

WORK ORDER NUMBER 2018029-1

**SECTOR 5 (CITY OF BEACH) BEACH AND DUNE RESTORATION PROJECT
PRE CONSTRUCTION SERVICES**

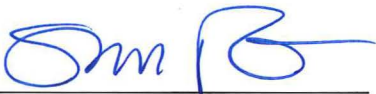
This Work Order Number 2018029-1 is entered into as of this ____ day of _____, 2018 pursuant to that certain Contract Agreement relating to Engineering and Biological support services for Sector 5 (Vero Beach) Beach and Dune Renourishment Project entered into as April 3, 2018 ("Agreement"), between Indian River County, a political subdivision of the State of Florida ("COUNTY") and Aptim Environmental & Infrastructure, Inc. ("CONSULTANT").

The COUNTY has selected the Consultant to perform the professional services set forth on Exhibit 1, attached to this Work Order and made part hereof by this reference. The professional services will be performed by the Consultant for the fee schedule set forth in Exhibit 2, attached to this Work Order and made a part hereof by this reference. The Consultant will perform the professional services within the timeframe more particularly set forth in Exhibit 2, attached to this Work Order and made a part hereof by this reference all in accordance with the terms and provisions set forth in the Agreement. Pursuant to paragraph 1.3 of the Agreement, nothing contained in any Work Order shall conflict with the terms of the Agreement and the terms of the Agreement shall be deemed to be incorporated in each individual Work Order as if fully set forth herein.

IN WITNESS WHEREOF, the parties hereto have executed this Work Order as of the date first written above.

CONSULTANT
Aptim Environmental & Infrastructure, Inc.

BOARD OF COUNTY COMMISSIONERS
OF INDIAN RIVER COUNTY

By: 
Thomas P. Pierro, P.E., D.CE

By: _____
Peter D. O'Bryan, Chairman

Title: Director of Operations

Attest: Jeffrey R. Smith, Clerk of Court and
Comptroller

Date: 4/17/2018

By: _____
(Seal) Deputy Clerk

Approved:

By: _____
Jason E. Brown, County Administrator

Approved as to form and legal sufficiency:

By: _____
William K. DeBraal, Deputy County Attorney



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Fax: +1 561 391 9116
www.aptim.com

April 11, 2018 (revised from April 10, 2018)

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

**Subject: Indian River County, FL
Sector 5 – 2018029 – Work Order #1
Pre-Construction Services**

Dear James:

This proposal outlines a scope of work for Aptim Environmental & Infrastructure, Inc. (APTIM) to provide professional services to Indian River County (the County) in support of continued development of the Sector 5 Beach and Dune Restoration Project. The Sector 5 shoreline has endured long-standing background erosion primarily due to cumulative impacts of large storm events, most recently effects from Hurricane Matthew in October 2016 and Hurricane Irma in September 2017. The Florida Department of Environmental Protection (FDEP) has designated this area as, *"critically eroded with development and recreational interests being threatened"* (Critically Eroded Beaches in Florida, FDEP, 2016) (R-70 to R-86; includes the southernmost 2,126 ft of Sector 4). As directed from the most recent update of the County's Beach Preservation Plan (2015), the Sector 5 shoreline is to be managed with the "beach fill" strategy.

The scope of work described herein is to support the County in continuing to develop the Sector 5 project by performing several pre-construction services. This proposal is intended to follow the design and permitting phase of the Sector 5 project. 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 was 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).

Task 1: Response to RAI

The FDEP has 90 days to review the application and either issue a Notice of Intent to issue the permit or issue a Request for Additional Information (RAI). FDEP RAI's may also include comments from the Florida Fish and Wildlife Conservation Commission, other State agencies and the general public. The United States Army Corps of Engineers (USACE) does not have a timeline requiring their response but may also submit a request for additional information. USACE RAI's may also include questions from the United States Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration (NOAA) - National Marine Fisheries Service (NMFS), other Federal agencies and the general public.

It is noted that an RAI task has previously been executed for this project under the previous contract. The previous RAI task was utilized to address responses to FDEP's requests during the pre-application meeting (prior to submittal of the permit application). The RAI task in this work order is to continue the RAI process with responding to RAI's following submission of the permit applications. This scope of work includes one RAI response to the FDEP (or any other State agency) and one RAI response to the USACE (or any other Federal agency).

