Exhibit 1

Mr. James D. Gray, Jr.
Coastal Engineer
Indian River County Public Works
1801 27th Street
Vero Beach, Florida 32960

December 22, 2016

Re: Scope of Work and Cost Proposal for Sector 3 Post-construction Sea Turtle Monitoring, Indian River County, Florida – 2017.

Dear Mr. Gray:

Ecological Associates, Inc. (EAI) is pleased to submit its Scope of Work (SOW) and Cost Proposal for providing Professional Environmental Services in support of Indian River County's Sector 3 Beach Restoration Project. Services described herein conform to biological monitoring requirements stipulated in Florida Department of Environmental Protection (FDEP) JCP Permit #0285993-001-JC (and associated modifications) and applicable U.S. Fish and Wildlife Service (USFWS) Biological Opinions (BOs) for the Sector 3 Project. This work will satisfy requirements for:

- Year 2 post-construction monitoring for the Sector 3 Dune Repair Project (R-24 to R-55)

EAI will perform the following tasks under this SOW, as detailed in Exhibit A:

- One pre-season escarpment survey and weekly post-construction escarpment monitoring;
- Post-construction sea turtle monitoring;
- Marking and monitoring of a representative sample of nests to determine nest fate and reproductive success;
- Comprehensive nighttime lighting evaluations; and
- Data management and reporting, as conditioned in regulatory permits for the project.

All sea turtle monitoring activities will be performed under Florida Fish and Wildlife Conservation Commission (FWC) Marine Turtle Permit MTP-010 in accordance with current or future superseding conditions and guidelines issued by the permitting agency.

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Records of monitoring activities during 2017 will be provided to the County in a form and at frequencies mutually agreed upon. Monthly data reports and a year-end summary report will be provided to the County in accordance with Exhibits B (Deliverables) and C (Schedules).

EAI will submit its monthly billings for services to the County in accordance with the fees set forth in Exhibit D (Costs). No deposit or retainers are required. Implementation of EAI's services is contingent upon receipt of a Notice to Proceed.

Ecological Associates, Inc. appreciates the opportunity to be of continued service to Indian River County. Please feel free to give me a call should you have any questions regarding EAI's proposed services or associated costs.

Sincerely,

Niki Desjardin

Niki Desjardin
Project Manager

c: Stan DeForest/President

EXHIBIT A
Indian River County Sector 3 Sea Turtle Monitoring – 2017

ECOLOGICAL ASSOCIATES, INC.
P.O. BOX 405
JENSEN BEACH, FLORIDA 34958

SCOPE OF WORK

1) ***Project Boundaries.*** The area to be monitored (Study Area) extends from R-20 south to R-68 in Indian River County (Sector 3). This includes the Sector 3 Dune Repair Project and a control beach. Construction of the Dune Repair Project (R-24 to R-55) was completed in the spring of 2015. The control beach, immediately south of the Sector 3 Project Area, extends from R-60 to R-68. Post-construction monitoring activities will commence March 1, 2017 and will continue through approximately February 2018, as stipulated below.

2) ***Pre-season Scarp Monitoring (FDEP Specific Condition No. 24).*** A complete escarpment (scarp) survey will be conducted within the Sector 3 Project Area prior to February 1, 2017 and the results submitted to the County. The length, average height category, and approximate maximum height (as described in #4 below) will be recorded for both beach and dune scarps. As dune scarps effectively mark the landward extent of suitable nesting habitat, it may not be necessary to monitor these throughout the entire nesting season. The County shall be responsible for seeking clarification from the USFWS regarding weekly monitoring of dune scarps. EAI will provide data or clarification regarding this matter where needed.

3) ***Weekly Post-construction Scarp Monitoring (FDEP Specific Condition No. 24).*** Scarp surveys will be conducted on a weekly basis within the Sector 3 Project Area from March 1 through September 30, 2017. In accordance with FWC protocol, scarps are functionally defined as an abrupt change in beach slope (greater than 45°) at least 18 inches in height that persists for a distance of 100 feet or more. The location of both the northern and southern terminus of each scarp will be recorded by GPS and average scarp height assigned to one of three categories (0 to 2 feet, 2 to 4 feet, and 4 feet or higher). Additionally, the maximum height of each scarp will be measured. The location (relative to R monuments), approximate length, height category, maximum height, and percentage of beach scarped will be presented in tabular and/or graphic format for reporting purposes. ***EAI will submit weekly reports of scarp monitoring data to FWC (marineturtle@myfwc.com). EAI will also notify the County of any persistent scarps within the Project Area that may interfere with sea turtle nesting. The County shall be responsible for notifying FWC of the presence of those scarps and for coordinating any remediation measures, if required.***

4) ***Post-construction Nesting Beach Sea Turtle Monitoring and Reporting (FDEP Specific Condition No. 29).*** Daily early morning nesting surveys will be conducted throughout the Sector 3 Study Area beginning March 1 and continuing uninterrupted through October 15, 2017 (per conditions outlined in the Statewide

Programmatic BO). Thereafter, the surveys will be conducted approximately three days each week until the last marked nest has been evaluated.

During the daily surveys, all emergences (turtle crawls) apparent from the previous night will be interpreted to determine which species of turtle came ashore and whether or not it nested. Crawls will be denoted as being either above or below the previous high tide line.

Throughout the period of monitoring, all nests and false crawls will be enumerated by pre-established survey zones and their approximate geographic locations determined by GPS (sub-meter accuracy). Each false crawl will be categorized as to the stage at which the nesting attempt was abandoned in conformance with FWC requirements for beach restoration projects. Additionally, all obstacles (e.g., scarps, seawalls, etc.) encountered by turtles during their emergences onto the beach will be documented.

