

ST. CHARLES PARISH

DEPARTMENT OF COASTAL ZONE MANAGEMENT

PROFESSIONAL SERVICES AGREEMENT

This AGREEMENT made and entered into the day of November, 2017, by and between ST. CHARLES PARISH acting herein by and through its President, who is duly authorized to act on behalf of the Parish, hereinafter called the OWNER and LONNIE G HARPER & ASSOCIATES herein and through its President, hereinafter called the CONSULTANT. Whereas the OWNER desires to employ the CONSULTANT to perform the services described herein for Parish Project Levee Analysis and Mapping Procedures, LAMP001.

1. GENERAL

a. The OWNER engages the CONSULTANT to perform modeling necessary to successfully participate in the LAMP pilot program and Flood Insurance Rate Map Appeal under the consultation of Dr. Joseph Suhayda (LAMP Coordinator) identified and described in the Scope of Services. CONSULTANT services shall conform to the requirements of the OWNER and all participating regulating agencies.

2. SERVICES OF THE CONSULTANT

a. The services consist of the work defined in the following Scope of Services.

b. SCOPE OF SERVICES:

• Complete those tasks included in EXHIBIT A assigned through the OWNER determined to be necessary for the successful participation by St. Charles Parish in the LAMP pilot program and Flood Insurance Rate Map Appeal

3. PERIOD OF SERVICE

- a. The CONSULTANT shall complete and produce all tasks assigned by the OWNER within the time frame and task orders established by the LAMP Coordinator.
- b. In the event that delays are experienced beyond the control of the CONSULTANT, the schedule may be revised as mutually agreed upon by the OWNER and the CONSULTANT.
- c. The contract shall expire on June 30, 2018 unless extended by mutual written agreement by both parties.

4. CONSULTANT'S COMPENSATION

- a) The method of payment for this AGREEMENT is <u>HOURLY</u> based on the Not to Exceed amounts for each task order for services listed in EXHIBIT A or a lower negotiated amount. Fees for the Services shall be charged to Client at an hourly rate charge according to the schedule in EXHIBIT A. Client agrees to pay CONSULTANT for all services that CONSULTANT performs. If the not to exceed sum is exceeded, it will be considered outside the scope of services and upon approval by the OWNER will be billed as additional billable at the appropriate rates.
- b) Reimbursable expenses shall be approved prior to expenditure, fully documented and reimbursed at cost. Mileage reimbursement will be billed at the appropriate IRS Standard Mileage Rate.
- c) Such payment to be made to CONSULTANT within thirty (30) days after receipt of CONSULTANT'S invoice by OWNER.

5. SERVICES OF THE OWNER

- a. OWNER shall assist CONSULTANT in carrying out the Scope of Services by placing at his disposal all existing relevant data and records in its possession.
- b. CONSULTANT shall be responsible for searching said data and records provided and shall request specific clarification of the information as needed.
- c. OWNER guarantees CONSULTANT access to all public property as required in order to complete the Scope of Services.
- d. CONSULTANT shall work with other consultants working on the PROJECT under the direction of the OWNER.

6. TERMINATION

- a. This AGREEMENT may be terminated without cause by either party upon ten (10) days written notice.
- b. Immediately after receiving such notice, the CONSULTANT shall discontinue advancing the services under this AGREEMENT.
- c. CONSULTANT shall invoice an ascertainable sum proportionate to the lump sum fee amount described in Section 4. The percentage of services completed shall be based upon the Scope of Services set forth in Section 2B.
- d. In no event shall the fee exceed what is set forth in Section 4E of the AGREEMENT.
- e. OWNER, upon receiving the completed or partially completed deliverables, and after the final fee is mutually agreed upon, shall make payment within thirty (30) days.
- f. In the event that this contract is terminated, OWNER shall have the option of completing the Scope of Services in house or entering into an AGREEMENT with another party to complete the work.

7. COMPLIANCE WITH LAWS AND ORDINANCES

a. The CONSULTANT hereby agrees to comply with all Federal, State, and Local Laws and Ordinances applicable to the Scope of Services under this AGREEMENT.

8. SUCCESSORS AND ASSIGNS

a. This AGREEMENT is not assignable.

9. INSURANCE

- a. The CONSULTANT shall secure and maintain at his expense such General Liability insurance that will protect him and the OWNER, from claims under the Workmen's Compensation Acts and from claims for bodily injury, death or property damage which may arise from performance of services under this AGREEMENT.
- b. Insurance for bodily injury or death shall be in the <u>unencumbered</u> amount of FIVE HUNDRED THOUSAND DOLLARS (\$500,000.00) for one person and not less than ONE MILLION DOLLARS (\$1,000,000.00) for all injuries and/or deaths resulting from any one occurrence.
- c. The insurance for property damage shall be in the <u>unencumbered</u> amount of FIVE HUNDRED THOUSAND DOLLARS (\$500,000.00) for each accident and not less than ONE MILLION DOLLARS (\$1,000,000.00) aggregate.
- d. CONSULTANT shall also secure and maintain at his own expense professional liability insurance in the <u>unencumbered</u> sum of ONE MILLION DOLLARS (\$1,000,000.00).
- e. All certificates of insurance shall be furnished to the OWNER within five (5) days after execution of the AGREEMENT and shall provide that insurance not be cancelled without ten (10) days prior written notice to the OWNER.

- f. St. Charles Parish shall be named as additional insured on general liability insurance policies.
- g. OWNER may examine all insurance policies.
- h. For all purposes under Louisiana law, the principals of this AGREEMENT shall be recognized as the statutory employer of all contract employees as provided in LSA-R.S. 23:1061.

10. OTHER

- a. CONSULTANT shall indemnify and save harmless the OWNER against any and all claims, demands, suits or judgments for sums of money to any party for loss of life or injury or damages to person or property growing out of, resulting from or by reason of any negligent act by the CONSULTANT, its agents, servants or employees, while engaged upon or in connection with the services required or performed hereunder.
- b. This AGREEMENT constitutes the entire agreement between the parties. There are no understandings, agreements, or representations, oral or written, not specified within this AGREEMENT. This AGREEMENT may not be modified, supplemented or amended, in any manner, except by written agreement signed by both parties.

11. EXCLUSIVE JURISDICTION AND VENUE

a. For all claims arising out of or related to this agreement, CONSULTANT hereby consents and yields to the exclusive jurisdiction and venue of the Twenty-Ninth Judicial District Court for the Parish of St. Charles and expressly waives any (a) pleas of jurisdiction based upon CONSULTANT'S residence and (b) right of removal to Federal Court based upon diversity of citizenship.

IN WITNESS WHEREOF, the parties hereto have executed this AGREEMENT the day, month and year first above mentioned,

ATTEST

By: Mr. Larry Cochran Parish President

ST. CHARLES PARISH

ATTEST

Lonnie G. Harper/& Associates

Joselyn M. Brownsond

By: Lornie Harper, President

Contract Evaluation

Levee Analysis and Mapping Procedures, LAMP001

Lonnie G. Harper & Associates

9/18/2017

		· · · · · · · · · · · · · · · · · · ·		
	Task	Budget	% Complete	Balance
Task 1	Flood Threat Assessment	\$237,240.00	100	\$0.00
Task 2	Surge Modeling	\$387,380.00	85	\$58,107.00
Task 3	WHAFIS Modeling	\$107,683.00	40	\$64,609.80
Task 4	Reporting	\$84,968.00	7	\$79,020.24
	Total	\$817,271.00		\$201,737.04
	Invoice #	Amount		
	7499	\$109,859.55		
	7523	\$90,574.65		
	7660	\$210,128.30	,	
	7752	\$204,971.41		
	Total	\$615,533.91		
	Total Budget	\$817,271.00		
	Remaining	\$201,737.09		

Scope of Work For St. Charles Parish BFE and LAMP Modeling Analysis St. Charles Parish, Louisiana