Task 1: Scope of Work

APTIM will attempt to consolidate the agencies' RAI's into a single response. We will coordinate with the County on the extent of the response and what the implication may be to the permitting process and construction. We will draft a response and submit this to the County for review prior to submittal to the agencies. It is expected that one web-based teleconference meeting (i.e. WebEx) with FDEP and separately with USACE will be required.

Task 1: Deliverable

APTIM will provide the County an electronic version of the draft RAI's response for the County's review and comments. Once finalized, we will submit the response electronically to the permit agencies, with the County copied. If necessary, APTIM will prepare for and lead a web-based teleconference meeting regarding the RAI response with FDEP and separately with USACE. APTIM will provide the meeting minutes to all participants.

Task 1: Schedule

The schedule for the response to the RAI's and for the meeting is dependent on the extent of the questions. We will attempt to respond to the questions within 60 days of receipt of the RAI's. We will inform the County if we are unable to meet this schedule due to the extent of response required or the availability of meeting participants.

Task 1: Cost

The lump sum cost for this task is \$29,877.00. We will coordinate with the County upon receipt of the RAI and determine whether the cost included herein is representative of the extent of work required to develop the response.

Task 2: Construction Plans and Specifications

Task 2: Scope of Work

APTIM will develop construction plans and technical specifications that will provide the necessary details to the County's Contractor to construct the project, establish payment criteria, and define the permit conditions. It is assumed that the County will provide front-end documents, including general conditions, and provide the overall format of the contract documents such that the construction plans and technical specifications can be incorporated without duplication or conflict in terms and conditions.

APTIM will incorporate the Erosion Control Line (ECL) into the construction plans. Establishment of the ECL is described briefly in Task 3 of this proposal. APTIM's Professional Surveyor and Mapper will review the Draft MHW Survey (Proposed ECL Survey) for correctness and compliance with 161.141 F.S., 177, Part II F.S., and 5J-17 F.A.C. mapping requirements. APTIM's review comments will be submitted to the County and M&E via email within 10

days of receipt of the Draft MHW Survey. APTIM's review comments requiring direction from the State on their mapping rules and requirements will be coordinated and addressed by M&E.

Task 2: Deliverable

APTIM will provide the County an electronic version of the draft plans and specifications for the County's review and comments. Once finalized, we will submit one hardcopy and an electronic copy of the construction plans (11"X17") and technical specifications (8.5"x11") to the County.

Task 2: Schedule

The draft deliverable for the work will be submitted within 30 days of obtaining permits or upon request by the County to begin. Once the County's comments are returned to APTIM, the finalized documents addressing the comments will be submitted within 14 days.

Task 2: Cost

The lump sum cost for this task is \$21,043.00.

Task 3: ECL Establishment

As defined in Chapter 161 of the Florida Statutes, prior to construction of the Sector 5 Beach and Dune Restoration Project, an Erosion Control Line (ECL) must be established along the shoreline to define the property boundary between sovereign submerged land and upland ownership. The statutory duties required to develop this boundary line include coordination activities with the FDEP's Division of Water Resource Management (DWRM), Division of State Lands (State Lands) - Bureau of Survey & Mapping (BSM), Office of General Counsel (OGC), local sponsors, consultants and surveyors. There are several steps to establishing an ECL, which are described in FDEP's ECL Establishment Checklist along with responsibilities of each party, and included as an attachment to this proposal for reference.

Task 3: Scope of Work and Deliverables

It is assumed that the County will contract directly with their local surveyor, Morgan & Eklund, Inc. (M&E), to perform the Mean High Water (MHW) survey and produce the requisite documents. No field work by APTIM is included in this task. APTIM will correspond with State Lands and the County's surveyor, M&E, to facilitate required submittals for the ECL filing process. Applicable sub-tasks to be performed by APTIM that address FDEP's ECL Establishment Checklist are described below. Work for this task primarily consists of meetings, emails, and phone correspondence between APTIM, the County, M&E, FDEP and State Lands.

