year fre	quency			
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
5K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550			
				Total:	\$6,763,621			
	Contract Duration	DY	51					
	Note:							
	Channel Quantities do not reflect overdepth.							
	Dredging	:	1,383,300 CY					
	Survey/Crew/Boat	:	1.7 MO					

Project:	Feasibility Level Cost Estimate roject: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Quantities & Line Items - Puls - Aug 2015 Maintenance Cost Adjacent Disposal -18ft MLG Multiple Disposal Sites Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Feet of Advanced Maintenance Included Contract No. 6 Channel Maintenance - 2, 5, and 10 year frequency					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
6A	Mobilization and Demobolization	LS	1	\$939,307	\$939,307	
	Dredging and Disposal (Mile 36.3 to Mile 20.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width					
6B	HNC Mile 36.3 to HNC Mile 34.0	CY	101,600	\$5.39	\$547,502	
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.					
6C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.29	\$505,000	\$146,450	
6B	HNC Mile 36.3 to HNC Mile 34.0	CY	101,600	\$5.90	\$599,521	
	Material to be placed within confined upland Site 3 opposite HNC Mile 35.5 No height restriction. Dike construction/maintenance not required.					
6C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.32	\$505,000	\$161,600	
6D	NHC Mile 34.0 to HNC Mile 32.0	CY	203,600	\$4.25	\$865,219	
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).					
6E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.45	\$505,000	\$227,250	
6F	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000	

Project:	Houma Navigation Canal Deepening	Quantit	ties & Line Ite	ms - Puls - Ai	Ja 2015
	Houma, Terrebonne Parish, Louisiana		Ramos - Aug		
	Maintenance Cost Adjacent Disposal -18ft MLG		Multiple Disp		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 F				ed be
	Contract No. 6 Channel Maintenance -				~~
			Estimate		
Item	Description	Units	Estimated Quantity	Unit Price	Cost
6G	HNC Mile 32.0 to HNC Mile 29.5	CY	153,700	\$5.84	\$897,116
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
6H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.47	\$505,000	\$237,350
61	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000
6J	HNC Mile 29.5 to HNC Mile 28.0	CY	153,700	\$4.17	\$641,359
	Material to be placed unconfined within designated Wetland Site 12B opposite approximate HNC Mile 27.0. Mtl. shall be discharged within the open water areas, a minimum 4,500 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.32	\$505,000	\$161,600
6L	Earthen Retention Dike Refurbishment	LF	1,600	\$60.00	\$96,000
6J	HNC Mile 29.5 to HNC Mile 28.0	CY	153,700	\$3.78	\$580,371
	Material to be placed unconfined within designated Wetland Site 12 opposite approximate HNC Mile 27.0. Mtl. shall be discharged within the open water areas, a minimum 1,950 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.29	\$505,000	\$146,450
6L	Earthen Retention Dike Refurbishment	LF	1,800	\$60.00	\$108,000

Project:	Houma Navigation Canal Deepening		ties & Line Iter		ıg 2015
	Houma, Terrebonne Parish, Louisiana Maintenance Cost Adjacent Disposal -18ft MLG		· Ramos - Aug Multiple Disp		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Fee				he
	Contract No. 6 Channel Maintenance - 2				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
6M	HNC Mile 28.0 to HNC Mile 26.0	CY	203,600	\$3.37	\$685,399
	Material to be placed unconfined within designated Wetland Site A-07-A opposite approximate HNC Mile 26.5. Mtl. shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.36	\$505,000	\$181,800
60	Earthen Retention Dike Refurbishment	LF	9,300	\$60.00	\$558,000
6P	HNC Mile 27.6 to HNC Mile 27.4 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	1,900	\$61.46	\$116,774
6Q	Mechanical Dredging Flotation Channel Excavation Mile 27.6 to Mile 27.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,260	\$72.92	\$91,879
6R	HNC Mile 26.4 to HNC Mile 25.9 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	5,320	\$61.46	\$326,967
6S	Mechanical Dredging Flotation Channel Excavation Mile 26.4 to Mile 25.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	2,840	\$72.92	\$207,093
6T	HNC Mile 26.0 to HNC Mile 24.0	CY	203,600	\$3.92	\$797,460
	Material to be placed unconfined within designated Wetland Site A-07-A opposite approximate HNC Mile 26.5. Mtl. shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.40	\$505,000	\$202,000
6V	Earthen Retention Dike Refurbishment	LF	13,000	\$60.00	\$780,000

Project:	Houma Navigation Canal Deepening	ms - Puls - Al	ug 2015		
	Houma, Terrebonne Parish, Louisiana		Ramos - Aug		
	Maintenance Cost Adjacent Disposal -18ft MLG		Multiple Disp		a al
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Fee Contract No. 6 Channel Maintenance - 2				eu
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
				* • ••	*
6T	HNC Mile 26.0 to HNC Mile 24.0	CY	203,600	\$3.62	\$737,521
	Material to be placed unconfined within designated Wetland Site 14A opposite approximate HNC Mile 27. Mtl. shall be discharged within the open water areas, a minimum 3,360 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.37	\$505,000	\$186,850
6V	Earthen Retention Dike Refurbishment	LF	9,000	\$60.00	\$540,000
6W	HNC Mile 25.9 to HNC Mile 24.1 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	21,300	\$61.46	\$1,309,098
6X	Mechanical Dredging Flotation Channel Excavation Mile 25.9 to Mile 24.1 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324
6Y	HNC Mile 24.0 to HNC Mile 22.0	CY	101,600	\$8.00	\$812,800
	Material to be placed semi-confined within Wetland Site 15A between HNC Mile 24.0 and 22.9 west of Site 15 'beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the south east corner, and to proceed outward in a westerly direction. Earthen closures will be required along the east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500
6AA	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000
6BB	HNC Mile 23.7 to HNC Mile 22.4 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	11,820	\$61.46	\$726,457

Project:	Feasibility Level Cost Estim Houma Navigation Canal Deepening		ties & Line Iter	ms - Puls - Aı	ıg 2015	
	Houma, Terrebonne Parish, Louisiana	Costs -	Ramos - Aug	2015	•	
	Maintenance Cost Adjacent Disposal -18ft MLG		Multiple Disp			
Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Feet of Advanced Maintenance Include						
	Contract No. 6 Channel Maintenance - 2	2, 5, and		lency		
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
	Mechanical Dredging Flotation Channel Excavation Mile 23.7 to Mile 22.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897	
6DD	HNC Mile 22.2 to HNC Mile 22.1 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	1,960	\$61.46	\$120,462	
	Mechanical Dredging Flotation Channel Excavation Mile 22.2 to Mile 22.1. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	730	\$72.92	\$53,232	
	HNC Mile 22.0 to HNC Mile 20.0 Material to be placed unconfined within Wetland Site	CY	101,600	\$5.71	\$580,014	
	16 opposite and adjacent to HNC Mile 21.4 along the west bank of the HNC WW. The discharge will be positioned to the west and placed a minimum 1,550 ft beyond the bank rim or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) NTE +3.0' NAVD 88 (See dwgs for details).					
6GG	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500	
6FF	HNC Mile 22.0 to HNC Mile 20.0	CY	101,600	\$7.92	\$804,997	
	Material to be placed semi-confined within Wetland Site 15A between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a west-southwesterly direction. Earthen closures will be required along the west side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).					
6GG	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.41	\$505,000	\$207,050	
	Earthen Retention Dike Re-fubishment	LF	4,800	\$60.00	\$288,000	

Houma Navigation Canal Deepening	Quant	ities & Line Iter	ns - Puls - Aı	ıg 2015
Houma, Terrebonne Parish, Louisiana		•		
				ed
Contract No. 6 Channel Maintenance - 2	2, 5, and		ency	
Description	Units		Unit Price	Estimated
		Quantity		Cost
Mobilization and Demobilization	LS	1	\$1,060,480	\$1,060,480
Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -19' NAVD88; 1v/2h side slopes by 300' bottom width				
Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$9.28	\$4,640,000
Material to be placed at the SPD Mile -1.7 and Mile -2.5				
Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	1.77	\$645,000	\$1,141,650
			Total:	\$22,020,641
Contract Duration	DY	144		
Notes:				
Channel Quantities do not reflect overdepth.				
Dredging	:	1,723,000 CY		
Rock	:	42,300 TON		
Flotation Channe	:	21,070 LF		
Earthen Dike	:	31,850 LF		
	Maintenance Cost Adjacent Disposal -18ft MLG Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Fer Contract No. 6 Channel Maintenance - 2 Description Mobilization and Demobilization Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -19' NAVD88; 1v/2h side slopes by 300' bottom width Dredging and Disposal Mile 0.0 to Mile (-3.5) Material to be placed at the SPD Mile -1.7 and Mile -2.5 Surveying, Shore Crew, Pipeline Crew, and Crewboat Contract Duration Notes: Channel Quantities do not reflect overdepth. Dredging Rock Flotation Channel	Maintenance Cost Adjacent Disposal -18ft MLG Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Feet of Adv Contract No. 6 Channel Maintenance - 2, 5, and Description Units Mobilization and Demobilization LS Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -19' NAVD88; 1v/2h side slopes by 300' bottom width Dredging and Disposal Mile 0.0 to Mile (-3.5) CY Material to be placed at the SPD Mile -1.7 and Mile -2.5 Surveying, Shore Crew, Pipeline Crew, and Crewboat MO Contract Duration DY Notes: DY	Maintenance Cost Adjacent Disposal -18ft MLG Multiple Disposal Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Feet of Advanced Mainter Channel Maintenance - 2, 5, and 10 year freque Description Units Estimated Quantity Mobilization and Demobilization LS 1 Dredging and Disposal Mile 0.0 to Mile (-3.5) CY 500,000 Channel to be excavated to -19' NAVD88; 1v/2h side slopes by 300' bottom width CY 500,000 Dredging and Disposal Mile 0.0 to Mile (-3.5) CY 500,000 Material to be placed at the SPD Mile -1.7 and Mile -2.5 CY 500,000 Surveying, Shore Crew, Pipeline Crew, and Crewboat MO 1.77 Contract Duration DY 144 Notes: Channel Quantities do not reflect overdepth. Dredging: 1,723,000 CY Rock: 42,300 TON Flotation Channel: 21,070 LF	Maintenance Cost Adjacent Disposal -18ft MLG Multiple Disposal Sites Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Feet of Advanced Maintenance Include Contract No.6 Channel Maintenance - 2, 5, and 10 year frequency Description Units Estimated Quantity Unit Price Mobilization and Demobilization LS 1 \$1,060,480 Dredging and Disposal Mile 0.0 to Mile (-3.5) CY 500,000 \$9.28 Material to be excavated to -19' NAVD88; 1v/2h side slopes by 300' bottom width CY 500,000 \$9.28 Material to be placed at the SPD Mile -1.7 and Mile -2.5 MO 1.77 \$645,000 Surveying, Shore Crew, Pipeline Crew, and Crewboat MO 1.77 \$645,000 Contract Duration DY 144 Notes: Channel Quantities do not reflect overdepth. Dredging: 1,723,000 CY Rock: 42,300 TON Flotation Channel: 21,070 LF Elevation Channel: 21,070 LF Elevation Channel: 21,070 LF

Survey/Crew/Boat:

4.8 MO

Feasibility Level Cost Estimate						
Project	: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Adjacent Disposal -18ft MLG Mile 22.0 to 11.0 & Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Contract No. 7 Channel Maintenance	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015 Multiple Disposal Sites 3 Feet of Advanced Maintenance Included enance - 2 and 10 year frequency				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
7A	Mobilization and Demobolization Dredging and Disposal (Mile 20.0 to Mile 11.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width	LS	1	\$939,307	\$939,307	
7B	HNC Mile 20.0 to HNC Mile 18.0 Material to be placed unconfined within Wetland Site 19C oppsite and adjacent to HNC Mile 19.3 along the east bank of the HNC WW. The discharge will be positioned to the east and placed a minimum 500-ft beyond the bank rim/ridge or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) of Site 19C NTE +3.0' NAVD88 (See dwgs for details).	CY	203,600	\$3.10	\$630,671	
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.33	\$505,000	\$166,650	
7B	HNC Mile 20.0 to HNC Mile 18.0 Material to be placed semi-confined within the open water portions of Wetland Site 19D between HNC Mile 20.2 and 19.6, located beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a westerly direction a minimum distance of 12,350 ft beyond the channel center linel Earthen closures will be required along the south side of the disposal area adjacent to the open water A 200-foot wide construction access corridor along theentrance of the waterway will be provided for the Contractors at the northeast and south east portions of the disposal site. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).	CY	203,600	\$3.21	\$654,126	
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700	
7D	Earthen Retention Dike Re-fubishment	LF	1,300	\$60.00	\$78,000	
7E	HNC Mile 19.2 to HNC Mile 17.5 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	19,900	\$61.46	\$1,223,054	
7F	Mechanical Dredging Flotation Channel Excavation Mile 19.2 to Mile 17.5 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,120	\$72.92	\$592,110	

	Feasibility Level Cost Estim	ate				
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Adjacent Disposal -18ft MLG Mile 22.0 to 11.0 & Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Contract No. 7 Channel Maintenance	Quantities & Line Items - Puls - AL Costs - Ramos - Aug 2015 Multiple Disposal Sites w/ 3 Feet of Advanced Maintenance Included aintenance - 2 and 10 year frequency				
Itom		Units	Estimated	Unit Price	Estimated	
Item	Description	Units	Quantity	Unit Price	Cost	
7G	HNC Mile 19.1 to HNC Mile 17.8 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	3,640	\$61.46	\$223,714	
7H	Mechanical Dredging Flotation Channel Excavation Mile 19.1 to Mile 17.8 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527	
71	HNC Mile 18.0 HNC Mile 16.0	CY	203,600	\$3.10	\$630,671	
	Material to be placed unconfined within Wetland Site 20C oppsoite HNC Mile 16.8 along the west bank of the HNC WW. A construction access corriodr, 200 feet in width, will be provided for the Contractors use at the intersection of Four Pt. Bayou with the HNC WW. The intial buildup shall occur in the east corner of the DA and to proceed outward in a westerly direction. Elevation of Mtl. NTE +3.0' NAVD88 (See dwgs for details).					
7J	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.33	\$505,000	\$166,650	
71	HNC Mile 18.0 HNC Mile 16.0	CY	203,600	\$3.51	\$714,066	
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).					
7J	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.37	\$505,000	\$186,850	
7K	Earthen Retention Dike Re-fubishment	LF	2,000	\$60.00	\$120,000	
7L	HNC Mile 17.7 to HNC Mile 16.7 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	13,480	\$61.46	\$828,481	
7M	Mechanical Dredging Flotation Channel Excavation Mile 17.7 to Mile 16.7 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,480	\$72.92	\$399,602	
7N	HNC Mile 16.9 to HNC Mile 13.3 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	42,600	\$61.46	\$2,618,196	

	Feasibility Level Cost Estimate						
Project:	Houma Navigation Canal Deepening			ms - Puls - Aı	ıg 2015		
	Houma, Terrebonne Parish, Louisiana Maintenance Cost Adjacent Disposal -18ft MLG		Ramos - Aug	•	1		
		cent Disposal -18ft MLG Multiple Disposal Sites 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advanced Maintenance Included					
	Contract No. 7 Channel Maintenance						
Itom		Units	Estimated	Unit Price	Estimated		
Item	Description	Units	Quantity	Unit Price	Cost		
70	Mechanical Dredging Flotation Channel Excavation Mile 16.9 to Mile 13.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	19,200	\$72.92	\$1,400,064		
7P	HNC Mile 16.0 to HNC Mile 13.0	CY	307,300	\$3.06	\$940,092		
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).						
7Q	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.49	\$505,000	\$247,450		
7R	Earthen Retention Dike Re-fubishment	LF	3,850	\$60.00	\$231,000		
7S	HNC Mile 15.6 to HNC Mile 14.0 (West Bank) Rock Retention Structure Refurbishment (Dk ht. +6' NAVD88) Stone quantity 20% of construction quantity	ΤN	18,900	\$61.46	\$1,161,594		
7T	Mechanical Dredging Flotation Channel Excavation Mile 15.6 to Mile 14.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,650	\$72.92	\$630,758		
7U	HNC Mile 13.2 to HNC Mile 11.9 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +6' NAVD88) Stone quantity 20% of construction quantity	TN	15,180	\$61.46	\$932,963		
7V	Mechanical Dredging Flotation Channel Excavation Mile 13.1 to Mile 11.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,340	\$72.92	\$389,393		
7W	HNC Mile 13.0 to HNC Mile 11.0	CY	236,000	\$2.75	\$649,472		
	Material to be placed within Wetland Site 24 opposite HNC Mile 12.0 along the west bank of the HNC WW. A construction access corrdior, 200 ft in width, will be provided for the Contractors use at the entrance of the WW. The initial buildup will occur in the east corner of the DA and proceed outward in a west, south-westerly direction. Elevation of material placed within the open water area(s) NTE +3.0' NAVD88 (See dwgs for details).						
7X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700		

Feasibility Level Cost Estimate						
Project	Houma Navigation Canal Deepening			ms - Puls - Aı	ıg 2015	
	Houma, Terrebonne Parish, Louisiana		Ramos - Aug			
	Maintenance Cost Adjacent Disposal -18ft MLG		Multiple Disp			
	Mile 22.0 to 11.0 & Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet Contract No. 7 Channel Maintenance					
	Contract No. 7 Channel Maintenance	e - z anu	Estimated	uency	Estimated	
ltem	Description	Units	Quantity	Unit Price	Cost	
			Quantity		0031	
7Y	Earthen Retention Dike Re-fubishment	LF	4,100	\$60.00	\$246,000	
7W	HNC Mile 13.0 to HNC Mile 11.0	CY	236,000	\$3.10	\$731,034	
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).					
7X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.38	\$505,000	\$191,900	
		me	0.00	<i>4000,000</i>	φ101,000	
7Y	Earthen Retention Dike Re-fubishment	LF	3,850	\$60.00	\$231,000	
7Z	HNC Mile 12.7 to HNC Mile 12.3 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	5,420	\$61.46	\$333,113	
7AA	Mechanical Dredging Flotation Channel Excavation Mile 12.6 to Mile 12.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527	
7BB	Mobilization and Demobilization	LS	1	\$857,241	\$857,241	
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width					
7CC	HNC Mile 11 to HNC Mile 8.0	CY	360,800	\$3.47	\$1,251,543	
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).					
7DD	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.47	\$505,000	\$237,350	
7EE	HNC Mile 8.0 to HNC Mile 6.0	CY	248,800	\$3.81	\$949,023	
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).					
7FF	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550	

	Feasibility Level Cost Estima								
Project:	Houma Navigation Canal Deepening		ities & Line Item		ıg 2015				
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015							
	Maintenance Cost Adjacent Disposal -18ft MLG		Multiple Dispo						
	Mile 22.0 to 11.0 & Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of								
	Contract No. 7 Channel Maintenance - 2 and 10 year frequency								
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost				
7GG	HNC Mile 6.0 to HNC Mile 4.0	CY	257,900	\$3.67	\$947,421				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
7HH	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550				
711	HNC Mile 4.0 to HNC Mile 2.0	CY	257,900	\$3.67	\$947,421				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
7JJ	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550				
7KK	HNC Mile 2.0 to HNC Mile 0.0	CY	257,900	\$3.67	\$947,421				
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).								
7LL	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550				
				Total:	\$23,116,241				
	Contract Duration	DY	99						
	Note:								
	Channel Quantities do not reflect overdepth.								
	Dredging:		2,333,800 CY						
	Rock:		119,120 TON						
	Flotation Channel:		50,370 LF						
	Earthen Dike:		9,700 LF						

Survey/Crew/Boat: 3.3 MO

	Feasibility Level Cost				
Project	: Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug 2	2015
	Houma, Terrebonne Parish, Louisiana	Costs - R	amos - Aug 20	015	
	Maintenance Cost Adjacent Disposal -18ft MLG				
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Adva	anced Maint	tenance Includ	led	
	Contract No. 8	Channel	Maintenance	- 2 year freq	uency
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
8A	Mobilization and Demobilization	LS	1	\$1,060,480	\$1,060,48
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
8B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$9.28	\$4,640,00
	Material to be placed at the SPD Mile -1.7 and Mile -2.5				
8C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.8	\$645,000	\$1,141,65
				Total:	\$6,842,13
	Contract Duration	DY	53		
	Notes:				
	Channel Quantities do not reflect overdepth.				
	Dredging	:	500,000 CY		
	Survey/Crew/Boat	:	1.8 MO		

	Feasibility Level Cost Estimate							
Project:	Houma Navigation Canal Deepening			ms - Puls - A	ug 2015			
	Houma, Terrebonne Parish, Louisiana Maintenance Cost Adjacent Disposal -18ft MLG	Costs -	Ramos - Aug	g 2015				
	Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advan	ced Mainte	enance Includ	bed				
	Contract No. 9			nce - 2 year f	requency			
Item	Description	Units	Estimated	Unit Price	Estimated			
	2000.1910.1	•	Quantity		Cost			
9A	Mobilization and Demobilization	LS	1	\$857,241	\$857,241			
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width							
9B	HNC Mile 11 to HNC Mile 8.0	CY	360,800	\$3.47	\$1,251,543			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).							
9C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.47	\$505,000	\$237,350			
9D	HNC Mile 8.0 to HNC Mile 6.0	CY	248,800	\$3.81	\$949,023			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).							
9E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550			
9F	HNC Mile 6.0 to HNC Mile 4.0	CY	257,900	\$3.67	\$947,421			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).							
9G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550			
9H	HNC Mile 4.0 to HNC Mile 2.0	CY	257,900	\$3.67	\$947,421			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).							
91	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550			
9J	HNC Mile 2.0 to HNC Mile 0.0	CY	257,900	\$3.67	\$947,421			
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).							

	Feasibility Level Cost Es	timate			
Project:	Houma Navigation Canal Deepening	Quanti	ities & Line Iten	ns - Puls - Al	ug 2015
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015			
	Maintenance Cost Adjacent Disposal -18ft MLG				
	Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advance				
	Contract No. 9	Chann	el Maintenanc	e - 2 year fi	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
9K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550
				Total:	\$6,763,621
	Contract Duration	DY	51		
	Note:				
	Channel Quantities do not reflect overdepth.				
	Dredging	:	1,383,301 CY		
	Survey/Crew/Boat	:	1.7 MO		

	Feasibility Level Cost	Estimate			
Project	: Houma Navigation Canal Deepening		s & Line Items	•	2015
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	amos - Aug 20	015	
	Maintenance Cost Adjacent Disposal -18ft MLG				
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Adva	anced Maint	enance Includ	ed	
	Contract No. 10	Channel	Maintenance	- 2 year freq	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
10A	Mobilization and Demobilization	LS	1	\$1,060,480	\$1,060,480
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
10B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$9.28	\$4,640,000
	Material to be placed at the SPD Mile -1.7 and Mile -2.5				
10C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.8	\$645,000	\$1,141,65
				Total:	\$6,842,13
	Contract Duration	DY	53		
	Notes:				
	Channel Quantities do not reflect overdepth.				
	Dredging	:	500,000 CY		
	Survey/Crew/Boa	::	1.8 MO		

Reach	18 foo	t depth			18 foot	t depth			
			Site 1				Site 2		
	Unit Cost	CY	Duration (months)	Mob/Demob (Per Reach)	Unit Cost	СҮ	Duration (months)	Mob/Demob (Per Reach)	Crew/Equipment Costs
Mob/Demob	\$871,046								\$505,000
36.3 to 34.5 (5-year)	\$5.39	101,600	0.29	\$315,563	\$5.90	101,600	0.32	\$315,563	\$505,000
24.0 to 22.0 (5-year)	\$8.00	101,600	0.30	\$366,046					\$505,000
22.0 to 19.7 (5-year)	\$5.71	101,600	0.30	\$323,123					\$505,000
		\$1,940,316				\$599,521			
Mob/Demob (36.3 to 22.0)	\$939,307								\$505,000
36.3 to 34.0	\$5.39	101,600	0.29	\$315,563	\$5.90	101,600	0.32	\$315,563	\$505,000
34.0 to 32.0	\$4.25	203,600	0.45	\$434,307					\$505,000
32.0 to 29.5	\$5.84	153,700	0.47	\$434,307					\$505,000
29.5 to 28.0	\$4.17	153,700	0.32	\$330,985	\$3.78	153,700	0.29	\$330,985	\$505,000
28.0 to 26.0	\$3.37	203,600	0.36	\$317,075					\$505,000
26.0 to 24.0	\$3.92	203,600	0.40	\$330,985	\$3.62	203,600	0.37	\$330,985	\$505,000
24.0 to 22.0	\$8.00	101,600	0.30	\$366,046					\$505,000
		\$5,246,856				\$1,917,413			
Mob/Demob (22.0 to 11.0)	\$828,123								\$505,000
22.0 to 20.0	\$5.71	101,600	0.30	\$323,123	\$7.92	101,600	0.41	\$323,123	\$505,000
20.0 to 18.0	\$3.10	203,600	0.33	\$320,704	\$3.21	203,600	0.34	\$320,704	\$505,000
18.0 to 16.0	\$3.10	203,600	0.33	\$320,704	\$3.51	203,600	0.37	\$320,704	\$505,000
16.0 to 13.0	\$3.06	307,300	0.49	\$320,704					\$505,000
13.0 to 11.0	\$2.75	236,000	0.34	\$320,704	\$3.10	236,000	0.38	\$320,704	\$505,000
		\$3,430,921				\$2,904,223			
Mob/Demob (0.0 to 11.0)	\$857,241								\$505,000
11.0 to 8.0	\$3.47	360,800	0.47	\$352,241					\$505,000
8.0 to 6.0	\$3.81	248,800		\$352,241					\$505,000
6.0 to 4.0	\$3.67	257,900		\$352,241					\$505,000
4.0 to 2.0	\$3.67	257,900	0.31	\$352,241					\$505,000
2.0 to 0.0	\$3.67	257,900	0.31	\$352,241					\$505,000
		\$5,042,830							
Mob/Demob (0.0 to -3.5)	\$1,060,480								\$645,000
0.0 to -3.5	\$9.28	500,000		\$415,480					\$645,000
		\$4,640,000							

Projec	t: Houma Navigation Canal Deeper Houma, Terrebonne Parish, Loui Construction Cost Alternative Mile 36.3 to Mile (-3.5) to -18 Foo Summary Page	isiana 1B Earthen Reten		Included	
Contract No.	Description	Units	Estimated Quantity	Unit Price	Estimated Constructior Cost
1	Mobilization/Demobilization	LS	1	\$939,307	\$939,307
	Mile 36.3 to Mile 22.0	CY	890,000	\$22.39	\$19,923,432
2	Mobilization/Demobilization	LS	1	\$825,704	\$825,704
	Mile 22.0 to Mile 11.5	CY	571,200	\$85.81	\$49,012,388
3	Mobilization/Demobilization	LS	1	\$1,030,374	\$1,030,374
	Mile 11.5 to Mile 5.0	CY	1,725,000	\$5.66	\$9,762,850
4	Mobilization/Demobilization	LS	1	\$1,308,950	\$1,308,950
	Mile 5.0 to Mile 0.0	CY	950,000	\$11.35	\$10,779,280
5	Mobilization/Demobilization	LS	1	\$1,308,950	\$1,308,950
	Mile 0.0 to Mile (-3.5)	CY	668,000	\$10.90	\$7,281,747
		Total:	4,804,200	\$21.27	\$102,172,98

Note:

Unit costs reflected on summary sheet include earthen dike construction, rock dike construction, geotextile fabric, floatation channel excavation within each specified reach, crews, surveying, and boats, if applicable.

	Feasibility Level Cost Estimate						
Project	: Houma Navigation Canal Deepening			ine Items - Pu	ls - Aug 2015		
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1B Earthen Retention -18		Costs - Ramo	s - Aug 2015			
	Mile 36.3 to 22.0 to -18 Foot Elevation w/ 2 Feet of Advanced Ma	aintenance	e Included				
	Contract No. 1						
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
1A	Mobilization and Demobolization	LS	1	\$939,307	\$939,307		
	Dredging and Disposal (Mile 36.3 to Mile 22.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width						
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	170,000	\$6.09	\$1,035,776		
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.						
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.53	\$505,000	\$267,650		
1D	NHC Mile 34.0 to HNC Mile 32.0	CY	77,500	\$14.35	\$1,112,032		
	Material to be placed semi-confined within designated Wetland Site 7E east of HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).						
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.58	\$505,000	\$292,900		
1F	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000		
1G	HNC Mile 32.0 to HNC Mile 29.5	CY	95,500	\$7.22	\$689,434		
	Material to be placed semi-confined within designated Wetland Site 7E east of HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).						
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.36	\$505,000	\$181,800		
11	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000		

	Feasibility Level Cost Esti	imate			
Project	: Houma Navigation Canal Deepening			ine Items - Pu	ls - Aug 2015
	Houma, Terrebonne Parish, Louisiana		Costs - Ramo	s - Aug 2015	
	Construction Cost Alternative 1B Earthen Retention -18 Mile 36.3 to 22.0 to -18 Foot Elevation w/ 2 Feet of Advanced Ma	intenanc	e Included		
	Contract No. 1	interiario			
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
1J	HNC Mile 29.5 to HNC Mile 28.0	CY	88,000	\$8.79	\$773,837
	Material to be placed unconfined within designated Wetland Site 12B east of HNC Mile 27.0. Material shall be discharged within the open water areas, a minimum 4,500 -feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
1K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.39	\$505,000	\$196,950
1L	Earthen Retention Dike Refurbishment	LF	1,600	\$60.00	\$96,000
1M	HNC Mile 28.0 to HNC Mile 26.0	CY	117,000	\$8.24	\$964,454
	Material to be placed unconfined within designated Wetland Site A-07-A west of HNC Mile 26.5. Material shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
1N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.49	\$505,000	\$247,450
10	Earthen Retention Dike Refurbishment	LF	9,300	\$60.00	\$558,000
1P	HNC Mile 27.6 to HNC Mile 27.4 (West Bank) Foreshore Protection Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	1,900	\$61.46	\$116,774
1Q	Mechanical Dredging Flotation Channel Excavation Mile 27.6 to Mile 27.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,260	\$72.92	\$91,879
1R	HNC Mile 26.4 to HNC Mile 25.9 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	26,600	\$61.46	\$1,634,836
	Geotextile	SY	12,800	\$9.78	\$125,184
1S	Mechanical Dredging Flotation Channel Excavation Mile 26.4 to Mile 25.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	2,840	\$72.92	\$207,093

	Feasibility Level Cost Estimate							
Project	: Houma Navigation Canal Deepening			ine Items - Pu	ls - Aug 2015			
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1B Earthen Retention -18	(Costs - Ramo	s - Aug 2015				
	Mile 36.3 to 22.0 to -18 Foot Elevation w/ 2 Feet of Advanced Ma	intenance	e Included					
	Contract No. 1							
Item	Description	Units	Estimated	Unit Price	Estimated			
		•	Quantity		Cost			
1T	HNC Mile 26.0 to HNC Mile 24.0	CY	171,000	\$6.22	\$1,063,757			
	Material to be placed unconfined within designated Wetland Site A-07-A west of HNC Mile 26.5. Material shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).							
1U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.54	\$505,000	\$272,700			
1V	Earthen Retention Dike Refurbishment	LF	13,000	\$60.00	\$780,000			
1W	HNC Mile 25.9 to HNC Mile 24.1 (West Bank) Foreshore Protection Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	21,300	\$61.46	\$1,309,098			
1X	Mechanical Dredging Flotation Channel Excavation Mile 25.9 to Mile 24.1 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324			
1Y	HNC Mile 24.0 to HNC Mile 22.0	CY	171,000	\$5.27	\$901,786			
	Material to be placed semi-confined within designated Wetland Site 15 west of HNC Mile 23.5. Material to be placed within the open water area(s), a minimum 1,270 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).							
1Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.46	\$505,000	\$232,300			
1AA	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000			
1BB	HNC Mile 23.7 to HNC Mile 22.4 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	59,100	\$61.46	\$3,632,286			
	Geotextile	SY	28,500	\$9.78	\$278,730			
1CC	Mechanical Dredging Flotation Channel Excavation Mile 23.7 to Mile 22.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897			

Droiget	Feasibility Leve	I COSI ESTIN	iale	Ouentities ? ! :	no ltomo Du	
Project	:: Houma Navigation Canal Deepening			Quantities & Li		is - Aug 2015
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1B Earthen Retention	m 10		Costs - Ramos	- Aug 2015	
	Mile 36.3 to 22.0 to -18 Foot Elevation w/ 2 Feet of Ad	-		مايمواريواموا		
	Contract No. 1	vanced main	litenanc	e included		
Item	Description		Units	Estimated Quantity	Unit Price	Estimated Cost
1DD	HNC Mile 22.2 to HNC Mile 22.1 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)		ΤN	9,800	\$61.46	\$602,308
	Geotextile		SY	4,700	\$9.78	\$45,966
1EE	Mechanical Dredging Flotation Channel Excavation Mile 22.2 to Mile 22.1. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width		LF	730	\$72.92	\$53,232
					Total:	\$20,862,739
	Contract Duration		DY	101		
	Notes:					
	Dredging quantity does not reflect overdepth.					
		Dredging:		890,000 CY		
		Rock:		118,700 TON		
		Geotextile:		46,000 SY		

Flotation Channel:

Survey/Crew/Boat:

Earthen Dike:

21,070 LF

40,150 LF

3.4 MO

Project:	Feasibility Level Cost Esti Houma Navigation Canal Deepening		s & Line Items	- Dulo Aug	2015
Project:	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1B Earthen Retention -18 Mile 22.0 to 11.5 to -18 Foot Elevation w/ 2 Feet of Advanced Mai	Costs - R	amos - Aug 20	-	2015
ltem	Contract No. 2 Description	Units	Estimated Quantity	Unit Price	Estimated Cost
2A	Mobilization and Demobilization	LS	1	\$825,704	\$825,704
	Dredging and Disposal (Mile 22.0 to Mile 11.5) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width				
2B	HNC Mile 22.0 to HNC Mile 20.0	CY	225,000	\$4.15	\$933,120
	Material to be placed unconfined within designated Wetland Site 16 west of HNC Mile 22. Material shall be discharged within the open water areas, a minimum 1,550 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
2C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.49	\$505,000	\$247,450
2D	HNC Mile 20.0 to HNC Mile 18.0	CY	21,000	\$25.51	\$535,718
	Material to be placed unconfined within Wetland Site 19C east of and adjacent to HNC Mile 19.5. The discharge will be positioned to the east and placed a minimum 500 ft beyond the bank rim/ridge or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) of Site 19C NTE +3.0' NAVD88 (See dwgs for details).				
2E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.28	\$505,000	\$141,400
2F	HNC Mile 19.2 to HNC Mile 17.5 (East Bank)	TN	99,500	\$61.46	\$6,115,270
	Foreshore Protection (Stone) (Dk ht. +5' NAVD88) Geotextile	SY	47,900	\$9.78	\$468,462
2G	Mechanical Dredging Flotation Channel Excavation Mile 19.2 to Mile 17.5 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,120	\$72.92	\$592,110
2H	HNC Mile 19.1 to HNC Mile 17.8 (West Bank)	TN	18,200	\$61.46	\$1,118,572
	Foreshore Protection (Stone) (Dk ht. +5' NAVD88) Geotextile	SY	8,750	\$9.78	\$85,575
21	Mechanical Dredging Flotation Channel Excavation Mile 19.1 to Mile 17.8 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527

	Feasibility Level Cost Esti						
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015					
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1B Earthen Retention -18	Costs - Ramos - Aug 2015					
	Mile 22.0 to 11.5 to -18 Foot Elevation w/ 2 Feet of Advanced Mai	ntenance In	cluded				
	Contract No. 2						
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
2J	HNC Mile 18.0 HNC Mile 16.0	CY	77,200	\$10.85	\$837,960		
	Material to be placed unconfined within designated Wetland Site 20C west of HNC Mile 17. Material shall be discharged within the open water areas, a minimum 900 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).						
2K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.44	\$505,000	\$222,200		
2L	HNC Mile 17.7 to HNC Mile 16.7 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	67,400	\$61.46	\$4,142,404		
	Geotextile	SY	32,500	\$9.78	\$317,850		
2M	Mechanical Dredging Flotation Channel Excavation Mile 17.7 to Mile 16.7 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,480	\$72.92	\$399,602		
2N	HNC Mile 16.9 to HNC Mile 13.3 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	213,000	\$61.46	\$13,090,980		
	Geotextile	SY	102,600	\$9.78	\$1,003,428		
20	Mechanical Dredging Flotation Channel Excavation Mile 16.9 to Mile 13.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	19,200	\$72.92	\$1,400,064		
2P	HNC Mile 16.0 to HNC Mile 13.0	CY	153,000	\$8.86	\$1,355,213		
	Material to be placed semi-confined within designated Wetland Site 21 west of HNC Mile 15. Material to be placed within the open water area(s), a minimum 600 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).						
2Q	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.71	\$505,000	\$358,550		
2R	Earthen Retension Dike Refurbishment	LF	3,850	\$60.00	\$231,000		
2S	HNC Mile 15.6 to HNC Mile 14.0 (West Bank) Rock Retention Structure (site 21) (Dk ht. +6' NAVD88)	TN	94,500	\$61.46	\$5,807,970		
	Geotextile	SY	45,500	\$9.78	\$444,990		

	Feasibility Level Cost				
Project:	Houma Navigation Canal Deepening		s & Line Items		2015
	Houma, Terrebonne Parish, Louisiana	Costs - R	amos - Aug 20	015	
	Construction Cost Alternative 1B Earthen Retention -18				
	Mile 22.0 to 11.5 to -18 Foot Elevation w/ 2 Feet of Advanced Contract No. 2	Maintenance Ir	ncluded		
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
2T	Mechanical Dredging Flotation Channel Excavation Mile 15.6 to Mile 14.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,650	\$72.92	\$630,758
2U	HNC Mile 13.1 to HNC Mile 11.9 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	75,900	\$61.46	\$4,664,814
	Geotextile	SY	36,600	\$9.78	\$357,948
2V	Mechanical Dredging Flotation Channel Excavation Mile 13.1 to Mile 11.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,340	\$72.92	\$389,393
2W	HNC Mile 13.0 to HNC Mile 11.5	CY	95,000	\$6.82	\$648,128
	Material to be placed semi-confined within designated Wetland Site 24 west of HNC Mile 12.1. Material to be placed within the open water area(s), a minimum 900 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
2X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700
2Y	Earthen Retension Dike Refurbishment	LF	4,100	\$60.00	\$246,000
2Z	HNC Mile 12.7 to HNC Mile 12.3 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	27,100	\$61.46	\$1,665,566
	Geotextile	SY	13,000	\$9.78	\$127,140

	Feasibility Level Cost Estir								
Project:	Houma Navigation Canal Deepening		es & Line Items	0	2015				
	Houma, Terrebonne Parish, Louisiana	Costs - F	Ramos - Aug 20	15					
	Construction Cost Alternative 1B Earthen Retention -18								
	Mile 22.0 to 11.5 to -18 Foot Elevation w/ 2 Feet of Advanced Main Contract No. 2	itenance I	ncluded						
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost				
2AA	Mechanical Dredging Flotation Channel Excavation Mile 12.6 to Mile 12.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527				
				Total:	\$49,838,092				
	Contract Duration	DY	68						
	Note:								
	Dredging quantity does not reflect overdepth.								
	Dredging	:	571,200 CY						
	Rock	:	595,600 TON						
	Geotextile	:	286,850 SY						
	Flotation Channel	:	50,370 LF						
	Earthen Dike	:	7,950 LF						
	Survey/Crew/Boat	:	2.3 MO						

Project	Feasibility Level Cost Es : Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1B Earthen Retention -18 Mile 11.5 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advanced Mai	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015				
Item	Contract No. 3 Description	Units	Estimated	Unit Price	Estimated Cos	
ЗA	Mobilization and Demobilization	LS	1	\$1,030,374	\$1,030,374	
	Dredging and Disposal (Mile 11.5 to 0.0) Channel to be excavated to -21 NAVD88; 1v/3h side slope by 150' channel width					
3B	HNC Mile 11.5 to HNC Mile 10.0	CY	125,000	\$6.04	\$755,200	
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.					
3C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.27	\$505,000	\$136,350	
3D	Earthen Retention Dike Refurbishment	LF	12,700	\$60.00	\$762,000	
3E	HNC Mile 10.0 to HNC Mile 5.0	CY	1,600,000	\$3.90	\$6,246,400	
	Material to be placed earthen-confined west of channel within "lung area". 715 Acres See plans for details.					
3F	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.18	\$505,000	\$1,100,900	
3G	Earthen Retention Dike Refurbishment	LF	12,700	\$60.00	\$762,000	
				Total	\$10,793,224	
	Contract Duration:	DY	74			
	Notes:					
	Dredging quantity does not reflect overdepth.					
	Dredging	:	1,725,000 CY			
	Earthen Dike	:	25,400 LF			
	Survey/Crew/Boat	:	2.5 MO			

Project:	Feasibility Level Cost Es Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1B Earthen Retention -18 Mile 11.5 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advanced Mai	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015					
Item	Contract No. 3 Description	Units	Estimated Quantity	Unit Price	Estimated Cos		
4A	Mobilization and Demobilization	LS	1	\$1,030,374	\$1,030,374		
	Dredging and Disposal (Mile 5.0 to 0.0) Channel to be excavated to -21 NAVD88; 1v/3h side slope by 150' channel width						
4B	HNC Mile 5.0 to HNC Mile 1.5	CY	760,000	\$9.31	\$7,072,256		
	Material to be placed earthen confined on northeast end of Isle Denieres (East Island) @ 3' contour for marsh creation. 370 Acres. See plans for details.						
4C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.51	\$505,000	\$762,550		
4D	Earthen Retention Dike Refurbishment	LF	6,500	\$60.00	\$390,000		
4E	HNC Mile 1.5 to HNC Mile 0.0	CY	190,000	\$11.93	\$2,266,624		
	Material to be placed earthen confined on northeast end of Isle Denieres (East Island) @ 3' contour for marsh creation. 370 Acres. See plans for details.						
4F	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.57	\$505,000	\$287,850		
				Total	\$11,809,654		
	Contract Duration:	DY	62				
	Notes:						
	Dredging quantity does not reflect overdepth.						
	Dredging	:	950,000 CY				
	Earthen Dike	:	6,500 LF				
	Survey/Crew/Boat	:	2.1 MO				