Project Team: Lonnie G. Harper & Associates, Woods Hole Group, Ransom Consulting

	Firm	Staff	Hours .	Rate/hr	Cost			
	LGH	Sr. Principal	4	\$213.40	\$853.60			
	LGH	Sr. Project Coordinator	8	\$187.10	\$1,496.80			
Specify engineering and technical procedures that	LGH	Engineering Intern II	0	\$114.00	\$0.00			
ill be used in the re-mapping effort, including data		Project Mgr	16	\$175.00	\$2,800.00			
s and modeling approach	WHG	Coastal Engr/Modeler IV	16	\$135.00	\$2,160.00			
		Total Anticipated Cost for Task 1.1: \$7,310.40						
	LGH	Sr. Principal	2	\$213.40	\$426.80			
	LGH	Sr. Project Coordinator	12	\$187.10	\$2,245.20			
Analysis access of historic flooding inch discontant	LGH	Engineering Intern II	16	\$114.00	\$1,824.00			
Analyze causes of historic flooding including storm	WHG	Project Mgr	8	\$175.00	\$1,400.00			
ge, backwater, and rainfall	WHG	Coastal Engr/Modeler IV	40	\$135.00	\$5,400.00			
		Total A	Anticipated Co.	st for Task 1.2:	\$11,296.00			
ermination of the DFIRM zones and elevations. e Sub-task Breakdown, Below)								
1.3 Sub-Task Manhour Estimates			Anticipated Co.	st for Task 1.3:	\$218,633.6			
1.3 Sub-Task Manhour Estimates 1.3.1 Collect and review all engineering data	,	sed in developing the DFIRMs.						
	reports u		Anticipated Co.	\$213.40 \$187.10	\$218,633.60 \$0.00 \$374.20			
	LGH	sed in developing the DFIRMs. Sr. Principal	0	\$213.40	\$0.00			
	LGH LGH	sed in developing the DFIRMs. Sr. Principal Sr. Project Coordinator	0 2	\$213.40 \$187.10	\$0.00 \$374.20			
1.3.1 Collect and review all engineering data	LGH LGH LGH	sed in developing the DFIRMs. Sr. Principal Sr. Project Coordinator Engineering Intern II	0 2 2 2	\$213.40 \$187.10 \$114.00	\$0.00 \$374.20 \$228.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report	LGH LGH LGH LGH	sed in developing the DFIRMs. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III	2 2 0	\$213.40 \$187.10 \$114.00 \$0.00	\$0.00 \$374.20 \$228.00 \$0.00			
1.3.1 Collect and review all engineering data 1.3.1 Intermediate Data Submission Report	LGH LGH LGH LGH WHG	sed in developing the DFIRMs. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr	0 2 2 0 8	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report	LGH LGH LGH LGH WHG WHG	sed in developing the DFIRMs. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III	0 2 2 0 8 8 8	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$1,080.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report	LGH LGH LGH WHG WHG WHG	sed in developing the DFIRMs. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal	0 2 2 0 8 8 8 4	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$440.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report	LGH LGH LGH WHG WHG WHG	Sed in developing the DFIRMS. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator	0 2 2 2 0 8 8 8 4 4 1 4 4	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$440.00 \$213.40 \$748.40			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report	LGH LGH LGH WHG WHG WHG LGH LGH LGH LGH	Sed in developing the DFIRMS. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II	0 2 2 2 0 8 8 8 4 4 1 1 4 4 1 1 6	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$114.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$440.00 \$213.40 \$748.40			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report (IDS) I and II	LGH LGH LGH WHG WHG WHG LGH LGH LGH LGH LGH LGH	Sed in developing the DFIRMS. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III	0 2 2 2 0 0 8 8 4 4 1 4 1 6 2 2	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$114.00 \$0.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$1,080.00 \$440.00 \$748.40 \$748.40 \$1,824.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report	LGH LGH LGH WHG WHG WHG LGH LGH LGH LGH LGH LGH LGH LGH	sed in developing the DFIRMs. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr	0 2 2 2 0 0 8 8 8 4 4 16 4 16 2 8 8	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$114.00 \$0.00 \$175.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$1,080.00 \$440.00 \$213.40 \$748.40 \$1,824.00 \$0.00 \$1,400.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report (IDS) I and II	LGH LGH LGH WHG WHG WHG WHG WHG WHG WHG	sed in developing the DFIRMs. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III	0 2 2 2 0 0 8 8 8 4 4 16 2 8 8 32	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$1,080.00 \$440.00 \$213.40 \$748.40 \$1,824.00 \$0.00 \$1,400.00 \$4,320.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report (IDS) I and II	LGH LGH LGH WHG WHG WHG LGH LGH LGH LGH LGH LGH LGH LGH	sed in developing the DFIRMs. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr	0 2 2 2 0 0 8 8 8 4 4 16 4 16 2 8 8	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$114.00 \$0.00 \$175.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$1,080.00 \$440.00 \$748.40 \$748.40 \$1,824.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report (IDS) I and II	LGH LGH LGH WHG WHG WHG LGH LGH LGH LGH LGH LGH WHG WHG	Sed in developing the DFIRMS. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler III Coastal Engr/Modeler III Coastal Engr/Modeler III	0 2 2 0 0 8 8 8 4 4 1 1 4 4 16 2 8 8 32 8	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$1,080.00 \$440.00 \$213.40 \$748.40 \$1,824.00 \$0.00 \$1,400.00 \$4,320.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report (IDS) I and II	LGH LGH LGH WHG WHG WHG WHG WHG WHG LGH LGH LGH LGH WHG WHG	Sed in developing the DFIRMS. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler III Sr. Principal Sr. Principal Sr. Principal	0 2 2 2 0 0 8 8 8 4 4 16 2 8 8 32 8 8 2 2	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$440.00 \$213.40 \$748.40 \$1,824.00 \$0.00 \$4,320.00 \$880.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report (IDS) I and II	LGH LGH WHG WHG WHG WHG WHG LGH LGH LGH LGH WHG WHG WHG WHG	Sed in developing the DFIRMS. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Principal Sr. Project Coordinator	0 2 2 2 0 0 8 8 8 4 4 16 2 8 8 32 8 8 1 2 8 8 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$110.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$1,080.00 \$440.00 \$213.40 \$748.40 \$1,824.00 \$0.00 \$1,400.00 \$4,320.00 \$880.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report (IDS) I and II	LGH LGH WHG WHG WHG WHG LGH LGH LGH LGH LGH LGH LGH LGH LGH L	Sed in developing the DFIRMs. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Engineering Intern II Coastal Engr/Modeler III Sr. Principal Sr. Principal Sr. Principal Sr. Project Coordinator Engineering Intern II	0 2 2 2 0 0 8 8 8 4 4 16 2 8 8 32 8 8 2 8 0 0	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$1,080.00 \$440.00 \$748.40 \$1,824.00 \$1,400.00 \$4,320.00 \$4,320.00 \$4,320.00 \$1,496.80 \$1,496.80 \$0.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report (IDS) I and II	LGH LGH WHG WHG WHG LGH LGH LGH LGH LGH LGH LGH LGH LGH L	Sed in developing the DFIRMs. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III CAD Technician III Project Mgr Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III	0 2 2 2 0 0 8 8 8 4 4 16 2 8 8 32 8 8 1	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$1,080.00 \$440.00 \$748.40 \$1,824.00 \$1,400.00 \$4,320.00 \$480.00 \$1,496.80 \$0.00 \$0.00 \$1,496.80 \$0.00 \$0.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report (IDS) I and II 1.3.1.2 Technical Support Data Notebook	LGH LGH WHG WHG WHG WHG WHG WHG LGH LGH LGH LGH LGH LGH LGH LGH LGH L	Sed in developing the DFIRMs. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III CAD Technician III Project Mgr Coastal Engr/Modeler IV Sr. Principal Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr	0 2 2 2 0 0 8 8 8 4 4 16 2 8 8 32 8 8 1	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$1,080.00 \$440.00 \$213.40 \$748.40 \$1,824.00 \$1,400.00 \$4,320.00 \$4,320.00 \$1,496.80 \$0.00 \$1,496.80 \$0.00 \$1,490.00 \$1,490.00 \$1,490.00			
1.3.1 Collect and review all engineering data 1.3.1.1 Intermediate Data Submission Report (IDS) I and II 1.3.1.2 Technical Support Data Notebook	LGH LGH WHG WHG WHG LGH LGH LGH LGH LGH LGH LGH LGH LGH L	Sed in developing the DFIRMs. Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler III CAD Technician III Project Mgr Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III	0 2 2 2 0 0 8 8 8 4 4 16 2 8 8 32 8 8 1	\$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$114.00 \$0.00 \$175.00 \$135.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00 \$114.00	\$0.00 \$374.20 \$228.00 \$0.00 \$1,400.00 \$1,080.00 \$440.00 \$748.40 \$1,824.00 \$1,400.00 \$4,320.00 \$480.00 \$1,496.80 \$0.00 \$0.00 \$1,496.80 \$0.00 \$0.00			