- APTIM will coordinate with FDEP's Permit Manager to assure notification was given to the ECL Coordinator that a new beach restoration application was submitted and that there will be a proposed ECL established.
- APTIM will assist the County, as needed, in preparing and enacting a local government resolution in support of the proposed ECL.
- Items denoted on the ECL Establishment Checklist as "Contract Surveyor" are assumed to be completed and submitted directly by the County's surveyor, M&E. Prior to submittal, APTIM will assist the County and M&E,

as needed, with submittal assistance and completeness review. Any questions/comments (or RAls) throughout the State's review process of the Draft MHW Survey submittal will be coordinated and addressed by M&E.

- APTIM will prepare and publish a notice of the ECL workshop/hearing in a local newspaper once a week for three consecutive weeks prior to the workshop/hearing per the ECL establishment checklist. Proof of the publication will be transmitted to the State's ECL Project Manager. The County will assist by providing the name of the local newspaper. The expense to publish the notification is not included in this Task, and is addressed in the Task 4.
- APTIM will prepare and mail public notices of the ECL workshop/hearing to all riparian owners located within 1,000 feet of the proposed ECL. Proof of the publication will be transmitted to the State's ECL Project Manager. The County will assist by providing a list or database of addresses of all riparian owners of record. The expense to mail the notifications is not included in this Task, and is addressed in the Task 4.
- APTIM will prepare for, attend, and lead the required workshop/hearing. It is assumed that the required workshop and hearing will be conducted together immediately after each other. The ECL workshop/hearing will be scheduled upon submittal of the final MHW survey. The ECL workshop/hearing is to take place within approximately 6 months of the completion of the MHW survey. M&E will provide the required maps of the MHW line for review during the ECL workshop/hearing. APTIM will prepare a powerpoint presentation for the meeting. The County will assist with identifying a local meeting venue.
- APTIM will transmit digital copies of all certified letter receipts, notices, and agendas to the Beaches and Mines Funding Assistance Program Project Manager.
- APTIM will assist the County in facilitating post-ECL hearing coordination in finalizing the ECL. It is assumed that M&E will provide the required Mylar copies of the final ECL survey.

Task 3: Schedule

The ECL workshop/hearing is to take place within approximately 6 months of the completion of the MHW survey. A fixed schedule cannot be provided for this task because it is unclear when the final permits will be issued, when the project can be awarded, and how the County's Contractor's construction schedule will be structured. APTIM will attempt to execute each phase of the work in as expeditious a manner as possible.

Task 3: Cost

The lump sum cost for this task is \$7,490.00.

Task 4: ECL Notification Expenses

This Task addresses the expenses to transmit the required notifications of the ECL workshop/hearing. There is no labor associated with this task (labor costs are included in Task 3). APTIM will coordinate with the County before proceeding with expenses associated with this Task. If the County decides to pay directly for the ECL notification expenses, then this Task will not be executed. If APTIM is instructed to proceed with the ECL notification expenses, only the costs incurred will be invoiced to the County. If the costs incurred exceed the amount allocated for this

Task, APTIM will notify the County, and a mutually-agreeable change order or additional Work Order will be executed.

The ECL notification expenses include:

- 1) \$12,000 for the cost to send certified mail notifications of the public workshop/hearing to all riparian property owners located within 1,000 feet of the proposed ECL. This assumes an estimated cost of \$5 per notification sent via certified mail and approximately 2,000 notifications to be sent, for a total of \$10,000. An additional 20% is added for uncertainty of mailing cost and number of notifications to be sent.
- 2) \$600 for the cost to publish notifications of the public workshop/hearing in a local newspaper once a week for three consecutive weeks prior to the workshop/hearing. This assumes publication in a single newspaper three times at an estimated cost of \$200 per advertisement.

Task 4: Cost

The lump sum cost for this task is \$12,600.00.

Task 5: Pre-Construction Biological Monitoring

The Biological Monitoring Plan developed for the Sector 5 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 FDEP and the FDEP Standard Operating Procedures (SOP) for Nearshore Monitoring of Beach Nourishment Projects (FDEP, 2016). 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.