	Feasibility Level Cost				
Project	:: Houma Navigation Canal Deepening		& Line Items - F	Puls - Aug 201	5
	Houma, Terrebonne Parish, Louisiana		mos- Aug 2015		
	Construction Cost Alternative 1B Earthen Retention -18				
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Advance	ed Maintenanc	e Included		
	Contract No. 4				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimate Cost
			Quantity		COSL
5A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,95
	Dredging and Disposal Mile 0.0 to Mile (-3.5)				
	Channel to be excavated to -20' NAVD88; 1v/2h				
	side slopes by 300' bottom width.				
5B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	668,000	\$9.51	\$6,352,94
	Material to be placed unconfined for Marsh Creation				
	on the south side of East Island (Isle Deniers) outside of				
	earthen confinement. (See plans for details). Material				
	Quantity does not reflect overdepth.				
	Contract Duration:				
5C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.44	\$645,000	\$928,800
50	Surveying, Shore Crew, Fipeline Crew, and Crewboat	WO	1.44	φ045,000	φ920,000
				Total:	\$8,590,69
	Contract Duration	DY	43		
	Note:				
	Material Quantity does not reflect overdepth.				
	Dredgir	g:	668,000 CY		
	Survey/Crew/Bo	at:	1.4 MO		

Reach	18 foo	ot depth			
	Unit Cost	CY	Duration (months)	Mob/Demob (Per Reach)	Crew/Equipment Costs
Mob/Demob (36.3 to 22.0)	\$939,307				\$505,000
36.3 to 34.0	\$6.09	170,000	0.53	\$327,961	\$505,000
34.0 to 32.0	\$14.35	77,500	0.58	\$434,307	\$505,000
32.0 to 29.5	\$7.22	95,500	0.36	\$434,307	\$505,000
29.5 to 28.0	\$8.79	88,000	0.39	\$327,961	\$505,000
28.0 to 26.0	\$8.24	117,000	0.49	\$327,961	\$505,000
26.0 to 24.0	\$6.22	171,000	0.54	\$327,961	\$505,000
24.0 to 22.0	\$5.27	171,000	0.46	\$327,961	\$505,000
		\$6,541,075			
Mob/Demob (22.0 to 11.0)	\$825,704				\$505,000
22.0 to 20.0	\$4.15	225,000	0.49	\$320,704	\$505,000
20.0 to 18.0	\$25.51	21,000	0.28	\$320,704	\$505,000
18.0 to 16.0	\$10.85	77,200	0.44	\$320,704	\$505,000
16.0 to 13.0	\$8.86	153,000	0.71	\$320,704	\$505,000
13.0 to 11.5	\$6.82	95,000	0.34	\$320,704	\$505,000
		\$4,310,139			
Mob/Demob (0.0 to 11.0)	\$1,030,374				\$505,000
11.5 to 10.0	\$6.04	125,000	0.27	\$372,299	\$505,000
10.0 to 5.0	\$3.90	1,600,000	2.18	\$372,299	\$505,000
5.0 to 1.5	\$9.31	760,000	1.51	\$525,374	\$505,000
1.5 to 0.0	\$11.93	190,000	0.57	\$526,109	\$505,000
		\$16,340,480			
Mob/Demob (0.0 to -3.5)	\$1,308,950				\$645,000
0.0 to -3.5	\$9.51	668,000	1.44	\$663,950	\$645,000
		\$6,352,947			

<u> </u>				el Cost Estimate			
Project:	Houma Navigation Canal Dee			Quantities & Line I		ıg 2015	
	Houma, Terrebonne Parish, L			Costs - Ramos - A	ug 2015		
	Maintenance Cost Earthen					Multiple Dispacel C	
	Costs for 10-Year Cycle to k Mile 36.3 to Mile (-3.5) to -18				aladudad	Multiple Disposal S	DITES
	Summary Page	FOOL Elevation	i w/ Auva	nced Maintenanc	e included		
	· · ·	Cycle			Estimated		
ontract	Description	Frequency	Units	Quantity	Unit Price	Estimated Cycle	Estimated Total Cos
No.		(Years)	•	j	Per Cycle	Cost	(50-Year)
4.4		10				A 0 7 4 040	* 4 055 000
1*	Mobilization/Demobilization	10	LS	1	*7 00	\$871,046	\$4,355,230
	Mile 36.3 to Mile 34.0	10	CY	101,600	\$7.23	\$734,254	\$3,671,268
	Mile 24.0 to Mile 22.0	10	CY	101,600	\$10.94	\$1,111,300	\$5,556,500
	Mile 22.0 to Mile 20.0	10	CY	101,600	\$8.32	\$845,221	\$4,226,103
	Mobilization/Demobilization	2 2	LS	1	¢ ¢ 04	\$1,031,109 \$0,467,262	\$25,777,725
	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$6.84	\$9,467,363	\$236,684,068
2	Mobilization/Demobilization	2	LS	1		\$1,308,950	\$32,723,750
	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$22.24	\$11,121,400	\$278,035,000
0	Mahilipatian /Danahilipatian	0		4		¢4 004 400	
3	Mobilization/Demobilization	2	LS	1	*0 04	\$1,031,109	
	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$6.84	\$9,467,363	
4	Mobilization/Demobilization	2	LS	1		\$1,308,950	
•	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$22.24	\$11,121,400	
5	Mobilization/Demobilization	2	LS	1		\$1,031,109	
	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$6.84	\$9,467,363	
6	Mobilization/Demobilization	10	LS	1		\$939,307	\$4,696,535
U	Mile 36.3 to Mile 34.0	10	CY	101,600	\$7.36	\$747,687	\$3,738,437
	Mile 34.0 to Mile 32.0	10	CY	203,600	\$7.40	\$1,506,469	\$7,532,343
	Mile 32.0 to Mile 29.5	10	CY	153,700	\$10.07	\$1,548,466	\$7,742,331
	Mile 29.5 to Mile 28.0	10	CY	153,700	\$5.60	\$860,476	\$4,302,382
	Mile 28.0 to Mile 26.0	10	CY	203,600	\$10.65	\$2,167,912	\$10,839,561
	Mile 26.0 to Mile 24.0	10	CY	203,600	\$17.72	\$3,606,829	\$18,034,143
	Mile 24.0 to Mile 22.0	10	CY	101,600	\$24.49	\$2,488,347	\$12,441,736
	Mile 22.0 to Mile 20.0	10	CY	101,600	\$9.44	\$958,927	\$4,794,636
	Mobilization/Demobilization	2	LS	1	\$0.11	\$1,308,950	<i><i><i>ϕ</i></i> 1,1 <i><i>ϕ</i> 1,000</i></i>
	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$22.24	\$11,121,400	
		-	01	000,000	<i>ψμμμμ</i>	ф11,1 <u>2</u> 1,100	
7	Mobilization/Demobilization	10	LS	1		\$939,307	\$4,696,535
	Mile 20.0 to Mile 18.0	10	CY	203,600	\$14.89	\$3,030,630	\$15,153,149
	Mile 18.0 to Mile 16.0	10	CY	203,600	\$29.90	\$6,088,383	\$30,441,913
	Mile 16.0 to Mile 13.0	10	CY	307,300	\$14.75	\$4,533,250	\$22,666,249
	Mile 13.0 to Mile 11.0	10	CY	236,000	\$6.71	\$1,582,869	\$7,914,345
	Mobilization/Demobilization	2	LS	1		\$1,031,109	+ /- /
	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$6.84	\$9,467,363	
		-				.	
8	Mobilization/Demobilization	2	LS	1	* ·	\$1,308,950	
	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$22.24	\$11,121,400	
9	Mobilization/Demobilization	2	LS	1		\$1,031,109	
2	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$6.84	\$9,467,363	
	•••••••					•	
10	Mobilization/Demobilization	2	LS	1	AA-	\$1,308,950	
	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$22.24	\$11,121,400	
			Total:	11,894,800	\$12.54	\$149,204,788	\$746,023,940

Note: Unit costs reflected on summary sheet include all disposal area dike refurbishment within each specified reach, if necessary * Three reaches specified in Contract 1 require a maintenance cycle every 5 years. 5 years after maintenance Contract 1 reaches at 36.3, 24.0, and 22.0 will undergo maintenance under Contract 6 (10-Year cycle). 5 Years after maintenance Contract 6 those reaches will be maintained under a new 5-year cycle (Contract 11). Following this sequence, contract 6 will be required four additional times over the 50 year project life after Contract 6 is completed.

	Feasibility Level Cost				
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Earthen Retention -18ft MLG		s & Line Items amos - Aug 20	- Puls - Aug 20)15	015
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & Mil w/ 2 and 3 Feet of Advanced Maintenance Included Contract No. 1	e 11.0 to 0.0 Channel	uency		
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
1A	Mobilization and Demobolization	LS	1	\$871,046	\$871,046
	Dredging and Disposal (Mile 36.3 to Mile 20.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width				
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	101,600	\$5.39	\$547,502
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.				
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.29	\$505,000	\$146,450
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	101,600	\$5.90	\$599,521
	Material to be placed within confined upland Site 3 opposite HNC Mile 35.5 No height restriction. Dike construction/maintenance not required.				
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.32	\$505,000	\$161,600
1D	HNC Mile 24.0 to HNC Mile 22.0	CY	101,600	\$8.00	\$812,800
	Material to be placed semi-confined within designated Wetland Site 15 west of HNC Mile 23.5. Material to be placed within the open water area(s), a minimum 1,270 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.30	\$505,000	\$151,500
1F	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000

	Feasibility Level Cost	Estimate						
Project:	Houma Navigation Canal Deepening		& Line Items	-	015			
	Houma, Terrebonne Parish, Louisiana Maintenance Cost Earthen Retention -18ft MLG	Costs - Ramos - Aug 2015						
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & M	ile 11 0 to 0 0	to -18 Foot F	levation				
	w/ 2 and 3 Feet of Advanced Maintenance Included		Multiple Disposal Sites					
	Contract No. 1		Maintenance		uency			
lt a ma			Estimated		Estimated			
ltem	Description	Units	Quantity	Unit Price	Cost			
1G	HNC Mile 22.0 to HNC Mile 20.0	CY	101,600	\$5.71	\$580,014			
	Material to be placed unconfined within Wetland Site 16 opposite and adjacent to HNC Mile 21.4 along the west bank of the HNC WW. The discharge will be positioned to the west and placed a minimum 1,550 ft beyond the bank rim or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) NTE +3.0' NAVD 88 (See dwgs for details).							
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.30	\$505,000	\$151,500			
1G	HNC Mile 22.0 to HNC Mile 20.0	CY	101,600	\$7.92	\$804,997			
	Material to be placed semi-confined within Wetland Site 15A between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a west-southwesterly direction. Earthen closures will be required along the west side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).							
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.41	\$505,000	\$207,050			
11	Earthen Retention Dike Refurbishment	LF	4,800	\$60.00	\$288,000			
1J	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109			
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width							
1K	HNC Mile 11.0 to HNC Mile 5.0	CY	738,600	\$4.75	\$3,507,464			
	Material to be placed earthen confined west of channel within "lung area". 715 Acres See plans for details.							
1L	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.09	\$505,000	\$550,450			
1M	Earthen Retention Dike Refurbishment	LF	12,700	\$60.00	\$762,000			

<u> </u>	Feasibility Level Cost Estimate								
Project:	t: Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2015 Houma, Terrebonne Parish, Louisiana Costs - Ramos - Aug 2015								
	Maintenance Cost Earthen Retention -18ft MLG	Costs - Ramos - Aug 2015							
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & Mile	11 0 to 0		evation					
	w/ 2 and 3 Feet of Advanced Maintenance Included	5 11.0 10 0	Multiple Dispo						
	Contract No. 1	Channe	I Maintenance -		uencv				
			Estimated		Estimated				
ltem	Description	Units	Quantity	Unit Price	Cost				
1N	HNC Mile 5.0 to HNC Mile 1.5	CY	451,300	\$5.49	\$2,478,179				
	Material to be placed earthen confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.								
10	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.64	\$505,000	\$323,200				
1P	Earthen Retention Dike Refurbishment	LF	6,500	\$60.00	\$390,000				
1Q	HNC Mile 1.5 to HNC Mile 0.0	CY	193,400	\$5.43	\$1,049,620				
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details								
1R	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.27	\$505,000	\$136,350				
1S	Earthen Containment Dike Refurbishment (Lung)	LF	1,823	\$20.00	\$36,460				
1T	Earthen Dike on bay side East Island	LF	3,419	\$60.00	\$205,140				
1U	Earthen Containment Dike Refurbishment (East Island)	LF	1,425	\$20.00	\$28,500				
				Total:	\$14,106,98				
	Contract Duration	DY	91						
	Notes:								
	Channel Quantitires do not reflect overdepth.								
	Dredging	J:	1,688,100 CY						
	Earthen Dike):	33,117 LF						
	Survey/Crew/Boa	t:	3.0 MO						

	Feasibility Level Cos	t Estimate								
Project:	Houma Navigation Canal Deepening	Quantities	& Line Items - I	Puls - Aug 20	15					
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015								
	Maintenance Cost Earthen Retention -18ft MLG									
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Advanced Maintenance Included									
	Contract No. 2 Channel Maintenance - 2 year frequency									
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost					
2A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950					
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width									
2B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$19.40	\$9,702,400					
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.									
2C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.20	\$645,000	\$1,419,000					
				Total:	\$12,430,35					
	Contract Duration	DY	66							
	Notes:									
	Channel Quantitires do not reflect overdepth.									
	Dredging	:	500,000 CY							
	Survey/Crew/Boat	:	2.2 MO							

Project:	Feasibility Level Cost I Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana	Quant	ities & Line Iter - Ramos - Aug		ıg 2015			
	Maintenance Cost Earthen Retention -18ft MLG Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advance Contract No. 3		l Maintenance Included Channel Maintenance - 2 year frequency					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
ЗA	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,10			
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width							
3B	HNC Mile 11.0 to HNC Mile 5.0	CY	738,600	\$4.75	\$3,507,46			
	Material to be placed earthen confined west of channel within "lung area". 715 Acres See plans for details.							
3C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	1.09	\$505,000	\$550,450			
3D	Earthen Retention Dike Refurbishment	LF	12,700	\$60.00	\$762,000			
3E	HNC Mile 5.0 to HNC Mile 1.5	CY	451,300	\$5.49	\$2,478,17			
	Material to be placed earthen confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.							
3F	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.64	\$505,000	\$323,200			
3G	Earthen Retention Dike Refurbishment	LF	6,500	\$60.00	\$390,000			
ЗH	HNC Mile 1.5 to HNC Mile 0.0	CY	193,400	\$5.43	\$1,049,62			
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details							
31	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.27	\$505,000	\$136,350			
3J	Earthen Containment Dike Refurbishment (Lung)	LF	1,823	\$20.00	\$36,460			
ЗK	Earthen Dike on bay side East Island	LF	3,419	\$60.00	\$205,140			
3L	Earthen Containment Dike Refurbishment (East Island)	LF	1,425	\$20.00	\$28,500			
				Total:	\$10,498,47			
	Contract Duration	DY	60					
	Note:							
	Material Quantity does not reflect overdepth.							
	Dredgin	g:	1,383,300 CY					
	Earthen Dik	e.	25,867 LF					

Survey/Crew/Boat:

2.0 MO

	Feasibility Level Cost Estimate								
Project:	Houma Navigation Canal Deepening	Quantities	& Line Items	- Puls - Aug 2	2015				
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015							
	Maintenance Cost Earthen Retention -18ft MLG								
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Adva	Advanced Maintenance Included							
	Contract No. 4	Channel I	Maintenance	 2 year freq 					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost				
4A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950				
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width								
4B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$19.40	\$9,702,400				
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.								
4C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.20	\$645,000	\$1,419,000				
				Total:	\$12,430,350				
	Contract Duration	DY	66						
	Notes:								
	Channel Quantitires do not reflect overdepth.								
<u> </u>	Dredging	:	500,000 CY						
	Survey/Crew/Boat	:	2.2 MO						

Drojacti	Feasibility Level Cost Estimate I:: Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2015								
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana		-						
	Maintenance Cost Earthen Retention -18ft MLG	Costs - Ramos - Aug 2015							
	Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advanced Maintenance Included								
	Contract No. 5	Chanr	hannel Maintenance - 2 year frequency						
Item	Description	Units	Estimated	Unit Price	Estimated				
	•		Quantity		Cost				
5A	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109				
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width								
5B	HNC Mile 11.0 to HNC Mile 5.0	CY	738,600	\$4.75	\$3,507,464				
	Material to be placed earthen confined west of channel within "lung area". 715 Acres See plans for details.								
5C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.09	\$505,000	\$550,450				
5D	Earthen Retention Dike Refurbishment	LF	12,700	\$60.00	\$762,000				
5E	HNC Mile 5.0 to HNC Mile 1.5	CY	451,300	\$5.49	\$2,478,179				
	Material to be placed earthen confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.								
5F	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.64	\$505,000	\$323,200				
5G	Earthen Retention Dike Refurbishment	LF	6,500	\$60.00	\$390,000				
5H	HNC Mile 1.5 to HNC Mile 0.0	CY	193,400	\$5.43	\$1,049,620				
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details								
51	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.27	\$505,000	\$136,350				
5J	Earthen Containment Dike Refurbishment (Lung)	LF	1,823	\$20.00	\$36,460				
5K	Earthen Dike on bay side East Island	LF	3,419	\$60.00	\$205,140				
5L	Earthen Containment Dike Refurbishment (East Island)	LF	1,425	\$20.00	\$28,500				
				Total:	\$10,498,472				
	Contract Duration	DY	60						
	Note:								
	Material Quantity does not reflect overdepth.								
	Dredgin	g:	1,383,300 CY						
	Earthen Dik	<u>.</u>	25,867 LF						

Survey/Crew/Boat:

2.0 MO

	Houma Navidation Canal Deepening	Quanti	tias & I ina Ita	ms - Puls - Αι	ia 2015			
1 10,000	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana		· Ramose - Αι		19 2010			
	Maintenance Cost Earthen Retention -18ft MLG			-				
	Maintenance Cost Earthen Retention -18ft MLGMultiple Disposal SitesMile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Feet of Advanced Maintenance Included							
	Contract No. 6 Channel Maintenance - 2, 5, and 10 year frequency							
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
6A	Mobilization and Demobolization	LS	1	\$939,307	\$939,307			
	Dredging and Disposal (Mile 36.3 to Mile 20.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width							
6B	HNC Mile 36.3 to HNC Mile 34.0	CY	101,600	\$5.39	\$547,502			
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.							
6C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.29	\$505,000	\$146,450			
6B	HNC Mile 36.3 to HNC Mile 34.0	CY	101,600	\$5.90	\$599,521			
	Material to be placed within confined upland Site 3 opposite HNC Mile 35.5 No height restriction. Dike construction/maintenance not required.							
6C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.32	\$505,000	\$161,600			
6D	NHC Mile 34.0 to HNC Mile 32.0	CY	203,600	\$4.25	\$865,219			
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).							
6E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.45	\$505,000	\$227,250			
6F	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000			

Drainet	Feasibility Level Cost Estin		tion 0 1 inc 11-	ma Dula A	ua 2015			
Project:	Houma Navigation Canal Deepening		ties & Line Ite		ug 2015			
	Houma, Terrebonne Parish, Louisiana Costs - Ramose - Aug 2015							
	Maintenance Cost Earthen Retention -18ft MLG	Multiple Disposal Sites						
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Feet of Advanced Maintenance Included							
	Contract No. 6 Channel Maintenance -	2, 5, and		lency				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
6G	HNC Mile 32.0 to HNC Mile 29.5	CY	153,700	\$5.84	\$897,116			
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).							
6H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.47	\$505,000	\$237,350			
61	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000			
6J	HNC Mile 29.5 to HNC Mile 28.0	CY	153,700	\$4.17	\$641,359			
	Material to be placed unconfined within designated Wetland Site 12B opposite approximate HNC Mile 27.0. Mtl. shall be discharged within the open water areas, a minimum 4,500 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).							
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.32	\$505,000	\$161,600			
6L	Earthen Retention Dike Refurbishment	LF	1,600	\$60.00	\$96,000			
6J	HNC Mile 29.5 to HNC Mile 28.0	CY	153,700	\$3.78	\$580,371			
	Material to be placed unconfined within designated Wetland Site 12 opposite approximate HNC Mile 27.0. Mtl. shall be discharged within the open water areas, a minimum 1,950 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).							
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.29	\$505,000	\$146,450			
6L	Earthen Retention Dike Refurbishment	LF	1,800	\$60.00	\$108,000			

	Feasibility Level Cost Estimation				
Project:	Houma Navigation Canal Deepening		ties & Line Ite		ıg 2015
	Houma, Terrebonne Parish, Louisiana		- Ramose - Au	•	
	Maintenance Cost Earthen Retention -18ft MLG	-	le Disposal S		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Fee				ed
	Contract No. 6 Channel Maintenance - 2	, 5, and		iency	Fatimated
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
6M	HNC Mile 28.0 to HNC Mile 26.0	CY	203,600	\$3.37	\$685,399
	Material to be placed unconfined within designated Wetland Site A-07-A opposite approximate HNC Mile 26.5. Mtl. shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.36	\$505,000	\$181,800
6O	Earthen Retention Dike Refurbishment	LF	9,300	\$60.00	\$558,000
6P	HNC Mile 27.6 to HNC Mile 27.4 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	1,900	\$61.46	\$116,774
6Q	Mechanical Dredging Flotation Channel Excavation Mile 27.6 to Mile 27.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,260	\$72.92	\$91,879
6R	HNC Mile 26.4 to HNC Mile 25.9 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	5,320	\$61.46	\$326,967
6S	Mechanical Dredging Flotation Channel Excavation Mile 26.4 to Mile 25.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	2,840	\$72.92	\$207,093
6T	HNC Mile 26.0 to HNC Mile 24.0	CY	203,600	\$3.92	\$797,460
	Material to be placed unconfined within designated Wetland Site A-07-A opposite approximate HNC Mile 26.5. Mtl. shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.40	\$505,000	\$202,000
6V	Earthen Retention Dike Refurbishment	LF	13,000	\$60.00	\$780,000

Project:	t: Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 20							
	Houma, Terrebonne Parish, Louisiana		Ramose - Au		5			
	Maintenance Cost Earthen Retention -18ft MLG		e Disposal S	-				
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Fee	-	-		ed			
	Contract No. 6 Channel Maintenance - 2							
_			Estimated		Estimated			
ltem	Description	Units	Quantity	Unit Price	Cost			
6T	HNC Mile 26.0 to HNC Mile 24.0	CY	203,600	\$3.62	\$737,521			
	Material to be placed unconfined within designated							
	Wetland Site 14A opposite approximate HNC Mile 27.							
	Mtl. shall be discharged within the open water areas,							
	a minimum 3,360 eet from the channel centerline.							
	Construction access corridors, 200 ft in width, shall							
	be provided for the Contractors use of the disposal area.							
	Elevation of material NTE +3.0' NAVD88 (See dwgs for details).							
6U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.37	\$505,000	\$186,850			
<u></u>	Frathan Datastian Dila Datashisharant		0.000	#CO OO	Ф Г 1 0 000			
6V	Earthen Retention Dike Refurbishment	LF	9,000	\$60.00	\$540,000			
6W	HNC Mile 25.9 to HNC Mile 24.1 (West Bank)	ΤN	21,300	\$61.46	\$1,309,09			
000	Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88)	IIN	21,300	φ01.40	φ1,309,08			
	Stone quantity 20% of construction quantity							
6X	Mechanical Dredging Flotation Channel Excavation	LF	9,700	\$72.92	\$707,324			
07	Mile 25.9 to Mile 24.1 Channel excavated at existing	LI	9,700	ψ1 Z.9Z	φ101,324			
	-							
	grade of -2 ft NAVD88 w/ 80-foot bottom width							
6Y	HNC Mile 24.0 to HNC Mile 22.0	CY	101,600	\$8.00	\$812,800			
	Material to be placed semi-confined within Wetland							
	•							
	Site 15A between HNC Mile 24.0 and 22.9 west of							
	Site 15 beyond the west bank of the HNC WW.							
	The initial buildup of mtl. shall begin in the south east							
	corner, and to proceed outward in a westerly							
	direction. Earthen closures will be required along the							
	east side of the disposal area adjacent to the p/l canal							
	intersecting the disposal area. A 200-foot wide construction							
	access corridor along the entrance of the waterway							
	will be provided for the Contractors use. Elevation							
	of material NTE +3.0' NAVD88 (See dwgs for details).							
6Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.30	\$505,000	\$151,500			
6AA	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000			
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Project:	At: Houma, Navigation Canal Deepening Quantities & Line Items - Puls - Aug Houma, Terrebonne Parish, Louisiana Costs - Ramose - Aug 2015 Maintenance Cost Earthen Retention -18ft MLG Multiple Disposal Sites Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Feet of Advanced Maintenance Included Channel Maintenance - 2, 5, and 10 year frequency						
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
6BB	HNC Mile 23.7 to HNC Mile 22.4 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	11,820	\$61.46	\$726,457		
6CC	Mechanical Dredging Flotation Channel Excavation Mile 23.7 to Mile 22.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897		
6DD	HNC Mile 22.2 to HNC Mile 22.1 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	1,960	\$61.46	\$120,462		
6EE	Mechanical Dredging Flotation Channel Excavation Mile 22.2 to Mile 22.1. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	730	\$72.92	\$53,232		
6FF	HNC Mile 22.0 to HNC Mile 20.0 Material to be placed unconfined within Wetland Site 16 opposite and adjacent to HNC Mile 21.4 along the west bank of the HNC WW. The discharge will be positioned to the west and placed a minimum 1,550 ft beyond the bank rim or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) NTE +3.0' NAVD 88 (See dwgs for details).	CY	101,600	\$5.71	\$580,014		
6GG	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500		
6FF	HNC Mile 22.0 to HNC Mile 20.0 Material to be placed semi-confined within Wetland Site 15A between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a west-southwesterly direction. Earthen closures will be required along the west side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).	CY	101,600	\$7.92	\$804,997		

Feasibility Level Cost Estimate								
Project:	t: Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2015 Houma, Terrebonne Parish, Louisiana Costs - Ramose - Aug 2015 Maintenance Cost Earthen Retention -18ft MLG Multiple Disposal Sites Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Feet of Advanced Maintenance Included Contract No. 6							
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
6GG	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.41	\$505,000	\$207,050			
6HH	Earthen Retention Dike Re-fubishment	LF	4,800	\$60.00	\$288,000			
611	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950			
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width							
6JJ	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$19.40	\$9,702,400			
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.							
6KK	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.20	\$645,000	\$1,419,000			
				Total:	\$27,608,86 ⁻			
	Contract Duration	DY	157					
	Notes:							
	Channel Quantitires do not reflect overdepth.							
	Dredging	:	1,723,000 CY					
	Rock		40,340 TON					
	Flotation Channe	:	21,070 LF					
	Earthen Dike	:	55,750 LF					
	Survey/Crew/Boat	::	5.2 MO					

	Feasibility Level Cost Estimate						
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Earthen Retention -18ft MLG Mile 20.0 to Mile 11.0 & Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3	Costs - Multipl	ties & Line Iter Ramos - Aug e Disposal S dvanced Mair	2015 ites	-		
	Contract No. 7 Channel Maintenance						
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
7A	Mobilization and Demobolization Dredging and Disposal (Mile 20.0 to Mile 11.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width	LS	1	\$939,307	\$939,307		
7B	HNC Mile 20.0 to HNC Mile 18.0 Material to be placed unconfined within Wetland Site 19C oppsite and adjacent to HNC Mile 19.3 along the east bank of the HNC WW. The discharge will be positioned to the east and placed a minimum 500-ft beyond the bank rim/ridge or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) of Site 19C NTE +3.0' NAVD88 (See dwgs for details).	CY	203,600	\$3.10	\$630,671		
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.33	\$505,000	\$166,650		
7B	HNC Mile 20.0 to HNC Mile 18.0 Material to be placed semi-confined within the open water portions of Wetland Site 19D between HNC Mile 20.2 and 19.6, located beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a westerly direction a minimum distance of 12,350 ft beyond the channel centewr line. Earthen closures will be required along the south side of the disposal area adjacent to the open water A 200-foot wide construction access corridor along theentrance of the waterway will be provided for the Contractors at the northeast and south east portions of the disposal site. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).	CY	203,600	\$3.21	\$654,126		
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.34	\$505,000	\$171,700		
7D	Earthen Retention Dike Re-fubishment	LF	1,300	\$60.00	\$78,000		
7E	HNC Mile 19.2 to HNC Mile 17.5 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	19,900	\$61.46	\$1,223,054		
7F	Mechanical Dredging Flotation Channel Excavation Mile 19.2 to Mile 17.5 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,120	\$72.92	\$592,110		

	Feasibility Level Cost Estim	ate						
Project	ct: Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 20 Houma, Terrebonne Parish, Louisiana Costs - Ramos - Aug 2015 Maintenance Cost Earthen Retention -18ft MLG Multiple Disposal Sites Mile 20.0 to Mile 11.0 & Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advanced Maintenance Included							
	Contract No. 7 Channel Maintenance - 2 and 10 year frequency							
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
7G	HNC Mile 19.1 to HNC Mile 17.8 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	3,640	\$61.46	\$223,714			
	Mechanical Dredging Flotation Channel Excavation Mile 19.1 to Mile 17.8 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527			
7H	HNC Mile 18.0 HNC Mile 16.0	CY	203,600	\$3.10	\$630,671			
	Material to be placed unconfined within Wetland Site 20C oppsoite HNC Mile 16.8 along the west bank of the HNC WW. A construction access corriodr, 200 feet in width, will be provided for the Contractors use at the intersection of Four Pt. Bayou with the HNC WW. The intial buildup shall occur in the east corner of the DA and to proceed outward in a westerly direction. Elevation of Mtl. NTE +3.0' NAVD88 (See dwgs for details).							
71	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.33	\$505,000	\$166,650			
711		0)/	000.000	\$0.54	#7 44,000			
7H	HNC Mile 18.0 HNC Mile 16.0 Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).	CY	203,600	\$3.51	\$714,066			
71	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.37	\$505,000	\$186,850			
7J	Earthen Retention Dike Re-fubishment	LF	2,000	\$60.00	\$120,000			
7K	HNC Mile 17.7 to HNC Mile 16.7 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	13,480	\$61.46	\$828,481			
7L	Mechanical Dredging Flotation Channel Excavation Mile 17.7 to Mile 16.7 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,480	\$72.92	\$399,602			

Feasibility Level Cost Estimate									
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana	Costs -	ties & Line Iter Ramos - Aug	2015	g 2015				
	Maintenance Cost Earthen Retention -18ft MLG		e Disposal S						
	Mile 20.0 to Mile 11.0 & Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Contract No. 7 Channel Maintenanc				laea				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost				
7M	HNC Mile 16.9 to HNC Mile 13.3 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	42,600	\$61.46	\$2,618,196				
7N	Mechanical Dredging Flotation Channel Excavation Mile 16.9 to Mile 13.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	19,200	\$72.92	\$1,400,064				
70	HNC Mile 16.0 to HNC Mile 13.0	CY	307,300	\$3.06	\$940,092				
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).								
7P	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.49	\$505,000	\$247,450				
7Q	Earthen Retention Dike Re-fubishment	LF	3,850	\$60.00	\$231,000				
7R	HNC Mile 15.6 to HNC Mile 14.0 (West Bank) Rock Retention Structure Refurbishment (Dk ht. +6' NAVD88) Stone quantity 20% of construction quantity	ΤN	18,900	\$61.46	\$1,161,594				
7S	Mechanical Dredging Flotation Channel Excavation Mile 15.6 to Mile 14.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,650	\$72.92	\$630,758				
7T	HNC Mile 13.2 to HNC Mile 11.9 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +6' NAVD88) Stone quantity 20% of construction quantity	ΤN	15,180	\$61.46	\$932,963				
7U	Mechanical Dredging Flotation Channel Excavation Mile 13.1 to Mile 11.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,340	\$72.92	\$389,393				
7V	HNC Mile 13.0 to HNC Mile 11.0	CY	236,000	\$2.75	\$649,472				
	Material to be placed within Wetland Site 24 opposite HNC Mile 12.0 along the west bank of the HNC WW. A construction access corrdior, 200 ft in width, will be provided for the Contractors use at the entrance of the WW. The initial buildup will occur in the east corner of the DA and proceed outward in a west, south-westerly direction. Elevation of material placed within the open water area(s) NTE +3.0' NAVD88 (See dwgs for details).								

Contract No. 7	Feasibility Level Cost Estimate								
Contract No. 7 Item Degrad 7W Surveying, Shore Crew, Pipeli 7X Earthen Retention Dike Re-ful 7V HNC Mile 13.0 to HNC Mile 11 Material to be placed within W HNC Mile 15.0. To prevent m discharge pipe will be postioner approximately 600 feet west of material will be placed in a weight	ouisiana	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015 Multiple Disposal Sites							
Item Description 7W Surveying, Shore Crew, Pipeli 7X Earthen Retention Dike Re-ful 7V HNC Mile 13.0 to HNC Mile 11 Material to be placed within W HNC Mile 15.0. To prevent m discharge pipe will be postioned approximately 600 feet west of material will be placed in a week	1.0 to 0.0 to -18 Foot Elevation w/ 3 $$				ided				
 7W Surveying, Shore Crew, Pipeli 7X Earthen Retention Dike Re-ful 7V HNC Mile 13.0 to HNC Mile 11 Material to be placed within W HNC Mile 15.0. To prevent m discharge pipe will be postion approximately 600 feet west of material will be placed in a we 	Channel Maintenanc	e - 2 and		luency					
 7X Earthen Retention Dike Re-ful 7V HNC Mile 13.0 to HNC Mile 1 Material to be placed within W HNC Mile 15.0. To prevent m discharge pipe will be postion approximately 600 feet west of material will be placed in a we 	escription	Units	Estimated Quantity	Unit Price	Estimated Cost				
 7X Earthen Retention Dike Re-ful 7V HNC Mile 13.0 to HNC Mile 1 Material to be placed within W HNC Mile 15.0. To prevent m discharge pipe will be postion approximately 600 feet west of material will be placed in a we 			Quantity		0031				
 7V HNC Mile 13.0 to HNC Mile 12 Material to be placed within W HNC Mile 15.0. To prevent m discharge pipe will be postion approximately 600 feet west o material will be placed in a we 	ine Crew, and Crewboat	MO	0.34	\$505,000	\$171,700				
Material to be placed within W HNC Mile 15.0. To prevent m discharge pipe will be postion approximately 600 feet west o material will be placed in a we	bishment	LF	4,100	\$60.00	\$246,000				
HNC Mile 15.0. To prevent m discharge pipe will be postion approximately 600 feet west o material will be placed in a we	1.0	CY	236,000	\$3.10	\$731,034				
along the back side of the disp of material NTE +3.0' NAVD88	aterial runback, the ed to the SW and placed of HNC Mile 15.0. The est south-westerly r areas or tributaries posal area. Elevation								
7W Surveying, Shore Crew, Pipeli	ne Crew, and Crewboat	MO	0.38	\$505,000	\$191,900				
7X Earthen Retention Dike Re-ful	bishment	LF	3,850	\$60.00	\$231,000				
7Y HNC Mile 12.7 to HNC Mile 12 Foreshore Protection (Stone) Stone quantity 20% of constru	Refurbishment (Dk ht. +5' NAVD88)	TN	5,420	\$61.46	\$333,113				
7Z Mechanical Dredging Flotation Mile 12.6 to Mile 12.3 Channe grade of -2 ft NAVD88 w/ 80-f	l excavated at existing	LF	1,790	\$72.92	\$130,527				
7AA Mobilization and Demobilization	on	LS	1	\$1,031,109	\$1,031,109				
Dredging and Disposal (Mile 1 Channel to be excavated to -2 slopes by 150' bottom width									
7BB HNC Mile 11.0 to HNC Mile 5.	0	CY	738,600	\$4.75	\$3,507,464				
Material to be placed earthen west of channel within "lung a See plans for details.									
7CC Surveying, Shore Crew, Pipeli	ine Crew, and Crewboat	MO	1.09	\$505,000	\$550,450				
7DD Earthen Retention Dike Re-ful	bishment	LF	12,700	\$60.00	\$762,000				
7EE HNC Mile 5.0 to HNC Mile 1.5		CY	451,300	\$5.49	\$2,478,179				
Material to be placed earthen on northeast end of Isle Denie marsh creation. 370 Acres. S	eres (East Island) for								
7FF Surveying, Shore Crew, Pipeli	ing Crow, and Crowboot	МО	0.64	\$505,000	\$323,200				

	Feasibility Level Cost Estim	ate								
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015								
	Maintenance Cost Earthen Retention -18ft MLG		le Disposal Sit		dod					
	Mile 20.0 to Mile 11.0 & Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advanced Maintenance Included Contract No. 7 Channel Maintenance - 2 and 10 year frequency									
Item	Estimated									
nem	Description	Units	Quantity	Unit Price	Cost					
7GG	Earthen Retention Dike Re-fubishment	LF	6,500	\$60.00	\$390,000					
7HH	HNC Mile 1.5 to HNC Mile 0.0	CY	193,400	\$5.43	\$1,049,620					
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details									
711	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.27	\$505,000	\$136,350					
7JJ	Earthen Containment Dike Refurbishment (Lung)	LF	1,823	\$20.00	\$36,460					
7KK	Earthen Dike on bay side East Island	LF	3,419	\$60.00	\$205,140					
7LL	Earthen Containment Dike Refurbishment (East Island)	LF	1,425	\$20.00	\$28,500					
				Total:	\$26,851,092					
	Contract Duration	DY	107							
	Note:									
	Channel Quantities do not reflect overdepth.									
	Dredging	:	2,333,800 CY							
	Rock	:	119,120 TON							
	Flotation Channel	:	50,370 LF							
	Earthen Dike	:	40,967 LF							
	Survey/Crew/Boat	:	3.6 MO							

	Feasibility Level Cost	Estimate			
Project:	Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug 2	2015
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	amos - Aug 20	014	
	Maintenance Cost Earthen Retention -18ft MLG				
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Adva				
	Contract No. 8	Channel	Maintenance	- 2 year freq	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
8A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
8B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$19.40	\$9,702,400
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.				
8C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.2	\$645,000	\$1,419,000
				Total:	\$12,430,350
	Contract Duration	DY	66		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredging	:	500,000 CY		
	Survey/Crew/Boat	:	2.2 MO		

Project:	Feasibility Level Cost E Houma Navigation Canal Deepening	ies & Line Items - Puls - Aug 2015						
	Houma, Terrebonne Parish, Louisiana		sts - Ramos - Aug 2015					
	Maintenance Cost Earthen Retention -18ft MLG Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advanced Maintenance Included							
Contract No. 9 Channel Maintenance - 2 year								
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
9A	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109			
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width							
9B	HNC Mile 11.0 to HNC Mile 5.0	CY	738,600	\$4.75	\$3,507,464			
	Material to be placed earthen confined west of channel within "lung area". 715 Acres See plans for details.		·					
9C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	1.09	\$505,000	\$550,450			
9D	Earthen Retention Dike Re-fubishment	LF	12,700	\$60.00	\$762,000			
9E	HNC Mile 5.0 to HNC Mile 1.5	CY	451,300	\$5.49	\$2,478,179			
	Material to be placed earthen confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.							
9F	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.64	\$505,000	\$323,200			
9G	Earthen Retention Dike Re-fubishment	LF	6,500	\$60.00	\$390,000			
9H	HNC Mile 1.5 to HNC Mile 0.0	CY	193,400	\$5.43	\$1,049,620			
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details							
91	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.27	\$505,000	\$136,350			
9J	Earthen Containment Dike Refurbishment (Lung)	LF	1,823	\$20.00	\$36,460			
9K	Earthen Dike on bay side East Island	LF	3,419	\$60.00	\$205,140			
9L	Earthen Containment Dike Refurbishment (East Island)	LF	1,425	\$20.00	\$28,500			
				Total:	\$10,498,47			
	Contract Duration	DY	60					
	Note:							
	Channel Quantities do not reflect overdepth.							
	Dredgin	g:	1,383,300 CY					
	Earthen Dik	e.	25,867 LF	:				

Survey/Crew/Boat:

2.0 MO

	Feasibility Level Cost	Estimate				
Project:	Houma Navigation Canal Deepening	Quantities	& Line Items	- Puls - Aug	2015	
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015				
	Maintenance Cost Earthen Retention -18ft MLG					
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Adva	nced Maint	enance Include	ed		
	Contract No. 10	Channel I	Maintenance ·	2 year freq	uency	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
10A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950	
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width					
10B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$19.40	\$9,702,400	
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.					
10C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.2	\$645,000	\$1,419,000	
				Total:	\$2,727,950	
	Contract Duration	DY	66			
	Notes:					
	Channel Quantitires do not reflect overdepth.					
	Dredging	:	500,000 CY			
	Survey/Crew/Boat	:	2.2 MO			

Reach	18 foot depth 18 foot depth						oot depth		
			Site 1				Site 2		
	Unit Cost	СҮ	Duration (months)	Mob/Demob (Per Reach)	Unit Cost	CY	Duration (months)	Mob/Demob (Per Reach)	Crew/Equipment Costs
Mob/Demob	\$871,046								\$505,000
36.3 to 34.5 (5-year)	\$5.39	101,600	0.29	\$315,563	\$5.90	101,600	0.32	\$315,563	\$505,000
24.0 to 22.0 (5-year)	\$8.00	101,600		\$366,046					\$505,000
22.0 to 19.7 (5-year)	\$5.71	101,600		\$323,123					\$505,000
		\$1,940,316				\$599,521			
Mob/Demob (36.3 to 22.0)	\$939,307								\$505,000
36.3 to 34.0	\$5.39	101,600	0.29	\$315,563	\$5.90	101,600	0.32	\$315,563	\$505,000
34.0 to 32.0	\$4.25	203,600	0.45	\$434,307					\$505,000
32.0 to 29.5	\$5.84	153,700		\$434,307					\$505,000
29.5 to 28.0	\$4.17	153,700	0.32	\$330,985	\$3.78	153,700	0.29	\$330,985	\$505,000
28.0 to 26.0	\$3.37	203,600	0.36	\$317,075					\$505,000
26.0 to 24.0	\$3.92	203,600		\$330,985	\$3.62	203,600	0.37	\$330,985	\$505,000
24.0 to 22.0	\$8.00	101,600	0.30	\$366,046					\$505,000
		\$5,246,856				\$1,917,413			
Mob/Demob (22.0 to 11.0)	\$828,123								\$505,000
22.0 to 20.0	\$5.71	101,600	0.30	\$323,123	\$7.92	101,600	0.41	\$323,123	\$505,000
20.0 to 18.0	\$3.10	203,600	0.33	\$320,704	\$3.21	203,600	0.34	\$320,704	\$505,000
18.0 to 16.0	\$3.10	203,600	0.33	\$320,704	\$3.51	203,600	0.37	\$320,704	\$505,000
16.0 to 13.0	\$3.06	307,300	0.49	\$320,704					\$505,000
13.0 to 11.0	\$2.75	236,000	0.34	\$320,704	\$3.10	236,000	0.38	\$320,704	\$505,000
		\$3,430,921				\$2,904,223			
Mob/Demob (0.0 to 11.0)	\$1,031,109								\$505,000
11.0 to 5.0	\$4.75	738,600	1.09	\$485,917					\$505,000
5.0 to 1.5	\$5.49	451,300	0.64	\$526,109					\$505,000
1.5 to 0.0	\$5.43	193,400	0.27	\$526,109	İ				\$505,000
		\$7,035,263		· · · · · ·					
Mob/Demob (0.0 to -3.5)	\$1,308,950								645,000
0.0 to -3.5	\$19.40	500,000	2.20	\$663,950					645,000
		\$9,702,400							

Projec	t: Houma Navigation Canal Dee	•		ems - Puls - Aug 2015	
	Houma, Terrebonne Parish, I			Costs - Ramos - Al	Jg 2015
	Construction Cost Alternat				
	Mile 36.3 to Mile (-3.5) to -18	Foot Eleva	ition w/ Advanced	Maintenance Include	ed
	Summary Page				
Contract No.	Description	Units	Estimated Quantity	Unit Price	Estimated Construction Cost
1	Mobilization/Demobilization	LS	1	\$939,307	\$939,307
	Mile 36.3 to Mile 22.0	CY	890,000	\$22.39	\$19,923,432
2	Mobilization/Demobilization	LS	1	\$825,704	\$825,704
	Mile 22.0 to Mile 11.5	CY	571,200	\$85.81	\$49,012,388
3	Mobilization/Demobilization	LS	1	\$1,030,374	\$1,030,374
	Mile 11.5 to Mile 5.0	CY	1,725,000	\$6.48	\$11,177,498
4	Mobilization/Demobilization	LS	1	\$1,030,374	\$1,030,374
	Mile 5.0 to Mile 0.0	CY	950,000	\$36.55	\$34,725,700
5	Mobilization/Demobilization	LS	1	\$1,308,950	\$1,308,950
	Mile 0.0 to Mile (-3.5)	CY	668,000	\$10.90	\$7,281,747
		Total:	4,804,200	\$26.49	\$127,255,474

Unit costs reflected on summary sheet include earthen dike construction, rock dike construction, geotextile fabric, floatation channel excavation within each specified reach, crews, surveying, and boats, if applicable.