EAI will coordinate its monitoring activities with other FWC Marine Turtle Permit Holders within the Project Area to ensure that it does not interfere with their data collection efforts. EAI will also coordinate its monitoring activities in a manner that best supports the County's Habitat Conservation Plan (HCP) and will furnish data collected under this Scope of Work to the County's HCP Coordinator in a format compatible with the HCP database.

Upon conclusion of sea turtle data analyses for the 2017 nesting season, a draft interpretive report, including an assessment of project impacts, if any, will be submitted to the County. This assessment will be based on statistical and other comparisons of nesting and reproductive success data between treatment and control areas. EAI will meet with the County to review and identify any changes warranted in the interpretive report. After such changes are made by EAI, a final report will be prepared and submitted to the County.

5) ***Nest Marking and Monitoring (FDEP Specific Condition No. 29).*** A representative sample of nests within the Sector 3 Project Area, as well as the control, will be marked between March 1 and September 15, 2017 and monitored throughout their incubation periods to determine nest fate (e.g. hatched, washed out, depredated, vandalized, etc.) and reproductive success (hatching and emerging success). The clutch of each marked nest will be located and surrounded by a series of small stakes connected by brightly colored surveyor's tape.

6) ***Nighttime Lighting Evaluations***. EAI will conduct two nighttime lighting evaluations of beachfront properties within the Sector 3 Dune Repair Project Area to assess compliance with local ordinances as well as the County's Habitat Conservation Plan. One survey will be conducted in May 2017, with a follow-up survey between July 15 and August 1. During the surveys, non-compliant beachfront lighting will be identified, assigned a problem code, and recorded using highly-accurate GPS systems. A report will be generated in Excel format (which

will include County-specific data fields), identifying each facility and all non-compliant lights as well as recommended modifications. Geo-referenced maps will also be created showing the locations of all non-compliant lights identified during the surveys.

7) ***Summary Spreadsheet of Sea Turtle Nesting Activity (FDEP Specific Condition No. 29).*** At the end of the 2017 nesting season, an Excel spreadsheet of all nesting activity and reproductive success will be prepared and submitted electronically to the County and FWC.

EXHIBIT B
Indian River County Sector 3 Sea Turtle Monitoring – 2017

ECOLOGICAL ASSOCIATES, INC., P.O. BOX 405, JENSEN BEACH, FL 34958

DELIVERABLES

Unless otherwise specified below, all reports will be delivered in a format (hard and/or electronic) and in such quantities as requested by the County. All reports will be submitted to the County in accordance with Exhibit C.

Sea Turtle Monitoring

Scarp Monitoring: Data will be reported electronically each week to FWC and the County. The County will also be notified by phone or electronically of any scarps that persists for two consecutive weekly surveys. Results of surveys conducted each month, including locations, heights, and lengths will tabulated for inclusion in the Monthly Reports.

Monthly Reports: Records of daily sea turtle monitoring activities, including names of monitoring personnel and times of monitoring will be maintained for the duration of monitoring. Within two weeks following the end of each calendar month, EAI will submit a summary report to the County that will include, a log of sea turtle monitoring activities, number of sea turtle nests and false crawls by species, number of sea turtle nests marked and evaluated, and results of scarp monitoring. Upon conclusion of data analyses for the 2017 nesting season, a draft interpretive report, including an assessment of project impacts, if any, will be submitted to the County. This assessment will be based on statistical and other comparisons of nesting and reproductive success between treatment and control areas. EAI will meet with the County to review and identify any changes warranted in the interpretive report. After such changes are made by EAI, a final draft of the report will be submitted to the County.

Nesting Database: All sea turtle data collected during the project will be incorporated into an Access database created and maintained by EAI. These data will be provided to the County in an electronic format, as mutually agreed upon, for incorporation into the County's HCP database. Appropriate QA measures will be implemented to ensure that data are completely and accurately transferred from field data sheets to the electronic database.

Lighting Evaluation Reports: Results of nighttime lighting evaluations will be summarized in an Excel spreadsheet and a geo-referenced map will be compiled and submitted to the County in electronic format.

Summary Spreadsheet: Upon completion of all field monitoring activities, an Excel spreadsheet tabulating sea turtle monitoring results, as required by FDEP Specific Condition No. 29, will be prepared and submitted to the County and FWC.

EXHIBIT C
Indian River County Sector 3 Sea Turtle Monitoring – 2017

ECOLOGICAL ASSOCIATES, INC., P.O. BOX 405, JENSEN BEACH, FLORIDA 34958

PROJECT SCHEDULE

Deliverables. The following work products will be provided to Indian River County in accordance with the schedules specified below:

Deliverable	Content	Delivery Date
Monthly Sea Turtle Data Summaries	Dates and times of monitoring, names of monitoring personnel, numbers of sea turtle emergences by species, results of escarpment monitoring, and numbers of nests marked and evaluated for reproductive success.	Within two weeks of the last day of each month following delivery of services (e.g., March report due no later than April 15)
Nighttime Lighting Evaluation Reports	Excel spreadsheet detailing all non-compliant lights observed, including all County-required data fields; geo-referenced map.	Within 30 days of completion of evaluation
FDEP Sea Turtle Monitoring Data Spreadsheet	All nesting survey data and reproductive success data summarized in an Excel spreadsheet.	December 31, 2017