The pre-construction nearshore hardbottom monitoring includes:

- 1) Hardbottom edge mapping
- 2) Installing and monitoring permanent transects

Task 5: Scope of Work

- **Hardbottom Edge Mapping:**

APTIM shall map the position of the nearshore hardbottom edge for the entire Sector 5 project area, including 1000 feet north (updrift) and 2000 feet south (downdrift) of the project area (R-69 to R-88) for a length of approximately 3.6 miles. A buoy with a Differential Global Positioning System (DGPS) antenna linked to a topside laptop computer running HYPACK navigational software will be towed by divers to record the position of the nearshore hardbottom edge. The divers will follow the inshore contour of the most prominent hardbottom-sand border. The purpose of the survey is to provide a comparison for post-construction edge delineations.

- **Installing and Monitoring Permanent Transects:**

Eighteen (18) transects shall be established along the length of project influence, which includes 1000 feet north (updrift) and 2000 feet south (downdrift). This includes eleven (11) biological monitoring transects spaced

approximately 2000 feet apart and seven (7) 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 nearshore hardbottom edge to a distance of 100 meters seaward. Stainless steel rods will be used to permanently mark the transects to facilitate repeatability for post-construction monitoring. After transect establishment, a biological survey will be conducted to document the pre-construction condition of the hardbottom using quadrat assessments, sediment measurements and video/photo documentation. Additionally, the PEP Reef located near R-81 to R-83, will be qualitatively assessed during this effort.

Up to thirteen (13) 0.75-m² quadrats will be sampled along each transect to quantify the benthic community. Sediment data will be collected using line-intercept and 1-m interval sediment depth measurements, and video documentation will also be collected for the length of each transect. It is anticipated that the effort to delineate the hardbottom edge, install transects and monitor the transects will take up to 12 field days.

Pre-construction data will be compiled and incorporated into an interactive GIS database and *in situ* 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 those 12 days of field operations.

Task 5: Deliverable

Raw data will be provided to FDEP and the County within 45 days of completion of the survey. This includes 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 and 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 recent, clear aerial photographs (in digital format). A report is not proposed for the pre-construction monitoring survey.

Task 5: Schedule

The pre-construction monitoring event will take place 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.

Task 5: Cost

The lump sum cost for this task is \$105,651.95.

Task 6: Bidding and Construction Preparation Services

Task 6: Scope of Work and Deliverables

This task is to provide several required services in preparation for construction of the Sector 5 Beach and Dune Restoration Project. Work for this task primarily consists of in-person meetings, permit agency submittals, and correspondence between APTIM, the County, M&E, FDEP and the Contractor. The County will be included, informed and/or copied on all pertinent correspondences.

- **Bid Development, Solicitation, and Awarding:** In conjunction with the construction plans and specifications, front-end documents are developed to assist bid solicitation and award. These documents outline contractual obligations, and define the responsible parties and their roles. It is assumed that the County will provide their front-end documents for inclusion into the bid package as in past projects. APTIM will assist the County with the solicitation and award of the project. APTIM will prepare for and attend a pre-bid meeting at the County's offices to describe the project and answer technical questions for potential bidders. APTIM will respond to questions submitted by potential bidders via an addendum. APTIM will review the bid packages for completeness. Based on the bid packages we will assess the capability of the bidder to complete the work in a timely fashion; assess the capability of the bidder to perform the work within their bid amount; and assess the capability of the bidder to perform the work in compliance with permit conditions, plans and specifications. Following this review, APTIM will provide the County a letter of recommendation, via email, as to whether the low bidder is sufficiently responsive and capable to perform the work as required. This letter will be provided within 10 days of the bid submittals.
- **Pre-Construction Submittals:** APTIM will prepare the request for Notice to Proceed from the FDEP. The request will include the documents listed in the forthcoming permit. Based on previous permits issued to the County, anticipated documents include Plans and Specifications; ECL documentation, Turbidity Monitoring Qualifications; and Biological Monitoring Qualifications; and Sea Turtle Nesting Plan. APTIM will upload the submittal to FDEP's JCP Compliance file transfer site. APTIM will also send the Commencement Notification letters to the FDEP and USACE after corresponding with the Contractor regarding their schedule to begin construction. Correspondence regarding the pre-construction submittals will be via phone and email. The County will be informed and/or copied on correspondence regarding this task.
- **Pre-Construction Meeting:** APTIM will prepare for, attend, and lead a pre-construction meeting with the permitting agencies and the County's Contractor at the County's offices. Following the meeting with the agencies, the County, APTIM and the Contractor will meet to discuss other aspects of the project. APTIM will take notes from the meetings and distribute draft meeting minutes via email within 10 days of the meeting. If comments are received, the meeting minutes will be revised and redistributed via email within 5 days that the comments are received.
- **Pre-Construction Design Update:** The Contractor will be required to conduct and submit a pre-construction survey of the project area. APTIM will review this data for accuracy, overlay the bid template on the updated survey data, and calculate the required fill volume. The updated fill volume will likely differ from the bid volume due to inclusion of more closely spaced lines and natural changes in the beach profile since the design survey. APTIM will discuss the updated fill volume with the County and revise the construction template to meet the County's budget and align with the permit conditions. A revised template for each pay profile will be provided to the Contractor via email. The County will be copied on correspondence regarding the design update.