Feasibility Level Cost Estimate										
Project	 Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1C Rock Retention -18 		ies & Line Iter Ramos - Aug		ıg 2015					
	Mile 36.3 to 22.0 to -18 Foot Elevation w/ 2 Feet of Advanced Maintenace Included Contract No. 1									
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost					
1A	Mobilization and Demobolization	LS	1	\$939,307	\$939,307					
	Dredging and Disposal (Mile 36.3 to Mile 22.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width									
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	170,000	\$6.09	\$1,035,776					
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.									
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.53	\$505,000	\$267,650					
1D	NHC Mile 34.0 to HNC Mile 32.0	CY	77,500	\$14.35	\$1,112,032					
	Material to be placed semi-confined within designated Wetland Site 7E east of HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).									
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.58	\$505,000	\$292,900					
1F	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000					
1G	HNC Mile 32.0 to HNC Mile 29.5	CY	95,500	\$7.22	\$689,434					
	Material to be placed semi-confined within designated Wetland Site 7E east of HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).									
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.36	\$505,000	\$181,800					
11	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000					

	Feasibility Level Cost Estim								
Project	: Houma Navigation Canal Deepening		ies & Line Iter		ıg 2015				
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1C Rock Retention -18	Costs -	Ramos - Aug	2015					
	Mile 36.3 to 22.0 to -18 Foot Elevation w/ 2 Feet of Advanced Ma	intenace	Included						
Contract No. 1									
Item	Description	Units	Estimated	Unit Price	Estimated				
ILEIII	Description	Units	Quantity	Unit Frice	Cost				
1J	HNC Mile 29.5 to HNC Mile 28.0	CY	88,000	\$8.79	\$773,837				
	Material to be placed unconfined within designated Wetland Site 12B east of HNC Mile 27.0. Material shall be discharged within the open water areas, a minimum 4,500 -feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).								
1K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.39	\$505,000	\$196,950				
1L	Earthen Retention Dike Refurbishment	LF	1,600	\$60.00	\$96,000				
1M	HNC Mile 28.0 to HNC Mile 26.0	CY	117,000	\$8.24	\$964,454				
	Material to be placed unconfined within designated Wetland Site A-07-A west of HNC Mile 26.5. Material shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).								
1N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.49	\$505,000	\$247,450				
10	Earthen Retention Dike Refurbishment	LF	9,300	\$60.00	\$558,000				
1P	HNC Mile 27.6 to HNC Mile 27.4 (West Bank) Foreshore Protection Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	1,900	\$61.46	\$116,774				
1Q	Mechanical Dredging Flotation Channel Excavation Mile 27.6 to Mile 27.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,260	\$72.92	\$91,879				
1R	HNC Mile 26.4 to HNC Mile 25.9 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	ΤN	26,600	\$61.46	\$1,634,836				
	Geotextile	SY	12,800	\$9.78	\$125,184				
1S	Mechanical Dredging Flotation Channel Excavation Mile 26.4 to Mile 25.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	2,840	\$72.92	\$207,093				

Feasibility Level Cost Estimate										
Project	: Houma Navigation Canal Deepening		ies & Line Iter		ıg 2015					
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1C Rock Retention -18	Costs -	Ramos - Aug	2015						
Mile 36.3 to 22.0 to -18 Foot Elevation w/ 2 Feet of Advanced Maintenace Included										
Contract No. 1										
Item	Description	Units	Estimated	Unit Price	Estimated					
			Quantity		Cost					
1T	HNC Mile 26.0 to HNC Mile 24.0	CY	171,000	\$6.22	\$1,063,757					
	Material to be placed unconfined within designated Wetland Site A-07-A west of HNC Mile 26.5. Material shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).									
1U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.54	\$505,000	\$272,700					
1V	Earthen Retention Dike Refurbishment	LF	13,000	\$60.00	\$780,000					
1W	HNC Mile 25.9 to HNC Mile 24.1 (West Bank) Foreshore Protection Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	21,300	\$61.46	\$1,309,098					
1X	Mechanical Dredging Flotation Channel Excavation Mile 25.9 to Mile 24.1 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324					
1Y	HNC Mile 24.0 to HNC Mile 22.0	CY	171,000	\$5.27	\$901,786					
	Material to be placed semi-confined within designated Wetland Site 15 west of HNC Mile 23.5. Material to be placed within the open water area(s), a minimum 1,270 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).									
1Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.46	\$505,000	\$232,300					
1AA	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000					
1BB	HNC Mile 23.7 to HNC Mile 22.4 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	59,100	\$61.46	\$3,632,286					
	Geotextile	SY	28,500	\$9.78	\$278,730					
1CC	Mechanical Dredging Flotation Channel Excavation Mile 23.7 to Mile 22.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897					
1DD	HNC Mile 22.2 to HNC Mile 22.1 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	ΤN	9,800	\$61.46	\$602,308					
	Geotextile	SY	4,700	\$9.78	\$45,966					

	Feasibility Level Cost					
Project	:: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana			ies & Line Iten Ramos - Aug		ıg 2015
	Construction Cost Alternative 1C Rock Retention -18 Mile 36.3 to 22.0 to -18 Foot Elevation w/ 2 Feet of Advance Contract No. 1	d Mainter	nace	Included		
ltem	Description	U	nits	Estimated Quantity	Unit Price	Estimated Cost
1EE	Mechanical Dredging Flotation Channel Excavation Mile 22.2 to Mile 22.1. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	I	LF	730	\$72.92	\$53,232
					Total:	\$20,862,739
	Contract Duration	[DY	101		
	Notes:					
	Dredging quantity does not reflect overdepth.					
	Dre	dging:		890,000 CY		
		Rock:		118,700 TON		
	Geot	extile:		46,000 SY		
	Flotation Ch	annel:		21,070 LF		
	Earthen	Dike:		30,850 LF		
	Survey/Crew	/Boat:		3.4 MO		

Destant	Feasibility Level Cost Estimate Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2015							
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1C Rock Retention -18 Mile 22.0 to 11.5 to -18 Foot Elevation w/ 2 Feet of Advanced Ma	Costs - Ra	amos - Aug 201	-	015			
	Contract No. 2							
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
2A	Mobilization and Demobilization	LS	1	\$825,704	\$825,704			
	Dredging and Disposal (Mile 22.0 to Mile 11.5) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width							
2B	HNC Mile 22.0 to HNC Mile 20.0	CY	225,000	\$4.15	\$933,120			
	Material to be placed unconfined within designated Wetland Site 16 west of HNC Mile 22. Material shall be discharged within the open water areas, a minimum 1,550 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).							
2C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.49	\$505,000	\$247,450			
2D	HNC Mile 20.0 to HNC Mile 18.0	CY	21,000	\$25.51	\$535,718			
	Material to be placed unconfined within Wetland Site 19C east of and adjacent to HNC Mile 19.5. The discharge will be positioned to the east and placed a minimum 500 ft beyond the bank rim/ridge or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) of Site 19C NTE +3.0' NAVD88 (See dwgs for details).							
2E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.28	\$505,000	\$141,400			
2F	HNC Mile 19.2 to HNC Mile 17.5 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	99,500	\$61.46	\$6,115,270			
	Geotextile	SY	47,900	\$9.78	\$468,462			
2G	Mechanical Dredging Flotation Channel Excavation Mile 19.2 to Mile 17.5 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,120	\$72.92	\$592,110			
2H	HNC Mile 19.1 to HNC Mile 17.8 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	18,200	\$61.46	\$1,118,572			
	Geotextile	SY	8,750	\$9.78	\$85,575			
21	Mechanical Dredging Flotation Channel Excavation Mile 19.1 to Mile 17.8 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527			

	Feasibility Level Cost Est	imate			
Project:	Houma Navigation Canal Deepening		& Line Items -	-	015
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1C Rock Retention -18	Costs - Ra	mos - Aug 201	15	
	Mile 22.0 to 11.5 to -18 Foot Elevation w/ 2 Feet of Advanced Ma	aintenace In	cluded		
	Contract No. 2				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
2J	HNC Mile 18.0 HNC Mile 16.0	CY	77,200	\$10.85	\$837,960
	Material to be placed unconfined within designated Wetland Site 20C west of HNC Mile 17. Material shall be discharged within the open water areas, a minimum 900 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
2K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.44	\$505,000	\$222,200
2L	HNC Mile 17.7 to HNC Mile 16.7 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	67,400	\$61.46	\$4,142,404
	Geotextile	SY	32,500	\$9.78	\$317,850
2M	Mechanical Dredging Flotation Channel Excavation Mile 17.7 to Mile 16.7 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,480	\$72.92	\$399,602
2N	HNC Mile 16.9 to HNC Mile 13.3 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	213,000	\$61.46	\$13,090,980
	Geotextile	SY	102,600	\$9.78	\$1,003,428
20	Mechanical Dredging Flotation Channel Excavation Mile 16.9 to Mile 13.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	19,200	\$72.92	\$1,400,064
2P	HNC Mile 16.0 to HNC Mile 13.0	CY	153,000	\$8.86	\$1,355,213
	Material to be placed semi-confined within designated Wetland Site 21 west of HNC Mile 15. Material to be placed within the open water area(s), a minimum 600 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
2Q	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.71	\$505,000	\$358,550
2R	Earthen Retension Dike Refurbishment	LF	3,850	\$60.00	\$231,000
2S	HNC Mile 15.6 to HNC Mile 14.0 (West Bank) Rock Retention Structure (site 21) (Dk ht. +6' NAVD88)	TN	94,500	\$61.46	\$5,807,970
	Geotextile	SY	45,500	\$9.78	\$444,990

Project:	Feasibility Leve Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1C Rock Retention - Mile 22.0 to 11.5 to -18 Foot Elevation w/ 2 Feet of Ac Contract No. 2	-18	Quantities Costs - Ra	s & Line Items - amos - Aug 201 ncluded	-	015
ltem	Description		Units	Estimated Quantity	Unit Price	Estimated Cost
2T	Mechanical Dredging Flotation Channel Excavation Mile 15.6 to Mile 14.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width		LF	8,650	\$72.92	\$630,758
2U	HNC Mile 13.1 to HNC Mile 11.9 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)		TN	75,900	\$61.46	\$4,664,814
	Geotextile		SY	36,600	\$9.78	\$357,948
2V	Mechanical Dredging Flotation Channel Excavation Mile 13.1 to Mile 11.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width		LF	5,340	\$72.92	\$389,393
2W	HNC Mile 13.0 to HNC Mile 11.5		CY	95,000	\$6.82	\$648,128
	Material to be placed semi-confined within designated Wetland Site 24 west of HNC Mile 12.1. Material to be placed within the open water area(s), a minimum 900 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).					
2X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	t	MO	0.34	\$505,000	\$171,700
2Y	Earthen Retension Dike Refurbishment		LF	4,100	\$60.00	\$246,000
2Z	HNC Mile 12.7 to HNC Mile 12.3 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)		TN	27,100	\$61.46	\$1,665,56
	Geotextile		SY	13,000	\$9.78	\$127,140
2AA	Mechanical Dredging Flotation Channel Excavation Mile 12.6 to Mile 12.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width		LF	1,790	\$72.92	\$130,527
					Total:	\$49,838,09
	CONTRACT DURATION		DY	68		
	Note:					
	Dredging quantity does not reflect overdepth.					
		Dredging:	:	571,200 CY		
		Rock:		595,600 TON		
		Geotextile:		286,850 SY		

Flotation Channel:

50,370 LF

7,950 LF

Earthen Dike:

Project	Feasibility Level Cost Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1C Rock Retention -18	Quantities	& Line Items - F amos - Aug 2015	-	15
	Mile 11.5 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advance Contract No. 3	d Maintena	ce Included		
ltem	Description	Units	Estimated Quantity	Unit Price	Estimate Cost
ЗA	Mobilization and Demobilization	LS	1	\$1,030,374	\$1,030,37
	Dredging and Disposal (Mile 11.5 to 5.0) Channel to be excavated to -21 NAVD88; 1v/3h side slope by 150' channel width				
3B	HNC Mile 11.5 to HNC Mile 10.0	CY	125,000	\$6.04	\$755,20
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.				
3C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.27	\$505,000	\$136,35
3D	Earthen Retension Dike Refurbishment	LF	12,700	\$60.00	\$762,00
3E	Mechanical Dredging Flotation Channel Excavation Mile 11.5 to Mile 10.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,32
3F	HNC Mile 10.0 to HNC Mile 5.0	CY	1,600,000	\$3.90	\$6,246,4
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.				
3G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.18	\$505,000	\$1,100,9
ЗН	Earthen Retension Dike Refurbishment	LF	12,700	\$60.00	\$762,00
31	Mechanical Dredging Flotation Channel Excavation Mile 10.0 to Mile 5.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,32
				Total	\$12,207,8
	Contract Duration:	DY	74		
	Notes:				
	Dredging quantity does not reflect overdepth.				
	Dredging		1,725,000 CY		
	Rock				
	Geotextile				
	Flotation Channel		19,400 LF		
	Earthen Dike		25,400 LF		
	Survey/Crew/Boat		2.5 MO		

Drojoot	Feasibility Level Cost Estimate t: Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2015							
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 1C Rock Retention -18	Costs - Ramos - Aug 2015						
	Mile 11.5 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advance Contract No. 3	ed Maintena						
ltem	Description	Units	Estimated Quantity	Unit Price	Estimate Cost			
4A	Mobilization and Demobilization	LS	1	\$1,030,374	\$1,030,37			
	Dredging and Disposal (Mile 10.0 to 0.0) Channel to be excavated to -21 NAVD88; 1v/3h side slope by 150' channel width							
4B	HNC Mile 5.0 to HNC Mile 1.5	CY	760,000	\$9.31	\$7,072,2			
	Material to be placed rock confined on northeast end of Isle Denieres (East Island) @ 3' contour for marsh creation. 370 Acres. See plans for details.							
4C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	1.51	\$505,000	\$762,55			
4D	Earthen Retension Dike Refurbishment	LF	6,500	\$60.00	\$390,00			
4E	Mechanical Dredging Flotation Channel Excavation Mile 5.0 to Mile 1.5 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,32			
4F	HNC Mile 1.5 to HNC Mile 0.0	CY	190,000	\$11.93	\$2,266,6			
	Material to be placed unconfined for beach nourishment on Isle Denieres See plans for details							
4G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.57	\$505,000	\$287,85			
4H	Rock Dike within Lung Disposal Area Geotextile	TONS SY	225,208 108,489	\$61.46 \$9.78	\$13,841,2 \$1,061,02			
41	Rock Dike on bay side of East Island Geotextile	TONS SY	125,988 60,692	\$61.46 \$9.78	\$7,743,2 \$593,56			
				Total	\$35,756,0			
	Contract Duration:	DY	62					
	Notes:							
	Dredging quantity does not reflect overdepth.							
	Dredging	:	950,000 CY					
	Rock	:	351,196 TON					
	Geotextile	:	169,181 SY					
	Flotation Channel	:	9,700 LF					

	Feasibility Level Cost E	stimate					
Projec	t: Houma Navigation Canal Deepening	Quantities	& Line Items - P	Puls - Aug 201	5		
	Houma, Terrebonne Parish, Louisiana Costs - Ra						
	Construction Cost Alternative 1C Rock Retention -18						
	Mile 11.5 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advanced Maintenace Included Contract No. 3						
ltem	Description	Units	Estimated	Unit Price	Estimated		
nem	Description	Units	Quantity	Unit Frice	Cost		
	Earthen Dike:		6,500 LF				
	Survey/Crew/Boat: 2.1 MO						

	Feasibility Level Cost Es						
Project	t: Houma Navigation Canal Deepening		ties & Line Iter		ıg 2015		
	Houma, Terrebonne Parish, Louisiana	Costs -	Costs - Ramos - Aug 2015				
	Construction Cost Alternative 1C Rock Retention -18						
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Advance	ed Mainte	nace Included				
	Contract No. 4						
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
5A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,95		
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width.						
5B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	668,000	\$9.51	\$6,352,94		
	Material to be placed unconfined for Marsh Creation on the south side of East Island (Isle Deniers) outside of rock confinement. (See plans for details). Material Quantity does not reflect overdepth.						
5C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.44	\$645,000	\$928,800		
				Total:	\$8,590,69		
	Contract Duration:	DY	43				
	Note:						
	Dredging quantity does not reflect overdepth.						
	Dredging	g:	668,000 CY				
	Survey/Crew/Boa	t:	1.4 MO				

Reach	18 foc	ot depth			
	Unit Cost	CY	Duration (months)	Mob/Demob (Per Reach)	Crew/Equipment Costs
Mob/Demob (36.3 to 22.0)	\$939,307				\$505,000
36.3 to 34.0	\$6.09	170,000	0.53	\$327,961	\$505,000
34.0 to 32.0	\$14.35	77,500	0.58	\$434,307	\$505,000
32.0 to 29.5	\$7.22	95,500	0.36	\$434,307	\$505,000
29.5 to 28.0	\$8.79	88,000	0.39	\$327,961	\$505,000
28.0 to 26.0	\$8.24	117,000	0.49	\$327,961	\$505,000
26.0 to 24.0	\$6.22	171,000	0.54	\$327,961	\$505,000
24.0 to 22.0	\$5.27	171,000	0.46	\$327,961	\$505,000
		\$6,541,075			
Mob/Demob (22.0 to 11.0)	\$825,704				\$505,000
22.0 to 20.0	\$4.15	225,000	0.49	\$320,704	\$505,000
20.0 to 18.0	\$25.51	21,000	0.28	\$320,704	\$505,000
18.0 to 16.0	\$10.85	77,200	0.44	\$320,704	\$505,000
16.0 to 13.0	\$8.86	153,000	0.71	\$320,704	\$505,000
13.0 to 11.5	\$6.82	95,000	0.34	\$320,704	\$505,000
		\$4,310,139			
Mob/Demob (0.0 to 11.0)	\$1,030,374				\$505,000
11.5 to 10.0	\$6.04	125,000	0.27	\$372,299	\$505,000
10.0 to 5.0	\$3.90	1,600,000	2.18	\$372,299	\$505,000
5.0 to 1.5	\$9.31	760,000	1.51	\$525,374	\$505,000
1.5 to 0.0	\$11.93	190,000	0.57	\$526,109	\$505,000
		\$16,340,480			
Mob/Demob (0.0 to -3.5)	\$1,308,950				645,000
0.0 to -3.5	\$9.51	668,000	1.44	663,950	645,000
		\$6,352,947			

						uls - Aug 2015				
	Houma, Terrebonne Parish, Lou			Costs - Ramo	s - Aug 2015					
	Maintenance Cost Rock Retention -18ft MLG									
	Costs for 10-Year Cycle to be I					Multiple Dispo	osal Sites			
	Mile 36.3 to Mile (-3.5) to -18 For	ot Elevation w/ Adv	vanced Ma	aintenance Inc	luded					
	Summary Page									
Contract		Cycle			Estimated	Estimated	Estimated Total Cost (5			
No.	Description	Frequency	Units	Quantity	Unit Price	Cycle Cost	Year)			
		(Years)			Per Cycle		i cui)			
4+	Male III - a Cara /D a sea a la III - a Cara	40		4		* 0 7 4 040	# 4 055 000			
1*	Mobilization/Demobilization	10	LS	1	MT 00	\$871,046	\$4,355,230			
	Mile 36.3 to Mile 34.0	10	CY	101,600	\$7.23	\$734,254	\$3,671,268			
	Mile 24.0 to Mile 22.0	10	CY	101,600	\$10.94	\$1,111,300	\$5,556,500			
	Mile 22.0 to Mile 20.0	10	CY	101,600	\$8.32	\$845,221	\$4,226,103			
	Mobilization/Demobilization	2	LS	1	*	\$1,031,109	\$25,777,725			
	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$9.67	\$13,381,624	\$334,540,608			
2	Mobilization/Demobilization	2	LS	1		\$1,308,950	¢22,722,750			
2		2	CY	-	¢00.04		\$32,723,750			
	Mile 0.0 to Mile (-3.5)	Z	Сř	500,000	\$22.24	\$11,121,400	\$278,035,000			
3	Mobilization/Demobilization	2	LS	1		\$1,031,109				
U	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$9.67	\$13,381,624				
		2	01	1,000,000	ψ0.07	φ10,001,024				
4	Mobilization/Demobilization	2	LS	1		\$1,308,950				
4	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$22.24	\$11,121,400				
	Wile 0.0 to Mile (-3.5)	2	CT	500,000	ΦΖΖ.Ζ 4	ΦΠ,121,400				
5	Mobilization/Demobilization	2	LS	1		\$1,031,109				
÷	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$9.67	\$13,381,624				
		-	01	1,000,000	Q 0101	\$10,001,0 <u>2</u> 1				
6	Mobilization/Demobilization	10	LS	1		\$939,307	\$4,696,535			
	Mile 36.3 to Mile 34.0	10	CY	101,600	\$7.36	\$747,687	\$3,738,437			
	Mile 34.0 to Mile 32.0	10	CY	203,600	\$7.40	\$1,506,469	\$7,532,343			
	Mile 32.0 to Mile 29.5	10	CY	153,700	\$10.07	\$1,548,466	\$7,742,331			
	Mile 29.5 to Mile 28.0	10	CY	153,700	\$5.60	\$860,476	\$4,302,382			
	Mile 28.0 to Mile 26.0	10	CY	203,600	\$10.65	\$2,167,912	\$10,839,561			
	Mile 26.0 to Mile 24.0	10	CY	203,600	\$17.72	\$3,606,829	\$18,034,143			
	Mile 24.0 to Mile 22.0	10	CY	101,600	\$24.49	\$2,488,347	\$12,441,736			
	Mile 22.0 to Mile 20.0	10	CY	101,600	\$9.44	\$958,927	\$4,794,636			
	Mobilization/Demobilization	2	LS	1	\$1,308,950	\$1,308,950	¢1,701,000			
	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$22.24	\$11,121,400				
	Whe 0.0 to Whe (-3.3)	2	01	500,000	ψΖΖ.Ζ4	φ11,121, 4 00				
7	Mobilization/Demobilization	10	LS	1		\$939,307	\$4,696,535			
	Mile 20.0 to Mile 18.0	10	CY	203,600	\$14.89	\$3,030,630	\$15,153,149			
	Mile 18.0 to Mile 16.0	10	CY	203,600	\$29.90	\$6,088,383	\$30,441,913			
	Mile 16.0 to Mile 13.0	10	CY	307,300	\$14.75	\$4,533,250	\$22,666,249			
	Mile 13.0 to Mile 11.0	10	CY	236,000	\$6.71	\$1,582,869	\$7,914,345			
	Mobilization/Demobilization	2	LS	1	ψ0.7 Τ	\$1,031,109	Ψ7,514,545			
	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$9.67	\$13,381,624				
		-	•	.,,	çoror	¢:0,00:,0 <u>2</u> :				
8	Mobilization/Demobilization	2	LS	1		\$1,308,950				
	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$22.24	\$11,121,400				
	-									
9	Mobilization/Demobilization	2	LS	1		\$1,031,109				
	Mile 11.0 to Mile 0.0	2	CY	1,383,300	\$9.67	\$13,381,624				
4.0		2				#4 000 0=6				
10	Mobilization/Demobilization	2	LS	1	\$00.04	\$1,308,950				
	Mile 0.0 to Mile (-3.5)	2	CY	500,000	\$22.24	\$11,121,400				

Feasibility Level Cost Estimate

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Note: Unit costs reflected on summary sheet include all disposal area dike refurbishment within each specified reach, if necessary * Three reaches specified in Contract 1 require a maintenance cycle every 5 years. 5 years after maintenance Contract 1 reaches at 36.3, 24.0, and 22.0 will undergo maintenance under Contract 6 (10-Year cycle). 5 Years after maintenance Contract 6 those reaches will be maintained under a new 5-year cycle (Contract 11). Following this sequence, contract 6 will be required four additional times over the 50 year project life after Contract 6 is completed.

	Lauma Navigatian Canal Decreation	O	O Line Hamis		045		
Project.	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015					
	Houma, Terrebonne Parish, Louisiana						
	Maintenance Cost Rock Retention -18ft MLG						
	Mile 36.3 to 34.0 & Mile 24 to 20.0 & Mile 22.0 to 20.0 & Mi						
	w/ 2 and 3 Feet of Advanced Maintenance Included		Multiple Disposal Sites				
	Contract No. 1	Channel	Channel Maintenance - 10 year freq				
ltem	Description	Units	Estimated	Unit Price	Estimated		
			Quantity		Cost		
1A	Mobilization and Demobolization	LS	1	\$871,046	\$871,046		
	Dredging and Disposal (Mile 36.3 to Mile 20.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width						
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	101,600	\$5.39	\$547,502		
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.						
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.29	\$505,000	\$146,450		
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	101,600	\$5.90	\$599,521		
	Material to be placed within confined upland Site 3 opposite HNC Mile 35.5 No height restriction. Dike construction/maintenance not required.						
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.32	\$505,000	\$161,600		
1D	HNC Mile 24.0 to HNC Mile 22.0	CY	101,600	\$8.00	\$812,800		
	Material to be placed semi-confined within designated Wetland Site 15 west of HNC Mile 23.5. Material to be placed within the open water area(s), a minimum 1,270 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).						
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500		
1F	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000		

	Feasibility Level Cost	Estimate					
Project	: Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015					
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	amos - Aug 20	015			
	Maintenance Cost Rock Retention -18ft MLG						
	Mile 36.3 to 34.0 & Mile 24 to 20.0 & Mile 22.0 to 20.0 & Mi						
	w/ 2 and 3 Feet of Advanced Maintenance Included Contract No. 1	Maintenance Included Multiple Disposal Sites Channel Maintenance - 10 year frequ					
		Channer	- To year freq	Estimated			
ltem	Description	Units	Estimated Quantity	Unit Price	Cost		
1G	HNC Mile 22.0 to HNC Mile 20.0	CY	101,600	\$5.71	\$580,014		
	Material to be placed unconfined within Wetland Site 16 opposite and adjacent to HNC Mile 21.4 along the west bank of the HNC WW. The discharge will be positioned to the west and placed a minimum 1,550 ft beyond the bank rim or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) NTE +3.0' NAVD 88 (See dwgs for details).						
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.30	\$505,000	\$151,500		
1G	HNC Mile 22.0 to HNC Mile 20.0	CY	101,600	\$7.92	\$804,997		
	Material to be placed semi-confined within Wetland Site 15A between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a west-southwesterly direction. Earthen closures will be required along the west side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).						
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.41	\$505,000	\$207,050		
11	Earthen Retention Dike Refurbishment	LF	4,800	\$60.00	\$288,000		
1J	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109		
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width						
1K	HNC Mile 11.0 to HNC Mile 5.0	CY	738,600	\$4.75	\$3,507,464		
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.						
1L	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	1.09	\$505,000	\$550,450		

		st Estimate	0.1.1.1.11		045		
Project:	t: Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2015						
	Houma, Terrebonne Parish, Louisiana	Costs - R	amos - Aug 20)15			
	Maintenance Cost Rock Retention -18ft MLG						
	Mile 36.3 to 34.0 & Mile 24 to 20.0 & Mile 22.0 to 20.0 & M	1ile 11.0 to 0.0	to -18 Foot El	evation			
	w/ 2 and 3 Feet of Advanced Maintenance Included		Multiple Disp	osal Sites			
	Contract No. 1	Channel	Maintenance	- 10 year freq	uency		
ltem	Description	Units	Estimated				
nem	Description	Units	Quantity	Unit Price	Cost		
1M	Earthen Retention Dike Refurbishment	LF	12,700	\$60.00	\$762,000		
1N	Mechanical Dredging Flotation Channel Excavation Mile 11.0 to Mile 5.0. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897		
10	HNC Mile 5.0 to HNC Mile 1.5	CY	451,300	\$5.49	\$2,478,179		
	Material to be placed rock confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.						
1P	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.64	\$505,000	\$323,200		
1Q	Earthen Retention Dike Refurbishment	LF	6,500	\$60.00	\$390,000		
1R	Mechanical Dredging Flotation Channel Excavation Mile 5.0 to Mile 1.5. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897		
1S	HNC Mile 1.5 to HNC Mile 0.0	CY	193,400	\$5.43	\$1,049,620		
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details						
1T	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.27	\$505,000	\$136,350		
1U	Rock Containment Dike for Lung Disposal Area Geotextile	TONS SY	22,313 10,749	\$60.00 \$6.00	\$1,338,780 \$64,494		
1V	Rock Containment Dike Refurbishment (Lung)	TONS	12,099	\$60.00	\$725,940		

	Feasibility Level Cost E	stimate				
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Rock Retention -18ft MLG	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015				
	Mile 36.3 to 34.0 & Mile 24 to 20.0 & Mile 22.0 to 20.0 & Mile w/ 2 and 3 Feet of Advanced Maintenance Included Contract No. 1		Multiple Dispo Maintenance -	sal Sites	uencv	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
1W	Rock Containment Dike for East Island Disposal Area Geotextile	TONS SY	11,622 5,599	\$60.00 \$6.00	\$697,320 \$33,594	
1X	Rock Containment Dike Refurbishment (East Island)	TONS	6,174	\$60.00	\$370,440	
				Total:	\$18,021,248	
	Contract Duration	DY	91			
	Notes:					
	Channel Quantitires do not reflect overdepth.					
	Dredging		1,688,100 CY			
	Rock		52,208 TON			
	Geotextile		16,348 SY			
	Floatation Channel	:	13,080 LF			
	Earthen Dike:	:	26,450 LF			
	Survey/Crew/Boat		3.0 MO			

	Feasibility Level Cost	Estimate			
Project	: Houma Navigation Canal Deepening	Quantities	& Line Items -	Puls - Aug 20	015
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	nmos - Aug 201	5	
	Maintenance Cost Rock Retention -18ft MLG				
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Adva				
	Contract No. 2	Channel M	laintenance -	2 year frequ	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
2A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
2B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$19.40	\$9,702,400
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.				
2C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.20	\$645,000	\$1,419,000
				Total:	\$12,430,350
	Contract Duration	DY	66		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredging	:	500,000 CY		
	Survey/Crew/Boat	:	2.2 MO		

Feasibility Level Cost Estimate									
Project:	Houma Navigation Canal Deepening			ms - Puls - Au	g 2015				
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015							
	Maintenance Cost Rock Retention -18ft MLG Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advanced Maintenance Included								
	Contract No. 3			ice - 2 year fre	equency				
Itom	Description	Units	Estimated	Unit Price	Estimated				
ltem	Description	Units	Quantity	Unit Price	Cost				
ЗA	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109				
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width								
3B	HNC Mile 11.0 to HNC Mile 5.0	CY	738,600	\$4.75	\$3,507,464				
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.								
3C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.09	\$505,000	\$550,450				
3D	Earthen Retention Dike Refurbishment	LF	12,700	\$60.00	\$762,000				
3E	Mechanical Dredging Flotation Channel Excavation Mile 11.0 to Mile 5.0. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897				
3F	HNC Mile 5.0 to HNC Mile 1.5	CY	451,300	\$5.49	\$2,478,179				
	Material to be placed rock confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.								
3G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.64	\$505,000	\$323,200				
ЗH	Earthen Retention Dike Refurbishment	LF	6,500	\$60.00	\$390,000				
31	Mechanical Dredging Flotation Channel Excavation Mile 5.0 to Mile 1.5. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897				
3J	HNC Mile 1.5 to HNC Mile 0.0	CY	193,400	\$5.43	\$1,049,620				
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details								
ЗК	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.27	\$505,000	\$136,350				
3L	Rock Containment Dike for Lung Disposal Area Geotextile	TONS SY	22,313 10,749	\$60.00 \$6.00	\$1,338,780 \$64,494				
ЗМ	Rock Containment Dike Refurbishment (Lung)	TONS	12,099	\$60.00	\$725,940				

	Feasibility Level Cost I	Estimate				
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015				
	Houma, Terrebonne Parish, Louisiana					
	Maintenance Cost Rock Retention -18ft MLG					
	Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advance	ed Mainte	nance Includec	I		
	Contract No. 3	Chann	el Maintenanc	e - 2 year fre	equency	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
3N	Rock Containment Dike for East Island Disposal Area	TONS	11,622	\$60.00	\$697,320	
	Geotextile	SY	5,599	\$6.00	\$33,594	
30	Rock Containment Dike Refurbishment (East Island)	TONS	6,174	\$60.00	\$370,440	
				Total:	\$14,412,73	
	CONTRACT DURATION	DY	60			
	Note:					
	Channel Quantitires do not reflect overdepth.					
	Dredgir	ng:	1,383,300 CY			
	Ro	ck:	52,208 TON			
	Geotext	le:	16,348 SY			

Flotation Channel:

Survey/Crew/Boat:

Earthen Dike:

13,080 LF

19,200 LF

2.0 MO

	Feasibility Level Cost							
•	Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug 2	2015			
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	amos - Aug 20	15				
	Maintenance Cost Rock Retention -18ft MLG							
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Advanced Maintenance Included							
	Contract No. 4	Channel	Maintenance	- 2 year freq	uency			
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
4A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950			
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width							
4B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$19.40	\$9,702,400			
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.							
4C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.20	\$645,000	\$1,419,000			
				Total:	\$12,430,35			
	Contract Duration	DY	66					
	Notes:							
	Channel Quantitires do not reflect overdepth.							
	Dredging	:	500,000 CY					
	Survey/Crew/Boat	:	2.2 MO					

	Feasibility Level Cost Estimate							
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Rock Retention -18ft MLG		ies & Line Ite Ramos - Aug	ms - Puls - Au g 2015	g 2015			
	Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advance Contract No. 5	ed Maintenance Included Channel Maintenance - 2 year frequency						
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
5A	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109			
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width							
5B	HNC Mile 11.0 to HNC Mile 5.0	CY	738,600	\$4.75	\$3,507,464			
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.							
5C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	1.09	\$505,000	\$550,450			
5D	Earthen Retention Dike Refurbishment	LF	12,700	\$60.00	\$762,000			
5E	Mechanical Dredging Flotation Channel Excavation Mile 11.0 to Mile 5.0. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897			
5F	HNC Mile 5.0 to HNC Mile 1.5	CY	451,300	\$5.49	\$2,478,179			
	Material to be placed rock confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.							
5G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.64	\$505,000	\$323,200			
5H	Earthen Retention Dike Refurbishment	LF	6,500	\$60.00	\$390,000			
51	Mechanical Dredging Flotation Channel Excavation Mile 5.0 to Mile 1.5. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897			
5J	HNC Mile 1.5 to HNC Mile 0.0	CY	193,400	\$5.43	\$1,049,620			
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details							
5K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.27	\$505,000	\$136,350			
5L	Rock Containment Dike for Lung Disposal Area Geotextile	TONS SY	22,313 10,749	\$60.00 \$6.00	\$1,338,780 \$64,494			
5M	Rock Containment Dike Refurbishment (Lung)	TONS	12,099	\$60.00	\$725,940			

	Feasibility Level Cost E	stimate					
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015					
	Houma, Terrebonne Parish, Louisiana	Costs	- Ramos - Aug	2015			
	Maintenance Cost Rock Retention -18ft MLG						
	Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advance	d Mainte	nance Included	l			
	Contract No. 5	Chanr	el Maintenanc	e - 2 year fre	equency		
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
5N	Rock Containment Dike for East Island Disposal Area Geotextile	TONS SY	11,622 5,599	\$60.00 \$6.00	\$697,320 \$33,594		
50	Rock Containment Dike Refurbishment (East Island)	TONS	6,174	\$60.00	\$370,440		
				Total:	\$14,412,73		
	CONTRACT DURATION	DY	60				
	Note:						
	Channel Quantities do not reflect overdepth.						
	Dredging	··	1,383,300 CY				
		j.	1,000,000 01				
	Rock	c:	52,208 TON				

52,208 TON	Rock:
16,348 SY	Geotextile:
13,080 LF	Flotation Channel:
19,200 LF	Earthen Dike:
2.0 MO	Survey/Crew/Boat:

Droigot	Houma Navigation Canal Deepening	Quantitia	s & Line Items	- Dulo Auro	015
roject:				•	015
	Houma, Terrebonne Parish, Louisiana	Costs - R	amos - Aug 20		
	Maintenance Cost Rock Retention -18ft MLG		Multiple Disp		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/				ed
	Contract No. 6 Channel Maintenan	ce - 2, 5, and		lency	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
6A	Mobilization and Demobolization	LS	1	\$939,307	\$939,307
	Dredging and Disposal (Mile 36.3 to Mile 20.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width				
6B	HNC Mile 36.3 to HNC Mile 34.0	CY	101,600	\$5.39	\$547,502
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.				
6C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.29	\$505,000	\$146,450
6B	HNC Mile 36.3 to HNC Mile 34.0	CY	101,600.00	\$5.90	\$599,521
	Material to be placed within confined upland Site 3 opposite HNC Mile 35.5 No height restriction. Dike construction/maintenance not required.				
6C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.32	\$505,000	\$161,600
6D	NHC Mile 34.0 to HNC Mile 32.0	CY	203,600	\$4.25	\$865,219
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
6E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.45	\$505,000	\$227,250
6F	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000

Project.	Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aua 2	2015
10,000	Houma, Terrebonne Parish, Louisiana		amos - Aug 20	•	
	Maintenance Cost Rock Retention -18ft MLG		Multiple Disp		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2				he
	Contract No. 6 Channel Maintenance				
			Estimated		Estimate
ltem	Description	Units	Quantity	Unit Price	Cost
6G	HNC Mile 32.0 to HNC Mile 29.5	CY	153,700	\$5.84	\$897,116
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
6H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.47	\$505,000	\$237,350
61	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000
6J	HNC Mile 29.5 to HNC Mile 28.0	CY	153,700	\$4.17	\$641,35
	Material to be placed unconfined within designated Wetland Site 12B opposite approximate HNC Mile 27.0. Mtl. shall be discharged within the open water areas, a minimum 4,500feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details)				
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.32	\$505,000	\$161,600
6L	Earthen Retention Dike Refurbishment	LF	1,600	\$60.00	\$96,000
6J	HNC Mile 29.5 to HNC Mile 28.0	CY	153,700	\$3.78	\$580,37
61	Material to be placed unconfined within designated Wetland Site 12 opposite approximate HNC Mile 27.0. Mtl. shall be discharged within the open water areas, a minimum 1,950 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details)				
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.29	\$505,000	\$146,450
6L	Earthen Retention Dike Refurbishment	LF	1,800	\$60.00	\$108,000

	Feasibility Level Cost Estin	nate			
Project:	Houma Navigation Canal Deepening	Quantities	s & Line Items	•	2015
			amos - Aug 20		
	Maintenance Cost Rock Retention -18ft MLG		Multiple Disp		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Fe				ed
	Contract No. 6 Channel Maintenance -	2, 5, and	Estimated	iency	Estimated
Item	Description	Units	Quantity	Unit Price	Cost
6M	HNC Mile 28.0 to HNC Mile 26.0	CY	203,600	\$3.37	\$685,399
	Material to be placed unconfined within designated Wetland Site A-07-A opposite approximate HNC Mile 26.5. Mtl. shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.36	\$505,000	\$181,800
60	Earthen Retention Dike Refurbishment	LF	9,300	\$60.00	\$558,000
6P	HNC Mile 27.6 to HNC Mile 27.4 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88 Stone quantity 20% of construction quantity	TN)	1,900	\$61.46	\$116,774
6Q	Mechanical Dredging Flotation Channel Excavation Mile 27.6 to Mile 27.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,260	\$72.92	\$91,879
6R	HNC Mile 26.4 to HNC Mile 25.9 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88 Stone quantity 20% of construction quantity	TN)	5,320	\$61.46	\$326,967
6S	Mechanical Dredging Flotation Channel Excavation Mile 26.4 to Mile 25.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	2,840	\$72.92	\$207,093
6T	HNC Mile 26.0 to HNC Mile 24.0	CY	203,600	\$3.92	\$797,460
	Material to be placed unconfined within designated Wetland Site A-07-A opposite approximate HNC Mile 26.5. Mtl. shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.40	\$505,000	\$202,000
6V	Earthen Retention Dike Refurbishment	LF	13,000	\$60.00	\$780,000

