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September 2, 2022

Eric Charest
Coastal Division
Indian River County Public Works
1801 27th Street
Vero Beach, FL 32960

**Subject: Indian River County, FL
Work Order 2018008-04
Sebastian Inlet Technical Advisory Committee Numerical Modeling Analysis**

Dear Eric:

This proposal outlines a scope of work for Aptim Environmental & Infrastructure, LLC (APTIM) to provide numerical modeling assistance to the County for the final Technical Advisory Committee (TAC) meeting for the Sebastian Inlet.

Scope of Work

In order to better understand shoreline performance for historic and proposed bypassing amounts at Sebastian Inlet, APTIM will perform numerical modeling to analyze coastal processes in the vicinity of the inlet and propose beach management strategies to the TAC. APTIM will develop a numerical model for Indian River County that can model the complex interactions between offshore bathymetry, waves, tides, winds, currents, sediment transport, erosion, and deposition.

The modeling effort will make best use of existing bathymetry and topography, LiDAR data, water levels, waves, winds and sediment data to simulate the physical processes that influence Indian River County and its surrounding areas. Beach profile data from of the annual monitoring surveys of Indian River County will be used for the beach portions of the study area.

APTIM will model four (4) fill scenarios to evaluate the potential effects of various bypassing scenarios along the adjacent beaches. The model scenarios will be evaluated for short term (one year) and long term (five years) simulation periods. Each modeled alternative will be compared to a baseline condition in order to draw conclusions on the expected result of implementing each scenario. The model results will be reviewed and presented to the TAC.

Deliverable

A memorandum overviewing the results of numerical modeling analysis will be provided to the County for presentation to the TAC.

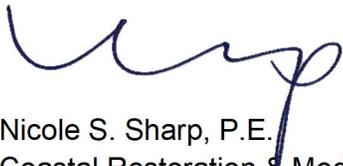
Schedule & Assumptions

APTIM will proceed with the task described herein upon receipt of a signed Work Order from Indian River County. It is estimated that the modeling efforts will require 2 months from receipt of the signed work order.

The total lump sum cost to perform the work described herein is \$41,940.00. The scope and fee were developed following the provisions of the Continuing Services Contract Agreement for Continuing Engineering Services 2018008 (dated April 17, 2018 and amended May 18, 2021) between Indian River County and APTIM.

Thank you for the opportunity to serve Indian River County. Please do not hesitate to call if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'N. Sharp'.

Nicole S. Sharp, P.E.
Coastal Restoration & Modeling Program Manager
Aptim Environmental & Infrastructure, LLC

EXHIBIT A

REV20.1



**Work Order 2018008-04
Numerical Modeling Analysis
Indian River County, FL**

Summary of Cost by Task

Task Number	Task Name	Labor	Sub-contractors	Mobilization/Travel	Totals
Task 1	Technical Advisory Meetings	\$ 41,940.00	\$ -		\$ 41,940.00
Totals =		\$ 41,940.00	\$ -	\$ -	\$ 41,940.00

Submitted By: Nicole Sharp
Submitted To: Indian River County, FL
Submission Date: 9/2/2022



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Summary of Labor Hours and Cost

Labor Title	Labor Bill Rate	Technical Advisory Meetings	
		Task 1	
		Labor Hours	Cost
Principal Engineer	\$ 295.00		\$ -
Program Manager	\$ 215.00	4	\$ 860.00
Sr Coastal Engineer/Proj Mngr	\$ 195.00		\$ -
Coastal Engineer III	\$ 165.00		\$ -
Coastal Engineer II	\$ 130.00	158	\$ 20,540.00
Coastal Engineer I	\$ 105.00		\$ -
Coastal Modeler II	\$ 130.00	158	\$ 20,540.00
Senior CAD Operator	\$ 185.00		\$ -
CAD Operator	\$ 110.00		\$ -
GIS Operator	\$ 120.00		\$ -
Clerical	\$ 90.00		\$ -
Technician	\$ 70.00		\$ -
Mobilization/Travel			
Sub-Contractors	-	-	\$ -
TOTAL	-	320	\$ 41,940.00

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