	LGH	Sr. Principal	1	\$213.40	\$213.40
	LGH	Sr. Project Coordinator	4	\$187.10	\$748.40
	LGH	Engineering Intern II	4	\$114.00	\$456.00
2.1.4 DEIDM Man Panala	LGH	CAD Technician III	8	\$0.00	\$0.00
3.1.4 DFIRM Map Panels	WHG	Project Mgr	1	\$175.00	\$175.00
	WHG	Coastal Engr/Modeler III	4	\$110.00	\$440.00
	WHG	Coastal Engr/Modeler IV	16	\$135.00	\$2,160.00
	LGH	Cr. Dringing!	T 0 T	ć313 40	\$0.00
	LGH	Sr. Principal Sr. Project Coordinator	2	\$213.40 \$187.10	\$374.20
	LGH	Engineering Intern II	0	\$114.00	\$0.00
	LGH	CAD Technician III	1 0	\$0.00	\$0.00
.3.1.5 ADCIRC Computer Files	WHG	Project Mgr	2	\$135.00	\$270.00
	WHG	Coastal Engr/Modeler III	12	\$110.00	\$1,320.00
	WHG	Coastal Engr/Modeler IV	8	\$135.00	\$1,080.00
	1110	Coastal Engly Woulders		7155.00	\$1,000.00
<u> </u>	LGH	Sr. Principal	0	\$213.40	\$0.00
	LGH	Sr. Project Coordinator	2	\$187.10	\$374.20
	LGH	Engineering Intern II	0	\$114.00	\$0.00
	LGH	CAD Technician III	0	\$0.00	\$0.00
.3.1.6 STWAVE Computer Files	WHG	Project Mgr	2	\$175.00	\$350.00
	WHG	Coastal Engr/Modeler III	8	\$110.00	\$880.00
	WHG	Coastal Engr/Modeler IV	4	\$135.00	\$540.00
	L				
	LGH	Sr. Principal	2	\$213.40	\$426.80
	LGH	Sr. Project Coordinator	24	\$187.10	\$4,490.40
	LGH	Engineering Intern II	8	\$114.00	\$912.00
.3.1.7 WHAFIS Computer Files	LGH	CAD Technician III	24	\$0.00	\$0.00
.511.7 Term to 15 compater rives	WHG	Project Mgr	4	\$175.00	\$700.00
	WHG	Coastal Engr/Modeler IV	40	\$135.00	\$5,400.00
	WHG	Coastal Engr/Modeler III	16	\$110.00	\$1,760.00
	l. au				6425.00
	LGH	Sr. Principal	2	\$213.40	\$426.80
	LGH	Sr. Project Coordinator	4	\$187.10	\$748.40
	LGH	Engineering Intern II	4	\$114.00	\$456.00
.3.1.8 FEMA guidelines, manuals, reports	LGH	CAD Technician III	0	\$0.00	\$0.00
	WHG	Project Mgr	4	\$175.00	\$700.00
	WHG WHG	Coastal Engr/Modeler III Coastal Engr/Modeler IV	8	\$110.00 \$135.00	\$880.00 \$1,080.00
	LGH	Sr. Principal	0	\$213.40	\$0.00
	LGH	Sr. Project Coordinator	2	\$187.10	\$374.20
		1	4	\$114.00	\$456.00
	LGH	Engineering Intern II			
3.1.9 Review all existing survey data	LGH	CAD Technician III	8	\$0.00	\$0.00
.3.1.9 Review all existing survey data	LGH WHG	CAD Technician III Project Mgr	8	\$175.00	\$1,400.00
3.1.9 Review all existing survey data	LGH WHG WHG	CAD Technician III Project Mgr Coastal Engr/Modeler III	8 8 16	\$175.00 \$110.00	\$1,400.00 \$1,760.00
.3.1.9 Review all existing survey data	LGH WHG	CAD Technician III Project Mgr	8	\$175.00	\$1,400.00
.3.1.9 Review all existing survey data	LGH WHG WHG	CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV	8 8 16 16	\$175.00 \$110.00	\$1,400.00 \$1,760.00
1.3.2 Collect and review the data used in the	LGH WHG WHG WHG	CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Total Antic	8 8 16 16	\$175.00 \$110.00 \$135.00 For Task 1.3.1:	\$1,400.00 \$1,760.00 \$2,160.00 \$51,703.40
1.3.2 Collect and review the data used in the	LGH WHG WHG WHG	CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Total Antic	8 8 16 16	\$175.00 \$110.00 \$135.00 For Task 1.3.1:	\$1,400.00 \$1,760.00 \$2,160.00 \$51,703.40
1.3.2 Collect and review the data used in the	LGH WHG WHG WHG	CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Total Anticling bathymetry, topography, I	8 8 16 16 16	\$175.00 \$110.00 \$135.00 For Task 1.3.1: and roadway ar	\$1,400.00 \$1,760.00 \$2,160.00 \$51,703.40 ad levee elevation
1.3.1.9 Review all existing survey data 1.3.2 Collect and review the data used in the and locations. 1.3.2.1 Review the DEM used in preparing the	LGH WHG WHG FIS includ	CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Total Antic ling bathymetry, topography, I Staff	8 8 16 16 16	\$175.00 \$110.00 \$135.00 for Task 1.3.1: and roadway ar	\$1,400.00 \$1,760.00 \$2,160.00 \$51,703.40 ad levee elevation
1.3.2 Collect and review the data used in the and locations.	LGH WHG WHG FIS includ	CAD Technician III Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler IV Total Antic ling bathymetry, topography, I Staff Sr. Principal	8 8 8 16 16 15 ipated Cost j	\$175.00 \$110.00 \$135.00 For Task 1.3.1: and roadway ar Rate/hr \$213.40	\$1,400.00 \$1,760.00 \$2,160.00 \$51,703.40 ad levee elevation Cost \$0.00