Project:	Houma Navigation Canal Deepening	nate Quantities & Line Items - Puls - Aug 2015				
,			amos - Aug 20	•		
	Maintenance Cost Rock Retention -18ft MLG		Multiple Disp	osal Sites		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 Fe				ed	
	Contract No. 6 Channel Maintenance -	2, 5, and		lency		
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
6T	HNC Mile 26.0 to HNC Mile 24.0	CY	203,600	\$3.62	\$737,521	
	Material to be placed unconfined within designated Wetland Site 14A opposite approximate HNC Mile 27. Mtl. shall be discharged within the open water areas, a minimum 3,360 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).					
6U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.37	\$505,000	\$186,850	
6V	Earthen Retention Dike Refurbishment	LF	9,000	\$60.00	\$540,000	
6W	HNC Mile 25.9 to HNC Mile 24.1 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88 Stone quantity 20% of construction quantity	TN)	21,300	\$61.46	\$1,309,098	
6X	Mechanical Dredging Flotation Channel Excavation Mile 25.9 to Mile 24.1 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324	
6Y	HNC Mile 24.0 to HNC Mile 22.0	CY	101,600	\$8.00	\$812,800	
	Material to be placed semi-confined within Wetland Site 15A between HNC Mile 24.0 and 22.9 west of Site 15 'beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the south east corner, and to proceed outward in a westerly direction. Earthen closures will be required along the east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).					
6Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500	
6AA	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000	
6BB	HNC Mile 23.7 to HNC Mile 22.4 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88 Stone quantity 20% of construction quantity	TN)	11,820	\$61.46	\$726,457	

Declarit	Feasibility Level Cost Esti				045
Project:			s & Line Items	•	2015
			amos - Aug 20		
	Maintenance Cost Rock Retention -18ft MLG		Multiple Disp		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 F Contract No. 6 Channel Maintenance -				ed
ltam			Estimated		Estimated
ltem	Description	Units	Quantity	Unit Price	Cost
6CC	Mechanical Dredging Flotation Channel Excavation Mile 23.7 to Mile 22.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897
6DD	HNC Mile 22.2 to HNC Mile 22.1 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88 Stone quantity 20% of construction quantity	TN 3)	1,960	\$61.46	\$120,462
6EE	Mechanical Dredging Flotation Channel Excavation Mile 22.2 to Mile 22.1. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	730	\$72.92	\$53,232
6FF	HNC Mile 22.0 to HNC Mile 20.0	CY	101,600	\$5.71	\$580,014
	Material to be placed unconfined within Wetland Site 16 opposite and adjacent to HNC Mile 21.4 along the west bank of the HNC WW. The discharge will be positioned to the west and placed a minimum 1,550 ft from the channel center line to placement at the front of the disposal area. Elevation of material placed within the open water area(s) NTE +3.0' NAVD 88 (See dwgs for details).				
6GG	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500
6FF	HNC Mile 22.0 to HNC Mile 20.0	CY	101,600	\$7.92	\$804,997
	Material to be placed semi-confined within Wetland Site 15 between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a west-southwesterly direction. Earthen closures will be required along the west side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6GG	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.41	\$505,000	\$207,050
6HH	Earthen Retention Dike Re-fubishment	LF	4,800	\$60.00	\$288,000

	Feasibility Level Cost Es	timate			
Project:	Houma Navigation Canal Deepening		s & Line Items	•	2015
	Houma, Terrebonne Parish, Louisiana	Costs - F	Ramos - Aug 20		
	Maintenance Cost Rock Retention -18ft MLG		Multiple Dispe		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 2 $$				ed
	Contract No. 6 Channel Maintenance	- 2, 5, and		ency	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
611	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
6JJ	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$19.40	\$9,702,400
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.				
6KK	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.20	\$645,000	\$1,419,000
				Total:	\$27,608,86
	Contract Duration	DY	157		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredging	:	1,723,000 CY		
	Rock	:	42,300 TON		
	Flotation Channel	:	21,070 LF		
	Earthen Dike	:	55,750 LF		
	Survey/Crew/Boat	:	5.2 MO		

	Feasibility Level Cost Estimate					
Project	: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Rock Retention -18ft MLG Mile 20.0 to 11.0 & Mile11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of		g 2015			
	Contract No. 7 Channel Maintenance		U year freque Estimated	-	Estimated	
Item	Description	Units	Quantity	Unit Price	Cost	
7A	Mobilization and Demobolization Dredging and Disposal (Mile 20.0 to Mile 11.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width	LS	1	\$939,307	\$939,307	
7B	HNC Mile 20.0 to HNC Mile 18.0 Material to be placed unconfined within Wetland Site 19C oppsite and adjacent to HNC Mile 19.3 along the east bank of the HNC WW. The discharge will be positioned to the east and placed a minimum 500-ft beyond the bank rim/ridge or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) of Site 19C NTE +3.0' NAVD88 (See dwgs for details).	CY	203,600	\$3.10	\$630,671	
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.33	\$505,000	\$166,650	
7B	HNC Mile 20.0 to HNC Mile 18.0 Material to be placed semi-confined within the open water portions of Wetland Site 19D between HNC Mile 20.2 and 19.6, located beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a westerly direction a minimum distance of 2,350 ft from the center line of the channel. Earthen closures will be required along the south side of the disposal area adjacent to the open water A 200-foot wide construction access corridor along theentrance of the waterway will be provided for the Contractors at the northeast and south east portions of the disposal site. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).	CY	203,600	\$3.21	\$654,126	
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700	
7D	Earthen Retention Dike Re-fubishment	LF	1,300	\$60.00	\$78,000	
7E	HNC Mile 19.2 to HNC Mile 17.5 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	19,900	\$61.46	\$1,223,054	
7F	Mechanical Dredging Flotation Channel Excavation Mile 19.2 to Mile 17.5 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,120	\$72.92	\$592,110	

	Feasibility Level Cost Estimate					
Project	: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Rock Retention -18ft MLG Mile 20.0 to 11.0 & Mile11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of	Costs -				
	Contract No. 7 Channel Maintenance	- 2 and 1	D year freque Estimated		Estimated	
Item	Description	Units	Quantity	Unit Price	Cost	
7G	HNC Mile 19.1 to HNC Mile 17.8 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	3,640	\$61.46	\$223,714	
7H	Mechanical Dredging Flotation Channel Excavation Mile 19.1 to Mile 17.8 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527	
71	HNC Mile 18.0 HNC Mile 16.0	CY	203,600	\$3.10	\$630,671	
	Material to be placed unconfined within Wetland Site 20C oppsoite HNC Mile 16.8 along the west bank of the HNC WW. A construction access corriodr, 200 feet in width, will be provided for the Contractors use at the intersection of Four Pt. Bayou with the HNC WW. The intial buildup shall occur in the east corner of the DA and to proceed outward in a westerly direction. Elevation of Mtl. NTE +3.0' NAVD88 (See dwgs for details).					
71	Surveying Share Crew Dipeline Crew and Crewbest	MO	0.33	\$505,000	\$166 650	
7J	Surveying, Shore Crew, Pipeline Crew, and Crewboat	NIO	0.33	\$505,000	\$166,650	
71	HNC Mile 18.0 HNC Mile 16.0 Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).	CY	203,600	\$3.51	\$714,066	
7J	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.37	\$505,000	\$186,850	
7K	Earthen Retention Dike Re-fubishment	LF	2,000	\$60.00	\$120,000	
7L	HNC Mile 17.7 to HNC Mile 16.7 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	13,480	\$61.46	\$828,481	
7M	Mechanical Dredging Flotation Channel Excavation Mile 17.7 to Mile 16.7 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,480	\$72.92	\$399,602	

	Feasibility Level Cost Estim	ate			
Project:	Houma Navigation Canal Deepening		ties & Line Iter		g 2015
	Houma, Terrebonne Parish, Louisiana		Ramos - Aug		
	Maintenance Cost Rock Retention -18ft MLG		Multiple Disp		
	Mile 20.0 to 11.0 & Mile11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of				
	Contract No. 7 Channel Maintenance	- 2 and 1	0 year freque	ency	
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
7N	HNC Mile 16.9 to HNC Mile 13.3 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	42,600	\$61.46	\$2,618,196
70	Mechanical Dredging Flotation Channel Excavation Mile 16.9 to Mile 13.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	19,200	\$72.92	\$1,400,064
7P	HNC Mile 16.0 to HNC Mile 13.0	CY	307,300	\$3.06	\$940,092
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 -feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).				
7Q	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.49	\$505,000	\$247,450
7R	Earthen Retention Dike Re-fubishment	LF	3,850	\$60.00	\$231,000
7S	HNC Mile 15.6 to HNC Mile 14.0 (West Bank) Rock Retention Structure Refurbishment (Dk ht. +6' NAVD88) Stone quantity 20% of construction quantity	TN	18,900	\$61.46	\$1,161,594
7T	Mechanical Dredging Flotation Channel Excavation Mile 15.6 to Mile 14.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,650	\$72.92	\$630,758
7U	HNC Mile 13.2 to HNC Mile 11.9 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +6' NAVD88) Stone quantity 20% of construction quantity	ΤN	15,180	\$61.46	\$932,963
7V	Mechanical Dredging Flotation Channel Excavation Mile 13.1 to Mile 11.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,340	\$72.92	\$389,393

	Feasibility Level Cost Estimate						
Project	: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Rock Retention -18ft MLG	Costs -	ies & Line Ite Ramos - Aug Multiple Disp		g 2015		
	Mile 20.0 to 11.0 & Mile11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of	Advanced	d Maintenanc	e Included			
	Contract No. 7 Channel Maintenance	- 2 and 1		ency			
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
			Quantity		0031		
7W	HNC Mile 13.0 to HNC Mile 11.0	CY	236,000	\$2.75	\$649,472		
	Material to be placed within Wetland Site 24 opposite HNC Mile 12.0 along the west bank of the HNC WW. A construction access corrdior, 200 ft in width, will be provided for the Contractors use at the entrance of the WW. The initial buildup will occur in the east corner of the DA and proceed outward in a west, south-westerly direction. Elevation of material placed within the open water area(s) NTE +3.0' NAVD88 (See dwgs for details).						
7X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700		
7Y	Earthen Retention Dike Re-fubishment	LF	4,100	\$60.00	\$246,000		
11		LF	4,100	φ00.00	φ240,000		
7W	HNC Mile 13.0 to HNC Mile 11.0	CY	236,000	\$3.10	\$731,034		
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).						
7X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.38	\$505,000	\$191,900		
7Y	Earthen Retention Dike Re-fubishment	LF	3,850	\$60.00	\$231,000		
7Z	HNC Mile 12.7 to HNC Mile 12.3 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	5,420	\$61.46	\$333,113		
7AA	Mechanical Dredging Flotation Channel Excavation Mile 12.6 to Mile 12.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527		
7BB	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109		
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width						

	Feasibility Level Cost Es	stimate				
Project:	Houma Navigation Canal Deepening			ms - Puls - Au	g 2015	
	Houma, Terrebonne Parish, Louisiana		Ramos - Aug			
	Maintenance Cost Rock Retention -18ft MLG		Aultiple Disp			
	Mile 20.0 to 11.0 & Mile11.0 to 0.0 to -18 Foot Elevation w/ 3 Fee Contract No. 7 Channel Maintena					
	Contract No. 7 Channel Maintena	nce - z anu n	- 2 and 10 year frequency			
ltem	Description	Units	Quantity	Unit Price	Estimated Cost	
7CC	HNC Mile 11.0 to HNC Mile 5.0	CY	738,600	\$4.75	\$3,507,464	
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.					
7DD	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	1.09	\$505,000	\$550,450	
7EE	Earthen Retention Dike Re-fubishment	LF	12,700	\$60.00	\$762,000	
7FF	Mechanical Dredging Flotation Channel Excavation Mile 11.0 to Mile 5.0. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897	
7GG	HNC Mile 5.0 to HNC Mile 1.5	CY	451,300	\$5.49	\$2,478,179	
	Material to be placed rock confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.					
7HH	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.64	\$505,000	\$323,200	
711	Earthen Retention Dike Re-fubishment	LF	6,500	\$60.00	\$390,000	
7JJ	Mechanical Dredging Flotation Channel Excavation Mile 5.0 to Mile 1.5. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897	
7KK	HNC Mile 1.5 to HNC Mile 0.0	CY	193,400	\$5.43	\$1,049,620	
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details					
7LL	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.27	\$505,000	\$136,350	
7MM	Rock Containment Dike for Lung Disposal Area Geotextile	TONS SY	22,313 10,749	\$60.00 \$6.00	\$1,338,780 \$64,494	
7NN	Rock Containment Dike Refurbishment (Lung)	TONS	12,099	\$60.00	\$725,940	

	Feasibility Level Cost Estimate						
Project	: Houma Navigation Canal Deepening		ities & Line Iten		g 2015		
	Houma, Terrebonne Parish, Louisiana		- Ramos - Aug				
	Maintenance Cost Rock Retention -18ft MLG		Multiple Dispo				
	Mile 20.0 to 11.0 & Mile11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of A						
	Contract No. 7 Channel Maintenance -	2 and 1		ncy			
Item	Description	Units	Estimated	Unit Price	Estimated		
			Quantity		Cost		
700	Rock Containment Dike for East Island Disposal Area	TONS	11,622	\$60.00	\$697,320		
100	Geotextile	SY	5,599	\$6.00	\$33,594		
	Contextile	01	0,000	φ0.00	φ00,004		
7PP	Rock Containment Dike Refurbishment (East Island)	TONS	6,174	\$60.00	\$370,440		
			-,	+	<i></i>		
				Total:	\$30,765,354		
	CONTRACT DURATION	DY	107				
	Note:						
	Channel Quantities do not reflect overdepth.						
	Dredging		2,333,800 CY				
		-	_,,				
	Rock	:	171,328 TON				
	Geotextile	:	16,348 SY				
	Flotation Channel:	:	63,450 LF				
		_	04 000 1 5				
	Earthen Dike:		34,300 LF				

Survey/Crew/Boat:

3.6 MO

	Feasibility Level Cost						
Project:	Houma Navigation Canal Deepening		s & Line Items		2015		
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015					
	Maintenance Cost Rock Retention -18ft MLG						
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Adva	nced Maint	enance Includ	ed			
	Contract No. 8	Channel	Maintenance	- 2 year freq	uency		
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
8A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950		
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width						
8B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$19.40	\$9,702,400		
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.						
8C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.2	\$645,000	\$1,419,000		
				Total:	\$12,430,35		
	Contract Duration	DY	66				
	Notes:						
	Channel Quantitires do not reflect overdepth.						
	Dredging	:	500,000 CY				
	Survey/Crew/Boat	:	2.2 MO				

	Feasibility Level Cost Estimate						
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana			ms - Puls - Au 7 2015	g 2015		
	Maintenance Cost Rock Retention -18ft MLG	00313 -	Costs - Ramos - Aug 2015				
	Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advance						
	Contract No. 9	Channel Maintenance - 2 year frequency					
ltem	Description	Units	Quantity	Unit Price	Cost		
9A	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109		
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width						
9B	HNC Mile 11.0 to HNC Mile 5.0	CY	738,600	\$4.75	\$3,507,464		
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.						
9C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.09	\$505,000	\$550,450		
9D	Earthen Retention Dike Re-fubishment	LF	12,700	\$60.00	\$762,000		
9E	Mechanical Dredging Flotation Channel Excavation Mile 11.0 to Mile 5.0. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897		
9F	HNC Mile 5.0 to HNC Mile 1.5	CY	451,300	\$5.49	\$2,478,179		
	Material to be placed rock confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.						
9G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.64	\$505,000	\$323,200		
9H	Earthen Retention Dike Re-fubishment	LF	6,500	\$60.00	\$390,000		
91	Mechanical Dredging Flotation Channel Excavation Mile 5.0 to Mile 1.5. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897		
9J	HNC Mile 1.5 to HNC Mile 0.0	CY	193,400	\$5.43	\$1,049,620		
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details						
9К	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.27	\$505,000	\$136,350		
9L	Rock Containment Dike for Lung Disposal Area Geotextile	TONS SY	22,313 10,749	\$60.00 \$6.00	\$1,338,780 \$64,494		
9M	Rock Containment Dike Refurbishment (Lung)	TONS	12,099	\$60.00	\$725,940		

Feasibility Level Cost Estimate									
Project:	Houma Navigation Canal Deepening	Quanti	is - Puls - Au	g 2015					
	Houma, Terrebonne Parish, Louisiana	Costs							
	Maintenance Cost Rock Retention -18ft MLG								
	Mile 11.0 to 0.0 to -18 Foot Elevation w/ 3 Feet of Advanced	d Mainte	nance Included						
	Contract No. 9	Chann	el Maintenanc	e - 2 year fre	equency				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost				
9N	Rock Containment Dike for East Island Disposal Area Geotextile	TONS SY	11,622 5,599	\$60.00 \$6.00	\$697,320 \$33,594				
90	Rock Containment Dike Refurbishment (East Island)	TONS	6,174	\$60.00	\$370,440				
				Total:	\$14,412,73				
	CONTRACT DURATION	DY	60						
	Note:								
	Channel Quantities do not reflect overdepth.								
	Dradaina		1 282 200 CV						
	Dredging		1,383,300 CY						
	Rock	:	52,208 TON						

52,208 TON	Rock:
16,348 SY	Geotextile:
13,080 LF	Flotation Channel:
19,200 LF	Earthen Dike:
2.0 MO	Survey/Crew/Boat:

	Feasibility Level Cost					
Project:	Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug 2	2015	
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015				
	Maintenance Cost Rock Retention -18ft MLG					
	Mile 0.0 to (-3.5) to -18 Foot Elevation w/ 4 Feet of Advanced Maintenance Included					
	Contract No. 10	Channel Maintenance - 2 year frequency				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
10A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950	
	Dredging and Disposal Mile 0.0 to Mile (-3.5) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width					
10B	Dredging and Disposal Mile 0.0 to Mile (-3.5)	CY	500,000	\$19.40	\$9,702,400	
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.					
10C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.2	\$645,000	\$1,419,000	
				Total:	\$12,430,350	
	Contract Duration	DY	66			
	Notes:					
	Channel Quantitires do not reflect overdepth.					
	Dredging	:	500,000 CY			
	Survey/Crew/Boat	:	2.2 MO			

Reach			18 foot depth				18 f	oot depth	
			Site 1				Site 2		
	Unit Cost	СҮ	Duration (months)	Mob/Demob (Per Reach)	Unit Cost	CY	Duration (months)	Mob/Demob (Per Reach)	Crew/Equipment Costs
Mob/Demob	\$871,046								\$505,000
36.3 to 34.5 (5-year)	\$5.39	101,600	0.29	\$315,563	\$5.90	101,600	0.32	\$315,563	\$505,000
24.0 to 22.0 (5-year)	\$8.00	101,600	0.30	\$366,046					\$505,000
22.0 to 19.7 (5-year)	\$5.71	101,600	0.30	\$323,123	\$7.92	101,600	0.41	\$323,123	\$505,000
		\$1,940,316				\$1,404,518			
Mob/Demob (36.3 to 22.0)	\$939,307								\$505,000
36.3 to 34.0	\$5.39	101,600	0.29	\$315,563	\$5.90	101,600	0.32	\$315,563	\$505,000
34.0 to 32.0	\$4.25	203,600	0.45	\$434,307					\$505,000
32.0 to 29.5	\$5.84	153,700		\$434,307					\$505,000
29.5 to 28.0	\$4.17	153,700	0.32	\$330,985	\$3.78	153,700	0.29	\$330,985	\$505,000
28.0 to 26.0	\$3.37	203,600	0.36	\$317,075					\$505,000
26.0 to 24.0	\$3.92	203,600	0.40	\$330,985	\$3.62	203,600	0.37	\$330,985	\$505,000
24.0 to 22.0	\$8.00	101,600	0.30	\$366,046					\$505,000
		\$5,246,856				\$1,917,413			
Mob/Demob (22.0 to 11.0)	\$828,123								\$505,000
22.0 to 20.0	\$5.71	101,600	0.30	\$323,123	\$7.92	101,600	0.41	\$323,123	\$505,000
20.0 to 18.0	\$3.10	203,600	0.33	\$320,704	\$3.21	203,600	0.34	\$320,704	\$505,000
18.0 to 16.0	\$3.10	203,600	0.33	\$320,704	\$3.51	203,600	0.37	\$320,704	\$505,000
16.0 to 13.0	\$3.06	307,300	0.49	\$320,704					\$505,000
13.0 to 11.0	\$2.75	236,000	0.34	\$320,704	\$3.10	236,000	0.38	\$320,704	\$505,000
		\$3,430,921				\$2,904,223			
Mob/Demob (0.0 to 11.0)	\$1,031,109								\$505,000
11.0 to 5.0	\$4.75	738,600	1.09	\$485,917					\$505,000
5.0 to 1.5	\$5.49	451,300	0.64	\$526,109					\$505,000
1.5 to 0.0	\$5.43	193,400	0.27	\$526,109					\$505,000
		\$7,035,263							
Mob/Demob (0.0 to -3.5)	\$1,308,950								\$645,000
0.0 to -3.5	\$19.40	500,000		663,950					\$645,000
		\$9,702,400							

Project:	Houma Navigation Canal Deep	pening		Quantities & Line Ite	ems - Puls - Aug 2015
•	Houma, Terrebonne Parish, Lo	-		g 2015	
	Consturction Cost Alternativ Mile 36.3 to Mile (-3.7) to -20 F Summary Page	-	•		-
Contract No.	Description	Units	Estimated Quantity	Unit Price	Estimated Cycle Cos
1	Mobilization/Demobilization	LS	1	\$939,307	\$939,307
	Mile 36.3 to Mile 22.0	CY	1,755,000	\$12.08	\$21,199,806
2	Mobilization/Demobilization	LS	1	\$825,704	\$825,704
	Mile 22.0 to Mile 11.5	CY	1,150,000	\$43.62	\$50,161,664
3	Mobilization/Demobilization	LS	1	\$857,241	\$857,241
	Mile 11.5 to Mile 6.0	CY	1,894,500	\$2.67	\$5,054,688
4	Mobilization/Demobilization	LS	1	\$857,241	\$857,241
	Mile 6.0 to Mile 0.0	CY	1,665,000	\$2.89	\$4,813,168
5	Mobilization/Demobilization	LS	1	\$1,308,950	\$1,308,950
	Mile 0.0 to Mile (-3.7)	CY	1,100,000	\$4.51	\$4,965,040
		Total:	7,564,500	\$12.03	\$90,982,809

Note:

Unit costs reflected on summary sheet include earthen dike construction, rock dike construction, geotextile fabric, floatation channel excavation within each specified reach, crews, surveying, and boats, if applicable.

	Feasibility Level Cost Estima	ate			
Project	 Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 2A Adjacent Disposal -20 Mile 36.3 to 22.0 to -20 Foot Elevation w/ 2 Feet of Advanced Maintee 	Costs -	ties & Line Itel Ramos - Aug	ms - Puls - Αι g 2015	ıg 2015
	Contract No. 1		F etimeted		F otimeted
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
1A	Mobilization and Demobolization	LS	1	\$939,307	\$939,307
	Dredging and Disposal (Mile 36.3 to Mile 22.0) Channel to be excavated to -22 NAVD88; 1v/2h side slope/150-foot bottom width				
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	325,000	\$3.66	\$1,189,760
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.				
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.61	\$505,000	\$308,050
1D	NHC Mile 34.0 to HNC Mile 32.0	CY	175,000	\$4.17	\$730,240
	Material to be placed semi-confined within designated Wetland Site 7E east of HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.38	\$505,000	\$191,900
1F	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000
1G	HNC Mile 32.0 to HNC Mile 29.5	CY	215,000	\$5.85	\$1,257,664
	Material to be placed semi-confined within designated Wetland Site 7E east of HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.66	\$505,000	\$333,300
11	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000

	Feasibility Level Cost Estim				
Project	 Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 2A Adjacent Disposal -20 Mile 36.3 to 22.0 to -20 Foot Elevation w/ 2 Feet of Advanced Main 	Costs -	ties & Line Itel Ramos - Aug		ıg 2015
	Contract No. 1		Estimated		Estimated
Item	Description	Units	Quantity	Unit Price	Cost
1J	HNC Mile 29.5 to HNC Mile 28.0	CY	185,000	\$5.03	\$930,624
	Material to be placed unconfined within designated Wetland Site 12B east of HNC Mile 27.0. Material shall be discharged within the open water areas, a minimum 4,500 -feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
1K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.47	\$505,000	\$237,350
1L	Earthen Retention Dike Refurbishment	LF	1,600	\$60.00	\$96,000
1M	HNC Mile 28.0 to HNC Mile 26.0	CY	250,000	\$4.65	\$1,161,600
	Material to be placed unconfined within designated Wetland Site A-07-A west of HNC Mile 26.5. Material shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
1N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.59	\$505,000	\$297,950
10	Earthen Retention Dike Refurbishment	LF	9,300	\$60.00	\$558,000
1P	HNC Mile 27.6 to HNC Mile 27.4 (West Bank) Foreshore Protection Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	1,900	\$61.98	\$117,762
1Q	Mechanical Dredging Flotation Channel Excavation Mile 27.6 to Mile 27.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,260	\$73.54	\$92,660
1R	HNC Mile 26.4 to HNC Mile 25.9 (West Bank)	TN	26,600	\$61.98	\$1,648,668
	Foreshore Protection (Stone) (Dk ht. +5' NAVD88) Geotextile	SY	12,800	\$9.87	\$126,336
1S	Mechanical Dredging Flotation Channel Excavation Mile 26.4 to Mile 25.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	2,840	\$73.54	\$208,854

	Feasibility Level Cost Estim				
Project	t: Houma Navigation Canal Deepening		ties & Line Iter		ıg 2015
	Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 2A Adjacent Disposal -20	Costs -	- Ramos - Aug	2015	
	Mile 36.3 to 22.0 to -20 Foot Elevation w/ 2 Feet of Advanced Main	tenance			
	Contract No. 1	toriarioo			
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
1T	HNC Mile 26.0 to HNC Mile 24.0	CY	300,000	\$3.94	\$1,182,720
	Material to be placed unconfined within designated Wetland Site A-07-A west of HNC Mile 26.5. Material shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
1U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.60	\$505,000	\$303,000
1V	Earthen Retention Dike Refurbishment	LF	13,000	\$60.00	\$780,000
1W	HNC Mile 25.9 to HNC Mile 24.1 (West Bank) Foreshore Protection Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	21,300	\$61.98	\$1,320,174
1X	Mechanical Dredging Flotation Channel Excavation Mile 25.9 to Mile 24.1 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$73.54	\$713,338
1Y	HNC Mile 24.0 to HNC Mile 22.0	CY	305,000	\$3.40	\$1,038,464
	Material to be placed semi-confined within designated Wetland Site 15 west of HNC Mile 23.5. Material to be placed within the open water area(s), a minimum 1,270 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
1Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.53	\$505,000	\$267,650
1AA	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000
1BB	HNC Mile 23.7 to HNC Mile 22.4 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	59,100	\$61.98	\$3,663,018
	Geotextile	SY	28,500	\$9.87	\$281,295
1CC	Mechanical Dredging Flotation Channel Excavation Mile 23.7 to Mile 22.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$73.54	\$480,952
1DD	HNC Mile 22.2 to HNC Mile 22.1 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	9,800	\$61.98	\$607,404
	Geotextile	SY	4,700	\$9.87	\$46,389

	Feasibility Level Cost Estima	ite			
Project	t: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana		ities & Line Iten - Ramos - Aug		ıg 2015
	Consturction Cost Alternative 2A Adjacent Disposal -20 Mile 36.3 to 22.0 to -20 Foot Elevation w/ 2 Feet of Advanced Mainte Contract No. 1	enance			
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
1EE	Mechanical Dredging Flotation Channel Excavation Mile 22.2 to Mile 22.1. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	730	\$73.54	\$53,684
				Total:	\$22,139,113
	Contract Duration	DY	115		
	Notes:				
	Dredging quantity does not reflect overdepth.				
	Dredging	:	1,755,000 CY		
	Rock		118,700 TON		
	Geotextile	:	46,000 SY		
	Flotation Channe	l:	21,070 LF		
	Earthen Dike	:	30,850 LF		
	Survey/Crew/Boat	t:	3.8 MO		

	Feasibility Level Cost Es	timate			
Project:	Houma Navigation Canal Deepening		& Line Items -	-	015
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	amos - Aug 201	15	
	Consturction Cost Alternative 2A Adjacent Disposal -20 Mile 22.0 to Mile 11.5 to -20 Foot Elevation w/ 2 Feet of Advance	d Maintenan			
	Contract No. 2				
ltem	Description	Units	Estimated	Unit Price	Estimated
nem	Description	Units	Quantity	Unit Frice	Cost
2A	Mobilization and Demobilization	LS	1	\$825,704	\$825,704
	Dredging and Disposal (Mile 22.0 to Mile 11.5)				
	Channel to be excavated to -22 NAVD88; 1v/2h side				
	slope/150-foot bottom width				
2B	HNC Mile 22.0 to HNC Mile 20.0	CY	393,000	\$2.85	\$1,121,779
	Material to be placed unconfined within designated Wetland Site 16 west of HNC Mile 22. Material shall be discharged within the open water areas,				
	a minimum 1,550 feet from the channel centerline.				
	Construction access corridors, 200 ft in width, shall				
	be provided for the Contractors use of the disposal area.				
	Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
2C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.59	\$505,000	\$297,950
2D	HNC Mile 20.0 to HNC Mile 18.0	CY	92,000	\$8.28	\$761,907
	Material to be placed unconfined within Wetland Site 19C east of and adjacent to HNC Mile 19.5. The discharge will be positioned to the east and placed a minimum 500 ft beyond the bank rim/ridge or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) of Site 19C NTE +3.0' NAVD88 (See dwgs for details).				
2E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.40	\$505,000	\$202,000
2F	HNC Mile 19.2 to HNC Mile 17.5 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	99,500	\$61.98	\$6,167,010
	Geotextile	SY	47,900	\$9.87	\$472,773
2G	Mechanical Dredging Flotation Channel Excavation Mile 19.2 to Mile 17.5 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,120	\$73.54	\$597,145
2H	HNC Mile 19.1 to HNC Mile 17.8 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	18,200	\$61.98	\$1,128,036
	Geotextile	SY	8,750	\$9.87	\$86,363
21	Mechanical Dredging Flotation Channel Excavation Mile 19.1 to Mile 17.8 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$73.54	\$131,637

	Feasibility Level Cost Est	timate			
Project:	Houma Navigation Canal Deepening		& Line Items -	-	015
	Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 2A Adjacent Disposal -20	Costs - Ra	amos - Aug 201	5	
	Mile 22.0 to Mile 11.5 to -20 Foot Elevation w/ 2 Feet of Advance	d Maintenan	се		
	Contract No. 2				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
2J	HNC Mile 18.0 HNC Mile 16.0	CY	170,000	\$5.26	\$894,336
	Material to be placed unconfined within designated Wetland Site 20C west of HNC Mile 17. Material shall be discharged within the open water areas, a minimum 900 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
2K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.47	\$505,000	\$237,350
2L	HNC Mile 17.7 to HNC Mile 16.7 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	67,400	\$61.98	\$4,177,452
	Geotextile	SY	32,500	\$9.87	\$320,775
2M	Mechanical Dredging Flotation Channel Excavation Mile 17.7 to Mile 16.7 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,480	\$73.54	\$402,999
2N	HNC Mile 16.9 to HNC Mile 13.3 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	213,000	\$61.98	\$13,201,740
	Geotextile	SY	102,600	\$9.87	\$1,012,662
20	Mechanical Dredging Flotation Channel Excavation Mile 16.9 to Mile 13.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	19,200	\$73.54	\$1,411,968
2P	HNC Mile 16.0 to HNC Mile 13.0	CY	315,000	\$4.36	\$1,374,912
	Material to be placed semi-confined within designated Wetland Site 21 west of HNC Mile 15. Material to be placed within the open water area(s), a minimum 600 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
2Q	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.72	\$505,000	\$363,600
2R	Earthen Retention Dike Refurbishment	LF	3,850	\$60.00	\$231,000
2S	HNC Mile 15.6 to HNC Mile 14.0 (West Bank) Rock Retention Structure (site 21) (Dk ht. +6' NAVD88)	TN	94,500	\$61.98	\$5,857,110
	Geotextile	SY	45,500	\$9.87	\$449,085
1					

	Feasibility Level Cost	Estimate				
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 2A Adjacent Disposal -20 Mile 22.0 to Mile 11.5 to -20 Foot Elevation w/ 2 Feet of Advar Contract No. 2	Costs - Ra	& Line Items - amos - Aug 201 ice		2015	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
2Т	Mechanical Dredging Flotation Channel Excavation Mile 15.6 to Mile 14.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,650	\$73.54	\$636,121	
2U	HNC Mile 13.1 to HNC Mile 11.9 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	75,900	\$61.98	\$4,704,282	
	Geotextile	SY	36,600	\$9.87	\$361,242	
2V	Mechanical Dredging Flotation Channel Excavation Mile 13.1 to Mile 11.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$73.54	\$480,952	
2W	HNC Mile 13.0 to HNC Mile 11.5	CY	180,000	\$3.92	\$705,024	
	Material to be placed semi-confined within designated Wetland Site 24 west of HNC Mile 12.1. Material to be placed within the open water area(s), a minimum 900 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).					
2X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.37	\$505,000	\$186,850	
2Y	Earthen Retention Dike Refurbishment	LF	4,100	\$60.00	\$246,000	
2Z	HNC Mile 12.7 to HNC Mile 12.3 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	27,100	\$61.98	\$1,679,658	
	Geotextile	SY	13,000	\$9.87	\$128,310	

	Feasibility Level Cost Est	imate				
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 2A Adjacent Disposal -20	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015				
	Mile 22.0 to Mile 11.5 to -20 Foot Elevation w/ 2 Feet of Advanced Contract No. 2	d Maintena	nce			
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
2AA	Mechanical Dredging Flotation Channel Excavation Mile 12.6 to Mile 12.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$73.54	\$131,637	
				Total:	\$50,987,368	
	Contract Duration	DY	77			
	Note:					
	Dredging quantity does not reflect overdepth.					
	Dredging	:	1,150,000 CY			
	Rock	:	595,600 TON			
	Geotextile	:	286,850 SY			
	Flotation Channel	:	51,570 LF			
	Earthen Dike	:	7,950 LF			
	Survey/Crew/Boat	:	2.6 MO			

Project	 Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Consturction Cost Alternative 2A Adjacent Disposal -20 Mile 11.5 to Mile 6.0 to -20 Foot Elevation w/ 3 Feet of Advanced Maintenance 									
ltem	Contract No. 3 Description	Units	Estimated Quantity	Unit Price	Estimated Cost					
ЗA	Mobilization and Demobilization	LS	1	\$857,241	\$857,241					
	Dredging and Disposal (Mile 10.0 to Mile 0.0) Channel to be excavated to -23' NAVD88; 1v/2h side slopes by 150' bottom width									
3B	HNC Mile 11.5 to Mile 10	CY	230,000	\$3.60	\$827,264					
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).									
3C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550					
3D	HNC Mile 10 to HNC Mile 8.0	CY	842,000	\$2.05	\$1,724,416					
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).									
3E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.65	\$505,000	\$328,250					
3F	HNC Mile 8.0 to HNC Mile 6.0	CY	822,500	\$2.06	\$1,695,008					
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).									
3G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.64	\$505,000	\$323,200					
				Total:	\$5,911,92					
	CONTRACT DURATION	DY	48							
	Note:									
	Dredging quantity does not reflect overdepth.									
	Dredging	:	1,894,500 CY							
	Survey/Crew/Boat	t:	1.6 MO							

Project	Feasibility Level Cos : Houma Navigation Canal Deepening		Quantities & Li	ne Items - Puls	s - Aug 2015
-	Houma, Terrebonne Parish, Louisiana		Costs - Ramos	- Aug 2015	-
	Consturction Cost Alternative 2A Adjacent Disposal				
	Mile 6.0 to Mile 0.0 to -20 Foot Elevation w/ 3 Feet of Ad	Ivanced N	Maintenance		
	Contract No. 3				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
4A	Mobilization and Demobilization	LS	1	\$857,241	\$857,241
	Dredging and Disposal (Mile 10.0 to Mile 0.0) Channel to be excavated to -23' NAVD88; 1v/2h side slopes by 150' bottom width				
4B	HNC Mile 6.0 to HNC Mile 4.0	CY	705,000	\$2.19	\$1,543,104
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000' west of the channel centerline (See dwgs for details).				
4C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.58	\$505,000	\$292,900
4D	HNC Mile 4.0 to HNC Mile 2.0	CY	665,000	\$2.20	\$1,464,064
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000' west of the channel centerline (See dwgs for details).				
4E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.55	\$505,000	\$277,750
4F	HNC Mile 2.0 to HNC Mile 0.0	CY	295,000	\$3.52	\$1,038,400
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).				
4G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.39	\$505,000	\$196,950
				Total:	\$5,670,409
	CONTRACT DURATION	DY	46		
	Note:				
	Dredging quantity does not reflect overdepth.				
	Dredging	g:	1,665,000 CY		
	Survey/Crew/Boa	t:	1.5 MO		

	Feasibility Lev	el Cost Esti						
Project:	Houma Navigation Canal Deepening		Quantities & Line Items - Puls - Aug 2014					
	Houma, Terrebonne Parish, Louisiana		Costs - Salam	one - Aug 201	4			
	Consturction Cost Alternative 2A Adjacent Disposal -							
	Mile 0.0 to Mile (-3.7) to -20 Foot Elevation w/ 4 Feet of A	dvanced Ma	intenance					
	Contract No. 4							
Contract			Estimated		Estimated			
No.	Description	Units	Quantity	Unit Price	Construction			
			Quantity		Cost			
5A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950			
54		20	I	φ1,000,000	ψ1,000,000			
	Dredging and Disposal Mile 0.0 to Mile (-3.7)							
	Channel to be excavated to -24' NAVD88; 1v/2h side							
	slopes by 300' bottom width							
5B	Material to be placed unconfined at the SPD	CY	1,100,000	\$3.62	\$3,984,640			
	Mile (-1.7) and Mile (-2.5)							
	Material to be placed at the single point discharge							
	location(s) within Cat Island Pass at approximate HNC							
5C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.52	\$645,000	\$980,400			
00	Curveying, Chore Crew, I penne Crew, and Crewboar	MO	1.02	φ0-10,000	φ000,+00			
				Total:	\$6,273,990			
		5) (10					
	CONTRACT DURATION	DY	46					
	Note:							
	Dredging quantity does not reflect overdepth.							
	Dredging:		1,100,000 CY					
	Survey/Crew/Boat:		1.5 MO					
			1.0 100					

Reach	20 foot	t depth			
	Unit Cost	СҮ	Duration (months)	Mob/Demob (Per Reach)	Crew/Equipment Costs
Mob/Demob (36.3 to 22.0)	\$939,307				\$505,000
36.3 to 34.0	\$3.66	325,000	0.61	\$327,961	\$505,000
34.0 to 32.0	\$4.17	175,000	0.38	\$434,307	\$505,000
32.0 to 29.5	\$5.85	215,000	0.66	\$434,307	\$505,000
29.5 to 28.0	\$5.03	185,000	0.47	\$327,961	\$505,000
28.0 to 26.0	\$4.65	250,000	0.59	\$327,961	\$505,000
26.0 to 24.0	\$3.94	300,000	0.60	\$327,961	\$505,000
24.0 to 22.0	\$3.40	305,000	0.53	\$327,961	\$505,000
		\$7,491,072			
Mob/Demob (22.0 to 11.0)	\$825,704				\$505,000
22.0 to 20.0	\$2.85	393,000	0.59	\$320,704	\$505,000
20.0 to 18.0	\$8.28	92,000	0.40	\$320,704	\$505,000
18.0 to 16.0	\$5.26	170,000	0.47	\$320,704	\$505,000
16.0 to 13.0	\$4.36	315,000	0.72	\$320,704	\$505,000
13.0 to 11.5	\$3.92	180,000	0.37	\$320,704	\$505,000
		\$4,857,958			
Mob/Demob (11.5 to 0.0)	\$857,241				\$505,000
11.5 to 10.0	\$3.60	230,000	0.31	\$352,241	\$505,000
10.0 to 8.0	\$2.05	842,000	0.65	\$352,241	\$505,000
8.0 to 6.0	\$2.06	822,500	0.64	\$352,241	\$505,000
6.0 to 4.0	\$2.19	705,000	0.58	\$352,241	\$505,000
4.0 to 2.0	\$2.20	665,000	0.55	\$352,241	\$505,000
2.0 to 0.0	\$3.52	295,000	0.39	\$352,241	\$505,000
		\$8,292,256			
Mob/Demob (0.0 to -3.7)	\$1,308,950				\$645,000
0.0 to -3.7	\$3.62	1,100,000	1.52	\$663,950	\$645,000
		\$3,984,640			

Proiect:	Houma Navigation Canal Deeper			ost Estimate Quantities & L	ine Items - Puls	Aug 2015	
, ojeeti	Houma, Terrebonne Parish, Loui			Costs - Ramo		lug 2010	
	Maintenance Cost Adjacent Dis				5 //ug 20/0		
	Costs for 10-Year Cycle to be F			0 Years		Multiple Disposal S	ites
	Mile 36.3 to Mile (-3.7) to -20 Foo						
	Summary Page						
ontract	·	Cycle			Estimated	Estimated Cycle	Estimated Tota
No.	Description	Frequency	Units	Quantity	Unit Price Per	Cost	Cost (50-Year)
NO.		(Years)			Cycle	COSI	COSt (50-Tear)
4*	Mahilizatian /Davaahilizatian	10		4		\$074.040	¢4.055.000
1*	Mobilization/Demobilization Mile 36.3 to Mile 34.0	10 10	LS CY	1 109,600	\$6.74	\$871,046 \$738,184	\$4,355,230 \$3,690,920
			CY		\$0.74 \$10.39		
	Mile 24.0 to Mile 22.0 Mile 22.0 to Mile 20.0	10 10	CY	109,600 109,600	\$8.93	\$1,139,248 \$978,407	\$5,696,240 \$4,892,036
	Mobilization/Demobilization		LS	109,600	<i>Ф</i> 0.93		
		2 2	CY	•	ድጋ ፓር	\$857,241 \$5,207,400	\$21,431,025
	Mile 11.0 to Mile 0.0	2	Cr	1,434,101	\$3.76	\$5,397,499	\$134,937,476
2	Mobilization/Demobilization	2	LS	1		\$1,308,950	\$32,723,750
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$11.37	\$6,596,212	\$164,905,300
			-	,	• -	+ -))	+ - , ,
3	Mobilization/Demobilization	2	LS	1		\$857,241	
	Mile 11.0 to Mile 0.0	2	CY	1,434,100	\$3.76	\$5,397,499	
				, - ,	•	+-,,	
4	Mobilization/Demobilization	2	LS	1		\$1,308,950	
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$11.37	\$6,596,212	
				,	• -	+ -))	
5	Mobilization/Demobilization	2	LS	1		\$857,241	
•	Mile 11.0 to Mile 0.0	2	CY	1,434,100	\$3.76	\$5,397,499	
		_	•	.,	* •••••	<i>+-,, </i>	
6	Mobilization/Demobilization	10	LS	1		\$939,307	\$4,696,535
	Mile 36.3 to Mile 34.0	10	CY	109,600	\$6.73	\$737,342	\$3,686,712
	Mile 34.0 to Mile 32.0	10	CY	219,600	\$6.86	\$1,507,001	\$7,535,005
	Mile 32.0 to Mile 29.5	10	CY	165,800	\$10.20	\$1,691,836	\$8,459,181
	Mile 29.5 to Mile 28.0	10	CY	165,800	\$5.24	\$868,203	\$4,341,014
	Mile 28.0 to Mile 26.0	10	CY	219,600	\$9.97	\$2,190,283	\$10,951,416
	Mile 26.0 to Mile 24.0	10	CY	219,600	\$17.18	\$3,771,986	\$18,859,929
	Mile 24.0 to Mile 22.0	10	CY	109,600	\$22.96	\$2,516,295	\$12,581,476
	Mile 22.0 to Mile 20.0	10	CY	109,600	\$10.06	\$1,102,166	\$5,510,830
	Mobilization/Demobilization	2	LS	1	<i>Q</i> 10.00	\$1,308,950	\$0,010,000
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$11.37	\$6,596,212	
		2	01	300,000	ψ11.07	φ0,000,212	
7	Mobilization/Demobilization	10	LS	1		\$939,307	\$4,696,535
	Mile 20.0 to Mile 18.0	10	CY	219,600	\$13.91	\$3,055,428	\$15,277,138
	Mile 18.0 to Mile 16.0	10	CY	219,600	\$27.64	\$6,070,003	\$30,350,013
	Mile 16.0 to Mile 13.0	10	CY	331,400	\$13.82	\$4,578,899	\$22,894,496
	Mile 13.0 to Mile 11.0	10	CY	254,500	\$6.31	\$1,606,440	\$8,032,198
	Mobilization/Demobilization	2	LS	1		\$857,241	
	Mile 11.0 to Mile 0.0	2	CY	1,434,100	\$3.76	\$5,397,499	
0		2		,		.	
8	Mobilization/Demobilization	2	LS	1	* • • • * =	\$1,308,950	
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$11.37	\$6,596,212	
9	Mobilization/Demobilization	2	LS	1		\$857,241	
9	Mile 11.0 to Mile 0.0	2 2	CY	1,434,101	\$3.76		
		2	UT	1,404,101	φο./Ο	\$5,397,499	
10	Mobilization/Demobilization	2	LS	1		\$1,308,950	
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$11.37	\$6,596,212	
	- \ - /	_	-	-,			
			Total:	12,743,603	\$8.33	\$106,100,891	\$530,504,456

* Three reaches specified in Contract 1 require a maintenance cycle every 5 years. 5 years after maintenace Contract 1 reaches at 36.3, 24.0, and 22.0 will undergo maintenance under Contract 6 (10-Year cycle). 5 Years after maintenance Contract 6 those reaches will be maintained under a new 5-year cycle (Contract 11). Following this sequence, contract 6 will be required four additional times over the 50 year project life after Contract 6 is completed.

