



Aptim Environmental & Infrastructure, LLC
2481 NW Boca Raton Blvd.
Boca Raton, FL 33431
Tel: +1 561 391 8102
Fax: +1 561 391 9116
www.aptim.com

Exhibit 1

March 24, 2020

Exhibit 1

James Ennis
Assistant Public Works Director
Indian River County Public Works
1801 27th Street
Vero Beach, FL 32960

**Subject: Indian River County, FL
Sector 3 – 2018006 – Work Order #4 – Amendment 1
Pre-Construction Biological Monitoring**

Dear James:

This proposal outlines an amended scope of work for Aptim Environmental & Infrastructure, LLC (APTIM) to provide professional services to Indian River County (the County) in support of pre-construction biological monitoring efforts required for the Indian River County Sector 3 Beach and Dune Renourishment Project. The Biological Monitoring Plan developed for the Sector 3 project during permitting will require pre- and post-construction biological monitoring adjacent to the project area to monitor for potential secondary impacts to nearshore natural hardbottom. This task addresses the scope of work to complete the pre-construction biological monitoring, and is based on early coordination with the Florida Department of Environmental Protection (FDEP) and the FDEP Standard Operating Procedures (SOP) for Nearshore Monitoring of Beach Nourishment Projects (FDEP, 2016). The pre-construction biological monitoring proposed herein includes hardbottom edge mapping and establishment and monitoring of permanent crossshore transects. If additional or expanded tasks are identified by the regulatory agencies during the permitting process, APTIM will notify the County, and a mutually agreeable change order or additional Work Order will be executed.

This amendment to the scope of work has resulted from the Requests for Additional Information (RAI) and permitting process during which the Biological Monitoring Plan was revised to include the installation and monitoring of thirty-eight (38) permanent transects. The costs to install eight (8) additional transects is provided herein.

The costs associated with this work order 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 for the Sector 3 (Wabasso Beach) Beach and Dune Renourishment Project (RFQ#2018006).

Scope of Work

- Installing and Monitoring Permanent Transects:

Eight (8) additional (Thirty-eight (38) in total) permanent transects will be established along the length of project influence, which includes 1000 feet north (updrift) and 3000 feet south (downdrift). This includes twenty-four (24) biological monitoring transects and fourteen (14) sediment-only transects located in areas where the ETOF comes closest to the hardbottom. All transects will run perpendicular to the shoreline and extend from the landward

Exhibit 1

hardbottom edge to a distance of 50 meters seaward. Stainless steel rods will be used to permanently mark the transects to facilitate repeatability for post-construction monitoring.

Following transect establishment, a biological survey will be conducted to document the pre-construction condition of the hardbottom using the following methods:

- Quadrat Assessments: Up to nine (9) 0.5-m² quadrats sampled along each transect to quantify the benthic community.
- Sediment Measurements: Collected using line-intercept and 1-m interval sediment depth measurements.
- Video/Photo Documentation: Collected for the length of each transect.

It is anticipated that an additional three (3) days (up to 20 days total) of field operations is required to delineate the hardbottom edge, install permanent transects and monitor the transects. The collected pre-construction data will be compiled and incorporated into an interactive GIS database and the quadrat data will be entered into an Access database. Data entry, reduction, archiving, and analysis time is included in the cost estimate to address the data management and reporting requirements for the field operations.

Deliverable

Raw data will be provided to FDEP and the County including a PDF of the scanned datasheets, excel spreadsheets with quadrat data, interval sediment depth measurements and line-intercept data, shapefiles of the hardbottom edge survey, video/photo documentation. Additionally, APTIM will provide a map of the project area and adjacent hardbottom resources with the hardbottom edge delineation and monitoring transects overlaid onto the most recent aerial photography (in digital format). A report is not proposed for the pre-construction monitoring survey. APTIM will also provide information or assistance to County staff, as needed or requested.

Schedule

The pre-construction monitoring event will take place, upon receipt of a written notice to proceed, during the summer (May – September) prior to project construction. Raw data from field operations will be submitted to the County and FDEP within 45 days of completion of the survey.

