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September 22, 2021

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

**Subject: Indian River County, FL  
Sector 5 – 2018029 – Work Order #9  
Year 1 Post-Construction Engineering Monitoring Report**

Dear Eric:

This proposal outlines a scope of work for Aptim Environmental & Infrastructure, LLC (APTIM) to provide a Year 1 post-construction monitoring report for the Sector 5 Beach and Dune Restoration Project (R-70 to R-86) in Indian River County, which was completed in February 2020. This proposal was prepared to fulfill the stipulations of the Joint Coastal Permit (JCP) No. 0363427-001-JC and modification 0363427-002-JN dated September 9, 2019 for the Sector 5 Beach and Dune Restoration Project. The scope and fee were developed following the provisions of the Professional Services Agreement between Indian River County and APTIM, dated April 3, 2018, to provide engineering and biological support services in support of the Sector 5 Beach and Dune Restoration Project (RFQ#2018029).

#### Scope of Work

Volumetric and contour changes at the Sector 5 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 County's routine Spring/Summer 2021 beach profile survey 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.

#### Deliverable

A Year 1 post-construction monitoring assessment will be provided in report format for the Sector 5 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.

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.

#### Schedule & Assumptions

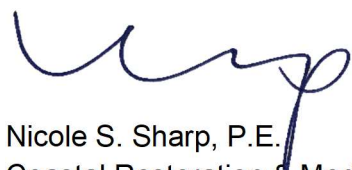
APTIM will provide the deliverable within 90 calendar days of receipt of the Sector 5 Beach and Dune Restoration Project survey data. It is assumed that the survey data provided by the County has been processed and is considered final.

#### Cost

The cost to complete this task is a fixed price of \$28,068. The scope and fee were developed following the provisions of the Professional Services Agreement between Indian River County and APTIM, dated April 3, 2018, to provide engineering and biological support services in support of the Sector 5 Beach and Dune Restoration Project (RFQ#2018029).

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 'Nicole S. Sharp'.

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

**EXHIBIT A**

REV 20.1



**Sector 5 - 2018029 - Work Order #9  
Year 1 Post-Construction Engineering Monitoring Report  
Indian River County, FL**

**Summary of Cost by Task**

Task Number	Task Name	Labor	Sub-contractors	Mobilization/Travel	Totals
Task 1	Year 1 Post-Construction Engineering Report	\$ 28,068.00	\$ -	\$ -	\$ 28,068.00
<b>Totals =</b>		<b>\$ 28,068.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 28,068.00</b>

Submitted By: Nicole Sharp  
Submitted To: Indian River County, FL



2020 - REV 20.1

**Sector 5 - 2018029 - Work Order #9  
Year 1 Post-Construction Engineering Monitoring Report  
Indian River County, FL**

**Summary of Labor Hours and Cost**

Labor Title	Labor Bill Rate	Design, Plans, and Specifications		Totals	
		Task 1		Labor Hours	Cost
		Labor Hours	Cost		
Principal Engineer/Sr Proj Mngr	\$ 250.00		\$ -	-	\$ -
Program Manager	\$ 190.00	32	\$ 6,080.00	32	\$ 6,080.00
Sr Coastal Engineer/Proj Mngr	\$ 165.00		\$ -	-	\$ -
Coastal Engineer III	\$ 150.00		\$ -	-	\$ -
Coastal Engineer II	\$ 125.00	20	\$ 2,500.00	20	\$ 2,500.00
Coastal Engineer I	\$ 105.00	92	\$ 9,660.00	92	\$ 9,660.00
Coastal Modeler II	\$ 130.00		\$ -	-	\$ -
Geologist II	\$ 95.00		\$ -	-	\$ -
Geologist I	\$ 80.00		\$ -	-	\$ -
Marine Biologist II	\$ 110.00	8	\$ 880.00	8	\$ 880.00
Professional Surveyor & Mapper	\$ 160.00	6	\$ 960.00	6	\$ 960.00
Senior CAD Operator	\$ 140.00	8	\$ 1,120.00	8	\$ 1,120.00
CAD Operator	\$ 105.00	40	\$ 4,200.00	40	\$ 4,200.00
GIS Operator	\$ 105.00	20	\$ 2,100.00	20	\$ 2,100.00
Bookkeeper	\$ 80.00		\$ -	-	\$ -
Clerical	\$ 71.00	8	\$ 568.00	8	\$ 568.00
Technician	\$ 60.00		\$ -	-	\$ -
Mobilization/Travel			\$ -	-	\$ -
Sub-Contractors			\$ -	-	\$ -
<b>TOTAL</b>		<b>234</b>	<b>\$ 28,068.00</b>	<b>234</b>	<b>\$ 28,068.00</b>

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