Proiect [.]	Feasibility Level Cos		es & Line Item	s - Puls - Auc	2015
rojeot.	Houma, Terrebonne Parish, Louisiana		Ramos - Aug 2	•	2010
	Maintenance Cost Adjacent Disposal -20ft MLG	00010 /	lamos nag z	010	
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & I		0.0 to -20 Eq.	t Elevation	
	w/ 2 and 3 Feet of Advanced Maintenance Included		Multiple Disp		
	Contract No. 1				ear frequency
		Channe	Estimated	e - 2 and 5 ye	ai inequency
ltem	Description	Units	Quantity	Unit Price	Estimated Cos
1A	Mobilization and Demobolization	LS	1	\$871,046	\$871,046
	Dredging and Disposal (Mile 36.3 to Mile 20.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width				
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	109,600	\$5.34	\$585,001
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.				
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	109,600	\$5.30	\$580,792
	Material to be placed within confined upland Site 3 opposite HNC Mile 35.5 No height restriction. Dike construction/maintenance not required.				
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550
1D	HNC Mile 24.0 to HNC Mile 22.0	CY	109,600	\$7.41	\$812,268
	Material to be placed semi-confined within Wetland Site 15 between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a west-southwesterly direction. Earthen closures will be required along the west side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500
1F	Earthen Retention Dike Re-fubishment	LF	2,450	\$60.00	\$147,000

	Feasibility Level Cost				0015
Project:	Houma Navigation Canal Deepening		es & Line Item		2015
	Houma, Terrebonne Parish, Louisiana	Costs - I	Ramos - Aug 2	2015	
	Maintenance Cost Adjacent Disposal -20ft MLG				
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & Mil	e 11.0 to	0.0 to -20 Foc	t Elevation	
	w/ 2 and 3 Feet of Advanced Maintenance Included		Multiple Disp	osal Sites	
					ear frequency
		Estimated			
ltem	Description	Units	Quantity	Unit Price	Estimated Cos
1D	HNC Mile 24.0 to HNC Mile 22.0	CY	109,600	\$7.42	\$813,670
	Material to be placed semi-confined within Wetland Site 15A between HNC Mile 24.0 and 22.9 west of Site 15 'beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the south east corner, and to proceed outward in a westerly direction. Earthen closures will be required along the east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).	1			
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.30	\$505,000	\$151,500
45			4 000	# 00.00	#000 000
1F	Earthen Retention Dike Re-fubishment	LF	4,800	\$60.00	\$288,000
1G	HNC Mile 22.0 to HNC Mile 20.0 Material to be placed unconfined within Wetland Site 16 opposite and adjacent to HNC Mile 21.4 along the west bank of the HNC WW. The discharge will be positioned to the west and placed a minimum 1,500 ft beyond the center line of the channel to the front of the disposal area. Elevation of material placed within the open water area(s) NTE +3.0' NAVD 88 (See dwgs for details).	CY	109,600	\$5.29	\$579,389
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500
1G	HNC Mile 22.0 to HNC Mile 20.0	CY	109,600	\$7.71	\$844,534
	Material to be placed semi-confined within Wetland Site 15A between HNC Mile 23.3 and 22.5 west of Site 15 'beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the south east corner, and to proceed outward in a westerly direction. Earthen closures will be required along the east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).	1			

	Feasibility Level Cos	st Estimate							
Project:	Houma Navigation Canal Deepening		es & Line Item		g 2015				
	Houma, Terrebonne Parish, Louisiana Costs - Ramos - Aug 2015								
	Maintenance Cost Adjacent Disposal -20ft MLG								
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & M								
	w/ 2 and 3 Feet of Advanced Maintenance Included		Multiple Disp						
	Contract No. 1	Channe	Channel Maintenance - 2 and 5 year frequer						
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost				
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.43	\$505,000	\$217,150				
11	Earthen Retention Dike Re-fubishment	LF	4,800	\$60.00	\$288,000				
1J	Mobilization and Demobilization	LS	1	\$857,241	\$857,241				
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width								
1K	HNC Mile 11 to HNC Mile 8.0	CY	374,000	\$3.28	\$1,225,523				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).								
1L	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.46	\$505,000	\$232,300				
1M	HNC Mile 8.0 to HNC Mile 6.0	CY	257,900	\$3.21	\$828,581				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).								
1N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550				
10	HNC Mile 6.0 to HNC Mile 4.0	CY	267,400	\$3.10	\$828,298				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
1P	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550				
1Q	HNC Mile 4.0 to HNC Mile 2.0	CY	267,400	\$3.10	\$828,298				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
1R	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550				

	Feasibility Level Cost	Estimat	e		
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana		ies & Line Items Ramos - Aug 20		2015
	Maintenance Cost Adjacent Disposal -20ft MLG	00313 -	Ramos - Aug 20	515	
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & Mi	le 11.0 to	o 0.0 to -20 Foo	t Elevation	
	w/ 2 and 3 Feet of Advanced Maintenance Included		Multiple Dispo		
	Contract No. 1	Channe	el Maintenance	- 2 and 5 ye	ear frequency
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cos
1S	HNC Mile 2.0 to HNC Mile 0.0	CY	267,400	\$3.10	\$828,298
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).				
1T	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550
				Total:	\$9,894,191
	Contract Duration	DY	82		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredging		1,762,900 CY		
	Survey/Crew/Boat		2.7 MO		

	Feasibility Level Cost	Estimate			
Project:	Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug 2	2015
	Houma, Terrebonne Parish, Louisiana	Costs - R	amos - Aug 20	015	
	Maintenance Cost Adjacent Disposal -20ft MLG				
	Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 4 Feet of Adva				
	Contract No. 2	Channel	Maintenance	- 2 year freq	-
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
2A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
2B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$9.13	\$5,293,312
	Material to be placed at the SPD Mile -1.7 and Mile -2.5				
2C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.0	\$645,000	\$1,302,900
				Total:	\$7,905,162
	Contract Duration	DY	61		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredging		580,000 CY		
	Survey/Crew/Boat	:	2.0 MO		

Item	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Adjacent Disposal -20ft MLG Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advance Contract No. 3 Description	- <i>Costs</i> ed Mainter	Ramose - Au	•	g 2015					
ltem	Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advance Contract No. 3			d						
ltem			Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced Maintenance Included							
ЗA		Units	Estimated Quantity	Unit Price	Estimated Cost					
	Mobilization and Demobilization	LS	1	\$857,241	\$857,241					
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width									
3B	HNC Mile 11 to HNC Mile 8.0	CY	374,000	\$3.28	\$1,225,523					
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).									
3C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.46	\$505,000	\$232,300					
3D	HNC Mile 8.0 to HNC Mile 6.0	CY	257,900	\$3.21	\$828,581					
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).									
3E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550					
3F	HNC Mile 6.0 to HNC Mile 4.0	CY	267,400	\$3.10	\$828,298					
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).									
3G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550					
ЗH	HNC Mile 4.0 to HNC Mile 2.0	CY	267,400	\$3.10	\$828,298					
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).									
31	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550					
3J	HNC Mile 2.0 to HNC Mile 0.0	CY	267,400	\$3.10	\$828,298					
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).									

	Feasibility Level Cost Estimate							
Project:	Houma Navigation Canal Deepening	Quant	ities & Line Item	e Items - Puls - Aug 2015				
	Houma, Terrebonne Parish, Louisiana	Costs - Ramose - Aug 2015						
	Maintenance Cost Adjacent Disposal -20ft MLG							
	Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced							
	Contract No. 3	Chanr	el Maintenanc	e - 2 year fre	quency			
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
3K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550			
				Total:	\$6,254,740			
	Contract Duration	DY	51					
	Note:							
	Channel Quantities do not reflect overdepth.							
	Dredging		1,434,100 CY					
			.,					
	Survey/Crew/Boat		1.7 MO					

	Feasibility Level Cost	Estimate			
Project:	Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug 2	2015
	Houma, Terrebonne Parish, Louisiana	Costs - R	amos - Aug 20	15	
	Maintenance Cost Adjacent Disposal -20ft MLG				
	Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 4 Feet of Adva				
	Contract No. 4	Channel	Maintenance	- 2 year freq	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
4A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
4B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$9.13	\$5,293,312
	Material to be placed at the SPD Mile -1.7 and Mile -2.5				
4C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.0	\$645,000	\$1,302,900
				Total:	\$7,905,162
	Contract Duration	DY	61		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredging	:	580,000 CY		
	Survey/Crew/Boat	:	2.0 MO		

	Feasibility Level Cost Estimate								
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Adiacent Dianacal, 20th MLC		ies & Line Iter Ramos - Aug	ms - Puls - Au 2015	g 2015				
	Maintenance Cost Adjacent Disposal -20ft MLG Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanc Contract No. 5			d ce - 2 year fr e	equency				
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost				
5A	Mobilization and Demobilization	LS	1	\$857,241	\$857,241				
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width								
5B	HNC Mile 11 to HNC Mile 8.0	CY	374,000	\$3.28	\$1,225,523				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).								
5C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.46	\$505,000	\$232,300				
5D	HNC Mile 8.0 to HNC Mile 6.0	CY	257,900	\$3.21	\$828,581				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).								
5E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550				
5F	HNC Mile 6.0 to HNC Mile 4.0	CY	267,400	\$3.10	\$828,298				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
5G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550				
5H	HNC Mile 4.0 to HNC Mile 2.0	CY	267,400	\$3.10	\$828,298				
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).								
51	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550				
5J	HNC Mile 2.0 to HNC Mile 0.0	CY	267,400	\$3.10	\$828,298				
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).								

	Feasibility Level Cost Es	stimate					
Project:	Houma Navigation Canal Deepening	Quant	ities & Line Item	ns - Puls - Aug	g 2015		
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015					
	Maintenance Cost Adjacent Disposal -20ft MLG	• •					
	Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced	Advanced Maintenance Included					
	Contract No. 5	Channel Maintenance - 2 year frequency					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
5K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550		
				Total:	\$6,254,740		
	Contract Duration	DY	51				
	Note:						
	Channel Quantities do not reflect overdepth.						
	Dredging		1,434,100 CY				
	Dredging	•	1,434,100 01				
	Survey/Crew/Boat	:	1.7 MO				

roject:	Act: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Quantities & Line Items - Puls - Aug 2015 Maintenance Cost Adjacent Disposal -20ft MLG Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Feet of Advanced Maintenance Included Contract No. 6 Channel Maintenance - 2, 5, and 10 year frequency						
ltem	Contract No. 6 Channel Maintenand Description	ce - 2, 5, an Units	Estimated Quantity	Unit Price	Estimated Cost		
6A	Mobilization and Demobolization	LS	1	\$939,307	\$939,307		
	Dredging and Disposal (Mile 36.3 to Mile 20.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width						
6B	HNC Mile 36.3 to HNC Mile 34.0	CY	109,600	\$5.30	\$580,792		
	Material to be placed within confined upland Site 3 opposite HNC Mile 35.5 No height restriction. Dike construction/maintenance not required.						
6C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550		
6D	NHC Mile 34.0 to HNC Mile 32.0	CY	219,600	\$3.94	\$865,751		
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).						
6E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.45	\$505,000	\$227,250		
6F	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000		
6G	HNC Mile 32.0 to HNC Mile 29.5	CY	165,800	\$6.09	\$1,010,18		
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).						
6H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.53	\$505,000	\$267,650		
61	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000		

Project:	Feasibility Level Cost Estim Houma Navigation Canal Deepening	Quantit	ies & Line Iter		g 2015			
	Houma, Terrebonne Parish, Louisiana	Costs -	Ramos - Aug	2015				
	Maintenance Cost Adjacent Disposal -20ft MLG Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Feet of Advanced Maintenance Included							
Contract No. 6 Channel Maintenance - 2, 5, and 10 year frequency								
14.0.00			Estimated		Estimated			
ltem	Description	Units	Quantity	Unit Price	Cost			
0.1		0)/	105 000	*• • • •	\$ 0.40,000			
6J	HNC Mile 29.5 to HNC Mile 28.0	CY	165,800	\$3.88	\$643,039			
	Material to be placed unconfined within designated							
	Wetland Site 12B opposite approximate HNC Mile 27.0.							
	Mtl. shall be discharged within the open water areas,							
	a minimum 4,500 feet from the channel centerline.							
	Construction access corridors, 200 ft in width, shall							
	be provided for the Contractors use of the disposal area.							
	Elevation of material NTE +3.0' NAVD88 (See dwgs for details).							
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.32	\$505,000	\$161,600			
				* ***	* ~~~~~~			
6L	Earthen Retention Dike Refurbishment	LF	1,600	\$60.00	\$96,000			
6J	HNC Mile 29.5 to HNC Mile 28.0	CY	165,800	\$3.62	\$600,594			
	Material to be placed unconfined within designated							
	Wetland Site 12 opposite approximate HNC Mile 27.0.							
	Mtl. shall be discharged within the open water areas,							
	a minimum 1,950 feet from the channel centerline. Construction access corridors, 200 ft in width, shall							
	be provided for the Contractors use of the disposal area.							
	Elevation of material NTE +3.0' NAVD88 (See dwgs for details).							
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500			
6L	Earthen Retention Dike Refurbishment	LF	1,800	\$60.00	\$108,000			
UL		LI	1,000	φ00.00	φ100,000			
6M	HNC Mile 28.0 to HNC Mile 26.0	CY	219,600	\$3.20	\$702,720			
	Material to be placed unconfined within designated							
	Wetland Site A-07-A opposite approximate HNC Mile 26.5.							
	Mtl. shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline.							
	Construction access corridors, 200 ft in width, shall							
	be provided for the Contractors use of the disposal area.							
	Elevation of material NTE +3.0' NAVD88 (See dwgs for details).							
6N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.37	\$505,000	\$186,850			
60	Earthen Retention Dike Refurbishment	LF	9,300	\$60.00	\$558,000			
6P	HNC Mile 27.6 to HNC Mile 27.4 (West Bank)	ΤN	1,900	\$61.46	\$116,774			
	Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88))						
	Stone quantity 20% of construction quantity							

	Feasibility Level Cost Estim	ate							
Project:			ies & Line Iter		g 2015				
		Costs -	Ramos - Aug	2015					
	Maintenance Cost Adjacent Disposal -20ft MLG	ot of Ac	wancod Maint	onanco Inclu	dod				
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Feet of Advanced Maintenance Included Contract No. 6 Channel Maintenance - 2, 5, and 10 year frequency								
láona			Estimated		Estimated				
ltem	Description	Units	Quantity	Unit Price	Cost				
6Q	Mechanical Dredging Flotation Channel Excavation Mile 27.6 to Mile 27.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,260	\$72.92	\$91,879				
6R	HNC Mile 26.4 to HNC Mile 25.9 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN)	5,320	\$61.46	\$326,967				
6S	Mechanical Dredging Flotation Channel Excavation Mile 26.4 to Mile 25.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	2,840	\$72.92	\$207,093				
6T	HNC Mile 26.0 to HNC Mile 24.0	CY	219,600	\$3.55	\$778,614				
	Material to be placed unconfined within designated Wetland Site 14A opposite approximate HNC Mile 26.5. Mtl. shall be discharged within the open water areas, a minimum 3,360 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).								
6U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.39	\$505,000	\$196,950				
6V	Earthen Retention Dike Refurbishment	LF	13,000	\$60.00	\$780,000				
6W	HNC Mile 25.9 to HNC Mile 24.1 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN)	21,300	\$61.46	\$1,309,098				
6X	Mechanical Dredging Flotation Channel Excavation Mile 25.9 to Mile 24.1 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324				
6Y	HNC Mile 24.0 to HNC Mile 22.0	CY	109,600	\$7.41	\$812,268				
	Material to be placed semi-confined within Wetland Site 15 between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a west-southwesterly direction. Earthen closures will be required along the west side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).								

Project:			ies & Line Iten Ramos - Aug		g 2015
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Fe Contract No. 6 Channel Maintenance -		d 10 year frec		
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
6Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500
6AA	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000
6Y	HNC Mile 24.0 to HNC Mile 22.0 Material to be placed semi-confined within Wetland Site 15A between HNC Mile 24.0 and 22.9 west of Site 15 'beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the south east corner, and to proceed outward in a westerly direction. Earthen closures will be required along the east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).	CY	109,600	\$7.42	\$813,670
6Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500
6AA	Earthen Retention Dike Refurbishment	LF	4,800	\$60.00	\$288,000
6BB	HNC Mile 23.7 to HNC Mile 22.4 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	11,820	\$61.46	\$726,457
6CC	Mechanical Dredging Flotation Channel Excavation Mile 23.7 to Mile 22.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897
6DD	HNC Mile 22.2 to HNC Mile 22.1 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	1,960	\$61.46	\$120,462
6EE	Mechanical Dredging Flotation Channel Excavation Mile 22.2 to Mile 22.1. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	730	\$72.92	\$53,232

Project:	t: Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2015 Houma, Terrebonne Parish, Louisiana Costs - Ramos - Aug 2015 Maintenance Cost Adjacent Disposal -20ft MLG Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Feet of Advanced Maintenance Included							
	Contract No. 6 Channel Maintenance		d 10 year free					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
6FF	HNC Mile 22.0 to HNC Mile 20.0 Material to be placed unconfined within Wetland Site 16 opposite and adjacent to HNC Mile 21.4 along the west bank of the HNC WW. The discharge will be positioned to the west and placed a minimum 1,550 ft beyond the channel center line to the front of the disposal area. Elevation of material placed within the open water area(s) NTE +3.0' NAVD 88 (See dwgs for details).	CY	109,600	\$5.29	\$579,389			
6GG	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500			
6FF	HNC Mile 22.0 to HNC Mile 20.0 Material to be placed semi-confined within Wetland Site 15A between HNC Mile 24.0 and 22.9 west of Site 15 'beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the south east corner, and to proceed outward in a westerly direction. Earthen closures will be required along the east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).	CY	109,600	\$7.71	\$844,534			
6GG	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.43	\$505,000	\$217,150			
6HH	Earthen Retention Dike Re-fubishment	LF	4,800	\$60.00	\$288,000			
611	Mobilization and Demobilization Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -19' NAVD88; 1v/2h side slopes by 300' bottom width	LS	1	\$1,308,950	\$1,308,950			

	Feasibility Level Cost Estir	nate			
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Adjacent Disposal -20ft MLG		ities & Line Item - Ramos - Aug 2		ıg 2015
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 F Contract No. 6 Channel Maintenance -				ded
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
6JJ	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$9.13	\$5,293,312
	Material to be placed at the SPD Mile -1.7 and Mile -2.5				
6KK	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.02	\$645,000	\$1,302,900
				Total:	\$23,635,458
	Contract Duration	DY	144		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredging:		1,899,200 CY		
	Rock:		42,300 TON		
	Flotation Channel:		21,070 LF		
	Earthen Dike:		38,200 LF		
	Survey/Crew/Boat:		4.8 MO		

	Feasibility Level Cost Estimation				
Project	Houma Navigation Canal Deepening			ms - Puls - Al	ug 2015
	Houma, Terrebonne Parish, Louisiana	Costs -	Ramos - Aug	g 2015	
	Maintenance Cost Adjacent Disposal -20ft MLG Mile 20.0 to 11.0 & Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of	of Advand	red Maintena	nce Included	
	Contract No. 7 Channel Maintenance				
ltom			Estimated	-	Estimated
Item	Description	Units	Quantity	Unit Price	Cost
7A	Mobilization and Demobolization	LS	1	\$939,307	\$939,307
	Dredging and Disposal (Mile 20.0 to Mile 11.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width				
7B	HNC Mile 20.0 to HNC Mile 18.0	CY	219,600	\$2.96	\$649,313
	Material to be placed unconfined within Wetland Site 19C oppsite and adjacent to HNC Mile 19.3 along the east bank of the HNC WW. The discharge will be positioned to the east and placed a minimum 500-ft beyond the bank rim/ridge or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) of Site 19C NTE +3.0' NAVD88 (See dwgs for details).				
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700
7B	HNC Mile 20.0 to HNC Mile 18.0	CY	219,600	\$3.07	\$674,611
	Material to be placed semi-confined within the open water portions of Wetland Site 19D between HNC Mile 20.2 and 19.6, located beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a westerly direction a minimum distance of 2,350 ft beyond the channel center line. Earthen closures will be required along the south side of the disposal area adjacent to the open water A 200-foot wide construction access corridor along theentrance of the waterway will be provided for the Contractors at the northeast and south east portions of the disposal site. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.35	\$505,000	\$176,750
7D	Earthen Retention Dike Re-fubishment	LF	1,300	\$60.00	\$78,000
7E	HNC Mile 19.2 to HNC Mile 17.5 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	19,900	\$61.46	\$1,223,054
7F	Mechanical Dredging Flotation Channel Excavation Mile 19.2 to Mile 17.5 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,120	\$72.92	\$592,110
7G	HNC Mile 19.1 to HNC Mile 17.8 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	3,640	\$61.46	\$223,714

	Feasibility Level Cost Estim				
Project	: Houma Navigation Canal Deepening			ms - Puls - Au	ıg 2015
	Houma, Terrebonne Parish, Louisiana Maintenance Cost Adjacent Disposal -20ft MLG	Costs -	Ramos - Aug	<i>j</i> 2015	
	Mile 20.0 to 11.0 & Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet	of Advand	ced Maintena	nce Included	
	Contract No. 7 Channel Maintenance				
ltom			Estimated		Estimated
Item	Description	Units	Quantity	Unit Price	Cost
7H	Mechanical Dredging Flotation Channel Excavation Mile 19.1 to Mile 17.8 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527
71	HNC Mile 18.0 HNC Mile 16.0	CY	219,600	\$2.79	\$612,772
	Material to be placed unconfined within Wetland Site 20C oppsoite HNC Mile 16.8 along the west bank of the HNC WW. A construction access corriodr, 200 feet in width, will be provided for the Contractors use at the intersection of Four Pt. Bayou with the HNC WW. The intial buildup shall occur in the east corner of the DA and to proceed outward in a westerly direction. Elevation of Mtl. NTE +3.0' NAVD88 (See dwgs for details).				
7J	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.32	\$505,000	\$161,600
71	HNC Mile 18.0 HNC Mile 16.0	CY	219,600	\$3.25	\$713,964
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).				
7J	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.37	\$505,000	\$186,850
7K	Earthen Retention Dike Re-fubishment	LF	2,000	\$60.00	\$120,000
7L	HNC Mile 17.7 to HNC Mile 16.7 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	13,480	\$61.46	\$828,481
7M	Mechanical Dredging Flotation Channel Excavation Mile 17.7 to Mile 16.7 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,480	\$72.92	\$399,602
7N	HNC Mile 16.9 to HNC Mile 13.3 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	42,600	\$61.46	\$2,618,196
70	Mechanical Dredging Flotation Channel Excavation Mile 16.9 to Mile 13.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	19,200	\$72.92	\$1,400,064

	Feasibility Level Cost Estim				
Project	: Houma Navigation Canal Deepening			ms - Puls - Au	ug 2015
	Houma, Terrebonne Parish, Louisiana	Costs -	Ramos - Aug	g 2015	
	Maintenance Cost Adjacent Disposal -20ft MLG Mile 20.0 to 11.0 & Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet	of Advand	red Maintena	nce Included	
	Contract No. 7 Channel Maintenanc				
			Estimated		Estimated
Item	Description	Units	Quantity	Unit Price	Cost
7P	HNC Mile 16.0 to HNC Mile 13.0	CY	331,400	\$2.94	\$975,642
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).				
7Q	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.51	\$505,000	\$257,550
7R	Earthen Retention Dike Re-fubishment	LF	3,850	\$60.00	\$231,000
7S	HNC Mile 15.6 to HNC Mile 14.0 (West Bank) Rock Retention Structure Refurbishment (Dk ht. +6' NAVD88) Stone quantity 20% of construction quantity	ΤN	18,900	\$61.46	\$1,161,594
7T	Mechanical Dredging Flotation Channel Excavation Mile 15.6 to Mile 14.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,650	\$72.92	\$630,758
7U	HNC Mile 13.2 to HNC Mile 11.9 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +6' NAVD88) Stone quantity 20% of construction quantity	ΤN	15,180	\$61.46	\$932,963
7V	Mechanical Dredging Flotation Channel Excavation Mile 13.1 to Mile 11.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,340	\$72.92	\$389,393
7W	HNC Mile 13.0 to HNC Mile 11.0	CY	254,500	\$2.62	\$667,808
	Material to be placed within Wetland Site 24 opposite HNC Mile 12.0 along the west bank of the HNC WW. A construction access corrdior, 200 ft in width, will be provided for the Contractors use at the entrance of the WW. The initial buildup will occur in the east corner of the DA and proceed outward in a west, south-westerly direction. Elevation of material placed within the open water area(s) NTE +3.0' NAVD88 (See dwgs for details).				
7X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.35	\$505,000	\$176,750
7Y	Earthen Retention Dike Re-fubishment	LF	4,100	\$60.00	\$246,000

	Feasibility Level Cost Estimate							
Project	: Houma Navigation Canal Deepening		ies & Line Ite		ug 2015			
	Houma, Terrebonne Parish, Louisiana Maintenance Cost Adjacent Disposal -20ft MLG	Cosis -	Ramos - Aug	12015				
	Mile 20.0 to 11.0 & Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet	of Advan	ced Maintena	nce Included				
	Contract No. 7 Channel Maintenance	e - 2 and		uency				
Item	Description	Units	Estimated	Unit Price	Estimated			
	•		Quantity		Cost			
7W	HNC Mile 13.0 to HNC Mile 11.0	CY	254,500	\$2.88	\$732,960			
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).							
71	Surveying Chara Craw Displing Craw and Crawhast	MO	0.00	¢505.000	¢101.000			
7X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.38	\$505,000	\$191,900			
7Y	Earthen Retention Dike Re-fubishment	LF	3,850	\$60.00	\$231,000			
7Z	HNC Mile 12.7 to HNC Mile 12.3 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	5,420	\$61.46	\$333,113			
7AA	Mechanical Dredging Flotation Channel Excavation Mile 12.6 to Mile 12.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527			
7BB	Mobilization and Demobilization	LS	1	\$857,241	\$857,241			
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width							
7CC	HNC Mile 11 to HNC Mile 8.0	CY	374,000	\$3.28	\$1,225,523			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).							
7DD	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.46	\$505,000	\$232,300			
7EE	HNC Mile 8.0 to HNC Mile 6.0	CY	257,900	\$3.21	\$828,581			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).							
7FF	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550			

	Feasibility Level Cost Estimate							
Project:	Houma Navigation Canal Deepening		ntities & Line Iten		ug 2015			
	Houma, Terrebonne Parish, Louisiana	Cost	s - Ramos - Aug	2015				
	Maintenance Cost Adjacent Disposal -20ft MLG							
	Mile 20.0 to 11.0 & Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 I							
	Contract No. 7 Channel Mainter	nance - 2 ai		iency				
Item	Description	Unit	s Estimated S Quantity	Unit Price	Estimated Cost			
7GG	HNC Mile 6.0 to HNC Mile 4.0	CY	267,400	\$3.10	\$828,298			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).							
7HH	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550			
711	HNC Mile 4.0 to HNC Mile 2.0	CY	267,400	\$3.10	\$828,298			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).							
7JJ	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550			
7KK	HNC Mile 2.0 to HNC Mile 0.0	CY	267,400	\$3.10	\$828,298			
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).							
7LL	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550			
				Total:	\$21,852,071			
	Contract Duration	DY	99					
	Note:							
	Channel Quantities do not reflect overdepth.							
	Dree	dging:	2,459,200 CY					
		Rock:	119,120 TON					
	Flotation Cha	annel:	50,370 LF					
	Earthen	Dike:	9,700 LF					

Survey/Crew/Boat: 3.3 MO

	Feasibility Level Cost							
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015						
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015						
	Maintenance Cost Adjacent Disposal -20ft MLG							
	Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 4 Feet of Adva							
	Contract No. 8	Channel	Maintenance	- 2 year freq	-			
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
8A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950			
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width							
8B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$9.13	\$5,293,312			
	Material to be placed at the SPD Mile -1.7 and Mile -2.5							
8C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.0	\$645,000	\$1,302,900			
				Total:	\$7,905,162			
	Contract Duration	DY	61					
	Notes:							
	Channel Quantitires do not reflect overdepth.							
	Dredging	:	580,000 CY					
	Survey/Crew/Boat	:	2.0 MO					

	Feasibility Level Cost	Estimate						
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Adjacent Disposal -20ft MLG		ies & Line Iter Ramos - Aug	ms - Puls - Au 2015	g 2015			
	Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advance Contract No. 9	ced Maintenance Included Channel Maintenance - 2 year frequency						
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
9A	Mobilization and Demobilization	LS	1	\$857,241	\$857,241			
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width							
9B	HNC Mile 11 to HNC Mile 8.0	CY	374,000	\$3.28	\$1,225,523			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 8.8 a minimum 1000' west of the channel centerline (See dwgs for details).							
9C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.46	\$505,000	\$232,300			
9D	HNC Mile 8.0 to HNC Mile 6.0	CY	257,900	\$3.21	\$828,581			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 7.0 a minimum 1000' west of the channel centerline (See dwgs for details).							
9E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550			
9F	HNC Mile 6.0 to HNC Mile 4.0	CY	267,400	\$3.10	\$828,298			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 5.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).							
9G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550			
9H	HNC Mile 4.0 to HNC Mile 2.0	CY	267,400	\$3.10	\$828,298			
	Material to be placed unconfined at the single point discharge location opposite HNC Mile 3.0 a minimum 1000-feet west of the channel centerline (See dwgs for details).							
91	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550			
9J	HNC Mile 2.0 to HNC Mile 0.0	CY	267,400	\$3.10	\$828,298			
	Material to be placed at the single point discharge location opposie HNC Mile 1.0 a minimum 1000' west of the channel centerline (See dwgs for details).							

	Feasibility Level Cost Es	stimate				
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015				
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015				
	Maintenance Cost Adjacent Disposal -20ft MLG					
	Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced					
	Contract No. 9	Chanr	el Maintenanc	e - 2 year fre	quency	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
9K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550	
				Total:	\$6,254,740	
	Contract Duration	DY	51			
	Note:					
	Channel Quantities do not reflect overdepth.					
	Dredging:		1,434,101 CY			
			.,			
	Survey/Crew/Boat:		1.7 MO			

	Feasibility Level Cost				
Project:	Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug 2	2015
	Houma, Terrebonne Parish, Louisiana	Costs - R	amos - Aug 20)15	
	Maintenance Cost Adjacent Disposal -20ft MLG				
	Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 4 Feet of Adva	anced Maint	enance Includ	ed	
	Contract No. 10	Channel	Maintenance	- 2 year freq	uency
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
10A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,95
	Dredging and Disposal Mile 0.0 to Mile (-3.7) 3				
	slopes by 300' bottom width				
10B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$9.13	\$5,293,312
	Material to be placed at the SPD Mile -1.7 and Mile -2.5				
10C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.0	\$645,000	\$1,302,90
				Total:	\$7,905,16
	Contract Duration	DY	61		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredging	:	580,000 CY		
	Survey/Crew/Boat	:	2.0 MO		

Reach			20-foot depth				20	-foot depth	
			Site 1				Site 2		
	Unit Cost	CY	Duration (months)	Mob/Demob (Per Reach)	Unit Cost	CY	Duration (months)	Mob/Demob (Per Reach)	Crew/Equipment Costs
Mob/Demob	\$871,046								\$505,000
36.3 to 34.5 (5-year)	\$5.34	109,600	0.31	\$315,563	\$5.30	109,600	0.31	\$315,563	\$505,000
24.0 to 22.0 (5-year)	\$7.41	109,600	0.30	\$366,046	\$7.42	109,600	0.30	\$366,046	\$505,000
22.0 to 19.7 (5-year)	\$5.29	109,600	0.30	\$323,123	\$7.71	109,600	0.43	\$323,123	\$505,000
		\$1,976,658				\$2,238,996			
Mob/Demob (36.3 to 22.0)	\$939,307								\$505,000
36.3 to 34.0	\$5.34	109,600		\$315,563	\$5.30	109,600	0.31	\$315,563	\$505,000
34.0 to 32.0	\$3.94	219,600		\$434,307					\$505,000
32.0 to 29.5	\$6.09	165,800		\$434,307					\$505,000
29.5 to 28.0	\$3.88	165,800		\$330,985	\$3.62	165,800	0.30	\$330,985	\$505,000
28.0 to 26.0	\$3.20	219,600	0.37	\$317,075					\$505,000
26.0 to 24.0	\$3.55	219,600	0.39	\$330,985					\$505,000
24.0 to 22.0	\$7.41	109,600	0.30	\$366,046	\$7.42	109,600	0.30	\$366,046	\$505,000
		\$5,397,578				\$1,995,057			
Mob/Demob (22.0 to 11.0)	\$828,123								\$505,000
22.0 to 20.0	\$5.29	109,600		\$323,123	\$7.71	109,600		\$323,123	\$505,000
20.0 to 18.0	\$2.96	219,600		\$320,704	\$3.07	219,600		\$320,704	\$505,000
18.0 to 16.0	\$2.79	219,600		\$320,704	\$3.25	219,600	0.37	\$320,704	\$505,000
16.0 to 13.0	\$2.94	331,400		\$320,704					\$505,000
13.0 to 11.0	\$2.62	254,500		\$320,704	\$2.88	254,500	0.38	\$320,704	\$505,000
		\$3,484,924				\$2,966,068			
Mob/Demob (0.0 to 11.0)	\$857,241								\$505,000
11.0 to 8.0	\$057,241	374,000	0.46	\$352,241					\$505,000
8.0 to 6.0	\$3.20	257,900		\$352,241					\$505,000
6.0 to 4.0	\$3.10	267,400		\$352,241					\$505,000
4.0 to 2.0	\$3.10	267,400		\$352,241					\$505,000
2.0 to 0.0	\$3.10	267,400		\$352,241					\$505,000
2.0 10 0.0	ψ0.10	\$4,538,999		φου2,241					\$200,000
Mob/Demob (0.0 to -3.7)	\$1,308,950	ψ-1,000,000							\$645,000
0.0 to -3.7	\$9.13	580,000	2.02	\$663,950					\$645,000
	ψο.10	\$5,293,312		\$505,550					<i>40-10,000</i>

Project	: Houma Navigation Canal Dee			Quantities & Line Ite	s & Line Items - Puls - Aug 2015		
	Houma, Terrebonne Parish, L			Costs - Ramos - Aug 2015			
	Construction Cost Alternativ						
	Mile 36.3 to Mile (-3.7) to -20 I	-oot Elevatio	on w/ Advanced N	laintenace Included			
	Summary Page						
Contract No.	Description	Units	Estimated Quantity	Unit Price	Estimated Cycle Cost		
1	Mobilization/Demobilization	LS	1	\$939,307	\$939,307		
	Mile 36.3 to Mile 22.0	CY	1,755,000	\$12.03	\$21,120,878		
2	Mobilization/Demobilization	LS	1	\$825,704	\$825,704		
	Mile 22.0 to Mile 11.5	CY	1,150,000	\$43.30	\$49,794,162		
3	Mobilization/Demobilization	LS	1	\$1,030,374	\$1,030,374		
	Mile 11.5 to Mile 5.0	CY	2,244,500	\$5.16	\$11,582,884		
4	Mobilization/Demobilization	LS	1	\$1,030,374	\$1,030,374		
	Mile 5.0 to Mile 0.0	CY	1,315,000	\$8.90	\$11,705,510		
5	Mobilization/Demobilization	LS	1	\$1,308,950	\$1,308,950		
	Mile 0.0 to Mile (-3.7)	CY	1,100,000	\$11.72	\$12,894,670		
		Total:	7,564,500	\$14.84	\$112,232,814		

Unit costs reflected on summary sheet include earthen dike construction, rock dike construction, geotextile fabric, floatation channel excavation within each specified reach, crews, surveying, and boats, if applicable.