	LGH	Sr. Principal	4	\$213.40	\$853.60
1 2 2 2 Marifortha annual of the DENA/-t-t	LGH	Sr. Project Coordinator	1.6	\$187.10	\$2,993.60
1.3.2.2 Verify the accuracy of the DEM (statewide benchmarks were unreliable).	LGH	Engineering Intern II	24	\$114.00	\$2,736.00
benchmarks were unreliable).	LGH	CAD Technician III	24	\$89.20	\$2,140.80
	licu	Ca Businest Consultration		640740	£407.40
	LGH	Sr. Project Coordinator	1	\$187.10	\$187.10
1.3.2.3 Verify that the ADCIRC topography	WHG	Project Mgr	2	\$175.00	\$350.00
matches the DEM.	WHG WHG	Coastal Engr/Modeler IV Coastal Engr/Modeler III	8	\$135.00	\$1,080.00
	WING	Coastal Engr/Modeler III	*	\$110.00	\$880.00
	lı cız	Ic. p.:		¢242.40	ć052.60
	LGH	Sr. Principal	4	\$213.40	\$853.60
1.3.2.4 Verify that the WHAFIS topography	LGH	Sr. Project Coordinator	24	\$187.10	\$4,490.40
matches the DEM.	LGH	Engineering Intern II	32	\$114.00	\$3,648.00
	LGH	CAD Technician III	32	\$89.20	\$2,854.40
	LGH	Sr. Project Coordinator	8	\$187.10	\$1,496.80
	LGH	Engineering Intern II	24	\$114.00	\$2,736.00
1.3.2.5 Verify that the WHAFIS topography	LGH	CAD Technician III	12	\$89.20	\$1,070.40
matches the ADCIRC topography.	WHG	Project Mgr	8	\$175.00	\$1,400.00
	WHG	Coastal Engr/Modeler IV	16	\$135.00	\$2,160.00
	WHG	Coastal Engr/Modeler III	16	\$110.00	\$1,760.00
	<u> </u>			l.	
	LGH	Sr. Principal	4	\$213.40	\$853.60
1.3.2.6 Check validity of the bathyetry used in the	LGH	Sr. Project Coordinator	16	\$187.10	\$2,993.60
ADCIRC model (many source data are decades	LGH	Engineering Intern II	8	\$114.00	\$912.00
old).	LGH	CAD Technician III	24	\$89.20	\$2,140.80
old).	LGH	0.12 100.110.11		303.20	+=,= ::::::
old).	LGII			or Task 1.3.2:	\$41,679.90
old). 1.3.3 Review the set-up of the ADCIRC and ST		Total Antic	ipated Cost f		
		Total Antic	ipated Cost f		
	WAVE co	Total Antic omputer models used in the FIS	ipated Cost f	or Task 1.3.2:	\$41,679.90
	WAVE co	Total Antic omputer models used in the FIS Staff Sr. Principal	ipated Cost f	or Task 1.3.2:	\$41,679.90 Cost
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE	WAVE co	Total Antic omputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator	ipated Cost f	Rate/hr \$213.40 \$187.10	\$41,679.96 Cost \$0.00 \$374.20
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade	WAVE co	Total Antic computer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr	ipated Cost f	Rate/hr \$213.40 \$187.10 \$175.00	Cost \$0.00 \$374.20 \$1,400.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE	WAVE co	Total Antic omputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator	ipated Cost f	Rate/hr \$213.40 \$187.10	Cost \$0.00 \$374.20 \$1,400.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids	WAVE co	Total Antic computer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV	Hours 2 8 32	Rate/hr \$213.40 \$187.10 \$175.00 \$135.00	Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids	WAVE co	Total Antic computer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV	Hours 2 8 32	Rate/hr \$213.40 \$187.10 \$175.00 \$135.00	Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions).	WAVE co	Total Antic Imputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III	Hours 2 8 32	Rate/hr \$213.40 \$187.10 \$175.00 \$135.00 \$110.00	\$41,679.90 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are	Firm LGH LGH WHG WHG WHG	Total Antic computer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal	Hours 2 8 32 8	Rate/hr \$213.40 \$187.10 \$175.00 \$135.00 \$110.00	\$41,679.90 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are modeled according to actual dimensions of width	WAVE co	Total Antic Imputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr	Hours 2 8 32 8	Rate/hr \$213.40 \$187.10 \$175.00 \$135.00 \$110.00	\$41,679.90 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00 \$0.00 \$374.20 \$700.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids	WAVE co	Staff Sr. Principal Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Principal Sr. Project Coordinator	Hours 2 8 32 8 2 4	Rate/hr \$213.40 \$187.10 \$175.00 \$135.00 \$110.00	\$41,679.90 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00 \$0.00 \$374.20
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are modeled according to actual dimensions of width	WAVE co	Total Antic Imputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV	Hours	Rate/hr \$213.40 \$187.10 \$175.00 \$110.00 \$213.40 \$187.10 \$110.00	Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00 \$374.20 \$700.00 \$1,080.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are modeled according to actual dimensions of width	WAVE co	Total Antic Imputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler IV Coastal Engr/Modeler IV	Hours	Rate/hr \$213.40 \$187.10 \$175.00 \$110.00 \$213.40 \$187.10 \$110.00	Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00 \$374.20 \$700.00 \$1,080.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are modeled according to actual dimensions of width and depth.	Firm LGH WHG WHG WHG WHG WHG WHG WHG WHG	Total Antic Imputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV	Hours 2 8 32 8 2 4 4 8 16 16	Rate/hr \$213.40 \$187.10 \$175.00 \$135.00 \$110.00 \$135.00 \$110.00 \$135.00 \$135.00 \$110.00 \$135.0	\$41,679.91 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00 \$0.00 \$374.20 \$700.00 \$1,080.00 \$1,760.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are modeled according to actual dimensions of width and depth. 1.3.3.3 Verify that grid resolution is detailed	WAVE co	Total Antic Imputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator	Hours 2 8 32 8 2 4 4 8 16 15	Rate/hr \$213.40 \$187.10 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$175.00 \$135.00 \$110.00	\$41,679.9 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$374.20 \$700.00 \$1,080.00 \$1,760.00 \$0.00 \$1,760.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are modeled according to actual dimensions of width and depth. 1.3.3.3 Verify that grid resolution is detailed enough to accurately model storm surge over	Firm LGH LGH WHG WHG WHG WHG WHG LGH LGH WHG WHG WHG	Total Antic Imputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler III Sr. Principal Sr. Principal Sr. Principal Sr. Project Coordinator Project Mgr	Hours 2 8 32 8 2 4 4 8 16 16	Rate/hr \$213.40 \$187.10 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$175.00 \$110.00	\$41,679.9 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$374.20 \$700.00 \$1,760.00 \$1,760.00 \$1,760.00 \$1,80.00 \$1,760.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are modeled according to actual dimensions of width and depth. 1.3.3.3 Verify that grid resolution is detailed enough to accurately model storm surge over	Firm LGH LGH LGH UHG WHG WHG WHG WHG WHG WHG WHG WHG WHG W	Total Antic Imputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler III Sr. Principal Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III	Hours 2 8 32 8 16 16 1 2 8	Rate/hr \$213.40 \$187.10 \$175.00 \$135.00 \$110.00 \$1213.40 \$187.10 \$175.00 \$135.00 \$110.	\$41,679.90 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00 \$374.20 \$700.00 \$1,080.00 \$1,760.00 \$4,320.00 \$1,760.00 \$1,760.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are modeled according to actual dimensions of width and depth. 1.3.3.3 Verify that grid resolution is detailed enough to accurately model storm surge over	Firm LGH LGH WHG WHG WHG WHG WHG LGH LGH WHG WHG WHG	Total Antic Imputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler III Sr. Principal Sr. Principal Sr. Principal Sr. Project Coordinator Project Mgr	Hours 2 8 32 8 2 4 4 8 16 16	Rate/hr \$213.40 \$187.10 \$175.00 \$135.00 \$110.00 \$213.40 \$187.10 \$175.00 \$110.00	\$41,679.90 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00 \$374.20 \$700.00 \$1,080.00 \$1,760.00 \$4,320.00 \$1,760.00 \$1,760.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are modeled according to actual dimensions of width and depth. 1.3.3.3 Verify that grid resolution is detailed enough to accurately model storm surge over	WAVE co	Total Anticomputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler III Coastal Engr/Modeler III Coastal Engr/Modeler IV Coastal Engr/Modeler IV Coastal Engr/Modeler IV	Hours 2 8 32 8 16 16 1 2 8	Rate/hr \$213.40 \$187.10 \$175.00 \$135.00 \$110.00	\$41,679.91 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00 \$374.20 \$700.00 \$1,080.00 \$1,760.00 \$1,87.10 \$350.00 \$1,080.00 \$1,080.00 \$1,080.00 \$1,080.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are modeled according to actual dimensions of width and depth. 1.3.3.3 Verify that grid resolution is detailed enough to accurately model storm surge over	Firm LGH LGH WHG WHG WHG WHG WHG WHG WHG WHG WHG W	Total Antic Imputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Principal Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler III Sr. Principal	Hours	Rate/hr \$213.40 \$187.10 \$175.00 \$110.0	\$41,679.91 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00 \$374.20 \$700.00 \$1,080.00 \$1,760.00 \$1,080.00 \$1,760.00 \$1,760.00 \$1,760.00 \$1,760.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are modeled according to actual dimensions of width and depth. 1.3.3.3 Verify that grid resolution is detailed enough to accurately model storm surge over small scale topographic features.	Firm LGH WHG WHG WHG WHG WHG WHG WHG WHG WHG W	Total Antic Imputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler III Sr. Principal Sr. Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler III	Hours 2 8 32 8 2 4 8 16 1 2 8 16	Rate/hr \$213.40 \$187.10 \$175.00 \$110.0	\$41,679.90 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00 \$374.20 \$700.00 \$1,080.00 \$1,760.00 \$1,080.00 \$1,760.00 \$1,760.00 \$1,080.00 \$1,760.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are modeled according to actual dimensions of width and depth. 1.3.3.3 Verify that grid resolution is detailed enough to accurately model storm surge over small scale topographic features.	Firm LGH WHG WHG WHG WHG WHG WHG WHG WHG WHG W	Total Antic Imputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Project Mgr Sr. Principal Sr. Principal Sr. Project Coordinator Project Mgr	Hours 2 8 32 8 2 4 8 16 1 2 8 16	Rate/hr \$213.40 \$187.10 \$175.00 \$135.00 \$110.00 \$135.00 \$110.00 \$135.00 \$110.00 \$135.00 \$110.00 \$135.00 \$110.00 \$135.00 \$110.00 \$135.00 \$110.00 \$135.00 \$135.00 \$110.00 \$135.00 \$110.00 \$135.00 \$110.00 \$135.00 \$110.00	\$41,679.96 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00 \$374.20 \$700.00 \$1,760.00 \$1,760.00 \$1,760.00 \$1,760.00 \$350.00 \$1,760.00 \$1,760.00 \$1,760.00
1.3.3 Review the set-up of the ADCIRC and ST 1.3.3.1 Check to see if ADCIRC and STWAVE model topographic grids omitted key manmade and natural levee/ridge structures (do grids properly represent the actual field conditions). 1.3.3.2 Verify that inland water features are modeled according to actual dimensions of width and depth. 1.3.3.3 Verify that grid resolution is detailed enough to accurately model storm surge over small scale topographic features.	Firm LGH WHG WHG WHG WHG WHG WHG WHG WHG WHG W	Total Antic Imputer models used in the FIS Staff Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler III Sr. Principal Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler III Sr. Principal Sr. Project Mgr Coastal Engr/Modeler IV Coastal Engr/Modeler IV Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler III	Hours 2 8 32 8 2 4 8 16 1 2 8 16	Rate/hr \$213.40 \$187.10 \$175.00 \$110.0	\$41,679.91 Cost \$0.00 \$374.20 \$1,400.00 \$4,320.00 \$880.00 \$0.00 \$1,080.00 \$1,760.00 \$1,080.00 \$1,760.00 \$1,080.00 \$1,760.00 \$1,760.00 \$1,760.00