Cost

The lump sum cost for this amendment is \$26,840.30.

Summary

The total lump sum cost to perform the proposed work described herein for Sector 3 – 2018006 – Work Order #4 is \$26,840.30. The following page includes a summary of the costs and labor hours of each Task. Thank you for the opportunity to serve Indian River County. As always, please do not hesitate to call if you have any questions.

Sincerely,



Christopher Paul, P.E.
Project Manager | Coastal Engineer
Aptim Environmental & Infrastructure, LLC.

cc: Quintin Bergman, IRC
Eric Charest, IRC
Stacy Buck, CPE



Authorized Corporate Signature

Beau C. Suthard, P.G.
Printed Name

Program Director
Title



**Indian River County, FL
Sector 3 - 2018006 - Work Order #4 - Amendment 1
Pre-Construction Biological Monitoring**

Summary of Cost by Task

Task Number	Task Name	Labor	Subcontractors	Equipment	Materials	Mobilization/ Travel	Totals
Task 1	Sector 3 Pre-Construction Biological Monitoring	\$ 14,660.00	\$ 5,493.00	\$ 4,020.30	\$ 1,035.00	\$ 1,632.00	\$ 26,840.30
Task 2		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Task 3		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Task 4		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Task 5		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Task 6		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Task 7		\$ -	\$ -		\$ -	\$ -	\$ -
Totals =		\$ 14,660.00	\$ 5,493.00	\$ 4,020.30	\$ 1,035.00	\$ 1,632.00	\$ 26,840.30

Submitted By: Christopher Paul
Submitted To: Indian River County, FL
Submission Date: 03/24/20

Indian River County, FL
Sector 3 - 2018006 - Work Order #4 - Amendment 1
Pre-Construction Biological Monitoring

Summary of Labor Hours and Cost

Labor Title	Labor Bill Rate	Sector 3 Pre-Construction Biological Monitoring		Totals	
		Task 1		Labor Hours	Cost
		Labor Hours	Cost		
Principal Engineer/Sr Proj Mngr	\$ 250.00		\$ -	-	\$ -
Expert Witness (Testimony)	\$ 300.00		\$ -	-	\$ -
Program Manager	\$ 190.00		\$ -	-	\$ -
Sr Coastal Engineer/Proj Mngr	\$ 165.00		\$ -	-	\$ -
Coastal Engineer III	\$ 150.00		\$ -	-	\$ -
Coastal Engineer II	\$ 125.00		\$ -	-	\$ -
Coastal Engineer I	\$ 105.00		\$ -	-	\$ -
Coastal Modeler II	\$ 130.00		\$ -	-	\$ -
Coastal Modeler I	\$ 110.00		\$ -	-	\$ -
Professional Surveyor & Mapper	\$ 145.00		\$ -	-	\$ -
Hydrographer	\$ 135.00		\$ -	-	\$ -
Surveyor	\$ 95.00		\$ -	-	\$ -
Survey Technician	\$ 80.00		\$ -	-	\$ -
Senior Marine Biologist	\$ 135.00		\$ -	-	\$ -
Marine Biologist II	\$ 95.00	124	\$ 11,780.00	124	\$ 11,780.00
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		\$ -	-	\$ -
GIS Operator	\$ 105.00		\$ -	-	\$ -
Boat Captain	\$ 80.00	36	\$ 2,880.00	36	\$ 2,880.00
Bookkeeper	\$ 80.00		\$ -	-	\$ -
Clerical	\$ 71.00		\$ -	-	\$ -
Technician	\$ 60.00		\$ -	-	\$ -
Subcontractors	-	-	\$ 5,493.00	-	\$ 5,493.00
Equipment	-	-	\$ 4,020.30	-	\$ 4,020.30
Materials	-	-	\$ 1,035.00	-	\$ 1,035.00
Other ODCs	-	-	\$ -	-	\$ -
Mobilization/Travel	-	-	\$ 1,632.00	-	\$ 1,632.00
TOTAL	-	160	\$ 26,840.30	160	\$ 26,840.30

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