Task 6: Schedule

The schedule for deliverables to specific tasks are described in the Scope of Work. An overall fixed schedule cannot be defined because it is unclear when the final permits will be issued, when the project will be awarded, and how the Contractor's construction schedule will be structured. APTIM will attempt to execute each phase of the work

in as expeditious a manner as possible.

Task 6: Cost

The lump sum cost for this task is \$15,924.00.

Task 7: Include Offshore Borrow Area as Sand Source (Optional)

The Sector 5 Beach and Dune Restoration Project is currently being designed and permitted with fill sources from upland sand mines. The proposed Sector 3 and Sector 7 renourishment projects will likely include offshore sand as a potential sand source. Considering the similar project development schedule, it may be conceivable to utilize the same offshore borrow area for multiple concurrent projects. This could increase the potential that an offshore borrow source be more cost effective than upland sources for the Sector 5 project. As such, APTIM will perform the following task to include an offshore borrow area as a sand source for the Sector 5 project utilizing existing and available data and information. This work assumes that the proposed offshore borrow area has been sufficiently investigated and developed (per permitting agency requirements) for the planned Sector 3 and/or Sector 7 project, or for a regional County-wide sand search investigation. This task does not include any field work or geotechnical laboratory analyses.

Task 7: Scope of Work

If the County decides to move forward with offshore sand as a potential source for the Sector 5 Project, APTIM will determine if sufficient sand volume is available within the offshore borrow area to construct the Sector 5 project. If sufficient volumes exist, the following work is anticipated for inclusion of the offshore borrow area for the project.

- The offshore borrow area will be designed utilizing previously collected geophysical and hydrographic data. This will include developing composite sediment characteristics and a composite grain size distribution for the proposed offshore borrow area. The composites will be used to analyze the compatibility of the proposed offshore borrow area with the native sediment of Sector 5. Beach sand samples collected in 2015 will be utilized to describe the native sediment of Sector 5.
- Coordination with the permit and regulatory agencies will be initiated to identify the data and information submittals required for modification of the existing permit to include the offshore borrow area. The requisite data and information will be assembled and submitted. This will include establishing the need to permit the travel/pipeline corridors from the borrow area to the pumpout site on the beach and designing the corridors to minimize the potential for impacts to offshore resources and infrastructure (i.e. AT&T cables). Due to the close proximity of the nearshore hardbottom in the project area, it may be challenging to utilize the hydraulic fill method to accomplish relatively thin fill densities. Special considerations to project logistics may need to be considered to utilize this method, including stockpiling material and/or pre-excavating and diking fill areas prior to placement. We will coordinate with the agencies to help develop reasonable and acceptable project parameters. A letter will be drafted requesting a permit modification, which will include figures and tables describing the proposed offshore

borrow area and construction considerations. Revised permit sketches that include the offshore borrow area will be provided to the agencies.

- Following feedback from the agencies, notice-to-proceed items for permit issuance will be revised to incorporate the offshore borrow area based on the existing and available data and information. This will likely include revision of the construction plans and specifications, Sediment Quality Assurance/Quality Control (QA/QC) Plan, Physical Monitoring Plan, Biological Monitoring Plan and Contingency Mitigation Plan.

The scope of work outlined above is anticipated, but the actual items and the level of the effort requested from the permitting and regulatory agencies may vary. Specific items listed above may be omitted, revised and/or added based on the permitting process. APTIM will attempt to manage the scope of work accordingly, but unforeseen items may be required and necessitate revised (or additional) tasks.