	LGH	Sr. Principal		\$213.40	\$0.00
	LGH	Sr. Project Coordinator	2	\$187.10	\$374.20
1.3.3.5 Verify the accuracy of the ADCIRC model	WHG	Project Mgr	4	\$175.00	\$700.00
predictions for Hurricane Rita and Gustav.	WHG	Coastal Engr/Modeler IV	8	\$135.00	\$1,080.00
	WHG	Coastal Engr/Modeler III	24	\$110.00	\$2,640.00
		Total Antic	ipated Cost J	or Task 1.3.3:	\$22,623.90
1.3.4 Review the joint probability analysis and	d storm ti	racks used in the FIS surge mo	del.		
	Firm	Staff	Hours	Rate/hr	Cost
	LGH	Sr. Principal	2	\$213.40	\$426.80
1 2 4 4 Charlestonia for strong and behilter.	LGH	Sr. Project Coordinator	2	\$187.10	\$374.20
1.3.4.1 Check statistics for storm probabilities used in JPM runs.	WHG	Project Mgr	4	\$175.00	\$700.00
	WHG	Coastal Engr/Modeler IV	8	\$135.00	\$1,080.00
	l			L	
	LGH	Sr. Principal	2	\$213.40	\$426.80
3.4.2 Check JPM storm surge runs for locations	LGH	Sr. Project Coordinator	2	\$187.10	\$374.20
	WHG	Project Mgr	4	\$175.00	\$700.00
and tracks.	WHG	Coastal Engr/Modeler IV	8	\$135.00	\$1,080.00
	L				
	LGH	Sr. Principal	2	\$213.40	\$426.80
	LGH	Sr. Project Coordinator	2	\$187.10	\$374.20
1.3.4.3 Verify 1% SWEL for parish.	WHG	Project Mgr	8	\$175.00	\$1,400.00
L.S.4.3 VEHY 1/0 SWEET OF PARISH.	WHG	Coastal Engr/Modeler IV	16	\$135.00	\$2,160.00
		-			+-/
		Total Antic	ipated Cost I		
1.3.5 Review the set-up of the WHAFIS wave j	forecastir		·	or Task 1.3.4:	\$9,523.00
1.3.5 Review the set-up of the WHAFIS wave j	forecastir		·	or Task 1.3.4:	\$9,523.00
	Firm	ng computer model used in the	e FIS includin	or Task 1.3.4: g the treatmen Rate/hr	\$9,523.00 t of levees and Cost
roadways.	Firm LGH	ng computer model used in the Staff Sr. Principal	Hours 4	or Task 1.3.4: g the treatmen Rate/hr \$213.40	\$9,523.00 t of levees and Cost \$853.60
roadways. 1.3.5.1 Check that the vegetation parameters	Firm	Staff Sr. Principal Sr. Project Coordinator	e FIS includin	Tor Task 1.3.4: g the treatmen Rate/hr \$213.40 \$187.10	\$9,523.00 t of levees and Cost \$853.60 \$4,490.40
roadways.	Firm LGH	ng computer model used in the Staff Sr. Principal	Hours 4	or Task 1.3.4: g the treatmen Rate/hr \$213.40	\$9,523.00 t of levees and Cost \$853.60
roadways. 1.3.5.1 Check that the vegetation parameters	Firm LGH LGH	Staff Sr. Principal Sr. Project Coordinator	Hours 4 24	Tor Task 1.3.4: g the treatmen Rate/hr \$213.40 \$187.10	\$9,523.00 t of levees and Cost \$853.60 \$4,490.40
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and	Firm LGH LGH LGH LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III	Hours 4 24 24 24 24	Rate/hr \$213.40 \$187.10 \$114.00 \$89.20	\$9,523.00 t of levees and Cost \$853.60 \$4,490.40 \$2,736.00 \$2,140.80
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions.	Firm LGH LGH LGH LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator	Hours 4 24 24 24 24 24	Rate/hr \$213.40 \$187.10 \$89.20	\$9,523.00 t of levees and Cost \$853.60 \$4,490.40 \$2,736.00 \$2,140.80
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions. 1.3.5.2 Check WHAFIS transect start point and	Firm LGH LGH LGH LGH LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator Engineering Intern III	Hours 4 24 24 24 24 216	Rate/hr \$213.40 \$187.10 \$89.20 \$187.10 \$114.00	\$9,523.00 t of levees and \$853.60 \$4,490.40 \$2,736.00 \$2,140.80 \$374.20 \$1,824.00
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions.	Firm LGH LGH LGH LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator	Hours 4 24 24 24 24 24	Rate/hr \$213.40 \$187.10 \$89.20	\$9,523.00 t of levees and Cost \$853.60 \$4,490.40 \$2,736.00 \$2,140.80
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions. 1.3.5.2 Check WHAFIS transect start point and	Firm LGH LGH LGH LGH LGH LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III	Hours 4 24 24 24 24 24 4 4 4 4 4	Rate/hr \$213.40 \$187.10 \$114.00 \$89.20	\$9,523.00 t of levees and \$853.60 \$4,490.40 \$2,736.00 \$2,140.80 \$374.20 \$1,824.00 \$356.80
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions. 1.3.5.2 Check WHAFIS transect start point and	Firm LGH LGH LGH LGH LGH LGH LGH LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III	Hours 4 24 24 24 16 4	Rate/hr \$213.40 \$187.10 \$114.00 \$89.20 \$213.40	\$9,523.00 t of levees and \$853.60 \$4,490.40 \$2,736.00 \$2,140.80 \$1,824.00 \$356.80
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions. 1.3.5.2 Check WHAFIS transect start point and initial wave height.	Firm LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Principal Sr. Project Coordinator	Hours 4 24 24 24 24 16 4 4 4 24 24 24 24 24 24 24 24 24 24 24	Rate/hr \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20	\$9,523.00 t of levees and \$853.60 \$4,490.40 \$2,736.00 \$2,140.80 \$374.20 \$1,824.00 \$356.80
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions. 1.3.5.2 Check WHAFIS transect start point and initial wave height. 1.3.5.3 Check WHAFIS transect segments for type	Firm LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Principal Sr. Project Coordinator Engineering Intern II	Hours 4 24 24 24 24 4 4 4 4 4 4 4 4 4 4 4 4 4	Rate/hr \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20	\$9,523.00 t of levees and \$853.60 \$4,490.40 \$2,736.00 \$2,140.80 \$374.20 \$1,824.00 \$356.80 \$4,490.40 \$1,824.00
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions. 1.3.5.2 Check WHAFIS transect start point and initial wave height.	Firm LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Principal Sr. Project Coordinator	Hours 4 24 24 24 24 16 4 4 4 24 24 24 24 24 24 24 24 24 24 24	Rate/hr \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20	\$9,523.00 t of levees and \$853.60 \$4,490.40 \$2,736.00 \$2,140.80 \$1,824.00 \$356.80 \$853.60 \$4,490.40
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions. 1.3.5.2 Check WHAFIS transect start point and initial wave height. 1.3.5.3 Check WHAFIS transect segments for type	Firm LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III	Hours 4 24 24 24 24 4 4 4 4 4 4 4 4 24 16 24	Rate/hr \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20	\$9,523.00 t of levees and Second Se
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions. 1.3.5.2 Check WHAFIS transect start point and initial wave height. 1.3.5.3 Check WHAFIS transect segments for type	Firm LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III	Hours 4 24 24 24 4 16 24 16 24 24 24 24 24 24 24 24 24 24 24 24 24	Rate/hr \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20	\$9,523.00 t of levees and \$853.60 \$4,490.40 \$2,736.00 \$2,140.80 \$374.20 \$1,824.00 \$356.80 \$4,490.40 \$1,824.00 \$2,140.80
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions. 1.3.5.2 Check WHAFIS transect start point and initial wave height. 1.3.5.3 Check WHAFIS transect segments for type	Firm LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Principal Sr. Principal Sr. Principal Sr. Principal	Hours 4 24 24 24 16 4 24 16 24 24 24 28	Rate/hr \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20	\$9,523.00 t of levees and Cost \$853.60 \$4,490.40 \$2,736.00 \$2,140.80 \$374.20 \$1,824.00 \$356.80 \$4,490.40 \$1,824.00 \$2,140.80
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions. 1.3.5.2 Check WHAFIS transect start point and initial wave height. 1.3.5.3 Check WHAFIS transect segments for type	Firm LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III	Hours 4 24 24 24 16 4 24 16 24 24 24 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Rate/hr \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20	\$9,523.00 t of levees and \$853.60 \$4,490.40 \$2,736.00 \$2,140.80 \$1,824.00 \$356.80 \$4,490.40 \$1,824.00 \$2,140.80
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions. 1.3.5.2 Check WHAFIS transect start point and initial wave height. 1.3.5.3 Check WHAFIS transect segments for type and accuracy.	Firm LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Project Coordinator Project Mgr Coastal Engr/Modeler IV	Hours 4 24 24 24 16 4 16 24 24 24 24 24 16 24 24 24 24 24 24 24 24 24 24 24 24 24	Rate/hr \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20	\$9,523.00 t of levees and Cost \$853.60 \$4,490.40 \$2,736.00 \$2,140.80 \$374.20 \$1,824.00 \$356.80 \$4,490.40 \$1,824.00 \$2,140.80 \$42,680 \$4,490.40 \$1,824.00 \$5426.80 \$540.00
1.3.5.1 Check that the vegetation parameters used in the WHAFIS model are correct and represent actual field conditions. 1.3.5.2 Check WHAFIS transect start point and initial wave height. 1.3.5.3 Check WHAFIS transect segments for type and accuracy.	Firm LGH	Staff Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III CAD Technician III Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III	Hours 4 24 24 24 16 4 24 16 24 24 24 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Rate/hr \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20 \$213.40 \$187.10 \$114.00 \$89.20	\$9,523.00 t of levees and \$853.60 \$4,490.40 \$2,736.00 \$2,140.80 \$1,824.00 \$356.80 \$4,490.40 \$1,824.00 \$2,140.80