<u> </u>	Feasibility Level Cost Es				00/5
Project	 t: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 2B Earthen Retention -20 Mile 36.3 to 22.0 to -20 Foot Elevation w/ 2 Feet of Advanced 	Costs -	ties & Line Itel Ramos - Aug e Included		ig 2015
ltem	Contract No. 1 Description	Units	Estimated	Unit Price	Estimated
			Quantity		Cost
1A	Mobilization and Demobolization Dredging and Disposal (Mile 36.3 to Mile 22.0)	LS	1	\$939,307	\$939,307
	Dredging and Disposal (Mile 36.3 to Mile 22.0) Channel to be excavated to -22 NAVD88; 1v/2h side slope/150-foot bottom width				
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	325,000	\$3.66	\$1,189,760
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.				
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.61	\$505,000	\$308,050
1D	NHC Mile 34.0 to HNC Mile 32.0	CY	175,000	\$4.17	\$730,240
	Material to be placed semi-confined within designated Wetland Site 7E east of HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.38	\$505,000	\$191,900
1F	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000
1G	HNC Mile 32.0 to HNC Mile 29.5	CY	215,000	\$5.85	\$1,257,664
	Material to be placed semi-confined within designated Wetland Site 7E east of HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.66	\$505,000	\$333,300
11	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000

	Feasibility Level Cost Estim							
Project	: Houma Navigation Canal Deepening		ties & Line Iter		ıg 2015			
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 2B Earthen Retention -20	Costs -	Ramos - Aug	2015				
	Mile 36.3 to 22.0 to -20 Foot Elevation w/ 2 Feet of Advanced Ma	intenance	e Included					
Contract No. 1								
Item	Description	Units	Estimated	Unit Price	Estimated			
		•	Quantity	•••••	Cost			
1J	HNC Mile 29.5 to HNC Mile 28.0	CY	185,000	\$5.03	\$930,624			
	Material to be placed unconfined within designated Wetland Site 12B east of HNC Mile 27.0. Material shall be discharged within the open water areas, a minimum 4,500 -feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area.							
	Elevation of material NTE +3.0' NAVD88 (See dwgs for details).							
1K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.47	\$505,000	\$237,350			
1L	Earthen Retention Dike Refurbishment	LF	1,600	\$60.00	\$96,000			
1M	HNC Mile 28.0 to HNC Mile 26.0	CY	250,000	\$4.65	\$1,161,600			
	Material to be placed unconfined within designated Wetland Site A-07-A west of HNC Mile 26.5. Material shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).							
1N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.59	\$505,000	\$297,950			
10	Earthen Retention Dike Refurbishment	LF	9,300	\$60.00	\$558,000			
1P	HNC Mile 27.6 to HNC Mile 27.4 (West Bank) Foreshore Protection Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	1,900	\$61.46	\$116,774			
1Q	Mechanical Dredging Flotation Channel Excavation Mile 27.6 to Mile 27.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,260	\$72.92	\$91,879			
1R	HNC Mile 26.4 to HNC Mile 25.9 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	ΤN	26,600	\$61.46	\$1,634,836			
	Geotextile	SY	12,800	\$9.78	\$125,184			
1S	Mechanical Dredging Flotation Channel Excavation Mile 26.4 to Mile 25.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	2,840	\$72.92	\$207,093			

	Feasibility Level Cost Estimate						
Project	: Houma Navigation Canal Deepening		ties & Line Iter		ıg 2015		
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 2B Earthen Retention -20	Costs -	Ramos - Aug	2015			
	Mile 36.3 to 22.0 to -20 Foot Elevation w/ 2 Feet of Advanced Ma	intenanc	e Included				
	Contract No. 1						
Item	Description	Units	Estimated	Unit Price	Estimated		
	Decemption		Quantity		Cost		
1T	HNC Mile 26.0 to HNC Mile 24.0	CY	300,000	\$3.94	\$1,182,720		
	Material to be placed unconfined within designated Wetland Site A-07-A west of HNC Mile 26.5. Material shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).						
1U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.60	\$505,000	\$303,000		
1V	Earthen Retention Dike Refurbishment	LF	13,000	\$60.00	\$780,000		
1W	HNC Mile 25.9 to HNC Mile 24.1 (West Bank) Foreshore Protection Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	21,300	\$61.46	\$1,309,098		
1X	Mechanical Dredging Flotation Channel Excavation Mile 25.9 to Mile 24.1 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324		
1Y	HNC Mile 24.0 to HNC Mile 22.0	CY	305,000	\$3.40	\$1,038,464		
	Material to be placed semi-confined within designated Wetland Site 15 west of HNC Mile 23.5. Material to be placed within the open water area(s), a minimum 1,270 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).						
1Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.53	\$505,000	\$267,650		
1AA	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000		
1BB	HNC Mile 23.7 to HNC Mile 22.4 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	ΤN	59,100	\$61.46	\$3,632,286		
	Geotextile	SY	28,500	\$9.78	\$278,730		
1CC	Mechanical Dredging Flotation Channel Excavation Mile 23.7 to Mile 22.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897		
1DD	HNC Mile 22.2 to HNC Mile 22.1 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	9,800	\$61.46	\$602,308		
	Geotextile	SY	4,700	\$9.78	\$45,966		

	Feasibility Level Cost Estim	ate				
Project	:: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana		ities & Line Iten		ıg 2015	
	Construction Cost Alternative 2B Earthen Retention -20	Costs - Ramos - Aug 2015 0				
	Mile 36.3 to 22.0 to -20 Foot Elevation w/ 2 Feet of Advanced Ma Contract No. 1	intenanc	ce Included			
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
1EE	Mechanical Dredging Flotation Channel Excavation Mile 22.2 to Mile 22.1. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	730	\$72.92	\$53,232	
				Total:	\$22,060,185	
	Contract Duration	DY	115			
	Notes:					
	Dredging quantity does not reflect overdepth.					
	Dredging	:	1,755,000 CY			
	Rock	:	118,700 TON			
	Geotextile	:	46,000 SY			
	Flotation Channel	:	21,070 LF			
	Earthen Dike	:	40,150 LF			
	Survey/Crew/Boat	:	3.8 MO			

	Feasibility Level Cost Est	imate			
Project:	Houma Navigation Canal Deepening				uls - Aug 2015
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 2B Earthen Retention -20		Costs - Ramo	s - Aug 2015	
	Mile 22.0 to 11.5 to -20 Foot Elevation w/ 2 Feet of Advanced Ma	intenanc	e Included		
	Contract No. 2				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
2A	Mobilization and Demobilization	LS	1	\$825,704	\$825,704
	Dredging and Disposal (Mile 22.0 to Mile 11) Channel to be excavated to -22 NAVD88; 1v/2h side slope/150-foot bottom width				
2B	HNC Mile 22.0 to HNC Mile 20.0	CY	393,000	\$2.85	\$1,121,779
	Material to be placed unconfined within designated Wetland Site 16 west of HNC Mile 22. Material shall be discharged within the open water areas, a minimum 1,550 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
2C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.59	\$505,000	\$297,950
2D	HNC Mile 20.0 to HNC Mile 18.0	CY	92,000	\$8.28	\$761,907
	Material to be placed unconfined within Wetland Site 19C east of and adjacent to HNC Mile 19.5. The discharge will be positioned to the east and placed a minimum 500 ft beyond the bank rim/ridge or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) of Site 19C NTE +3.0' NAVD88 (See dwgs for details).				
2E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.40	\$505,000	\$202,000
2F	HNC Mile 19.2 to HNC Mile 17.5 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	ΤN	99,500	\$61.46	\$6,115,270
	Geotextile	SY	47,900	\$9.78	\$468,462
2G	Mechanical Dredging Flotation Channel Excavation Mile 19.2 to Mile 17.5 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,120	\$72.92	\$592,110
2H	HNC Mile 19.1 to HNC Mile 17.8 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	18,200	\$61.46	\$1,118,572
	Geotextile	SY	8,750	\$9.78	\$85,575
21	Mechanical Dredging Flotation Channel Excavation Mile 19.1 to Mile 17.8 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527

Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana	(Quantities & L	ing Hama D		
	Houma Larrahonna Parish Louisiana				uls - Aug 2015	
	Construction Cost Alternative 2B Earthen Retention -20	Costs - Ramos - Aug 2015				
	Mile 22.0 to 11.5 to -20 Foot Elevation w/ 2 Feet of Advanced Ma	intenanc	e Included			
	Contract No. 2	internario	o moladoa			
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
2J	HNC Mile 18.0 HNC Mile 16.0	CY	170,000	\$5.26	\$894,336	
	Material to be placed unconfined within designated Wetland Site 20C west of HNC Mile 17. Material shall be discharged within the open water areas, a minimum 900 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).					
2K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.47	\$505,000	\$237,350	
2L	HNC Mile 17.7 to HNC Mile 16.7 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	ΤN	67,400	\$61.46	\$4,142,404	
	Geotextile	SY	32,500	\$9.78	\$317,850	
2M	Mechanical Dredging Flotation Channel Excavation Mile 17.7 to Mile 16.7 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,480	\$72.92	\$399,602	
2N	HNC Mile 16.9 to HNC Mile 13.3 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	ΤN	213,000	\$61.46	\$13,090,980	
	Geotextile	SY	102,600	\$9.78	\$1,003,428	
20	Mechanical Dredging Flotation Channel Excavation Mile 16.9 to Mile 13.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	19,200	\$72.92	\$1,400,064	
2P	HNC Mile 16.0 to HNC Mile 13.0	CY	315,000	\$4.36	\$1,374,912	
	Material to be placed semi-confined within designated Wetland Site 21 west of HNC Mile 15. Material to be placed within the open water area(s), a minimum 600 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).					
2Q	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.72	\$505,000	\$363,600	
2R	Earthen Retension Dike Refurbishment	LF	3,850	\$60.00	\$231,000	
2S	HNC Mile 15.6 to HNC Mile 14.0 (West Bank) Rock Retention Structure (site 21) (Dk ht. +6' NAVD88)	ΤN	94,500	\$61.46	\$5,807,970	
	Geotextile	SY	45,500	\$9.78	\$444,990	

	Feasibility Level Cost	Estimate						
Project:	Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2015 Houma, Terrebonne Parish, Louisiana Costs - Ramos - Aug 2015 Construction Cost Alternative 2B Earthen Retention -20 Mile 22.0 to 11.5 to -20 Foot Elevation w/ 2 Feet of Advanced Maintenance Included Contract No. 2 Quantities & Line Items - Puls - Aug 2015							
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
2Т	Mechanical Dredging Flotation Channel Excavation Mile 15.6 to Mile 14.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,650	\$72.92	\$630,758			
2U	HNC Mile 13.1 to HNC Mile 11.9 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	75,900	\$61.46	\$4,664,814			
	Geotextile	SY	36,600	\$9.78	\$357,948			
2V	Mechanical Dredging Flotation Channel Excavation Mile 13.1 to Mile 11.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897			
2W	HNC Mile 13.0 to HNC Mile 11.5	CY	180,000	\$3.92	\$705,024			
	Material to be placed semi-confined within designated Wetland Site 24 west of HNC Mile 12.1. Material to be placed within the open water area(s), a minimum 900 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).							
2X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.37	\$505,000	\$186,850			
2Y	Earthen Retension Dike Refurbishment	LF	4,100	\$60.00	\$246,000			
2Z	HNC Mile 12.7 to HNC Mile 12.3 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	27,100	\$61.46	\$1,665,566			
	Geotextile	SY	13,000	\$9.78	\$127,140			

	Feasibility Level Cost Est	imate					
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 2B Earthen Retention -20 Mile 22.0 to 11.5 to -20 Foot Elevation w/ 2 Feet of Advanced Ma Contract No. 2		Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015				
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
2AA	Mechanical Dredging Flotation Channel Excavation Mile 12.6 to Mile 12.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527		
				Total:	\$50,619,866		
	Contract Duration	DY	77				
	Note:						
	Dredging quantity does not reflect overdepth.						
	Dredging	:	1,150,000 CY				
	Rock	.:	595,600 TON				
	Geotextile	:	286,850 SY				
	Flotation Channel	l:	51,570 LF				
	Earthen Dike	:	7,950 LF				
	Survey/Crew/Boat	::	2.6 MO				

	Feasibility Level C						
Project	t: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 2B Earthen Retention - Mile 11.5 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advance	Cost	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015 aintenance Included				
ltem	Contract No. 3 Description	Uni	ts	Estimated Quantity	Unit Price	Estimated Cost	
3A	Mobilization and Demobilization	LS	3	1	\$1,030,374	\$1,030,374	
	Dredging and Disposal (Mile 11.5 to 0.0) Channel to be excavated to -23 NAVD88; 1v/3h side slope by 150' channel width						
3B	HNC Mile 11.5 to HNC Mile 10.0	C`	Y	230,000	\$3.65	\$839,040	
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.						
3C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	M	С	0.30	\$505,000	\$151,500	
3D	Earthen Retension Dike Refurbishment	LF	=	12,700	\$60.00	\$762,000	
3E	HNC Mile 10.0 to HNC Mile 5.0	C`	Y	2,014,500	\$3.83	\$7,709,894	
	Material to be placed earthen-confined west of channel within "lung area". 715 Acres See plans for details.						
3F	Surveying, Shore Crew, Pipeline Crew, and Crewboat	M	С	2.69	\$505,000	\$1,358,450	
3G	Earthen Retension Dike Refurbishment	LF	=	12,700	\$60.00	\$762,000	
					Total	\$12,613,25	
	Contract Duration:	D	Y	90			
	Notes:						
	Dredging quantity does not reflect overdepth.						
	D	redging:		2,244,500 CY			
	Earth	en Dike:		25,400 LF			
	Survey/Cro	ew/Boat:		3.0 MO			

Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 2B Earthen Retention -20		es & Line Items Ramos - Aug 20	-	015		
Mile 11.5 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced Maintenance Included Contract No. 3							
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
4A	Mobilization and Demobilization	LS	1	\$1,030,374	\$1,030,374		
	Dredging and Disposal (Mile 11.5 to 0.0) Channel to be excavated to -23 NAVD88; 1v/3h side slope by 150' channel width						
4B	HNC Mile 5.0 to HNC Mile 1.5	CY	1,050,000	\$7.73	\$8,117,76		
	Material to be placed earthen confined on northeast end of Isle Denieres (East Island) @ 3' contour for marsh creation. 370 Acres. See plans for details.						
4C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	1.98	\$505,000	\$999,900		
4D	Earthen Retension Dike Refurbishment	LF	6,500	\$60.00	\$390,000		
4E	HNC Mile 1.5 to HNC Mile 0.0	CY	265,000	\$7.36	\$1,950,40		
	Material to be placed on bay side of East Island Capacity of behind earthen disposal exceeded. 3' contour is limit. See plans for details						
4F	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.49	\$505,000	\$247,450		
				Total	\$12,735,88		
	Contract Duration:	DY	74				
	Notes:						
	Dredging quantity does not reflect overdepth.						
	Dredging	:	1,315,000 CY				
	Earthen Dike	:	6,500 LF				
	Survey/Crew/Boat	t:	2.5 MO				

	Feasibility Level Co				
Project:	Houma Navigation Canal Deepening		& Line Items - P	uls - Aug 201	5
	Houma, Terrebonne Parish, Louisiana		mos - Aug 2015		
	Construction Cost Alternative 2B Earthen Retention	-			
	Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 4 Feet of Adva	anced Mainte	nance Included		
	Contract No. 4				
Contract No.	Description	Units	Estimated Quantity	Unit Price	Estimated Construction Cost
5A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -24' NAVD88; 1v/2h side slopes by 300' bottom width.				
5B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	1,100,000	\$10.23	\$11,249,920
	Material to be placed unconfined for Marsh Creation on the south side of East Island (Isle Deniers) outside of earthen confinement. (See plans for details). Material Quantity does not reflect overdepth.				
5C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.55	\$645,000	\$1,644,750
				Total:	\$14,203,620
	Contract Duration:	DY	77		
	Note:				
	Dredging quantity does not reflect overdepth.				
	Dredging	g:	1,100,000 CY		
	Survey/Crew/Boa	t:	2.6 MO		

Reach	20 foc	ot depth			
	Unit Cost	СҮ	Duration (months)	Mob/Demob (Per Reach)	Crew/Equipment Costs
Mob/Demob (36.3 to 22.0)	\$939,307				\$505,000
36.3 to 34.0	\$3.66	325,000	0.61	\$327,961	\$505,000
34.0 to 32.0	\$4.17	175,000	0.38	\$434,307	\$505,000
32.0 to 29.5	\$5.85	215,000	0.66	\$434,307	\$505,000
29.5 to 28.0	\$5.03	185,000	0.47	\$327,961	\$505,000
28.0 to 26.0	\$4.65	250,000	0.59	\$327,961	\$505,000
26.0 to 24.0	\$3.94	300,000	0.60	\$327,961	\$505,000
24.0 to 22.0	\$3.40	305,000	0.53	\$327,961	\$505,000
		\$7,491,072			
Mob/Demob (22.0 to 11.5)	\$825,704				\$505,000
22.0 to 20.0	\$2.85	393,000	0.59	\$320,704	\$505,000
20.0 to 18.0	\$8.28	92,000	0.40	\$320,704	\$505,000
18.0 to 16.0	\$5.26	170,000	0.47	\$320,704	\$505,000
16.0 to 13.0	\$4.36	315,000	0.72	\$320,704	\$505,000
13.0 to 11.5	\$3.92	180,000	0.37	\$320,704	\$505,000
		\$4,857,958			
Mob/Demob (11.5 to 0.0)	\$1,030,374				\$505,000
11.5 to 10.0	\$3.65	230,000	0.30	\$372,299	\$505,000
10.0 to 5.0	\$3.83	2,014,500	2.69	\$372,299	\$505,000
5.0 to 1.5	\$7.73	1,050,000	1.98	\$525,374	\$505,000
1.5 to 0.0	\$7.36	265,000	0.49	\$526,109	\$505,000
		\$18,617,094		· · · ·	. , ,
Mob/Demob (0.0 to -3.7)	\$1,308,950	· ·			\$645,000
0.0 to -3.7	\$10.23	1,100,000	2.55	\$663,950	\$645,000
		\$11,249,920			

Feasibility L	_evel Cost	Estimate
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Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015

Houma, Terrebonne Parish, Louisiana Maintenance Cost Earthen Retention -20ft MLG

Project: Houma Navigation Canal Deepening

Multiple Disposal Sites

Costs for 10-Year Cycle to be Repeated 5 Times Over 50 Years Mile 36.3 to Mile (-3.7) to -20 Foot Elevation w/ Advanced Maintenance Included Summary Page

Contract No.	t Description	Cycle Frequency (Years)	Units	Quantity	Estimated Unit Price Per Cycle	Estimated Cycle Cost	Estimated Total Cost (50-Year)
1*	Mobilization/Demobilization	10	LS	1	\$871,046	871046	\$4,355,230
	Mile 36.3 to Mile 34.0	10	CY	109,600	\$6.74	\$738,184	\$3,690,920
	Mile 24.0 to Mile 22.0	10	CY	109,600	\$10.39	\$1,139,248	\$5,696,240
	Mile 22.0 to Mile 20.0	10	CY	109,600	\$8.93	\$978,407	\$4,892,036
	Mobilization/Demobilization	2	LS	1	\$1,031,109	\$1,031,109	\$25,777,725
	Mile 11.0 to Mile 0.0	2	CY	1,434,200	\$6.57	\$9,427,027	\$235,675,674
2	Mobilization/Demobilization	2	LS	1	\$1,308,950	\$1,308,950	\$32,723,750
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$20.66	\$11,981,642	\$299,541,050
3	Mobilization/Demobilization	2	LS	1	\$1,031,109	\$1,031,109	
	Mile 11.0 to Mile 0.0	2	CY	1,434,200	\$6.57	\$9,427,027	
4	Mobilization/Demobilization	2	LS	1	\$1,308,950	\$1,308,950	
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$20.66	\$11,981,642	
5	Mobilization/Demobilization	2	LS	1	\$1,031,109	\$1,031,109	
	Mile 11.0 to Mile 0.0	2	CY	1,434,200	\$6.57	\$9,427,027	
6	Mobilization/Demobilization	10	LS	1	\$939,307	\$939,307	\$4,696,535
	Mile 36.3 to Mile 34.0	10	CY	109,600	\$6.77	\$741,551	\$3,707,755
	Mile 34.0 to Mile 32.0	10	CY	219,600	\$6.86	\$1,507,001	\$7,535,005
	Mile 32.0 to Mile 29.5	10	CY	165,800	\$10.20	\$1,691,836	\$8,459,181
	Mile 29.5 to Mile 28.0	10	CY	165,800	\$5.24	\$868,203	\$4,341,014
	Mile 28.0 to Mile 26.0	10	CY	219,600	\$9.97	\$2,190,283	\$10,951,416
	Mile 26.0 to Mile 24.0	10	CY	219,600	\$16.08	\$3,531,986	\$17,659,929
	Mile 24.0 to Mile 22.0	10	CY	109,600	\$22.96	\$2,516,295	\$12,581,476
	Mile 22.0 to Mile 20.0	10	CY	109,600	\$10.06	\$1,102,166	\$5,510,830
	Mobilization/Demobilization	2	LS	1	\$1,308,950	\$1,308,950	
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$20.66	\$11,981,642	
7	Mobilization/Demobilization	10	LS	1	\$939,307	\$939,307	\$4,696,535
	Mile 20.0 to Mile 18.0	10	CY	219,600	\$13.91	\$3,055,428	\$15,277,138
	Mile 18.0 to Mile 16.0	10	CY	219,600	\$27.64	\$6,070,003	\$30,350,013
	Mile 16.0 to Mile 13.0	10	CY	331,400	\$13.82	\$4,578,899	\$22,894,496
	Mile 13.0 to Mile 11.0	10	CY	254,500	\$6.31	\$1,606,440	\$8,032,198
	Mobilization/Demobilization	2	LS	1	\$1,031,109	\$1,031,109	
	Mile 11.0 to Mile 0.0	2	CY	1,434,200	\$6.57	\$9,427,027	
8	Mobilization/Demobilization	2	LS	1	\$1,308,950	\$1,308,950	
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$20.66	\$11,981,642	
9	Mobilization/Demobilization	2	LS	1	\$1,031,109	\$1,031,109	
	Mile 11.0 to Mile 0.0	2	CY	1,434,200	\$6.57	\$9,427,027	
10	Mobilization/Demobilization	2	LS	1	\$1,308,950	\$1,308,950	
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$20.66	\$11,981,642	
			Total:	12,744,100	\$12.07	\$153,809,230	\$769,046,148

Note: Unit costs reflected on summary sheet include all disposal area dike refurbishment within each specified reach, if necessary * Three reaches specified in Contract 1 require a maintenance cycle every 5 years. 5 years after maintenace Contract 1 reaches at 36.3, 24.0, and 22.0 will undergo maintenance under Contract 6 (10-Year cycle). 5 Years after maintenance Contract 6 those reaches will be maintained under a new 5-year cycle (Contract 11). Following this sequence, contract 6 will be required four additional times over the 50 year project life after Contract 6 is completed.

Project:	Feasibility Level Cost Estimate : Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2015							
	Houma, Terrebonne Parish, Louisiana	Costs - R	amos - Aug 20	015				
	Maintenance Cost Earthen Retention -20ft MLG Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & Mile 11.0 to 0.0 to -20 Foot Elevation							
	w/ 2 and 3 Feet of Advanced Maintenance Included		Multiple Disp					
	Contract No. 1			- 10 year frequ	IONCV			
			Estimated		Estimated			
Item	Description	Units	Quantity	Unit Price	Cost			
1A	Mobilization and Demobolization	LS	1	\$871,046	\$871,046			
	Dredging and Disposal (Mile 36.3 to Mile 20.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width							
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	109,600	\$5.34	\$585,001			
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.							
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550			
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	109,600	\$5.30	\$580,792			
	Material to be placed within confined upland Site 3 opposite HNC Mile 35.5 No height restriction. Dike construction/maintenance not required.							
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550			
1D	HNC Mile 24.0 to HNC Mile 22.0	CY	109,600	\$7.41	\$812,268			
	Material to be placed semi-confined within Wetland Site 15 between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a west-southwesterly direction. Earthen closures will be required along the west side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).							
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500			
	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000			

rolect.	Feasibility Level Cost Estimate t: Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2015							
reject.	Houma, Terrebonne Parish, Louisiana		amos - Aug 20					
	Maintenance Cost Earthen Retention -20ft MLG	00010 /1	unioo 710g 20	10				
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & Mile	11 0 to 0 0	to 20 East Ela	votion				
			Multiple Dispo					
	w/ 2 and 3 Feet of Advanced Maintenance Included							
	Contract No. 1	Channel	Maintenance ·	- 10 year frequ	-			
ltem	Description	Units	Estimated	Unit Price	Estimated			
nem	Description	Onits	Quantity	Unit Frice	Cost			
1D	HNC Mile 24.0 to HNC Mile 22.0	CY	109,600	\$7.42	\$813,670			
	Material to be placed semi-confined within Wetland							
	Site 15A between HNC Mile 24.0 and 22.9 west of							
	Site 15 beyond the west bank of the HNC WW.							
	The initial buildup of mtl. shall begin in the south east							
	corner, and to proceed outward in a westerly							
	direction. Earthen closures will be required along the							
	east side of the disposal area adjacent to the p/l canal							
	intersecting the disposal area. A 200-foot wide construction							
	access corridor along the entrance of the waterway							
	will be provided for the Contractors use. Elevation							
	of material NTE +3.0' NAVD88 (See dwgs for details).							
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500			
1F	Earthen Retention Dike Refurbishment	LF	4,800	\$60.00	\$288,000			
1G	HNC Mile 22.0 to HNC Mile 20.0	CY	109,600	\$5.29	\$579,389			
	Material to be placed unconfined within Wetland Site 16 opposite and adjacent to HNC Mile 21.4 along the west bank of the HNC WW. The discharge will be							
	positioned to the west and placed a minimum 1,550 ft beyond the center line of the channel to the							
	front of the disposal area. Elevation of material							
	placed within the open water area(s) NTE +3.0'							
	NAVD 88 (See dwgs for details).							
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500			
1G	HNC Mile 22.0 to HNC Mile 20.0	CY	109,600	\$7.71	\$844,534			
	Material to be placed semi-confined within Wetland							
	Site 15A between HNC Mile 23.3 and 22.5 west of							
	Site 15 'beyond the west bank of the HNC WW.							
	The initial buildup of mtl. shall begin in the south east							
	corner, and to proceed outward in a westerly							
	direction. Earthen closures will be required along the							
	east side of the disposal area adjacent to the p/l canal							
	east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction							
	east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway							
	east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation							
1H	east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway	МО	0.43	\$505,000	\$217,150			

-	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Earthen Retention -20ft MLG	t Estimate Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015					
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & Mi w/ 2 and 3 Feet of Advanced Maintenance Included Contract No. 1		e 11.0 to 0.0 to -20 Foot Elevation Multiple Disposal Sites Channel Maintenance - 10 year frequency				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
11	Earthen Retention Dike Refurbishment	LF	4,800	\$60.00	\$288,000		
1J	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109		
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width						
1K	HNC Mile 11.0 to HNC Mile 5.0	CY	765,600	\$4.58	\$3,508,28		
	Material to be placed earthen confined west of channel within "lung area". 715 Acres See plans for details.						
1L	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	1.09	\$505,000	\$550,450		
1M	Earthen Retention Dike Refurbishment	LF	12,700	\$60.00	\$762,000		
1N	HNC Mile 5.0 to HNC Mile 1.5	CY	468,000	\$5.30	\$2,480,02		
	Material to be placed earthen confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.						
10	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.64	\$505,000	\$323,200		
1P	Earthen Retention Dike Refurbishment	LF	6,500	\$60.00	\$390,000		
1Q	HNC Mile 1.5 to HNC Mile 0.0	CY	200,600	\$5.04	\$1,011,66		
1R	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.26	\$505,000	\$131,300		
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details						
1S	Earthen Containment Dike Refurbishment (Lung)	LF	1,823	\$20.00	\$36,460		

	Feasibility Level Cost I	Estimate								
Project:	Houma Navigation Canal Deepening	pening Quantities & Line Items - Puls - Aug 2015								
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015								
	Maintenance Cost Earthen Retention -20ft MLG									
	Mile 36.3 to 34.0 & Mile 24 to 22.0 & Mile 22.0 to 20.0 & Mile 11.0 to 0.0 to -20 Foot Elevation									
	w/ 2 and 3 Feet of Advanced Maintenance Included		Multiple Dispo	sal Sites						
	Contract No. 1	Channe	Maintenance -	10 year freq	uency					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost					
1T	Earthen Dike on bay side East Island	LF	3,419	\$60.00	\$205,140					
1U	Earthen Containment Dike Refurbishment (East Island)	LF	1,425	\$20.00	\$28,500					
				Total:	\$14,097,58					
	Contract Duration	DY	91							
	Notes:									
	Channel Quantitires do not reflect overdepth.									
	Dredging	:	1,763,000 CY							
	Earthen Dike	:	31,250 LF							
	Survey/Crew/Boat		3.0 MO							

	Feasibility Level Cost					
Project:	Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug	2015	
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015				
	Maintenance Cost Earthen Retention -20ft MLG					
	Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 4 Feet of Adva					
	Contract No. 2	Channel	Maintenance	- 2 year freq		
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
2A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950	
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width					
2B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$18.02	\$10,452,992	
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.					
2C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.4	\$645,000	\$1,528,650	
				Total:	\$13,290,592	
	Contract Duration	DY	71			
	Notes:					
	Channel Quantitires do not reflect overdepth.					
	Dredging	:	580,000 CY			
	Survey/Crew/Boat	:	2.4 MO			

Feasibility Level Cost								
avigation Canal Deepening errebonne Parish, Louisiana		ties & Line Iter Ramos - Aug	ms - Puls - Au g 2015	g 2015				
nce Cost Earthen Retention -20ft MLG								
Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced Maintenance Included Contract No. 3 Channel Maintenance - 2 year freq								
10. 5		Estimated	-	Estimated				
Description	Units	Quantity	Unit Price	Cost				
on and Demobilization	LS	1	\$1,031,109	\$1,031,109				
and Disposal (Mile 11 to Mile 0.0) o be excavated to -21' NAVD88; 1v/2h side 150' bottom width								
11.0 to HNC Mile 5.0	CY	765,600	\$4.58	\$3,508,285				
b be placed earthen confined annel within "lung area". 715 Acres for details.								
, Shore Crew, Pipeline Crew, and Crewboat	MO	1.09	\$505,000	\$550,450				
etention Dike Refurbishment	LF	12,700	\$60.00	\$762,000				
5.0 to HNC Mile 1.5	CY	468,000	\$5.30	\$2,480,026				
be placed earthen confined ast end of Isle Denieres (East Island) for ation. 370 Acres. See plans for details.								
, Shore Crew, Pipeline Crew, and Crewboat	МО	0.64	\$505,000	\$323,200				
etention Dike Refurbishment	LF	6,500	\$60.00	\$390,000				
1.5 to HNC Mile 0.0	CY	200,600	\$5.04	\$1,011,666				
b be placed unconfined for beach ent on Isle Deniers for details								
, Shore Crew, Pipeline Crew, and Crewboat	МО	0.26	\$505,000	\$131,300				
ontainment Dike Refurbishment (Lung)	LF	1,823	\$20.00	\$36,460				
, S	hore Crew, Pipeline Crew, and Crewboat	hore Crew, Pipeline Crew, and Crewboat MO	hore Crew, Pipeline Crew, and Crewboat MO 0.26	hore Crew, Pipeline Crew, and Crewboat MO 0.26 \$505,000				

	Feasibility Level Cost Estimate									
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana		Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015							
	Maintenance Cost Earthen Retention -20ft MLG									
	Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced	d Mainte	nance Included							
	Contract No. 3	Chann	el Maintenanc	e - 2 year fre						
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost					
3K	Earthen Dike on bay side East Island	LF	3,419	\$60.00	\$205,140					
3L	Earthen Containment Dike Refurbishment (East Island)	LF	1,425	\$20.00	\$28,500					
				Total:	\$10,458,136					
	Contract Duration	DY	60							
	Note:									
	Channel Quantitires do not reflect overdepth.									
	Dredging		1,434,200 CY							
	Dredging	•	1,404,200 01							
	Earthen Dike	:	25,867 LF							
	Survey/Crew/Boat	:	2.0 MO							

	Feasibility Level Cost	Estimate					
Project:	Houma Navigation Canal Deepening		& Line Items		2015		
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015					
	Maintenance Cost Earthen Retention -20ft MLG						
	Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 4 Feet of Adva	Advanced Maintenance Included					
	Contract No. 4	Channel	Maintenance	- 2 year freq	-		
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
4A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950		
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width						
4B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$18.02	\$10,452,992		
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.						
4C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.4	\$645,000	\$1,528,650		
				Total:	\$13,290,592		
	Contract Duration	DY	71				
	Notes:						
	Channel Quantitires do not reflect overdepth.						
	Dredging	:	580,000 CY				
	Survey/Crew/Boat	:	2.4 MO				

	Feasibility Level Cost								
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana		ties & Line Ite - Ramos - Aug	ms - Puls - Au g 2015	g 2015				
	Maintenance Cost Earthen Retention -20ft MLG Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advance	.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced Maintenance Included							
	Contract No. 5 Channel Maintenance - 2 year free								
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost				
5A	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109				
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width								
5B	HNC Mile 11.0 to HNC Mile 5.0	CY	765,600	\$4.58	\$3,508,285				
	Material to be placed earthen confined west of channel within "lung area". 715 Acres See plans for details.								
5C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.09	\$505,000	\$550,450				
5D	Earthen Retention Dike Refurbishment	LF	12,700	\$60.00	\$762,000				
5E	HNC Mile 5.0 to HNC Mile 1.5	CY	468,000	\$5.30	\$2,480,026				
	Material to be placed earthen confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.								
5F	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.64	\$505,000	\$323,200				
5G	Earthen Retention Dike Refurbishment	LF	6,500	\$60.00	\$390,000				
5H	HNC Mile 1.5 to HNC Mile 0.0	CY	200,600	\$5.04	\$1,011,666				
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details								
51	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.26	\$505,000	\$131,300				
5J	Earthen Containment Dike Refurbishment (Lung)	LF	1,823	\$20.00	\$36,460				

	Feasibility Level Cost Estimate									
Project:	Houma Navigation Canal Deepening		ties & Line Item		g 2015					
	Houma, Terrebonne Parish, Louisiana Maintenance Cost Earthen Retention -20ft MLG	Cosis	- Ramos - Aug I	2015						
	Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced	d Mainte	nance Included							
	Contract No. 5	Chann	el Maintenanc	e - 2 year fre	equency					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost					
5K	Earthen Dike on bay side East Island	LF	3,419	\$60.00	\$205,140					
5L	Earthen Containment Dike Refurbishment (East Island)	LF	1,425	\$20.00	\$28,500					
				Total:	\$10,458,136					
	Contract Duration	DY	60							
	Note:									
	Channel Quantitires do not reflect overdepth.									
	Dredging	<u>.</u>	1,434,200 CY							
	Earthen Dike									
		-	25,867 LF							
	Survey/Crew/Boat	:	2.0 MO							

Project:	Feasibility Level Cost Estimate t: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Quantities & Line Items - Puls - Aug 2015 Maintenance Cost Earthen Retention -20ft MLG Multiple Disposal Sites Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Feet of Advanced Maintenance Included Contract No. 6 Channel Maintenance - 2, 5, and 10 year frequency						
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
6A	Mobilization and Demobolization Dredging and Disposal (Mile 36.3 to Mile 20.0)	LS	1	\$939,307	\$939,307		
	Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width						
6B	HNC Mile 36.3 to HNC Mile 34.0	CY	109,600	\$5.34	\$585,001		
	Material to be placed within confined upland Site 3 opposite HNC Mile 35.5 No height restriction. Dike construction/maintenance not required.						
6C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.31	\$505,000	\$156,550		
6D	NHC Mile 34.0 to HNC Mile 32.0	CY	219,600	\$3.94	\$865,751		
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).						
6E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.45	\$505,000	\$227,250		
6F	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000		
6G	HNC Mile 32.0 to HNC Mile 29.5	CY	165,800	\$6.09	\$1,010,180		
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).						
6H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.53	\$505,000	\$267,650		
61	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000		

Duciant	Feasibility Level Cost Estin		- 0 1 in - 11- ma	Dula Aure	2045
Project:	Houma Navigation Canal Deepening		s & Line Items	-	2015
	Houma, Terrebonne Parish, Louisiana		amos - Aug 20		
	Maintenance Cost Earthen Retention -20ft MLG		Multiple Disp		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Fee				
	Contract No. 6 Channel Maintenance - 2,	, 5, and 10		;y	
ltem	Description	Units	Estimated	Unit Price	Estimated
nem	Description	onits	Quantity		Cost
6J	HNC Mile 29.5 to HNC Mile 28.0	CY	165,800	\$3.88	\$643,039
	Material to be placed unconfined within designated Wetland Site 12B opposite approximate HNC Mile 27.0. Mtl. shall be discharged within the open water areas, a minimum 4,500 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.32	\$505,000	\$161,600
6L	Earthen Retention Dike Refurbishment	LF	1,600	\$60.00	\$96,000
6J	HNC Mile 29.5 to HNC Mile 28.0	CY	165,800	\$3.62	\$600,594
	Material to be placed unconfined within designated Wetland Site 12 opposite approximate HNC Mile 27.0. Mtl. shall be discharged within the open water areas, a minimum 1,950 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500
6L	Earthen Retention Dike Refurbishment	LF	1,800	\$60.00	\$108,000
6M	HNC Mile 28.0 to HNC Mile 26.0	CY	219,600	\$3.20	\$702,720
	Material to be placed unconfined within designated Wetland Site A-07-A opposite approximate HNC Mile 26.5. Mtl. shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.37	\$505,000	\$186,850
60	Earthen Retention Dike Refurbishment	LF	9,300	\$60.00	\$558,000
6P	HNC Mile 27.6 to HNC Mile 27.4 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	1,900	\$61.46	\$116,774
6Q	Mechanical Dredging Flotation Channel Excavation Mile 27.6 to Mile 27.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,260	\$72.92	\$91,879

Project:	Feasibility Level Cost Estir Houma Navigation Canal Deepening		s & Line Items	- Puls - Aug 2	2015
-	Houma, Terrebonne Parish, Louisiana		amos - Aug 20		
	Maintenance Cost Earthen Retention -20ft MLG		Multiple Disp		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Feet Contract No. 6 Channel Maintenance - 2,				
14	,		Estimated		Estimated
ltem	Description	Units	Quantity	Unit Price	Cost
6R	HNC Mile 26.4 to HNC Mile 25.9 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	5,320	\$61.46	\$326,967
6S	Mechanical Dredging Flotation Channel Excavation Mile 26.4 to Mile 25.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	2,840	\$72.92	\$207,093
6T	HNC Mile 26.0 to HNC Mile 24.0	CY	219,600	\$3.55	\$778,614
	Material to be placed unconfined within designated Wetland Site 14A opposite approximate HNC Mile 27. Mtl. shall be discharged within the open water areas, a minimum 500-feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.39	\$505,000	\$196,950
6V	Earthen Retention Dike Refurbishment	LF	9,000	\$60.00	\$540,000
6W	HNC Mile 25.9 to HNC Mile 24.1 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	21,300	\$61.46	\$1,309,098
6X	Mechanical Dredging Flotation Channel Excavation Mile 25.9 to Mile 24.1 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324
6Y	HNC Mile 24.0 to HNC Mile 22.0	CY	109,600	\$7.41	\$812,268
	Material to be placed semi-confined within Wetland Site 15 between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a west-southwesterly direction. Earthen closures will be required along the west side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.30	\$505,000	\$151,500
6AA	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000

	Feasibility Level Cost Esti				
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Earthen Retention -20ft MLG Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Fee Contract No. 6 Channel Maintenance - 2,		2015		
ltem	Contract No. 6 Channel Maintenance - 2, Description	Units	Estimated Quantity	Unit Price	Estimated Cost
6Y	HNC Mile 24.0 to HNC Mile 22.0 Material to be placed semi-confined within Wetland Site 15A between HNC Mile 24.0 and 22.9 west of Site 15 'beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the south east corner, and to proceed outward in a westerly direction. Earthen closures will be required along the east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).	CY	109,600	\$7.42	\$813,670
6Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.30	\$505,000	\$151,500
6AA	Earthen Retention Dike Refurbishment	LF	4,800	\$60.00	\$288,000
6BB	HNC Mile 23.7 to HNC Mile 22.4 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	11,820	\$61.46	\$726,457
6CC	Mechanical Dredging Flotation Channel Excavation Mile 23.6 to Mile 22.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897
6DD	HNC Mile 22.2 to HNC Mile 22.1 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	1,960	\$61.46	\$120,462
6EE	Mechanical Dredging Flotation Channel Excavation Mile 22.2 to Mile 22.1. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	730	\$72.92	\$53,232
6FF	HNC Mile 22.0 to HNC Mile 20.0 Material to be placed unconfined within Wetland Site 16 opposite and adjacent to HNC Mile 21.4 along the west bank of the HNC WW. The discharge will be positioned to the west and placed a minimum 1,550 ft beyond the center line of the channel to the front of the disposal area. Elevation of material placed within the open water area(s) NTE +3.0' NAVD 88 (See dwgs for details).	CY	109,600	\$5.29	\$579,389
6GG	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.30	\$505,000	\$151,500

	Feasibility Level Cost Esti				
Project:	Houma Navigation Canal Deepening		es & Line Items ·		2015
	Houma, Terrebonne Parish, Louisiana	Costs - I	Ramos - Aug 20		
	Maintenance Cost Earthen Retention -20ft MLG		Multiple Dispo		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Fee				
	Contract No. 6 Channel Maintenance - 2	, 5, and 10		/	
Item	Description	Units	Estimated	Unit Price	Estimated
			Quantity		Cost
6FF	HNC Mile 22.0 to HNC Mile 20.0	CY	109,600	\$7.71	\$844,534
	Material to be placed semi-confined within Wetland Site 15A between HNC Mile 24.0 and 22.9 west of Site 15 'beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the south east corner, and to proceed outward in a westerly				
	direction. Earthen closures will be required along the east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway				
	will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6GG	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.43	\$505,000	\$217,150
6HH	Earthen Retention Dike Re-furbishment	LF	4,800	\$60.00	\$288,000
611	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,95
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
6JJ	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$18.02	\$10,452,99
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.				
6KK	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.37	\$645,000	\$1,528,650
				Total:	\$31,474,84
	Contract Duration	DY	164		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredging	g:	1,899,200 CY		
	Rock	K :	42,300 TON		
	Flotation Channe	l:	21,070 LF		
	Earthen Dike	e:	47,550 LF		

	Feasibility Level Cost Estimate									
Project	Project: Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2015									
	Houma, Terrebonne Parish, Louisiana		Costs - F	Ramos - Aug 20	15					
	Maintenance Cost Earthen Retention -20ft MLG				osal Sites					
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Feet of Advanced Maintenance Included									
	Contract No. 6 Chan	nnel Maintenance - 2, 5	5, and 10	year frequenc	у					
ltem	Description		Units	Estimated	Unit Price	Estimated				
nem			Units	Quantity	Unit Frice	Cost				
		Survey/Crew/Boat:		5.5 MO						

Feasibility Level Cost Estimate					
Project	: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Earthen Retention -20ft MLG Mile 20.0 to Mile 11.0 & Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Fe Contract No. 7 Channel Maintenance	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015 Multiple Disposal Sites eet of Advanced Maintenance Included - 2 and 10 year frequency			
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
7A	Mobilization and Demobolization Dredging and Disposal (Mile 20.0 to Mile 11.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width	LS	1	\$939,307	\$939,307
7B	HNC Mile 20.0 to HNC Mile 18.0 Material to be placed unconfined within Wetland Site 19C oppsite and adjacent to HNC Mile 19.3 along the east bank of the HNC WW. The discharge will be positioned to the east and placed a minimum 500-ft beyond the bank rim/ridge or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) of Site 19C NTE +3.0' NAVD88 (See dwgs for details).	CY	219,600	\$2.96	\$649,313
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700
7B	HNC Mile 20.0 to HNC Mile 18.0 Material to be placed semi-confined within the open water portions of Wetland Site 19D between HNC Mile 20.2 and 19.6, located beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a westerly direction a minimum distance of 2,350 ft beyond the channel center line. Earthen closures will be required along the south side of the disposal area adjacent to the open water A 200-foot wide construction access corridor along theentrance of the waterway will be provided for the Contractors at the northeast and south east portions of the disposal site. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).	CY	219,600	\$3.07	\$674,611
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.35	\$505,000	\$176,750
7D	Earthen Retention Dike Re-furbishment	LF	1,300	\$60.00	\$78,000
7E	HNC Mile 19.2 to HNC Mile 17.5 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	19,900	\$61.46	\$1,223,054
7F	Mechanical Dredging Flotation Channel Excavation Mile 19.2 to Mile 17.7 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,120	\$72.92	\$592,110
7G	HNC Mile 19.1 to HNC Mile 17.8 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	3,640	\$61.46	\$223,714