Task 7: Deliverable

APTIM will provide the County a draft electronic version of the permit modification request letter, attachments, and stand-alone documents for the County's review and comments. Once finalized, we will submit the requisite information electronically to the regulatory agencies, with the County copied.

Task 7: Schedule

If/when the County decides to move forward with offshore sand as a potential source for the Sector 5 Project, County staff will authorize APTIM to begin this task. A fixed schedule is unclear due to the unknown extent of requests from FDEP, as well as the unknown extent of offshore borrow area development that would have previously occurred under separate contract as part of the County's coastal management program. APTIM will attempt to execute the required work to include an offshore borrow area for the Sector 5 project in as expeditious a manner as possible.

Task 7: Cost

The lump sum cost for this task is \$19,877.00. We will coordinate with the County during initial phases of this task and determine whether the cost included herein is representative of the extent of work required.

Summary

The total lump sum cost to perform the proposed work described herein for Sector 5 – 2018029 – Work Order #1 is \$212,462.95. Please refer to Exhibit A, 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 agency review and are outside the control of APTIM and the County. As such, the scope, schedule and cost described herein is provided as a guideline. APTIM will strive to execute each phase of the work within budget and in as expeditious a manner as possible. We will coordinate with the County if deviations from 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,

William Reilly, P.E.
Senior Coastal Engineer
Aptim Environmental & Infrastructure, Inc.

cc: Thomas Pierro, P.E., D.CE, APTIM
Stacy Buck, APTIM
Debbie Neese, APTIM

*Electronic signature approved for use
via email dated 4/10/2018, and
approved for revision 4/10/2018.*

Authorized Corporate Signature

Thomas P. Pierro, P.E., D.CE

Printed Name

Director of Operations

Title

EXHIBIT 2



SPM REVISION: 2018 - REV 18.1
PROJECT NUMBER: 631236907

Sector 5 - 2018029 - Work Order #1 Pre-Construction Services Indian River County, FL

Summary of Cost by Task

Task Number	Task Name	Labor	Sub-contractors	Equipment	Materials	Mobilization/Travel	Totals
Task 1	Response to RAI	\$ 29,877.00	\$ -	\$ -	\$ -	\$ -	\$ 29,877.00
Task 2	Construction Plans and Specifications	\$ 21,043.00	\$ -	\$ -	\$ -	\$ -	\$ 21,043.00
Task 3	ECL Establishment	\$ 7,490.00	\$ -	\$ -	\$ -	\$ -	\$ 7,490.00
Task 4	ECL Notification Expenses	\$ -	\$ -	\$ -	\$ 12,600.00	\$ -	\$ 12,600.00
Task 5	Pre-Construction Biological Monitoring	\$ 80,192.00	\$ -	\$ 14,992.95	\$ 3,615.00	\$ 6,852.00	\$ 105,651.95
Task 6	Bidding and Construction Preparation Services	\$ 15,924.00	\$ -	\$ -	\$ -	\$ -	\$ 15,924.00
Task 7	Include Offshore Borrow Area as Sand Source (Optional)	\$ 19,877.00	\$ -	\$ -	\$ -	\$ -	\$ 19,877.00
Totals =		\$ 174,403.00	\$ -	\$ 14,992.95	\$ 16,215.00	\$ 6,852.00	\$ 212,462.95