	Firm	Staff	Hours	Rate/hr	Cost
	LGH	Sr. Principal	4	\$213.40	\$853.60
	LGH	Sr. Project Coordinator	16	\$187.10	\$2,993.60
	LGH	Engineering Intern II	24	\$114.00	\$2,736.00
1.3.6.1 Verify BFE elevations were mapped	LGH	CAD Technician III	32	\$89.20	\$2,854.40
properly.	WHG	Project Mgr	4	\$175.00	\$700.00
	WHG	Coastal Engr/Modeler IV	24	\$135.00	\$3,240.00
	<u> </u>				
	LGH	Sr. Principal	4	\$213.40	\$853.60
	LGH	Sr. Project Coordinator	24	\$187.10	\$4,490.40
1 2 6 2 Verify Flood Hazard Zenes were manned	LGH	Engineering Intern II	30	\$114.00	\$3,420.00
1.3.6.2 Verify Flood Hazard Zones were mapped properly.	LGH	CAD Technician III	24	\$89,20	\$2,140.80
	WHG	Project Mgr	4	\$175.00	\$700.00
	WHG	Coastal Engr/Modeler IV	24	\$135.00	\$3,240.00
		Total Antic	ipated Cost J	or Task 1.3.6:	\$28,222.40
1.3.7 Identify the scientific and technical defi					
	Firm	Staff	Hours	Rate/hr	Cost
	LGH	Sr. Principal	16	\$213.40	\$3,414.40
	LGH	Sr. Project Coordinator	32	\$187.10	\$5,987.20
	LGH	Engineering Intern II	16	\$114.00	\$1,824.00
1.3.7.1 Prepare text, tables and figures to	LGH	CAD Technician III	24	\$89.20	\$2,140.80
illustrate the deficiencies revealed during the	LGH	Administrative/Clerical II	24	\$48.20	\$1,156.80
review.	WHG	Project Mgr	48	\$175.00	\$8,400.00
	WHG	Coastal Engr/Modeler IV	32	\$135.00	\$4,320.00
	WHG	Coastal Engr/Modeler III	32	\$110.00	\$3,520.00
	Ti Gii	C. D. d. d d.	1 0 1	ć212.40	ć1 707 20
	LGH	Sr. Principal	8	\$213.40	\$1,707.20
4 2 7 2 B	LGH	Sr. Project Coordinator	16	\$187.10	\$2,993.60
1.3.7.2 Present results of review to the parish.	LGH LGH	Engineering Intern II Administrative/Clerical II	4 4	\$114.00 \$48.20	\$456.00 \$192.80
		Total Antic	ipated Cost j	or Task 1.3.7:	\$36,112.80
		Total Aı	nticipated Co	ost for Task 1:	\$237,240.0
	Tas	k 2. Surge Modeling			
obtain new environmental data from the parish to sed for remapping BFEs including topography, ymetry, vegetation, cultural features, landscape ures, non-levee barriers, and levees.)	See Attached Summary Woods Ho	for Sub-task r lle Group/Ran		es
		Tabula			d70 c00 c=
	<u> </u>	Total A	Inticipated Co	st for Task 2.1:	\$78,600.00
		See Attached Summary Woods Ho	for Sub-task r le Group/Ran		es
et-up new model grids for existing (2014) and e conditions (2064).					