	Feasibility Level Cost Estin				
Project	 Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Earthen Retention -20ft MLG Mile 11.0.8 Mile 11.0.4 Data 20 East Elevation w(2 E 	- Costs N	Ramos - Aug Multiple Disp	osal Sites	
	Mile 20.0 to Mile 11.0 & Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 F Contract No. 7 Channel Maintenance				a
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
7H	Mechanical Dredging Flotation Channel Excavation Mile 18.1 to Mile 17.8 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527
71	HNC Mile 18.0 HNC Mile 16.0 Material to be placed unconfined within Wetland Site 20C oppsoite HNC Mile 16.8 along the west bank of the HNC WW. A construction access corriodr, 200 feet in width, will be provided for the Contractors use at the intersection of Four Pt. Bayou with the HNC WW. The intial buildup shall occur in the east corner of the DA and to proceed outward in a westerly direction. Elevation of Mtl. NTE +3.0' NAVD88 (See dwgs for details).	CY	219,600	\$2.79	\$612,772
7J	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.32	\$505,000	\$161,600
71	HNC Mile 18.0 HNC Mile 16.0 Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).	CY	219,600	\$3.25	\$713,964
7J	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.37	\$505,000	\$186,850
7K	Earthen Retention Dike Re-fubishment	LF	2,000	\$60.00	\$120,000
7L	HNC Mile 17.7 to HNC Mile 16.7 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	13,480	\$61.46	\$828,481
7M	Mechanical Dredging Flotation Channel Excavation Mile 17.7 to Mile 16.7 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,480	\$72.92	\$399,602
7N	HNC Mile 16.9 to HNC Mile 13.3 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	42,600	\$61.46	\$2,618,196

	Feasibility Level Cost Estim						
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Earthen Retention -20ft MLG Mile 20.0 to Mile 11.0 & Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Fe Contract No. 7 Channel Maintenance						
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
70	Mechanical Dredging Flotation Channel Excavation Mile 16.9 to Mile 13.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	19,200	\$72.92	\$1,400,064		
7P	HNC Mile 16.0 to HNC Mile 13.0	CY	331,400	\$2.94	\$975,642		
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).						
7Q	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.51	\$505,000	\$257,550		
7R	Earthen Retention Dike Re-fubishment	LF	3,850	\$60.00	\$231,000		
7S	HNC Mile 15.6 to HNC Mile 14.0 (West Bank) Rock Retention Structure Refurbishment (Dk ht. +6' NAVD88) Stone quantity 20% of construction quantity	TN	18,900	\$61.46	\$1,161,594		
	Mechanical Dredging Flotation Channel Excavation Mile 15.6 to Mile 14.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,650	\$72.92	\$630,758		
7T	HNC Mile 13.2 to HNC Mile 11.9 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +6' NAVD88) Stone quantity 20% of construction quantity	TN	15,180	\$61.46	\$932,963		
7U	Mechanical Dredging Flotation Channel Excavation Mile 13.1 to Mile 11.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,340	\$72.92	\$389,393		
7V	HNC Mile 13.0 to HNC Mile 11.0 Material to be placed within Wetland Site 24 opposite HNC Mile 12.0 along the west bank of the HNC WW. A construction access corrdior, 200 ft in width, will be provided for the Contractors use at the entrance of the WW. The initial buildup will occur in the east corner of the DA and proceed outward in a west, south-westerly direction. Elevation of material placed within the open water area(s) NTE +3.0' NAVD88 (See dwgs for details).	CY	254,500	\$2.62	\$667,808		
7W	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.35	\$505,000	\$176,750		

	Feasibility Level Cost Estim						
Project:	Houma Navigation Canal Deepening			ms - Puls - Au	g 2015		
	Houma, Terrebonne Parish, Louisiana Maintenance Cost Earthen Retention -20ft MLG		Ramos - Aug	•			
	Mile 20.0 to Mile 11.0 & Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Fe	Multiple Disposal Sites					
	Contract No. 7 Channel Maintenance				u		
			Estimated	-	Estimated		
Item	Description	Units	Quantity	Unit Price	Cost		
7X	Earthen Retention Dike Re-fubishment	LF	4,100	\$60.00	\$246,000		
7V	HNC Mile 13.0 to HNC Mile 11.0	CY	254,500	\$2.88	\$732,960		
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).						
7W	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.38	\$505,000	\$191,900		
7X	Earthen Retention Dike Re-fubishment	LF	3,850	\$60.00	\$231,000		
7Y	HNC Mile 12.7 to HNC Mile 12.3 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	5,420	\$61.46	\$333,113		
7Z	Mechanical Dredging Flotation Channel Excavation Mile 12.6 to Mile 12.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527		
7AA	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109		
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width						
7BB	HNC Mile 11.0 to HNC Mile 5.0	CY	765,600	\$4.58	\$3,508,285		
	Material to be placed earthen confined west of channel within "lung area". 715 Acres See plans for details.						
7CC	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.09	\$505,000	\$550,450		
7DD	Earthen Retention Dike Re-fubishment	LF	12,700	\$60.00	\$762,000		
7EE	HNC Mile 5.0 to HNC Mile 1.5	CY	468,000	\$5.30	\$2,480,026		
	Material to be placed earthen confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.						
7FF	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.64	\$505,000	\$323,200		

	Feasibility Level Cost Estima	ate						
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015						
	Houma, Terrebonne Parish, Louisiana		- Ramos - Aug					
	Maintenance Cost Earthen Retention -20ft MLG Multiple Disposal Sites							
	Mile 20.0 to Mile 11.0 & Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Fe				d			
	Contract No. 7 Channel Maintenance	- 2 and	Estimated					
ltem	Description	Units	Estimated Quantity	Unit Price	Cost			
7GG	Earthen Retention Dike Re-fubishment	LF	6,500	\$60.00	\$390,000			
7HH	HNC Mile 1.5 to HNC Mile 0.0	CY	200,600	\$5.04	\$1,011,666			
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details							
711	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.26	\$505,000	\$131,300			
7JJ	Earthen Containment Dike Refurbishment (Lung)	LF	1,823	\$20.00	\$36,460			
7KK	Earthen Dike on bay side East Island	LF	3,419	\$60.00	\$205,140			
7LL	Earthen Containment Dike Refurbishment (East Island)	LF	1,425	\$20.00	\$28,500			
				Total:	\$26,493,765			
	Contract Duration	DY	108					
	Note:							
	Material Quantity does not reflect overdepth.							
	Dredging	:	2,459,300 CY					
	Rock		119,120 TON					
	Flotation Channel	:	50,370 LF					
	Earthen Dike	:	40,967 LF					

Survey/Crew/Boat:

3.6 MO

	Feasibility Level Cost	Estimate					
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015					
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	amos - Aug 20	15			
	Maintenance Cost Earthen Retention -20ft MLG						
	Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 4 Feet of Adva						
	Contract No. 8	Channel	-				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
8A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950		
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width						
8B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$18.02	\$10,452,992		
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.						
8C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.4	\$645,000	\$1,528,650		
				Total:	\$13,290,592		
	Contract Duration	DY	71				
	Notes:						
	Channel Quantitires do not reflect overdepth.						
	Dredging	:	580,000 CY				
	Survey/Crew/Boat	:	2.4 MO				

na Navigation Canal Deepening na, Terrebonne Parish, Louisiana Atenance Cost Earthen Retention -20ft MLG 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advance ract No. 9 Description Ilization and Demobilization Iging and Disposal (Mile 11 to Mile 0.0) anel to be excavated to -21' NAVD88; 1v/2h side es by 150' bottom width Finile 11.0 to HNC Mile 5.0 erial to be placed earthen confined of channel within "lung area". 715 Acress plans for details. eying, Shore Crew, Pipeline Crew, and Crewboat hen Retention Dike Re-furbishment Finile 5.0 to HNC Mile 1.5	Costs - ed Mainter	- <i>Ramos - Au</i> g nance Include		-
11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advance ract No. 9 Description lization and Demobilization ging and Disposal (Mile 11 to Mile 0.0) nel to be excavated to -21' NAVD88; 1v/2h side es by 150' bottom width Mile 11.0 to HNC Mile 5.0 erial to be placed earthen confined of channel within "lung area". 715 Acres plans for details. eying, Shore Crew, Pipeline Crew, and Crewboat nen Retention Dike Re-furbishment	Chann Units LS CY MO LF	el Maintenan Estimated Quantity 1 765,600 1.09	1,031,109 \$4.58 \$505,000	Estimated Cost \$1,031,109 \$3,508,285 \$3,508,285
Description Ilization and Demobilization Iging and Disposal (Mile 11 to Mile 0.0) Innel to be excavated to -21' NAVD88; 1v/2h side es by 150' bottom width If Mile 11.0 to HNC Mile 5.0 erial to be placed earthen confined of channel within "lung area". 715 Acres plans for details. eying, Shore Crew, Pipeline Crew, and Crewboat nen Retention Dike Re-furbishment	Chann Units LS CY MO LF	el Maintenan Estimated Quantity 1 765,600 1.09	1,031,109 \$4.58 \$505,000	Estimated Cost \$1,031,109 \$3,508,285 \$3,508,285
Description lization and Demobilization liging and Disposal (Mile 11 to Mile 0.0) nnel to be excavated to -21' NAVD88; 1v/2h side es by 150' bottom width if Mile 11.0 to HNC Mile 5.0 erial to be placed earthen confined of channel within "lung area". 715 Acress plans for details. eying, Shore Crew, Pipeline Crew, and Crewboat hen Retention Dike Re-furbishment	Units LS CY MO LF	Estimated Quantity 1 765,600 1.09	Unit Price \$1,031,109 \$4.58 \$505,000	Estimated Cost \$1,031,109 \$3,508,285 \$3,508,285
lization and Demobilization Iging and Disposal (Mile 11 to Mile 0.0) Innel to be excavated to -21' NAVD88; 1v/2h side es by 150' bottom width Time 11.0 to HNC Mile 5.0 erial to be placed earthen confined of channel within "lung area". 715 Acress plans for details. eying, Shore Crew, Pipeline Crew, and Crewboat hen Retention Dike Re-furbishment	LS CY MO LF	Quantity 1 765,600 1.09	\$1,031,109 \$4.58 \$505,000	Cost \$1,031,109 \$3,508,285 \$550,450
Iging and Disposal (Mile 11 to Mile 0.0) neel to be excavated to -21' NAVD88; 1v/2h side es by 150' bottom width Time 11.0 to HNC Mile 5.0 erial to be placed earthen confined of channel within "lung area". 715 Acres plans for details. eying, Shore Crew, Pipeline Crew, and Crewboat nen Retention Dike Re-furbishment	CY MO LF	765,600 1.09	\$4.58 \$505,000	\$3,508,285 \$550,450
Annel to be excavated to -21' NAVD88; 1v/2h side es by 150' bottom width Mile 11.0 to HNC Mile 5.0 erial to be placed earthen confined of channel within "lung area". 715 Acres plans for details. eying, Shore Crew, Pipeline Crew, and Crewboat nen Retention Dike Re-furbishment	MO LF	1.09	\$505,000	\$550,450
erial to be placed earthen confined of channel within "lung area". 715 Acres plans for details. eying, Shore Crew, Pipeline Crew, and Crewboat nen Retention Dike Re-furbishment	MO LF	1.09	\$505,000	\$550,450
of channel within "lung area". 715 Acres plans for details. eying, Shore Crew, Pipeline Crew, and Crewboat nen Retention Dike Re-furbishment	LF			
nen Retention Dike Re-furbishment	LF			
		12,700	\$60.00	\$762,000
Mile 5.0 to HNC Mile 1.5	CV			
	Cr	468,000	\$5.30	\$2,480,026
rial to be placed earthen confined ortheast end of Isle Denieres (East Island) for sh creation. 370 Acres. See plans for details.				
eying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.64	\$505,000	\$323,200
nen Retention Dike Re-furbishment	LF	6,500	\$60.00	\$390,000
Mile 1.5 to HNC Mile 0.0	CY	200,600	\$5.04	\$1,011,666
rial to be placed unconfined for beach ishment on Isle Deniers Plans for details				
eying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.26	\$505,000	\$131,300
nen Containment Dike Refurbishment (Lung)	LF	1,823	\$20.00	\$36,460
; F	Mile 1.5 to HNC Mile 0.0 rial to be placed unconfined for beach shment on Isle Deniers Plans for details	Mile 1.5 to HNC Mile 0.0CYrial to be placed unconfined for beach shment on Isle Deniers Plans for detailsShore Crew, Pipeline Crew, and Crewboateying, Shore Crew, Pipeline Crew, and CrewboatMO	Mile 1.5 to HNC Mile 0.0CY200,600rial to be placed unconfined for beach shment on Isle Deniers Plans for detailsPlans for detailseying, Shore Crew, Pipeline Crew, and CrewboatMO0.26	Mile 1.5 to HNC Mile 0.0CY200,600\$5.04rial to be placed unconfined for beach shment on Isle Deniers Plans for detailsPlans for details\$5.04eying, Shore Crew, Pipeline Crew, and CrewboatMO0.26\$505,000

	Feasibility Level Cost E	stimate							
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015							
	Houma, Terrebonne Parish, Louisiana Maintenance Cost Earthen Retention -20ft MLG	Cosis	- Ramos - Aug I	2015					
	Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced	d Mainte	nance Included						
	Contract No. 9 Channel Maintenance - 2 year frequency								
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost				
9K	Earthen Dike on bay side East Island	LF	3,419	\$60.00	\$205,140				
9L	Earthen Containment Dike Refurbishment (East Island)	LF	1,425	\$20.00	\$28,500				
				Total:	\$10,458,136				
	Contract Duration	DY	60						
	Note:								
	Channel Quantitires do not reflect overdepth.								
	Dredging		1,434,200 CY						
		•	1, 104,200 01						
	Earthen Dike	:	25,867 LF						
	Survey/Crew/Boat	:	2.0 MO						

	Feasibility Level Cost							
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015						
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015						
	Maintenance Cost Earthen Retention -20ft MLG							
	Mile 0.0 to (-3.5) to -20 Foot Elevation w/ 4 Feet of Adva	nced Maint	enance Includ	ed				
	Contract No. 10	el Maintenance - 2 year frequency						
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
10A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950			
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width							
10B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$18.02	\$10,452,992			
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.							
10C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.4	\$645,000	\$1,528,650			
				Total:	\$13,290,592			
	Contract Duration	DY	71					
	Notes:							
	Channel Quantitires do not reflect overdepth.							
	Dredging	:	580,000 CY					
	Survey/Crew/Boat	:	2.4 MO					

Reach			20-foot depth				20	-foot depth			
			Site 1								
	Unit Cost	CY	Duration (months)	Mob/Demob (Per Reach)	Unit Cost	CY	Duration (months)	Mob/Demob (Per Reach)	Crew/Equipment Costs		
Mob/Demob	\$871,046				\$1,404,700				\$505,000		
36.3 to 34.5 (5-year)	\$5.34	109,600	0.31	\$315,563	\$5.30	109,600	0.31	\$315,563	\$505,000		
24.0 to 22.0 (5-year)	\$7.41	109,600	0.30	\$366,046	\$7.42	109,600	0.30	\$366,046	\$505,000		
22.0 to 19.7 (5-year)	\$5.29	109,600	0.30	\$323,123	\$7.71	109,600	0.43	\$323,123	\$505,000		
		\$1,976,658				\$2,238,996					
Mob/Demob (36.3 to 22.0)	\$939,307								\$505,000		
36.3 to 34.0	\$5.34	109,600	0.31	\$315,563					\$505,000		
34.0 to 32.0	\$3.94	219,600	0.45	\$434,307					\$505,000		
32.0 to 29.5	\$6.09	165,800	0.53	\$434,307					\$505,000		
29.5 to 28.0	\$3.88	165,800	0.32	\$330,985	\$3.62	165,800	0.30	\$330,985	\$505,000		
28.0 to 26.0	\$3.20	219,600	0.37	\$317,075					\$505,000		
26.0 to 24.0	\$3.55	219,600	0.39	\$330,985					\$505,000		
24.0 to 22.0	\$7.41	109,600	0.30	\$366,046	\$7.42	109,600	0.30	\$366,046	\$505,000		
		\$5,397,578				\$1,414,264					
Mob/Demob (22.0 to 11.0)	\$828,123								\$505,000		
22.0 to 20.0	\$5.29	109,600	0.30	\$323,123	\$7.71	109,600	0.43	\$323,123	\$505,000		
20.0 to 18.0	\$2.96	219,600	0.34	\$320,704	\$3.07	219,600	0.35	\$320,704	\$505,000		
18.0 to 16.0	\$2.79	219,600	0.32	\$320,704		219,600	0.37	\$320,704	\$505,000		
16.0 to 13.0	\$2.94	331,400	0.51	\$320,704		-		· · · · ·	\$505,000		
13.0 to 11.0	\$2.62	254,500	0.35	\$320,704	\$2.88	254,500	0.38	\$320,704	\$505,000		
		\$3,484,924				\$2,966,068					
Mob/Demob (0.0 to 11.0)	\$1,031,109								\$505,000		
11.0 to 5.0	\$4.58	765,600	1.09	\$485,917					\$505,000		
5.0 to 1.5	\$5.30	468,000	0.64	\$526,109					\$505,000		
1.5 to 0.0	\$5.04	200,600	0.26	\$526,109					\$505,000		
		\$6,999,977		·							
Mob/Demob (0.0 to -3.7)	\$1,308,950								\$645,000		
0.0 to -3.7	\$18.02	580,000	2.37	\$663,950					\$645,000		
		\$10,452,992									

Project	: Houma Navigation Canal Dee Houma, Terrebonne Parish, I	• •			Quantities & Line Items - Puls - Aug 2013 Costs - Ramos - Aug 2015			
	Construction Cost Alternation Mile 36.3 to Mile (-3.7) to -20 Summary Page	ive 2C Roc			-			
Contract No.	Description	Units	Estimated Quantity	Unit Price	Estimated Construction Cos			
1	Mobilization/Demobilization	LS	1	\$939,307	\$939,307			
	Mile 36.3 to Mile 22.0	CY	1,755,000	\$12.08	\$21,199,806			
2	Mobilization/Demobilization	LS	1	\$825,704	\$825,704			
	Mile 22 to Mile 11.5	CY	1,150,000	\$43.62	\$50,161,664			
3	Mobilization/Demobilization	LS	1	\$1,030,374	\$1,030,374			
	Mile 11.5 to Mile 0.0	CY	2,244,500	\$5.69	\$12,768,349			
4	Mobilization/Demobilization	LS	1	\$1,030,374	\$1,030,374			
	Mile 11.5 to Mile 0.0	CY	1,315,000	\$28.27	\$37,170,592			
5	Mobilization/Demobilization	LS	1	\$1,308,950	\$1,308,950			
	Mile 0.0 to Mile (-3.7)	CY	1,100,000	\$11.72	\$12,894,670			
		Total:	7,564,500	\$18.42	\$139,329,789			

Unit costs reflected on summary sheet include earthen dike construction, rock dike construction, geotextile fabric, floatation channel excavation within each specified reach, crews, surveying, and boats, if applicable.

	Feasibility Level Cost Es				
Project	: Houma Navigation Canal Deepening		ties & Line Iter		ıg 2015
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 2C Rock Retention -20	Costs -	Ramos - Aug	2015	
	Mile 36.3 to 22.0 to -20 Foot Elevation w/ 2 Feet of Advanced	Maintenace	Included		
	Contract No. 1				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
1A	Mobilization and Demobolization	LS	1	\$939,307	\$939,307
	Dredging and Disposal (Mile 36.3 to Mile 22.0) Channel to be excavated to -22 NAVD88; 1v/2h side slope/150-foot bottom width				
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	325,000	\$3.66	\$1,189,760
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.				
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.61	\$505,000	\$308,050
1D	NHC Mile 34.0 to HNC Mile 32.0	CY	175,000	\$4.17	\$730,240
	Material to be placed semi-confined within designated Wetland Site 7E east of HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.38	\$505,000	\$191,900
1F	Earthen Retension Dike Refurbishment	LF	6,900	\$60.00	\$414,000
1G	HNC Mile 32.0 to HNC Mile 29.5	CY	215,000	\$5.85	\$1,257,664
	Material to be placed semi-confined within designated Wetland Site 7E east of HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.66	\$505,000	\$333,300
11	Earthen Retension Dike Refurbishment	LF	6,900	\$60.00	\$414,000

	Feasibility Level Cost Estin				
Project	: Houma Navigation Canal Deepening		ties & Line Iter		ıg 2015
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 2C Rock Retention -20	Costs -	Ramos - Aug	2015	
	Mile 36.3 to 22.0 to -20 Foot Elevation w/ 2 Feet of Advanced Ma	aintenace	Included		
	Contract No. 1				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
1J	HNC Mile 29.5 to HNC Mile 28.0	CY	185,000	\$5.03	\$930,624
	Material to be placed unconfined within designated Wetland Site 12B east of HNC Mile 27.0. Material shall be discharged within the open water areas, a minimum 4,500 -feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
1K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.47	\$505,000	\$237,350
1L	Earthen Retension Dike Refurbishment	LF	1,600	\$60.00	\$96,000
1M	HNC Mile 28.0 to HNC Mile 26.0	CY	250,000	\$4.65	\$1,161,600
	Material to be placed unconfined within designated Wetland Site A-07-A west of HNC Mile 26.5. Material shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
1N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.59	\$505,000	\$297,950
10	Earthen Retension Dike Refurbishment	LF	9,300	\$60.00	\$558,000
1P	HNC Mile 27.6 to HNC Mile 27.4 (West Bank) Foreshore Protection Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	1,900	\$61.98	\$117,762
1Q	Mechanical Dredging Flotation Channel Excavation Mile 27.6 to Mile 27.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,260	\$73.54	\$92,660
1R	HNC Mile 26.4 to HNC Mile 25.9 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	ΤN	26,600	\$61.98	\$1,648,668
	Geotextile	SY	12,800	\$9.87	\$126,336
1S	Mechanical Dredging Flotation Channel Excavation Mile 26.4 to Mile 25.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	2,840	\$73.54	\$208,854

<u> </u>	Feasibility Level Cost Estin				00/-
Project	: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana		ties & Line Iter		ıg 2015
	Construction Cost Alternative 2C Rock Retention -20	Cosis -	Ramos - Aug	2015	
	Mile 36.3 to 22.0 to -20 Foot Elevation w/ 2 Feet of Advanced Ma	aintenace	Included		
	Contract No. 1				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
1T	HNC Mile 26.0 to HNC Mile 24.0	CY	300,000	\$3.94	\$1,182,720
	Material to be placed unconfined within designated Wetland Site A-07-A west of HNC Mile 26.5. Material shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
1U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.60	\$505,000	\$303,000
1V	Earthen Retension Dike Refurbishment	LF	13,000	\$60.00	\$780,000
1W	HNC Mile 25.9 to HNC Mile 24.1 (West Bank) Foreshore Protection Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	21,300	\$61.98	\$1,320,174
1X	Mechanical Dredging Flotation Channel Excavation Mile 25.9 to Mile 24.1 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$73.54	\$713,338
1Y	HNC Mile 24.0 to HNC Mile 22.0	CY	305,000	\$3.40	\$1,038,464
	Material to be placed semi-confined within designated Wetland Site 15 west of HNC Mile 23.5. Material to be placed within the open water area(s), a minimum 1,270 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
1Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.53	\$505,000	\$267,650
1AA	Earthen Retension Dike Refurbishment	LF	2,450	\$60.00	\$147,000
1BB	HNC Mile 23.7 to HNC Mile 22.4 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	ΤN	59,100	\$61.98	\$3,663,018
	Geotextile	SY	28,500	\$9.87	\$281,295
1CC	Mechanical Dredging Flotation Channel Excavation Mile 23.7 to Mile 22.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$73.54	\$480,952

	Feasibility Level Cost							
Project	:: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 2C Rock Retention -20	(Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015					
	Mile 36.3 to 22.0 to -20 Foot Elevation w/ 2 Feet of Advance Contract No. 1	ced Main	itenace	e included				
ltem	Description	ι	Units	Estimated Quantity	Unit Price	Estimated Cost		
1DD	HNC Mile 22.2 to HNC Mile 22.1 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)		ΤN	9,800	\$61.98	\$607,404		
	Geotextile		SY	4,700	\$9.87	\$46,389		
1EE	Mechanical Dredging Flotation Channel Excavation Mile 22.2 to Mile 22.1. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width		LF	730	\$73.54	\$53,684		
					Total:	\$22,139,11		
	Contract Duration		DY	115				
	Notes:							
	Dredging quantity does not reflect overdepth.							
	Dre	edging:		1,755,000 CY				
		Rock:		118,700 TON				
	Geo	otextile:		46,000 SY				
	Flotation Cl	hannel:		21,070 LF				
	Earthe	n Dike:		40,150 LF				

Survey/Crew/Boat:

3.8 MO

	Feasibility Level Cost Es				
Project:	Houma Navigation Canal Deepening		& Line Items -	-	15
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 2C Rock Retention -20	Costs - Ra	amos - Aug 201	5	
	Mile 22.0 to 11.5 to -20 Foot Elevation w/ 2 Feet of Advanced Ma	intenace Ind	cluded		
	Contract No. 2				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
2A	Mobilization and Demobilization	LS	1	\$825,704	\$825,704
	Dredging and Disposal (Mile 22.0 to Mile 11) Channel to be excavated to -22 NAVD88; 1v/2h side slope/150-foot bottom width				
2B	HNC Mile 22.0 to HNC Mile 20.0	CY	393,000	\$2.85	\$1,121,779
	Material to be placed unconfined within designated Wetland Site 16 west of HNC Mile 22. Material shall be discharged within the open water areas, a minimum 1,550 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details). (See dwgs for details).				
2C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.59	\$505,000	\$297,950
2D	HNC Mile 20.0 to HNC Mile 18.0	CY	92,000	\$8.28	\$761,907
	Material to be placed unconfined within Wetland Site 19C east of and adjacent to HNC Mile 19.5. The discharge will be positioned to the east and placed a minimum 500 ft beyond the bank rim/ridge or erosion control structure at the front of the disposal area. Elevation of material placed within the open water area(s) of Site 19C NTE +3.0' NAVD88 (See dwgs for details).				
2E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.40	\$505,000	\$202,000
2F	HNC Mile 19.2 to HNC Mile 17.5 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	99,500	\$61.98	\$6,167,010
	Geotextile	SY	47,900	\$9.87	\$472,773
2G	Mechanical Dredging Flotation Channel Excavation Mile 19.2 to Mile 17.5 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,120	\$73.54	\$597,145
2H	HNC Mile 19.1 to HNC Mile 17.8 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	18,200	\$61.98	\$1,128,036
	Geotextile	SY	8,750	\$9.87	\$86,363
21	Mechanical Dredging Flotation Channel Excavation Mile 19.1 to Mile 17.8 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$73.54	\$131,637

	Feasibility Level Cost Es	timate			
Project:	Houma Navigation Canal Deepening		& Line Items -	-	915
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 2C Rock Retention -20	Costs - Ra	amos - Aug 201	5	
	Mile 22.0 to 11.5 to -20 Foot Elevation w/ 2 Feet of Advanced Ma	intenace Ind	cluded		
	Contract No. 2				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
2J	HNC Mile 18.0 HNC Mile 16.0	CY	170,000	\$5.26	\$894,336
	Material to be placed unconfined within designated Wetland Site 20C west of HNC Mile 17. Material shall be discharged within the open water areas, a minimum 900 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
2K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.47	\$505,000	\$237,350
2L	HNC Mile 17.7 to HNC Mile 16.7 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	67,400	\$61.98	\$4,177,452
	Geotextile	SY	32,500	\$9.87	\$320,775
2M	Mechanical Dredging Flotation Channel Excavation Mile 17.7 to Mile 16.7 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,480	\$73.54	\$402,999
2N	HNC Mile 16.9 to HNC Mile 13.3 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	213,000	\$61.98	\$13,201,740
	Geotextile	SY	102,600	\$9.87	\$1,012,662
20	Mechanical Dredging Flotation Channel Excavation Mile 16.9 to Mile 13.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	19,200	\$73.54	\$1,411,968
2P	HNC Mile 16.0 to HNC Mile 13.0	CY	315,000	\$4.36	\$1,374,912
	Material to be placed semi-confined within designated Wetland Site 21 west of HNC Mile 15. Material to be placed within the open water area(s), a minimum 600 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
2Q	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.72	\$505,000	\$363,600
2R	Earthen Retension Dike Refurbishment	LF	3,850	\$60.00	\$231,000
2S	HNC Mile 15.6 to HNC Mile 14.0 (West Bank) Rock Retention Structure (site 21) (Dk ht. +6' NAVD88)	TN	94,500	\$61.98	\$5,857,110
	Geotextile	SY	45,500	\$9.87	\$449,085
1					

	Feasibility Level Cost	Estimate			
Project:	Houma Navigation Canal Deepening		& Line Items -	-	15
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	mos - Aug 201	5	
	Construction Cost Alternative 2C Rock Retention -20				
	Mile 22.0 to 11.5 to -20 Foot Elevation w/ 2 Feet of Advanced Contract No. 2	i Maintenace Ind	ciuded		
	Contract No. 2		Estimated		Estimated
Item	Description	Units	Quantity	Unit Price	Cost
2Т	Mechanical Dredging Flotation Channel Excavation Mile 15.6 to Mile 14.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,650	\$73.54	\$636,121
2U	HNC Mile 13.1 to HNC Mile 11.9 (West Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	75,900	\$61.98	\$4,704,282
	Geotextile	SY	36,600	\$9.87	\$361,242
2V	Mechanical Dredging Flotation Channel Excavation Mile 13.1 to Mile 11.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$73.54	\$480,952
2W	HNC Mile 13.0 to HNC Mile 11.5 Material to be placed within Wetland Site 24.	CY	180,000	\$3.92	\$705,024
	Material to be placed semi-confined within designated Wetland Site 24 west of HNC Mile 12.1. Material to be placed within the open water area(s), a minimum 900 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
2X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.37	\$505,000	\$186,850
2Y	Earthen Retension Dike Refurbishment	LF	4,100	\$60.00	\$246,000

	Feasibility Level Cost Est	imate								
Project:	Houma Navigation Canal Deepening	Quantities	s & Line Items - F	Puls - Aug 20	15					
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	amos - Aug 2015	5						
	Construction Cost Alternative 2C Rock Retention -20									
	Mile 22.0 to 11.5 to -20 Foot Elevation w/ 2 Feet of Advanced Maintenace Included									
	Contract No. 2									
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost					
2Z	HNC Mile 12.7 to HNC Mile 12.3 (East Bank) Foreshore Protection (Stone) (Dk ht. +5' NAVD88)	TN	27,100	\$61.98	\$1,679,658					
	Geotextile	SY	13,000	\$9.87	\$128,310					
2AA	Mechanical Dredging Flotation Channel Excavation Mile 12.6 to Mile 12.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$73.54	\$131,637					
				Total:	\$50,987,368					
	CONTRACT DURATION	DY	77							
	Note:									
	Dredging quantity does not reflect overdepth.									
	Dredging	:	1,150,000 CY							
	Rock	:	595,600 TON							
	Geotextile	:	286,850 SY							
	Flotation Channel	:	51,570 LF							
	Earthen Dike	:	7,950 LF							
	Survey/Crew/Boat	:	2.6 MO							

Project:	Feasibility Level Co		Quantities & Line		ug 2015
	Houma, Terrebonne Parish, Louisiana Construction Cost Alternative 2C Rock Retention -:		Costs - Ramos - A	Aug 2015	
	Mile 11.5 to 0.0 to -20 Foot Elevation w/ 3 Feet of Adva		aintenace Include	d	
Item	Contract No. 3 Description	Units	Estimated Quantity	Unit Price	Estimated Cost
ЗA	Mobilization and Demobilization	LS	1	\$1,030,374	\$1,030,374
	Dredging and Disposal (Mile 10.0 to 0.0) Channel to be excavated to -23 NAVD88; 1v/3h side slope by 150' channel width				
3B	HNC Mile 11.5 to HNC Mile 10.0	CY	230,000	\$3.65	\$839,040
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.				
3C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500
3D	Earthen Retension Dike Refurbishment	LF	12,700	\$60.00	\$762,000
3E	Mechanical Dredging Flotation Channel Excavation Mile 11.5 to Mile 10.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	4,070	\$73.54	\$299,308
3F	HNC Mile 10.0 to HNC Mile 5.0	CY	2,014,500	\$3.83	\$7,709,89
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.				
3G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.69	\$505,000	\$1,358,45
3H	Earthen Retension Dike Refurbishment	LF	12,700	\$60.00	\$762,000
31	Mechanical Dredging Flotation Channel Excavation Mile 10.0 to Mile 5.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	12,050	\$73.54	\$886,15
				Total	\$13,798,7
	Contract Duration:	DY	90		
	Notes:				
	Material Quantity does not reflect overdepth.				
	Dredging:		2,244,500 CY		
	Rock:				
	Geotextile:				
	Flotation Channel:		16,120 LF		
	Earthen Dike:		25,400 LF		
	Survey/Crew/Boat:		3.0 MO		

Project:	Feasibility Level Co Houma Navigation Canal Deepening		Quantities & Line		ug 2015
	Houma, Terrebonne Parish, Louisiana		Costs - Ramos - J	Aug 2015	
	Construction Cost Alternative 2C Rock Retention -: Mile 11.5 to 0.0 to -20 Foot Elevation w/ 3 Feet of Adva Contract No. 3		aintenace Includeo	b	
Item	Description	Units	Estimated Quantity	Unit Price	Estimate Cost
4A	Mobilization and Demobilization	LS	1	\$1,030,374	\$1,030,37
	Dredging and Disposal (Mile 10.0 to 0.0) Channel to be excavated to -23 NAVD88; 1v/3h side slope by 150' channel width				
4B	HNC Mile 5.0 to HNC Mile 1.5	CY	1,050,000	\$7.73	\$8,117,76
	Material to be placed rock confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.				
4C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	1.98	\$505,000	\$999,900
4D	Earthen Retension Dike Refurbishment	LF	6,500	\$60.00	\$390,000
4E	Mechanical Dredging Flotation Channel Excavation Mile 5.0 to Mile 1.5 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,700	\$73.54	\$639,798
4F	HNC Mile 1.5 to HNC Mile 0.0	CY	265,000	\$7.36	\$1,950,40
	Material to be placed unconfined for beach nourishment on Isle Denieres See plans for details				
4G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.49	\$505,000	\$247,450
4H	Rock Dike within Lung Disposal Area Geotextile	TONS SY	238,441 114,863	\$61.98 \$9.87	\$14,778,5 \$1,133,69
41	Rock Dike on bay side of East Island Geotextile	TONS SY	133,559 64,339	\$61.98 \$9.87	\$8,277,98 \$635,020
				Total	\$38,200,9
	Contract Duration:	DY	74		
	Notes:				
	Material Quantity does not reflect overdepth.				
	Dredging:		1,315,000 CY		
	Rock		372,000 TON		
	Geotextile:		179,202 SY		
	Flotation Channel:		8,700 LF		
	Earthen Dike:		6,500 LF		
	Survey/Crew/Boat:		2.5 MO		

D	Feasibility Level Cost Est		::: 0 1 ' · · · !!		
Project	: Houma Navigation Canal Deepening		ities & Line Iten		ig 2015
	Houma, Terrebonne Parish, Louisiana	Costs	- Ramos - Aug	2015	
	Construction Cost Alternative 2C Rock Retention -20				
	Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 4 Feet of Advance	ed Mainte	enace Included		
	Contract No. 4				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
5A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -24' NAVD88; 1v/2h side slopes by 300' bottom width.				
5B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	1,100,000	\$10.23	\$11,249,92
	Material to be placed unconfined for beach nourishment on the south side of East Island (Isle Deniers) in surf zonet. (See plans for details). Material Quantity does not reflect overdepth.				
5C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.55	\$645,000	\$1,644,75
				Total:	\$14,203,62
	Contract Duration:	DY	77		
	Note:				
	Dredging quantity does not reflect overdepth.				
	Dredging	:	1,100,000 CY		
	Survey/Crew/Boat	:	2.6 MO		

Reach	20 foo	ot depth			
	Unit Cost	СҮ	Duration (months)	Mob/Demob (Per Reach)	Crew/Equipment Costs
Mob/Demob (36.3 to 22.0)	\$939,307				\$505,000
36.3 to 34.0	\$3.66	325,000	0.61	\$327,961	\$505,000
34.0 to 32.0	\$4.17	175,000	0.38	\$434,307	\$505,000
32.0 to 29.5	\$5.85	215,000	0.66	\$434,307	\$505,000
29.5 to 28.0	\$5.03	185,000	0.47	\$327,961	\$505,000
28.0 to 26.0	\$4.65	250,000	0.59	\$327,961	\$505,000
26.0 to 24.0	\$3.94	300,000	0.60	\$327,961	\$505,000
24.0 to 22.0	\$3.40	305,000	0.53	\$327,961	\$505,000
		\$7,491,072			
Mob/Demob (22.0 to 11.0)	\$825,704				\$505,000
22.0 to 20.0	\$2.85	393,000	0.59	\$320,704	\$505,000
20.0 to 18.0	\$8.28	92,000	0.40	\$320,704	\$505,000
18.0 to 16.0	\$5.26	170,000	0.47	\$320,704	\$505,000
16.0 to 13.0	\$4.36	315,000	0.72	\$320,704	\$505,000
13.0 to 11.5	\$3.92	180,000	0.37	\$320,704	\$505,000
		\$4,857,958			
Mob/Demob (0.0 to 11.0)	\$1,030,374				\$505,000
11.5 to 10.0	\$3.65	230,000	0.30	\$372,299	\$505,000
10.0 to 5.0	\$3.83	2,014,500	2.69	\$372,299	\$505,000
5.0 to 1.5	\$7.73	1,050,000	1.98	\$525,374	\$505,000
1.5 to 0.0	\$7.36	265,000	0.49	\$526,109	\$505,000
		\$18,617,094			
Mob/Demob (0.0 to -3.7)	\$1,308,950	· ·			\$645,000
0.0 to -3.7	\$10.23	1,100,000	2.55	\$663,950	\$645,000
		\$11,249,920			

	Costs for 10-Year Cycle to be F Mile 36.3 to Mile (-3.7) to -20 Foo Summary Page				luded	Multiple Disposa	Il Sites
Contract No.		Cycle Frequency (Years)	Units	Quantity	Estimated Unit Price Per Cycle	Estimated Cycle Cost	Estimated Total Cos (50-Year)
1*	Mobilization/Demobilization	10	LS	1	\$871,046	\$871,046	\$4,355,230
	Mile 36.3 to Mile 34.0	10	CY	109,600	\$6.74	\$738,184	\$3,690,920
	Mile 24.0 to Mile 22.0	10	CY	109,600	\$10.39	\$1,139,248	\$5,696,240
	Mile 22.0 to Mile 20.0	10	CY	109,600	\$8.93	\$978,407	\$4,892,036
	Mobilization/Demobilization	2	LS	1	\$1,031,109	\$1,031,109	\$25,777,725
	Mile 11.0 to Mile 0.0	2	CY	1,434,200	\$9.68	\$13,881,031	\$347,025,774
2	Mobilization/Demobilization	2	LS	1	\$1,308,950	\$1,308,950	\$32,723,750
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$20.66	\$11,981,642	\$299,541,050
3	Mobilization/Demobilization	2	LS	1	\$1,031,109	\$1,031,109	
	Mile 11.0 to Mile 0.0	2	CY	1,434,200	\$9.68	\$13,881,031	
4	Mobilization/Demobilization	2	LS	1	\$1,308,950	\$1,308,950	
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$20.66	\$11,981,642	
5	Mobilization/Demobilization	2	LS	1	\$1,031,109	\$1,031,109	
	Mile 11.0 to Mile 0.0	2	CY	1,434,200	\$9.68	\$13,881,031	
6	Mobilization/Demobilization	10	LS	1	\$939,307	\$939,307	\$4,696,535
	Mile 36.3 to Mile 34.0	10	CY	109,600	\$6.77	\$741,551	\$3,707,755
	Mile 34.0 to Mile 32.0	10	CY	219,600	\$6.86	\$1,507,001	\$7,535,005
	Mile 32.0 to Mile 29.5	10	CY	165,800	\$10.20	\$1,691,836	\$8,459,181
	Mile 29.5 to Mile 28.0	10	CY	165,800	\$5.24	\$868,203	\$4,341,014
	Mile 28.0 to Mile 26.0	10	CY	219,600	\$9.97	\$2,190,283	\$10,951,416
	Mile 26.0 to Mile 24.0	10	CY	219,600	\$17.18	\$3,771,986	\$18,859,929
	Mile 24.0 to Mile 22.0	10	CY	109,600	\$22.96	\$2,516,295	\$12,581,476
	Mile 22.0 to Mile 20.0	10	CY	109,600	\$10.06	\$1,102,166	\$5,510,830
	Mobilization/Demobilization	2	LS	1	\$1,308,950	\$1,308,950	
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$20.66	\$11,981,642	
7	Mobilization/Demobilization	10	LS	1	\$939,307	\$939,307	\$4,696,535
	Mile 20.0 to Mile 18.0	10	CY	219,600	\$13.91	\$3,055,428	\$15,277,138
	Mile 18.0 to Mile 16.0	10	CY	219,600	\$27.64	\$6,070,003	\$30,350,013
	Mile 16.0 to Mile 13.0	10	CY	331,400	\$13.82	\$4,578,899	\$22,894,496
	Mile 13.0 to Mile 11.0	10	CY	254,500	\$6.31	\$1,606,440	\$8,032,198
	Mobilization/Demobilization	2	LS	1	\$1,031,109	\$1,031,109	
	Mile 11.0 to Mile 0.0	2	CY	1,434,200	\$9.68	\$13,881,031	
8	Mobilization/Demobilization	2	LS	1	\$1,308,950	\$1,308,950	
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$20.66	\$11,981,642	
9	Mobilization/Demobilization	2	LS	1	\$1,031,109	\$1,031,109	
	Mile 11.0 to Mile 0.0	2	CY	1,434,200	\$9.68	\$13,881,031	
10	Mobilization/Demobilization	2	LS	1	\$1,308,950	\$1,308,950	
	Mile 0.0 to Mile (-3.7)	2	CY	580,000	\$20.66	\$11,981,642	
			Total:	12,744,100	\$13.84	\$176,319,250	\$881,596,248

Feasibility Level Cost Estimate

Quantities & Line Items - Puls - Aug 2015

Project: Houma Navigation Canal Deepening

Note: Unit costs reflected on summary sheet include all disposal area dike refurbishment within each specified reach, if necessary * Three reaches specified in Contract 1 require a maintenance cycle every 5 years. 5 years after maintenance Contract 1 reaches at 36.3, 24.0, and 22.0 will undergo maintenance under Contract 6 (10-Year cycle). 5 Years after maintenance Contract 6 those reaches will be maintained under a new 5-year cycle (Contract 11). Following this sequence, contract 6 will be required four additional times over the 50 year project life after Contract 6 is completed.