Summary of Labor Hours and Cost

Labor Title	Labor Bill Rate	Response to RAI		Construction Plans and Specifications		ECL Establishment		ECL Notification Expenses		Pre-Construction Biological Monitoring		Bidding and Construction Preparation Services		Include Offshore Borrow Area as Sand Source (Optional)		Totals	
		Task 1		Task 2		Task 3		Task 4		Task 5		Task 6		Task 7		Totals	
		Labor Hours	Cost	Labor Hours	Cost	Labor Hours	Cost	Labor Hours	Cost	Labor Hours	Cost	Labor Hours	Cost	Labor Hours	Cost	Labor Hours	Cost
Principal Engineer/Sr Proj Mng	\$ 250.00	10	\$ 2,500.00	4	\$ 1,000.00	1	\$ 250.00			1	\$ 250.00	10	\$ 2,500.00	1	\$ 250.00	27	\$ 6,750.00
Expert Witness (Testimony)	\$ 300.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Program Manager	\$ 190.00	4	\$ 760.00		\$ -		\$ -		\$ -		\$ -		\$ -	4	\$ 760.00	8	\$ 1,520.00
Sr Coastal Engineer/Proj Mngr	\$ 165.00	90	\$ 14,850.00	69	\$ 11,385.00	30	\$ 4,950.00			4	\$ 660.00	44	\$ 7,260.00	50	\$ 8,250.00	287	\$ 47,355.00
Coastal Engineer III	\$ 150.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Coastal Engineer II	\$ 125.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Coastal Engineer I	\$ 105.00	20	\$ 2,100.00	20	\$ 2,100.00		\$ -		\$ -		\$ -	36	\$ 3,780.00	25	\$ 2,625.00	101	\$ 10,605.00
Coastal Modeler II	\$ 130.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Coastal Modeler I	\$ 110.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Professional Surveyor & Mapp	\$ 145.00		\$ -	6	\$ 870.00		\$ -		\$ -		\$ -		\$ -		\$ -	6	\$ 870.00
Hydrographer	\$ 135.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Surveyor	\$ 95.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Survey Technician	\$ 80.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Senior Marine Biologist	\$ 135.00	40	\$ 5,400.00	2	\$ 270.00		\$ -		\$ -	172	\$ 23,220.00	8	\$ 1,080.00	12	\$ 1,620.00	234	\$ 31,590.00
Marine Biologist II	\$ 95.00	20	\$ 1,900.00		\$ -		\$ -		\$ -	452	\$ 42,940.00		\$ -	8	\$ 760.00	480	\$ 45,600.00
Marine Biologist I	\$ 72.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Professional Geologist	\$ 150.00	4	\$ 600.00		\$ -		\$ -		\$ -		\$ -	2	\$ 300.00	12	\$ 1,800.00	18	\$ 2,700.00
Geologist III	\$ 130.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Geologist II	\$ 95.00	4	\$ 380.00		\$ -		\$ -		\$ -		\$ -		\$ -	20	\$ 1,900.00	24	\$ 2,280.00
Geologist I	\$ 80.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Senior CAD Operator	\$ 140.00	1	\$ 140.00	2	\$ 280.00		\$ -		\$ -	1	\$ 140.00	1	\$ 140.00	1	\$ 140.00	6	\$ 840.00
CAD Operator	\$ 105.00	5	\$ 525.00	40	\$ 4,200.00		\$ -		\$ -		\$ -	4	\$ 420.00	10	\$ 1,050.00	59	\$ 6,195.00
GIS Operator	\$ 105.00	4	\$ 420.00	2	\$ 210.00		\$ -		\$ -	8	\$ 840.00		\$ -	4	\$ 420.00	18	\$ 1,890.00
Boat Captain	\$ 80.00		\$ -		\$ -		\$ -		\$ -	148	\$ 11,840.00		\$ -		\$ -	148	\$ 11,840.00
Bookkeeper	\$ 80.00	2	\$ 160.00	2	\$ 160.00	2	\$ 160.00		\$ -	2	\$ 160.00	2	\$ 160.00	2	\$ 160.00	12	\$ 960.00
Clerical	\$ 71.00	2	\$ 142.00	8	\$ 568.00	30	\$ 2,130.00		\$ -	2	\$ 142.00	4	\$ 284.00	2	\$ 142.00	48	\$ 3,408.00
Technician	\$ 60.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Sub-Contractors			\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Equipment			\$ -		\$ -		\$ -		\$ -		\$ 14,992.95		\$ -		\$ -		\$ 14,992.95
Materials			\$ -		\$ -		\$ -		\$ 12,600.00		\$ 3,615.00		\$ -		\$ -		\$ 16,215.00
Mobilization/Travel			\$ -		\$ -		\$ -		\$ -		\$ 6,852.00		\$ -		\$ -		\$ 6,852.00
TOTAL		206	\$ 29,877.00	155	\$ 21,043.00	63	\$ 7,490.00		\$ 12,600.00	790	\$ 105,651.95	111	\$ 15,924.00	151	\$ 19,877.00	1,476	\$ 212,462.95

Submitted By: William Reilly
Submitted To: Indian River County, FL
Submission Date: 4/11/2018