ncluding Katrina, Rita, Gustav, and Issac.	See Attached Summary for Sub-task manhour estimates Woods Hole Group/Ransom .					
		\$14,840.00				
2.4 Compute new 1% still water elevations (SWELs) for existing and future conditions.		See Attached Summary f Woods Hol	or Sub-task r e Group/Rar		es	
		Total A	nticipated Co	st for Task 2.4:	\$43,900.00	
2.5 Model Calibration and Verification		See Attached Summary f Woods Hol	or Sub-task r e Group/Rar		25 .	
		Total A	nticipated Co	st for Task 2.5:	\$65,900.00	
2.6 Production Simulations and Statistical Model Development			e Group/Rar	isom		
	<u> </u>	Total A	nticipated Co	st for Task 2.6:	\$154,900.00	
		Total An	ticipated C	ost for Task 2:	\$387,380.00	
	Task	3. WHAFIS Modeling			•	
	Firm	Staff	Hours	Rate/hr	Cost	
İ	LGH	Sr. Principal Sr. Project Coordinator	24	\$213.40 \$187.10	\$1,707.20	
8.1 Determine number and location of wave transects	LGH	on moject decidinate.			\$4,490,40	
		Engineering Intern II	32	\$114.00	\$4,490.40 \$3,648.00	
	LGH	Engineering Intern II CAD Technician III	32 40			
eeded and identify topography, bathymetry,			-	\$114.00	\$3,648.00	
needed and identify topography, bathymetry, regetation, cultural features, landscape features, and	LGH	CAD Technician III	40	\$114.00 \$89.20	\$3,648.00 \$3,568.00	
needed and identify topography, bathymetry, egetation, cultural features, landscape features, and	LGH WHG	CAD Technician III Project Mgr Coastal Engr/Modeler IV	40 16 0	\$114.00 \$89.20 \$175.00	\$3,648.00 \$3,568.00 \$2,800.00	
needed and identify topography, bathymetry, regetation, cultural features, landscape features, and	LGH WHG WHG	CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A	40 16 0 nticipated Co	\$114.00 \$89.20 \$175.00 \$135.00 set for Task 3.1:	\$3,648.00 \$3,568.00 \$2,800.00 \$0.00 \$16,213.60	
needed and identify topography, bathymetry, regetation, cultural features, landscape features, and	LGH WHG	CAD Technician III Project Mgr Coastal Engr/Modeler IV	40 16 0	\$114.00 \$89.20 \$175.00 \$135.00	\$3,648.00 \$3,568.00 \$2,800.00 \$0.00	
needed and identify topography, bathymetry, egetation, cultural features, landscape features, and	LGH WHG WHG	CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Project Coordinator Engineering Intern II	40 16 0 nticipated Co	\$114.00 \$89.20 \$175.00 \$135.00 set for Task 3.1:	\$3,648.00 \$3,568.00 \$2,800.00 \$0.00 \$16,213.60 \$3,414.40	
needed and identify topography, bathymetry, egetation, cultural features, landscape features, and ion-levee barriers to be included in the WHAFIS runs.	LGH WHG WHG LGH	CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III	40 16 0 nticipated Co 16 80 200 80	\$114.00 \$89.20 \$175.00 \$135.00 est for Task 3.1: \$213.40 \$187.10 \$114.00 \$89.20	\$3,648.00 \$3,568.00 \$2,800.00 \$0.00 \$16,213.60 \$3,414.40 \$14,968.00 \$22,800.00 \$7,136.00	
eeded and identify topography, bathymetry, egetation, cultural features, landscape features, and on-levee barriers to be included in the WHAFIS runs.	LGH WHG WHG LGH LGH LGH LGH WHG	CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr	40 16 0 nticipated Co 16 80 200 80 24	\$114.00 \$89.20 \$175.00 \$135.00 set for Task 3.1: \$213.40 \$187.10 \$114.00 \$89.20 \$175.00	\$3,648.00 \$3,568.00 \$2,800.00 \$0.00 \$16,213.60 \$3,414.40 \$14,968.00 \$22,800.00 \$7,136.00 \$4,200.00	
eeded and identify topography, bathymetry, egetation, cultural features, landscape features, and on-levee barriers to be included in the WHAFIS runs. 3.2 Set-up and run WHAFIS program for the selected	LGH WHG WHG LGH LGH LGH	CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III	40 16 0 nticipated Co 16 80 200 80	\$114.00 \$89.20 \$175.00 \$135.00 est for Task 3.1: \$213.40 \$187.10 \$114.00 \$89.20	\$3,648.00 \$3,558.00 \$2,800.00 \$0.00 \$16,213.60 \$3,414.40 \$14,968.00 \$22,800.00 \$7,136.00	
eeded and identify topography, bathymetry, egetation, cultural features, landscape features, and on-levee barriers to be included in the WHAFIS runs. 3.2 Set-up and run WHAFIS program for the selected	LGH WHG WHG LGH LGH LGH LGH WHG	CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler IV	40 16 0 nticipated Co 16 80 200 80 24 0	\$114.00 \$89.20 \$175.00 \$135.00 set for Task 3.1: \$213.40 \$187.10 \$114.00 \$89.20 \$175.00	\$3,648.00 \$3,568.00 \$2,800.00 \$0.00 \$16,213.60 \$3,414.40 \$14,968.00 \$22,800.00 \$7,136.00 \$4,200.00	
seeded and identify topography, bathymetry, egetation, cultural features, landscape features, and son-levee barriers to be included in the WHAFIS runs. 3.2 Set-up and run WHAFIS program for the selected	LGH WHG WHG LGH LGH LGH LGH WHG	CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A	40 16 0 nticipated Co 16 80 200 80 24 0	\$114.00 \$89.20 \$175.00 \$135.00 st for Task 3.1: \$213.40 \$187.10 \$114.00 \$89.20 \$175.00 \$135.00	\$3,648.00 \$3,568.00 \$2,800.00 \$0.00 \$16,213.60 \$3,414.40 \$14,968.00 \$22,800.00 \$7,136.00 \$4,200.00 \$0.00	
eeded and identify topography, bathymetry, egetation, cultural features, landscape features, and on-levee barriers to be included in the WHAFIS runs. 3.2 Set-up and run WHAFIS program for the selected	LGH WHG WHG LGH LGH LGH LGH WHG	CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal	40 16 0 nticipated Co 16 80 200 80 24 0	\$114.00 \$89.20 \$175.00 \$135.00 st for Task 3.1: \$213.40 \$187.10 \$114.00 \$89.20 \$175.00 \$135.00	\$3,648.00 \$3,568.00 \$2,800.00 \$0.00 \$16,213.60 \$3,414.40 \$14,968.00 \$22,800.00 \$7,136.00 \$4,200.00 \$0.00	
needed and identify topography, bathymetry, regetation, cultural features, landscape features, and non-levee barriers to be included in the WHAFIS runs. 3.2 Set-up and run WHAFIS program for the selected transects.	LGH WHG WHG LGH LGH LGH WHG WHG	CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A	40 16 0 nticipated Co 16 80 200 24 0	\$114.00 \$89.20 \$175.00 \$135.00 est for Task 3.1: \$213.40 \$187.10 \$114.00 \$89.20 \$175.00 \$135.00 est for Task 3.2: \$213.40 \$187.10 \$114.00	\$3,648.00 \$3,568.00 \$2,800.00 \$0.00 \$16,213.60 \$3,414.40 \$14,968.00 \$22,800.00 \$7,136.00 \$4,200.00 \$0.00 \$1,707.20 \$7,484.00 \$9,120.00	
eeded and identify topography, bathymetry, egetation, cultural features, landscape features, and on-levee barriers to be included in the WHAFIS runs. 3.2 Set-up and run WHAFIS program for the selected transects. 3.3 Determine new Base Flood Elevations (BFEs) and	LGH WHG WHG WHG LGH LGH LGH WHG WHG LGH LGH LGH LGH LGH LGH LGH LGH LGH	CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III	40 16 0 nticipated Co 80 200 80 24 0 nticipated Co 88 40 80 200	\$114.00 \$89.20 \$175.00 \$135.00 st for Task 3.1: \$213.40 \$187.10 \$114.00 \$89.20 \$175.00 \$135.00 st for Task 3.2: \$213.40 \$187.10 \$14.00 \$14.00 \$14.00 \$14.00 \$14.00 \$14.00 \$14.00 \$14.00 \$14.00 \$14.00 \$14.00 \$14.00 \$14.00 \$14.00 \$14.00	\$3,648.00 \$3,568.00 \$2,800.00 \$0.00 \$16,213.60 \$3,414.40 \$14,968.00 \$22,800.00 \$7,136.00 \$4,200.00 \$0.00 \$1,707.20 \$7,484.00 \$9,120.00 \$17,840.00	
seeded and identify topography, bathymetry, regetation, cultural features, landscape features, and con-levee barriers to be included in the WHAFIS runs. 3.2 Set-up and run WHAFIS program for the selected transects. 3.3 Determine new Base Flood Elevations (BFEs) and	LGH WHG WHG WHG LGH LGH LGH WHG WHG LGH LGH LGH LGH LGH LGH LGH LGH LGH	CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III	40 16 0 16 80 200 80 24 0 inticipated Co	\$114.00 \$89.20 \$175.00 \$135.00 \$213.40 \$187.10 \$114.00 \$89.20 \$175.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00	\$3,648.00 \$3,568.00 \$2,800.00 \$0.00 \$16,213.60 \$3,414.40 \$14,968.00 \$22,800.00 \$7,136.00 \$4,200.00 \$0.00 \$1,707.20 \$7,484.00 \$9,120.00 \$17,840.00 \$2,800.00	
seeded and identify topography, bathymetry, segetation, cultural features, landscape features, and son-levee barriers to be included in the WHAFIS runs. 3.2 Set-up and run WHAFIS program for the selected transects. 3.3 Determine new Base Flood Elevations (BFEs) and Special Flood Hazard Areas (SFHAs) for the west bank	LGH WHG WHG WHG LGH LGH LGH WHG WHG LGH LGH LGH LGH LGH LGH LGH LGH LGH	CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler IV	40 16 0 nticipated Co 80 200 80 24 0 nticipated Co 88 40 80 200 16 0	\$114.00 \$89.20 \$175.00 \$135.00 st for Task 3.1: \$213.40 \$187.10 \$114.00 \$89.20 \$175.00 \$135.00 st for Task 3.2: \$213.40 \$187.10 \$114.00 \$89.20 \$175.00 \$135.00	\$3,648.00 \$3,568.00 \$2,800.00 \$0.00 \$16,213.60 \$3,414.40 \$14,968.00 \$22,800.00 \$7,136.00 \$4,200.00 \$0.00 \$1,707.20 \$7,484.00 \$9,120.00 \$17,840.00 \$2,800.00	
needed and identify topography, bathymetry, regetation, cultural features, landscape features, and non-levee barriers to be included in the WHAFIS runs. 3.2 Set-up and run WHAFIS program for the selected transects. 3.3 Determine new Base Flood Elevations (BFEs) and Special Flood Hazard Areas (SFHAs) for the west bank	LGH WHG WHG WHG LGH LGH LGH WHG WHG LGH LGH LGH LGH LGH LGH LGH LGH LGH	CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler IV Total A Sr. Principal Sr. Principal Sr. Project Coordinator Engineering Intern II CAD Technician III Project Mgr Coastal Engr/Modeler IV	40 16 0 nticipated Co 80 200 80 24 0 nticipated Co 88 40 80 200 16 0	\$114.00 \$89.20 \$175.00 \$135.00 \$213.40 \$187.10 \$114.00 \$89.20 \$175.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00 \$135.00	\$3,648.00 \$3,568.00 \$2,800.00 \$0.00 \$16,213.60 \$3,414.40 \$14,968.00 \$22,800.00 \$7,136.00 \$4,200.00 \$0.00 \$1,707.20 \$7,484.00 \$9,120.00 \$17,840.00 \$2,800.00	