•	Houma Navigation Canal Deepening	Quantitie	es & Line Items	s - Puls - Aua	2015
	Houma, Terrebonne Parish, Louisiana		Ramos - Aug 2	•	2010
	Maintenance Cost Rock Retention -20ft MLG	00000		010	
	Mile 36.3 to 34.0 & Mile 24 to 20.0 & Mile 22.0 to 20.0 & Mile	a 11 0 to 0 0	to -20 East El	evation	
	w/ 2 and 3 Feet of Advanced Maintenance Included		Multiple Disp		
	Contract No. 1	Channel	Maintenance	- 10 year fre	quency
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cos
1A	Mobilization and Demobolization	LS	1	\$871,046	\$871,046
	Dredging and Disposal (Mile 36.3 to Mile 20.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width				
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	109,600	\$5.34	\$585,001
	Material to be placed within confined upland Site 1 (Port Commision site) opposite Short Cut Canal. No height restriction. Dike construction/maintenance not required.				
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550
1B	HNC Mile 36.3 to HNC Mile 34.0	CY	109,600	\$5.30	\$580,792
	Material to be placed within confined upland Site 3 opposite HNC Mile 35.5 No height restriction. Dike construction/maintenance not required.				
1C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550
1D	HNC Mile 24.0 to HNC Mile 22.0	CY	109,600	\$7.41	\$812,268
	Material to be placed semi-confined within Wetland Site 15 between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a west-southwesterly direction. Earthen closures will be required along the west side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500
	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000

Project:	Feasibility Level Cost Houma Navigation Canal Deepening	Quantitie	es & Line Items	s - Puls - Aug	2015				
	Houma, Terrebonne Parish, Louisiana	Costs - I	Ramos - Aug 2	015					
	Maintenance Cost Rock Retention -20ft MLG								
	Mile 36.3 to 34.0 & Mile 24 to 20.0 & Mile 22.0 to 20.0 & Mile	11.0 to 0.0	to -20 Foot El	evation					
	w/ 2 and 3 Feet of Advanced Maintenance Included		Multiple Disp						
	Contract No. 1		Maintenance		quency				
		Unanno	Estimated	, it you no	quonoy				
ltem	Description	Units	Quantity	Unit Price	Estimated Cos				
1D	HNC Mile 24.0 to HNC Mile 22.0	CY	109,600	\$7.42	\$813,670				
	Material to be placed semi-confined within Wetland Site 15A between HNC Mile 24.0 and 22.9 west of Site 15 'beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the south east corner, and to proceed outward in a westerly direction. Earthen closures will be required along the east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).								
1E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500				
1F	Earthen Retention Dike Refurbishment	LF	4,800	\$60.00	\$288,000				
1G	HNC Mile 22.0 to HNC Mile 20.0	CY	109,600	\$5.29	\$579,389				
	Material to be placed unconfined within Wetland Site 16 opposite and adjacent to HNC Mile 21.4 along the west bank of the HNC WW. The discharge will be positioned to the west and placed a minimum 1,550 ft from the center line of the channel to the front of the disposal area. Elevation of material placed within the open water area(s) NTE +3.0' NAVD 88 (See dwgs for details).								
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.30	\$505,000	\$151,500				
1G	HNC Mile 22.0 to HNC Mile 20.0	CY	109,600	\$7.71	\$844,534				
	Material to be placed semi-confined within Wetland Site 15A between HNC Mile 23.3 and 22.5 west of Site 15 'beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the south east corner, and to proceed outward in a westerly direction. Earthen closures will be required along the east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).								
1H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.43	\$505,000	\$217,150				

	Feasibility Level Co								
Project:	Houma Navigation Canal Deepening			s - Puls - Aug	2015				
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2015							
	Maintenance Cost Rock Retention -20ft MLG								
	Mile 36.3 to 34.0 & Mile 24 to 20.0 & Mile 22.0 to 20.0 & M								
	w/ 2 and 3 Feet of Advanced Maintenance Included		Multiple Disp						
	Contract No. 1	Channel	Maintenance	e - 10 year fre	quency				
Itom	Description	Units	Estimated	Unit Price	Estimated Cost				
ltem	Description	Units	Quantity	Unit Price	Estimated Cost				
11	Earthen Retention Dike Refurbishment	LF	4,800	\$60.00	\$288,000				
1J	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109				
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width								
1K	HNC Mile 11.0 to HNC Mile 5.0	CY	765,600	\$4.58	\$3,508,285				
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.								
1L	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.09	\$505,000	\$550,450				
1M	Earthen Retention Dike Refurbishment	LF	12,700	\$60.00	\$762,000				
1N	Mechanical Dredging Flotation Channel Excavation Mile 11.0 to Mile 5.0. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324				
10	HNC Mile 5.0 to HNC Mile 1.5	CY	468,000	\$5.30	\$2,480,026				
	Material to be placed rock confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.								
1P	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.64	\$505,000	\$323,200				
1Q	Earthen Retention Dike Refurbishment	LF	6,500	\$60.00	\$390,000				
1R	Mechanical Dredging Flotation Channel Excavation Mile 5.0 to Mile 1.5. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324				
1S	HNC Mile 1.5 to HNC Mile 0.0	CY	200,600	\$5.04	\$1,011,666				
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details								
1T	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.26	\$505,000	\$131,300				
1U	Rock Containment Dike for Lung Disposal Area Geotextile	TONS SY	22,720 10,945	\$60.00 \$6.00	\$1,363,200 \$65,670				
1V	Rock Containment Dike Refurbishment (Lung)	TONS	12,538	\$60.00	\$752,280				

	Feasibility Level Cost E				
Project:	Houma Navigation Canal Deepening	Quantiti	es & Line Items	- Puls - Aug	2015
	Houma, Terrebonne Parish, Louisiana	Costs -	Ramos - Aug 20	015	
	Maintenance Cost Rock Retention -20ft MLG				
	Mile 36.3 to 34.0 & Mile 24 to 20.0 & Mile 22.0 to 20.0 & Mile 1	1.0 to 0.0	to -20 Foot Ele	vation	
	w/ 2 and 3 Feet of Advanced Maintenance Included		Multiple Dispo		
	Contract No. 1	Channe	I Maintenance	- 10 year fre	quency
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cos
1W	Rock Containment Dike for East Island Disposal Area	TONS	11,835	\$60.00	\$710,100
	Geotextile	SY	5,701	\$6.00	\$34,206
1X	Rock Containment Dike Refurbishment (East Island)	TONS	6,400	\$60.00	\$384,000
				Total:	\$18,551,591
	Contract Duration	DY	91		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredging:		1,763,000 CY		
	Rock:		53,493 TON		
	Geotextile		16,646 SY		
	Flotation Channel:		19,400 LF		
	Earthen Dike:		31,250 LF		

Survey/Crew/Boat:

3.0 MO

	Feasibility Level Cos	st Estimate	;			
Project:	Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug	2015	
	Houma, Terrebonne Parish, Louisiana	Costs - Ramos - Aug 2014				
	Maintenance Cost Rock Retention -20ft MLG					
	Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 4 Feet of Adva	nced Maint	enance Includ	ed		
	Contract No. 2	Channel	Maintenance	- 2 year frec	luency	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
2A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950	
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width					
2B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$18.02	\$10,452,992	
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.					
2C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.4	\$645,000	\$1,528,650	
				Total:	\$13,290,592	
	Contract Duration	DY	71			
	Notes:					
	Channel Quantitires do not reflect overdepth.					
	Dredging	:	580,000 CY			
	Survey/Crew/Boat	:	2.4			

	Feasibility Level Cost							
Project:	Houma Navigation Canal Deepening		ies & Line Ite Ramos - Aug	ms - Puls - Au	g 2015			
	Houma, Terrebonne Parish, Louisiana Maintenance Cost Rock Retention -20ft MLG	<i>j</i> 2015						
	Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advance							
	Contract No. 3 Channel Maintenance - 2 year freq							
Item	Description	Units	Estimated	Unit Price	Estimated			
	Description	Onits	Quantity		Cost			
ЗA	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109			
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width							
3B	HNC Mile 11.0 to HNC Mile 5.0	CY	765,600	\$4.58	\$3,508,285			
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.							
3C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.1	\$505,000	\$550,450			
3D	Earthen Retention Dike Refurbishment	LF	12,700	\$60.00	\$762,000			
3E	Mechanical Dredging Flotation Channel Excavation Mile 11.0 to Mile 5.0. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324			
ЗF	HNC Mile 5.0 to HNC Mile 1.5	CY	468,000	\$5.30	\$2,480,026			
	Material to be placed rock confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.							
3G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.6	\$505,000	\$323,200			
ЗH	Earthen Retention Dike Refurbishment	LF	6,500	\$60.00	\$390,000			
31	Mechanical Dredging Flotation Channel Excavation Mile 5.0 to Mile 1.5. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324			
ЗJ	HNC Mile 1.5 to HNC Mile 0.0	CY	200,600	\$5.04	\$1,011,666			
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details							
ЗК	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.3	\$505,000	\$131,300			
3L	Rock Containment Dike for Lung Disposal Area Geotextile	TONS SY	22,720 10,945	\$60.00 \$6.00	\$1,363,200 \$65,670			
ЗМ	Rock Containment Dike Refurbishment (Lung)	TONS	12,538	\$60.00	\$752,280			
3N	Rock Containment Dike for East Island Disposal Area Geotextile	TONS SY	11,835 5,701	\$60.00 \$6.00	\$710,100 \$34,206			

	Feasibility Level Cost Es	stimate			
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana	Quanti Costs ·	ns - Puls - Au 2015	g 2015	
	Maintenance Cost Rock Retention -20ft MLG		0		
	Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced				
	Contract No. 3	Chann	el Maintenanc	e - 2 year fre	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
30	Rock Containment Dike Refurbishment (East Island)	TONS	6,400	\$60.00	\$384,000
				Total:	\$14,912,140
	Contract Duration	DY	60		
	Note:				
	Material Quantity does not reflect overdepth.				
	Dredging	:	1,434,200 CY		
	Rock	:	53,493 TON		
	Geotextile		16,646 SY		
	Flotation channel	:	19,400 LF		
	Earthen Dike	:	19,200 LF		
	Survey/Crew/Boat	:	2.0 MO		

	Feasibility Level Cost				
Project:	Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug	2015
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	amos - Aug 20)15	
	Maintenance Cost Rock Retention -20ft MLG				
	Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 4 Feet of Adva	inced Maint	enance Includ	ed	
	Contract No. 4	Channel	Maintenance	- 2 year freq	uency
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
4A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
4B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$18.02	\$10,452,992
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.				
4C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.4	\$645,000	\$1,528,650
				Total:	\$13,290,592
	Contract Duration	DY	71		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredging	:	580,000 CY		
	Survey/Crew/Boat	:	2.4 MO		

	Feasibility Level Cost Estimate								
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Rock Retention -20ft MLG		ies & Line Ite Ramos - Aug	ms - Puls - Au g 2015	g 2015				
	Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced Maintenance Included Contract No. 5 Channel Maintenance - 10 year freque								
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost				
5A	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109				
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width								
5B	HNC Mile 11.0 to HNC Mile 5.0	CY	765,600	\$4.58	\$3,508,285				
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.								
5C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.1	\$505,000	\$550,450				
5D	Earthen Retention Dike Refurbishment	LF	12,700	\$60.00	\$762,000				
5E	Mechanical Dredging Flotation Channel Excavation Mile 11.0 to Mile 5.0. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324				
5F	HNC Mile 5.0 to HNC Mile 1.5	CY	468,000	\$5.30	\$2,480,026				
	Material to be placed rock confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.								
5G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.6	\$505,000	\$323,200				
5H	Earthen Retention Dike Refurbishment	LF	6,500	\$60.00	\$390,000				
51	Mechanical Dredging Flotation Channel Excavation Mile 5.0 to Mile 1.5. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324				
5J	HNC Mile 1.5 to HNC Mile 0.0	CY	200,600	\$5.04	\$1,011,666				
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details								
5K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.3	\$505,000	\$131,300				
5L	Rock Containment Dike for Lung Disposal Area Geotextile	TONS SY	22,720 10,945	\$60.00 \$6.00	\$1,363,200 \$65,670				
5M	Rock Containment Dike Refurbishment (Lung)	TONS	12,538	\$60.00	\$752,280				
5N	Rock Containment Dike for East Island Disposal Area Geotextile	TONS SY	11,835 5,701	\$60.00 \$6.00	\$710,100 \$34,206				

	Feasibility Level Cost Es	stimate				
Project:	Houma Navigation Canal Deepening	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015				
	Houma, Terrebonne Parish, Louisiana					
	Maintenance Cost Rock Retention -20ft MLG Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced	Mainto	nanco Included	1		
	Contract No. 5		el Maintenanc		requency	
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
5O	Rock Containment Dike Refurbishment (East Island)	TONS	6,400	\$60.00	\$384,000	
				Total:	\$14,912,140	
	Contract Duration	DY	60			
	Note:					
	Material Quantity does not reflect overdepth.					
	Dredging	:	1,434,200 CY			
	Rock	:	53,493 TON			
	Geotextile	:	16,646 SY			
	Flotation Channel	:	19,400 LF			
	Earthen Dike		19,200 LF			
	Survey/Crew/Boat	:	2.0 MO			

Drojoot		Estimate			
Project.	Houma Navigation Canal Deepening		& Line Items -	•	015
	Houma, Terrebonne Parish, Louisiana		mos - Aug 201		
	Maintenance Cost Rock Retention -20ft MLG		Multiple Disp		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/				
	Contract No. 6 Channel Maintenan	ce - 2, 5, and 1	0 year freque	ncy	
ltem	Description	Units	Estimated	Unit Price	Estimated
nem	Description	Onits	Quantity	Unit i i i ce	Cost
6A	Mobilization and Demobolization	LS	1	\$939,307	\$939,307
	Dredging and Disposal (Mile 36.3 to Mile 20.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width				
6B	HNC Mile 36.3 to HNC Mile 34.0	CY	109,600	\$5.34	\$585,001
	Material to be placed within confined upland Site 3 opposite HNC Mile 35.5 No height restriction. Dike construction/maintenance not required.				
6C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.31	\$505,000	\$156,550
6D	NHC Mile 34.0 to HNC Mile 32.0	CY	219,600	\$3.94	\$865,751
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
6E	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.45	\$505,000	\$227,250
6F	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000
6G	HNC Mile 32.0 to HNC Mile 29.5	CY	165,800	\$6.09	\$1,010,18
	Material to be placed semi-confined within designated Wetland Site 7E opposite HNC Mile 31. Material to be placed within the open water area(s), a minimum 12,500 feet from the channel centerline. A 200-ft wide construction access corridor, at the entrance of the HNC waterway, will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs. For details).				
6H	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.53	\$505,000	\$267,650
61	Earthen Retention Dike Refurbishment	LF	6,900	\$60.00	\$414,000

	Feasibility Level Cost Est	imate			
Project:	Houma Navigation Canal Deepening		& Line Items -	•	15
	Houma, Terrebonne Parish, Louisiana		mos - Aug 201		
	Maintenance Cost Rock Retention -20ft MLG		Multiple Disp		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Fe				
	Contract No. 6 Channel Maintenance -	2, 5, and 1		ncy	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
6J	HNC Mile 29.5 to HNC Mile 28.0 Material to be placed unconfined within designated Wetland Site 12B opposite approximate HNC Mile 27.0.	CY	165,800	\$3.88	\$643,039
	Mtl. shall be discharged within the open water areas, a minimum 4,500 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.32	\$505,000	\$161,600
6L	Earthen Retention Dike Refurbishment	LF	1,600	\$60.00	\$96,000
6J	HNC Mile 29.5 to HNC Mile 28.0	CY	165,800	\$3.62	\$600,594
	Material to be placed unconfined within designated Wetland Site 12 opposite approximate HNC Mile 27.0. Mtl. shall be discharged within the open water areas, a minimum 1,950 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500
6L	Earthen Retention Dike Refurbishment	LF	1,800	\$60.00	\$108,000
6M	HNC Mile 28.0 to HNC Mile 26.0	CY	219,600	\$3.20	\$702,720
	Material to be placed unconfined within designated Wetland Site A-07-A opposite approximate HNC Mile 26.5. Mtl. shall be discharged within the open water areas, a minimum 5,700 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6N	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.37	\$505,000	\$186,850
6O	Earthen Retention Dike Refurbishment	LF	9,300	\$60.00	\$558,000
6P	HNC Mile 27.6 to HNC Mile 27.4 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88 Stone quantity 20% of construction quantity	TN)	1,900	\$61.46	\$116,774
6Q	Mechanical Dredging Flotation Channel Excavation Mile 27.6 to Mile 27.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,260	\$72.92	\$91,879

	Feasibility Level Cost Esti	mate			
Project:	Houma Navigation Canal Deepening	Quantities	& Line Items - mos - Aug 201	•	015
	Maintenance Cost Rock Retention -20ft MLG	00313 - Ma	Multiple Disp		
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Fe		nced Maintena	nce Included	
	Contract No. 6 Channel Maintenance -	2, 5, and 1		ncy	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
6R	HNC Mile 26.4 to HNC Mile 25.9 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	5,320	\$61.46	\$326,967
6S	Mechanical Dredging Flotation Channel Excavation Mile 26.4 to Mile 25.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	2,840	\$72.92	\$207,093
6T	HNC Mile 26.0 to HNC Mile 24.0	CY	219,600	\$3.55	\$778,614
	Material to be placed unconfined within designated Wetland Site 14A opposite approximate HNC Mile 27. Mtl. shall be discharged within the open water areas, a minimum 3,360 feet from the channel centerline. Construction access corridors, 200 ft in width, shall be provided for the Contractors use of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6U	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.39	\$505,000	\$196,950
6V	Earthen Retention Dike Refurbishment	LF	13,000	\$60.00	\$780,000
6W	HNC Mile 25.9 to HNC Mile 24.1 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	21,300	\$61.46	\$1,309,098
6X	Mechanical Dredging Flotation Channel Excavation Mile 25.9 to Mile 24.1 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324
6Y	HNC Mile 24.0 to HNC Mile 22.0 Material to be placed semi-confined within Wetland Site 15 between HNC Mile 23.0 and 22.5 along the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a west-southwesterly direction. Earthen closures will be required along the west side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).	CY	109,600	\$7.41	\$812,268
6Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500
6AA	Earthen Retention Dike Refurbishment	LF	2,450	\$60.00	\$147,000

	Feasibility Level Cost Es	timate			
Project:	Houma Navigation Canal Deepening	Quantities	& Line Items -	Puls - Aug 20	15
	Houma, Terrebonne Parish, Louisiana		mos - Aug 201		
	Maintenance Cost Rock Retention -20ft MLG		Multiple Disp	osal Sites	
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Fo	eet of Advar	nced Maintena	nce Included	
	Contract No. 6 Channel Maintenance	- 2, 5, and 1	0 year freque	ncy	
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
			Quantity		0031
6Y	HNC Mile 24.0 to HNC Mile 22.0	CY	109,600	\$7.42	\$813,670
	Material to be placed semi-confined within Wetland Site 15A between HNC Mile 24.0 and 22.9 west of Site 15 'beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the south east corner, and to proceed outward in a westerly direction. Earthen closures will be required along the east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).				
6Z	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.30	\$505,000	\$151,500
6AA	Earthen Retention Dike Refurbishment	LF	4,800	\$60.00	\$288,000
6BB	HNC Mile 23.7 to HNC Mile 22.4 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88 Stone quantity 20% of construction quantity	TN 3)	11,820	\$61.46	\$726,457
6CC	Mechanical Dredging Flotation Channel Excavation Mile 23.7 to Mile 22.4. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	6,540	\$72.92	\$476,897
6DD	HNC Mile 22.2 to HNC Mile 22.1 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88 Stone quantity 20% of construction quantity	TN 3)	1,960	\$61.46	\$120,462
6EE	Mechanical Dredging Flotation Channel Excavation Mile 22.2 to Mile 22.1. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	730	\$72.92	\$53,232
6FF	HNC Mile 22.0 to HNC Mile 20.0	CY	109,600	\$5.29	\$579,389
	Material to be placed unconfined within Wetland Site 16 opposite and adjacent to HNC Mile 21.4 along the west bank of the HNC WW. The discharge will be positioned to the west and placed a minimum 1,550 ft from the center line of the channel to the front of the disposal area. Elevation of material placed within the open water area(s) NTE +3.0' NAVD 88 (See dwgs for details).				
6GG	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.30	\$505,000	\$151,500
				,,	, .,

Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Rock Retention -20ft MLG Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 2 Contract No. 6 Channel Maintenance	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015 Multiple Disposal Sites Feet of Advanced Maintenance Included - 2, 5, and 10 year frequency				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
6FF	HNC Mile 22.0 to HNC Mile 20.0 Material to be placed semi-confined within Wetland Site 15A between HNC Mile 24.0 and 22.9 west of Site 15 'beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the south east corner, and to proceed outward in a westerly direction. Earthen closures will be required along the east side of the disposal area adjacent to the p/l canal intersecting the disposal area. A 200-foot wide construction access corridor along the entrance of the waterway will be provided for the Contractors use. Elevation	CY	109,600	\$7.71	\$844,534	
	of material NTE +3.0' NAVD88 (See dwgs for details).					
6GG	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.43	\$505,000	\$217,150	
6HH	Earthen Retention Dike Re-fubishment	LF	4,800	\$60.00	\$288,000	
611	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950	
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width					
6JJ	Dredging and Disposal Mile 0.0 to Mile (-3.7) Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.	CY	580,000	\$18.02	\$10,452,992	

	Feasibility Level Cost	Estimate			
Project:	Houma Navigation Canal Deepening	Quantiti	ies & Line Items - I	Puls - Aug 20	015
	Houma, Terrebonne Parish, Louisiana	Costs -	Ramos - Aug 2015	5	
	Maintenance Cost Rock Retention -20ft MLG		Multiple Dispo	sal Sites	
	Mile 36.3 to 20.0 & Mile 0.0 to (-3.7) to -20 Foot Elevation w/	2 Feet of Ad	vanced Maintenan	ce Included	
	Contract No. 6 Channel Maintenan	ce - 2, 5, an	d 10 year frequen	су	
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
6KK	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.4	\$645,000	\$1,528,65
				Total:	\$29,025,09
	Contract Duration	DY	164		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredg	ing:	1,899,200 CY		
	R	ock:	42,300 TON		
	Flotation Chan	nel:	21,070 LF		
	Earthen D	ike:	51,550 LF		
	Survey/Crew/B	oat:	5.5 MO		

	Feasibility Level Cost Estimate							
Project	: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Rock Retention -20ft MLG Mile 20.0 to 11.0 & Mile11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Contract No. 7 Channel Maintenance - 2, 5	- <i>Costs</i> I Advance						
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
7A	Mobilization and Demobolization Dredging and Disposal (Mile 20.0 to Mile 11.0) Channel to be excavated to -20 NAVD88; 1v/2h side slope/150-foot bottom width	LS	1	\$939,307	\$939,307			
7B	HNC Mile 20.0 to HNC Mile 18.0 Material to be placed unconfined within Wetland Site 19C oppsite and adjacent to HNC Mile 19.3 along the east bank of the HNC WW. The discharge will be positioned to the east and placed a minimum 500-ft beyond the center line of the channel to the front of the disposal area. Elevation of material placed within the open water area(s) of Site 19C NTE +3.0' NAVD88 (See dwgs for details).	CY	219,600	\$2.96	\$649,313			
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.34	\$505,000	\$171,700			
7B	HNC Mile 20.0 to HNC Mile 18.0 Material to be placed semi-confined within the open water portions of Wetland Site 19D between HNC Mile 20.2 and 19.6, located beyond the west bank of the HNC WW. The initial buildup of mtl. shall begin in the north east corner, and to proceed outward in a westerly direction a minimum distance of 2,350 ft beyond the center line of the channel. Earthen closures will be required along the south side of the disposal area adjacent to the open water A 200-foot wide construction access corridor along theentrance of the waterway will be provided for the Contractors at the northeast and south east portions of the disposal site. Elevation of material NTE +3.0' NAVD88 (See dwgs for details).	CY	219,600	\$3.07	\$674,611			
7C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.35	\$505,000	\$176,750			
7D	Earthen Retention Dike Re-fubishment	LF	1,300	\$60.00	\$78,000			
7E	HNC Mile 19.2 to HNC Mile 17.5 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	19,900	\$61.46	\$1,223,054			
7F	Mechanical Dredging Flotation Channel Excavation Mile 19.2 to Mile 17.5 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,120	\$72.92	\$592,110			
7G	HNC Mile 19.1 to HNC Mile 17.8 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	TN	3,640	\$61.46	\$223,714			

	Feasibility Level Cost Estimate						
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Rock Retention -20ft MLG	Costs -	ies & Line Itel Ramos - Aug Iultiple Disp		g 2015		
	Mile 20.0 to 11.0 & Mile11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of						
	Contract No. 7 Channel Maintenance - 2,						
Item	Description	Units	Estimated Quantity	Unit Price	Estimated Cost		
			Quantity		0031		
7H	Mechanical Dredging Flotation Channel Excavation Mile 19.1 to Mile 17.8 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527		
71	HNC Mile 18.0 HNC Mile 16.0	CY	219,600	\$2.79	\$612,772		
	Material to be placed unconfined within Wetland Site 20C oppsoite HNC Mile 16.8 along the west bank of the HNC WW. A construction access corriodr, 200 feet in width, will be provided for the Contractors use at the intersection of Four Pt. Bayou with the HNC WW. The intial buildup shall occur in the east corner of the DA and to proceed outward in a westerly direction. Elevation of Mtl. NTE +3.0' NAVD88 (See dwgs for details).						
7J	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.32	\$505,000	\$161,600		
71	HNC Mile 18.0 HNC Mile 16.0	CY	219,600	\$3.25	\$713,964		
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).						
7J	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.37	\$505,000	\$186,850		
7K	Earthen Retention Dike Re-fubishment	LF	2,000	\$60.00	\$120,000		
7L	HNC Mile 17.7 to HNC Mile 16.7 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	13,480	\$61.46	\$828,481		
7M	Mechanical Dredging Flotation Channel Excavation Mile 17.7 to Mile 16.7 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,480	\$72.92	\$399,602		
7N	HNC Mile 16.9 to HNC Mile 13.3 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	42,600	\$61.46	\$2,618,196		
70	Mechanical Dredging Flotation Channel Excavation Mile 16.9 to Mile 13.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	19,200	\$72.92	\$1,400,064		

	Feasibility Level Cost Estimate							
Project:	 Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana Maintenance Cost Rock Retention -20ft MLG Mile 20.0 to 11.0 & Mile11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Contract No. 7 	- Costs M Advanced	Quantities & Line Items - Puls - Aug Costs - Ramos - Aug 2015 Multiple Disposal Sites Advanced Maintenance Included 5, and 10 year frequency					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost			
7P	HNC Mile 16.0 to HNC Mile 13.0	CY	331,400	\$2.94	\$975,642			
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).							
7Q	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.51	\$505,000	\$257,550			
7R	Earthen Retention Dike Re-fubishment	LF	3,850	\$60.00	\$231,000			
7S	HNC Mile 15.6 to HNC Mile 14.0 (West Bank) Rock Retention Structure Refurbishment (Dk ht. +6' NAVD88) Stone quantity 20% of construction quantity	TN	18,900	\$61.46	\$1,161,594			
7T	Mechanical Dredging Flotation Channel Excavation Mile 15.6 to Mile 14.0 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	8,650	\$72.92	\$630,758			
7U	HNC Mile 13.2 to HNC Mile 11.9 (West Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +6' NAVD88) Stone quantity 20% of construction quantity	TN	15,180	\$61.46	\$932,963			
7V	Mechanical Dredging Flotation Channel Excavation Mile 13.1 to Mile 11.9 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	5,340	\$72.92	\$389,393			
7W	HNC Mile 13.0 to HNC Mile 11.0	CY	254,500	\$2.62	\$667,808			
	Material to be placed within Wetland Site 24 opposite HNC Mile 12.0 along the west bank of the HNC WW. A construction access corrdior, 200 ft in width, will be provided for the Contractors use at the entrance of the WW. The initial buildup will occur in the east corner of the DA and proceed outward in a west, south-westerly direction. Elevation of material placed within the open water area(s) NTE +3.0' NAVD88 (See dwgs for details).							
7X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.35	\$505,000	\$176,750			
7Y	Earthen Retention Dike Re-fubishment	LF	4,100	\$60.00	\$246,000			

Feasibility Level Cost Estimate							
Project:	: Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana		ies & Line Ite Ramos - Aug	ms - Puls - Au 1 2015	g 2015		
	Maintenance Cost Rock Retention -20ft MLG		Multiple Disp				
	Mile 20.0 to 11.0 & Mile11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of						
	Contract No. 7 Channel Maintenance - 2, 9	5, and 10	year frequer Estimated	псу	Estimated		
Item	Description	Units	Quantity	Unit Price	Cost		
7W	HNC Mile 13.0 to HNC Mile 11.0	CY	254,500	\$2.88	\$732,960		
	Material to be placed within Wetland Site 21 opposite HNC Mile 15.0. To prevent material runback, the discharge pipe will be postioned to the SW and placed approximately 600 feet west of HNC Mile 15.0. The material will be placed in a west south-westerly direction within the open water areas or tributaries along the back side of the disposal area. Elevation of material NTE +3.0' NAVD88 (See dwgs f/details).						
7X	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.38	\$505,000	\$191,900		
7Y	Earthen Retention Dike Re-fubishment	LF	3,850	\$60.00	\$231,000		
7Z	HNC Mile 12.7 to HNC Mile 12.3 (East Bank) Foreshore Protection (Stone) Refurbishment (Dk ht. +5' NAVD88) Stone quantity 20% of construction quantity	ΤN	5,420	\$61.46	\$333,113		
7AA	Mechanical Dredging Flotation Channel Excavation Mile 12.6 to Mile 12.3 Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	1,790	\$72.92	\$130,527		
7BB	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109		
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width						
7CC	HNC Mile 11.0 to HNC Mile 5.0	CY	765,600	\$4.58	\$3,508,285		
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.						
7DD	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	1.09	\$505,000	\$550,450		
7EE	Earthen Retention Dike Re-fubishment	LF	12,700	\$60.00	\$762,000		
7FF	Mechanical Dredging Flotation Channel Excavation Mile 11.0 to Mile 5.0. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324		
7GG	HNC Mile 5.0 to HNC Mile 1.5	CY	468,000	\$5.30	\$2,480,026		
	Material to be placed rock confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.						

	Feasibility Level Cost Estima					
Project:	Houma Navigation Canal Deepening		Quantities & Line Items - Puls - Aug 2015			
	Houma, Terrebonne Parish, Louisiana Maintenance Cost Rock Retention -20ft MLG		Ramos - Aug : Nultiple Dispo			
	Mile 20.0 to 11.0 & Mile11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of A					
	Contract No. 7 Channel Maintenance - 2, 5					
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
7HH	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.64	\$505,000	\$323,200	
711	Earthen Retention Dike Re-fubishment	LF	6,500	\$60.00	\$390,000	
7JJ	Mechanical Dredging Flotation Channel Excavation Mile 5.0 to Mile 1.5. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324	
7KK	HNC Mile 1.5 to HNC Mile 0.0	CY	200,600	\$5.04	\$1,011,666	
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details					
7LL	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	0.26	\$505,000	\$131,300	
7MM	Rock Containment Dike for Lung Disposal Area Geotextile	TONS SY	22,720 10,945	\$60.00 \$6.00	\$1,363,200 \$65,670	
7NN	Rock Containment Dike Refurbishment (Lung)	TONS	12,538	\$60.00	\$752,280	
700	Rock Containment Dike for East Island Disposal Area Geotextile	TONS SY	11,835 5,701	\$60.00 \$6.00	\$710,100 \$34,206	
7PP	Rock Containment Dike Refurbishment (East Island)	TONS	6,400	\$60.00	\$384,000	
				Total:	\$34,101,712	
	Contract Duratiojn	DY	108			
	Note:					
	Material Quantity does not reflect overdepth.					
	Dredging	:	2,459,300 CY			
	Rock	:	172,613 TON			
	Geotextile:	:	16,646 SY			
	Flotation Channel:	:	69,770 LF			
	Earthen Dike:	:	34,300 LF			
	Survey/Crew/Boat	:	3.6 MO			

	Feasibility Level Cost				
Project:	Houma Navigation Canal Deepening	Quantities	s & Line Items	- Puls - Aug	2015
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	amos - Aug 20)15	
	Maintenance Cost Rock Retention -20ft MLG				
	Mile 0.0 to (-3.7) to -20 Foot Elevation w/ 4 Feet of Adva	nced Maint	enance Includ	ed	
	Contract No. 8	Channel	Maintenance	- 2 year freq	uency
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
8A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
8B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$18.02	\$10,452,992
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.				
8C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	2.4	\$645,000	\$1,528,650
				Total:	\$13,290,592
	Contract Duration	DY	71		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredging	:	580,000 CY		
	Survey/Crew/Boat	:	2.4		

	Feasibility Level Cost Estimate ct: Houma Navigation Canal Deepening Quantities & Line Items - Puls - Aug 2015							
Project:	Houma Navigation Canal Deepening			g 2015				
	Houma, Terrebonne Parish, Louisiana Maintenance Cost Rock Retention -20ft MLG	Costs - Ramos - Aug 2015						
	Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advance	anced Maintenance Included						
	Contract No. 9			ice - 2 year fre	equency			
14			Estimated	č.	Estimated			
Item	Description	Units	Quantity	Unit Price	Cost			
9A	Mobilization and Demobilization	LS	1	\$1,031,109	\$1,031,109			
	Dredging and Disposal (Mile 11 to Mile 0.0) Channel to be excavated to -21' NAVD88; 1v/2h side slopes by 150' bottom width							
9B	HNC Mile 11.0 to HNC Mile 5.0	CY	765,600	\$4.58	\$3,508,285			
	Material to be placed rock semi-confined west of channel within "lung area". 715 Acres See plans for details.							
9C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	1.1	\$505,000	\$550,450			
9D	Earthen Retention Dike Re-fubishment	LF	12,700	\$60.00	\$762,000			
9E	Mechanical Dredging Flotation Channel Excavation Mile 11.0 to Mile 5.0. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324			
9F	HNC Mile 5.0 to HNC Mile 1.5	CY	468,000	\$5.30	\$2,480,026			
	Material to be placed rock confined on northeast end of Isle Denieres (East Island) for marsh creation. 370 Acres. See plans for details.							
9G	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.6	\$505,000	\$323,200			
9H	Earthen Retention Dike Re-fubishment	LF	6,500	\$60.00	\$390,000			
91	Mechanical Dredging Flotation Channel Excavation Mile 5.0 to Mile 1.5. Channel excavated at existing grade of -2 ft NAVD88 w/ 80-foot bottom width	LF	9,700	\$72.92	\$707,324			
9J	HNC Mile 1.5 to HNC Mile 0.0	CY	200,600	\$5.04	\$1,011,666			
	Material to be placed unconfined for beach nourishment on Isle Deniers See Plans for details							
9K	Surveying, Shore Crew, Pipeline Crew, and Crewboat	МО	0.3	\$505,000	\$131,300			
9L	Rock Containment Dike for Lung Disposal Area Geotextile	TONS SY	22,720 10,945	\$60.00 \$6.00	\$1,363,200 \$65,670			
9M	Rock Containment Dike Refurbishment (Lung)	TONS	12,538	\$60.00	\$752,280			
9N	Rock Containment Dike for East Island Disposal Area Geotextile	TONS SY	11,835 5,701	\$60.00 \$6.00	\$710,100 \$34,206			

	Feasibility Level Cost Es	stimate				
Project:	Houma Navigation Canal Deepening Houma, Terrebonne Parish, Louisiana	Quantities & Line Items - Puls - Aug 2015 Costs - Ramos - Aug 2015				
	Maintenance Cost Rock Retention -20ft MLG					
	Mile 11.0 to 0.0 to -20 Foot Elevation w/ 3 Feet of Advanced					
	Contract No. 9	Chann	el Maintenanc	e - 2 year fre		
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost	
90	Rock Containment Dike Refurbishment (East Island)	TONS	6,400	\$60.00	\$384,000	
				Total:	\$14,912,140	
	Contract Duration	DY	60			
	Note:					
	Material Quantity does not reflect overdepth.					
	Dredging	:	1,434,200 CY			
	Rock	:	53,493 TON			
	Geotextile		16,646 SY			
	Flotation channel	:	19,400 LF			
	Earthen Dike	:	19,200 LF			
	Survey/Crew/Boat	:	2.0 MO			

	Feasibility Level Cost				
Project:	Houma Navigation Canal Deepening		s & Line Items	•	2015
	Houma, Terrebonne Parish, Louisiana	Costs - Ra	amos - Aug 20)15	
	Maintenance Cost Rock Retention -20ft MLG				
	Mile 0.0 to (-3.5) to -20 Foot Elevation w/ 4 Feet of Adva	nced Maint	enance Includ	ed	
	Contract No. 10				
ltem	Description	Units	Estimated Quantity	Unit Price	Estimated Cost
10A	Mobilization and Demobilization	LS	1	\$1,308,950	\$1,308,950
	Dredging and Disposal Mile 0.0 to Mile (-3.7) Channel to be excavated to -22' NAVD88; 1v/2h side slopes by 300' bottom width				
10B	Dredging and Disposal Mile 0.0 to Mile (-3.7)	CY	580,000	\$18.02	\$10,452,99
	Material to be placed unconfined for Marsh Creation on the South side of East Island (Isle Deniers) within the surf zone (See plans for details). Material Quantity does not reflect overdepth.				
10C	Surveying, Shore Crew, Pipeline Crew, and Crewboat	MO	2.4	\$645,000	\$1,528,65
				Total:	\$13,290,59
	Contract Duration	DY	71		
	Notes:				
	Channel Quantitires do not reflect overdepth.				
	Dredging	:	580,000 CY		
	Survey/Crew/Boat	:	2.4 MO		

Reach	20-foot depth Site 1				20-foot depth				
					Site 2				
	Unit Cost	CY	Duration (months)	Mob/Demob (Per Reach)	Unit Cost	CY	Duration (months)	Mob/Demob (Per Reach)	Crew/Equipment Costs
Mob/Demob	\$871,046								\$505,000
36.3 to 34.5 (5-year)	\$5.34	109,600	0.31	\$315,563	\$5.30	109,600	0.31	\$315,563	\$505,000
24.0 to 22.0 (5-year)	\$7.41	109,600	0.30	\$366,046	\$7.42	109,600	0.30	\$366,046	\$505,000
22.0 to 19.7 (5-year)	\$5.29	109,600	0.30	\$323,123	\$7.71	109,600	0.43	\$323,123	\$505,000
		\$1,976,658				\$2,238,996			
Mob/Demob (36.3 to 22.0)	\$939,307								\$505,000
36.3 to 34.0	\$5.34	109,600	0.31	\$315,563	\$5.30	109,600	0.31	\$315,563	\$505,000
34.0 to 32.0	\$3.94	219,600	0.45	\$434,307					\$505,000
32.0 to 29.5	\$6.09	165,800	0.53	\$434,307					\$505,000
29.5 to 28.0	\$3.88	165,800	0.32	\$330,985	\$3.62	165,800	0.30	\$330,985	\$505,000
28.0 to 26.0	\$3.20	219,600	0.37	\$317,075					\$505,000
26.0 to 24.0	\$3.55	219,600	0.39	\$330,985					\$505,000
24.0 to 22.0	\$7.41	109,600	0.30	\$366,046	\$7.42	109,600	0.30	\$366,046	\$505,000
		\$5,397,578				\$1,995,057			
Mob/Demob (22.0 to 11.0)	\$828,123								\$505,000
22.0 to 20.0	\$5.29	109,600	0.30	\$323,123	\$7.71	109,600	0.43	\$323,123	\$505,000
20.0 to 18.0	\$2.96	219,600	0.34	\$320,704	\$3.07	219,600	0.35	\$320,704	\$505,000
18.0 to 16.0	\$2.79	219,600	0.32	\$320,704	\$3.25	219,600	0.37	\$320,704	\$505,000
16.0 to 13.0	\$2.94	331,400	0.51	\$320,704					\$505,000
13.0 to 11.0	\$2.62	254,500	0.35	\$320,704	\$2.88	254,500	0.38	\$320,704	\$505,000
		\$3,484,924				\$2,966,068			
Mob/Demob (0.0 to 11.0)	\$1,031,109								\$505,000
11.0 to 5.0	\$4.58	765,600	1.09	\$485,917					\$505,000
5.0 to 1.5	\$5.30	468,000	0.64	\$526,109					\$505,000
1.5 to 0.0	\$5.04	200,600	0.26	\$526,109					\$505,000
		\$6,999,977							
Mob/Demob (0.0 to -3.7)	\$1,308,950								\$645,000
0.0 to -3.7	\$18.02	580,000	2.37	\$663,950					\$645,000
		\$10,452,992							