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August 9, 2023

Mr. Eric Charest
Indian River County
Public Works - Coastal Division
1801 27th St, Building A
Vero Beach, FL 32960

**Subject: Indian River County, FL
Sector 3 – 2018006 – Work Order #16
Year 1 Physical Monitoring Report**

Dear Eric:

This proposal outlines a scope of work for Aptim Environmental & Infrastructure, LLC (APTIM), to provide professional services to Indian River County (the County) in support of the Sector 3 Beach and Dune Restoration Project. The scope of work described herein is to support the County for Year 1 physical monitoring reporting, as required by permit.

The tasks to perform this work are listed below and described on the following pages. A breakdown of the hours and expenses to develop the cost is attached. The scope and fee proposal were developed following the provisions of the Professional Services Agreement between Indian River County and APTIM, dated January 9, 2018, to provide engineering and biological support services in support of the Sector 3 (Wabasso Beach) Beach and Dune Restoration Project (RFQ#2018006).

Year 1 Physical Monitoring Report

Volumetric and contour changes at the Sector 3 Beach will be calculated using surveys that were collected at the FDEP R-monuments by the County's surveyor, Morgan & Eklund. APTIM will review the data to ensure that it conforms to the standards required by the FDEP physical monitoring plan. APTIM will notify the County of any issues with the survey data and will coordinate through the County or directly with the surveyors to resolve any issues.

APTIM will develop an engineering report that discusses the performance of the beach fill project. Beach contour changes will be evaluated to document changes at the shoreline and the dune. Volumetric changes will be quantified above MHW (+0.6 ft NAVD) and above the depth of closure. All computations and distinguished erosion and accretion patterns/trends will be summarized with tables and graphical representations in addition to plots of the survey profiles.

In accordance with the JCP requirements, the report will specifically include the following:

1. A record of the volume and location of all beach fill material placed within the project area
2. The volume and percentage of advance nourishment lost since the last beach nourishment project as measured landward of the MHW line of the most recent survey

3. The most recent MHW shoreline positions (feet) in comparison to the design profile at each individual monument location
4. The MHW shoreline position changes (feet) relative to the pre-construction survey at each individual monument location for all the monitoring periods
5. The total measured remaining volume (cubic yards) in comparison with the total predicted remaining volume (cubic yards) above the MHW line and above the Depth of Closure for the entire project area over the successive monitoring periods
6. Any other shoreline position and/or volumetric analysis the Engineer deem useful in assessing, with quantitative measurements, the performance of the project.

Deliverable

A Year 1 post-construction monitoring assessment will be provided in report format for the Sector 3 project area. The report will summarize and discuss background information regarding the project, survey datasets utilized, beach contour and volumetric changes, and overall project performance. The report appendices will include the raw survey data and superimposed plots of the two most recent beach profiles, the design template, and pre- and post-construction profiles.

Schedule

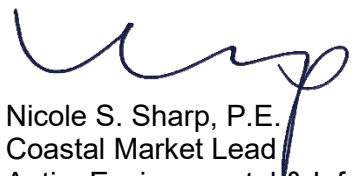
APTIM will provide the deliverable within 90 calendar days of receipt of the Sector 3 Beach and Dune Restoration Project survey data. It is assumed that the survey data provided by the County has been processed and is considered final.

Cost

The total lump sum cost to perform the proposed work described herein for – Work Order #16 is \$27,818.00. Please refer to Exhibit 2, attached to the end of this proposal, for a summary of the costs and labor hours of each Task. APTIM will proceed with the tasks upon receipt of a signed work order from Indian River County (unless stated otherwise in the schedule). It is noted that some aspects of this Work Order are dependent upon Contractor performance and are outside the control of APTIM and the County. As such, the scope, schedule and cost described herein is provided as an estimate. APTIM will strive to execute each phase of the work within budget and in as expeditious a manner according to construction progress. We will coordinate with the County in the event that the scope, schedule, or budget arise due to unforeseen issues or circumstances.

Thank you for the opportunity to serve Indian River County. We look forward to continuing to provide expert professional services to the County. Please do not hesitate to call if you have any questions.

Sincerely,



Nicole S. Sharp, P.E.
Coastal Market Lead
Aptim Environmental & Infrastructure, LLC

Client Authorized Signature

Printed Name

Title

EXHIBIT 2

**Indian River County, FL
Sector 3 - 2018006 - Work Order #16
Year 1 Physical Monitoring Report**

Summary of Cost by Task

Task Number	Task Name	Labor	Subcontractors	Equipment	Materials	Other ODCs	Mobilization/ Demob	Totals
Task 1	Physical Monitoring Report	\$ 27,818.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,818.00
Totals =		\$ 27,818.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,818.00

Submitted By: Nicole Sharp
Submitted To: Indian River County, FL
Submission Date: 08/01/23

Summary of Labor Hours and Cost

Labor Title	Labor Bill Rate	Year 1 Physical Monitoring Report			
		Task 1		Totals	
		Labor Hours	Cost	Labor Hours	Cost
Principal Engineer/Sr Proj Mngr	\$ 250.00		\$ -	-	\$ -
Expert Witness (Testimony)	\$ 300.00		\$ -	-	\$ -
Program Manager	\$ 190.00	36	\$ 6,840.00	36	\$ 6,840.00
Sr Coastal Engineer/Proj Mngr	\$ 165.00		\$ -	-	\$ -
Coastal Engineer III	\$ 150.00	8	\$ 1,200.00	8	\$ 1,200.00
Coastal Engineer II	\$ 125.00	90	\$ 11,250.00	90	\$ 11,250.00
Coastal Engineer I	\$ 105.00		\$ -	-	\$ -
Coastal Modeler II	\$ 130.00		\$ -	-	\$ -
Coastal Modeler I	\$ 110.00		\$ -	-	\$ -
Professional Surveyor & Mapper	\$ 145.00	4	\$ 580.00	4	\$ 580.00
Hydrographer	\$ 135.00		\$ -	-	\$ -
Surveyor	\$ 95.00		\$ -	-	\$ -
Survey Technician	\$ 80.00		\$ -	-	\$ -
Senior Marine Biologist	\$ 135.00	8	\$ 1,080.00	8	\$ 1,080.00
Marine Biologist II	\$ 95.00		\$ -	-	\$ -
Marine Biologist I	\$ 72.00		\$ -	-	\$ -
Professional Geologist	\$ 150.00		\$ -	-	\$ -
Geologist III	\$ 130.00		\$ -	-	\$ -
Geologist II	\$ 95.00		\$ -	-	\$ -
Geologist I	\$ 80.00		\$ -	-	\$ -
Senior CAD Operator	\$ 140.00		\$ -	-	\$ -
CAD Operator	\$ 105.00	40	\$ 4,200.00	40	\$ 4,200.00
GIS Operator	\$ 105.00	20	\$ 2,100.00	20	\$ 2,100.00
Boat Captain	\$ 80.00		\$ -	-	\$ -
Bookkeeper	\$ 80.00		\$ -	-	\$ -
Clerical	\$ 71.00	8	\$ 568.00	8	\$ 568.00
Technician	\$ 60.00		\$ -	-	\$ -
Subcontractors	-	-	\$ -	-	\$ -
Equipment	-	-	\$ -	-	\$ -
Materials	-	-	\$ -	-	\$ -
Other ODCs	-	-	\$ -	-	\$ -
Mobilization/Demob	-	-	\$ -	-	\$ -
TOTAL	-	214	\$ 27,818.00	214	\$ 27,818.00

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