D	LGH	Sr. Principal	20	\$213.40	\$4,268.00
	LGH	Sr. Project Coordinator	120	\$187.10	\$22,452.00
Prepare final report describing results of modeling and re-mapping work containing the	LGH	Engineering Intern II	120	\$114.00	\$13,680.00
new BFE and Special Flood Hazard Areas maps,	LGH	CAD Technician III	40	\$89.20	\$3,568.00
land compare the results with the preliminary	LGH	Administrative/Clerical II	80	\$175.00	\$14,000.00
DFIRMs.	WHG	Project Mgr	80	\$135.00	\$10,800.00
DEIRIVIS.	WHG	Coastal Engr/Modeler IV	120	\$135.00	\$16,200.00

Woods Hole G	Group/Ransom	Modeler	Project Ma	nager		
task 2.1	2.1.1 obtain storm set	4	2	\$790.00	\$790.00	
	2.1.2 validate stats	32	8	\$4,920.00	\$4,920.00	
	2.1.3 eval uncertainty	8	4	\$1,580.00	\$1,580.00	
	2.1.4 future climate set	2	1	\$395.00	\$395.00	
	2.1.5 obtain hindcast met	2	4	\$920.00	\$920.00	
task 2.1 total		48	19	\$8,605.00	\$8,605.00	\$78,605.00
task2.2	2.2.1 obtain review topobathy	16	8	\$3,160.00	\$3,160.00	
	2.2.2 identify topobathy gaps	12	4	\$2,020.00	\$2,020.00	
	2.2.3 draw topo polylines	20	4	\$2,900.00	\$2,900.00	
	2.2.4 draw bathy polylines	20	4	\$2,900.00	\$2,900.00	····
	2.2.5 prep DEMs	40	16	\$7,200.00	\$7,200.00	
	2.2.6 control structures	16	8	\$3,160.00	\$3,160.00	
	2.2.7 modify 4 future	40	20	\$7,900.00	\$7,900.00	
task 2.2 total	2.2.7 modify 4 rutare	164	64	\$29,240.00	\$29,240.00	\$29,240.00
task 2.3	2.3.1 obtain veg data	16	8	\$3,160.00	\$3,160.00	723,240.00
task 2.5	2.3.2 identify veg gaps	12	4	\$2,020.00	\$2,020.00	
	2.3.3 prep grids	32	8	\$4,920.00	\$4,920.00	
	2.3.4 mod 4 future	24		\$4,740.00	\$4,740.00	
	2.3.4 mod 4 future		32			Ć14 940 0C
task 2.3 total	2 4 4 develop Consecution	84		\$14,840.00	\$14,840.00	\$14,840.00
task 2.4	2.4.1 develop Coarse Grid	40	20	\$7,900.00	\$7,900.00	
	2.4.2 develop Fine Grid	140	60	\$25,900.00	\$25,900.00	· · · · · · · · · · · · · · · · · · ·
	2.4.3 modify 4 future	60	20	\$10,100.00	\$10,100.00	442.000.00
task 2.4 total		240	100	\$43,900.00	\$43,900.00	\$43,900.00
task 2.5	2.5.1 Obtain/review WL obs.	12	2	\$1,670.00	\$1,670.00	
	2.5.2 obtain/review wave obs.	12	2	\$1,670.00	\$1,670.00	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2.5.3 Coarse sensitivity/stability	20		\$3,950.00	\$3,950.00	
	2.5.4 Validate Coarse	20		\$2,900.00	\$2,900.00	
	2.5.5 Fine sensitivity/stability	100	40	\$18,000.00	\$18,000.00	
	2.5.6 calibrate Fine	100	<u> </u>	\$18,000.00	\$18,000.00	
	2.5.7 verify Fine	24	<del></del>	\$4,040.00	\$4,040.00	
	2.5.8 Fine parametric error	24		\$4,040.00	\$4,040.00	
task 2.5 total		312	114	\$54,270.00	\$54,270.00	\$65,902.50
task 2.6	2.6.1.1 Coarse initial screen	4	<del>\</del>	\$2,540.00	\$2,540.00	
	2.6.1.2 sims	24			\$5,440.00	
	2.6.1.3 check	20	8	\$3,600.00	\$3,600.00	
	2.6.1.4 Coarse CDF	4	4	\$1,140.00	\$1,140.00	
	2.6.1.5-6 select & verify	24	16	\$5,440.00	\$5,440.00	
	2.6.2.1 50 sims	40	20	\$7,900.00	\$7,900.00	
	2.6.2.2 rsm	20	80	\$16,200.00	\$16,200.00	
	2.6.2.3 1st eval	32	16	\$6,320.00	\$6,320.00	
	2.6.2.4 50 more sims re-eval	50	80		\$19,500.00	
	2.6.2.5 full response	8	<del> </del>	i	\$3,680.00	
	2.6.2.6 Fine CDF	24			\$5,440.00	
	2.6.3 Future	120			\$23,700.00	
task 2.6 total		370	<del></del>		\$100,900.00	\$154,900.00

.

.