

**PALM BEACH COUNTY  
BOARD OF COUNTY COMMISSIONERS**

**AGENDA ITEM SUMMARY**

Meeting Date: March 13, 2007 (X) Consent ( ) Regular  
( ) Workshop ( ) Public Hearing

Department

Submitted By: Environmental Resources Management  
Submitted For: Environmental Resources Management

**I. EXECUTIVE BRIEF**

**Motion and Title: Staff recommends motion to approve:**

- A) Task Order No. 2377-11 to a continuing Contract (R2004-2377) with Taylor Engineering, Inc. (Taylor) in the amount of \$243,147 for sea turtle monitoring services in northern Palm Beach County.
- B) Budget Transfer of \$50,000 in the Beach Improvement Fund from Reserves to the Coral Cove Dune Restoration Project.

**Summary:** The BCC approved the Contract with Taylor on November 16, 2004 (R2004-2377) and extended the Contract on December 5, 2006 (R2006-2661). Nine (9) task orders totaling \$421,222.80 have been issued under the Contract. Another board item (3L-4) seeks BCC approval today for a task order in the amount of \$126,593. Taylor will manage sea turtle monitoring along 9.5 miles of beach for the 2007 sea turtle nesting season. Monitoring of the Juno Beach project area, included in this Task Order, is eligible for cost-sharing with the state, and a funding agreement is being drafted by the Florida Department of Environmental Protection (DEP). The funding agreement being drafted by DEP will be submitted to the BCC for approval at a future date. Taylor is committed to an overall 20% small business and minority business enterprise (SBE-MBE) participation in the Contract. Taylor has achieved 12.1% cumulative SBE-MBE participation on the Contract. District 1 (JM)

**Background and Justification:** Construction of the original Juno Beach Shore Protection Project was successfully completed in February 2001 and included placement of 1.1 million cubic yards of sand over 2.4 miles of primarily public beachfront. Continued erosion necessitates renourishment, as scheduled, in fall 2007. The Marinelife Center of Juno Beach conducts monitoring at Juno Beach. Currently, the Department of Environmental Resources Management (ERM) conducts sea turtle monitoring of the beach in Jupiter, in support of a previous renourishment project, and at Coral Cove Park.  
(Continued on page 3.)

**Attachments:**

1. Task Order No. 2377-11 with Contract History
2. Contract (pages 1, 17, Fee Schedule)
3. Budget Transfer

Recommended by: Richard E. Waluly 3/6/07  
Department Director Date

Approved by: [Signature] 3/6/07  
County Administrator Date

## II. FISCAL IMPACT ANALYSIS

### A. Five Year Summary of Fiscal Impact:

| Fiscal Years                                   | 2007                    | 2008  | 2009  | 2010  | 2011  |
|--|-------------------------|-------|-------|-------|-------|
| Capital Expenditures                           | _____                   | _____ | _____ | _____ | _____ |
| Operating Costs                                | <u>243,147</u>          | _____ | _____ | _____ | _____ |
| External Revenues                              | _____                   | _____ | _____ | _____ | _____ |
| Program Income (County)                        | _____                   | _____ | _____ | _____ | _____ |
| In-Kind Match (County)                         | _____                   | _____ | _____ | _____ | _____ |
| <b>NET FISCAL IMPACT</b>                       | <b><u>\$243,147</u></b> | _____ | _____ | _____ | _____ |
| <b># ADDITIONAL FTE POSITIONS (Cumulative)</b> | _____                   | _____ | _____ | _____ | _____ |

Is Item Included in Current Budget? Yes \_\_\_\_\_ No X  
 Budget Account No.: Fund \_\_\_\_\_ Department \_\_\_\_\_ Unit \_\_\_\_\_ Object \_\_\_\_\_ Program \_\_\_\_\_

### B. Recommended Sources of Funds/Summary of Fiscal Impact: In accordance with Federal law, sea turtles have to be monitored to renourish beaches.

Northern Palm Beach County:

|               |                         |                               |
|---------------|-------------------------|-------------------------------|
| 3652-381-M040 | Coral Cove Dune Restore | 76,561 (includes bud transfr) |
| 3652-381-M045 | Jupiter/ Carlin Shore   | 59,731                        |
| 3652-381-M028 | Juno Beach Shore        | <u>106,855</u>                |
|               |                         | 243,147                       |

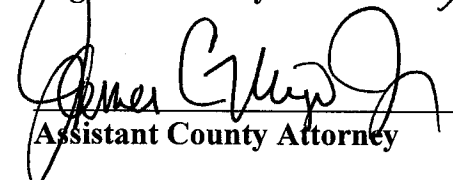
### C. Department Fiscal Review:

## III. REVIEW COMMENTS

### A. OFMB Fiscal and /or Contract Dev. and Control Comments:

 3-7-07  
 OFMB 3/8/07  
 3/8/07  
 Contract Development and Control 3/8/07

### B. Legal Sufficiency:

 3/8/07  
 Assistant County Attorney

This item complies with current County policies.

### C. Other Department Review:

\_\_\_\_\_  
 Department Director

**Background and Justification (Continued from page 1.):**

Volunteer groups managed by ERM have previously conducted monitoring at Jupiter Inlet Colony and north of Coral Cove Park. The monitoring will evaluate the effects of two beach nourishment projects, one dune restoration project, and inlet management activities in the area.

A comparison of costs for County staff versus contract services has determined that contracting out all sea turtle monitoring in northern Palm Beach County is the most efficient and economical course of action for evaluating these projects. Ecological Associates Inc. (EAI) of Jensen Beach was selected as the subconsultant to conduct the monitoring and data management. EAI brings over thirty (30) years of experience to this project, and is a world-renowned firm in this field with a demonstrated ability to coordinate complex projects. The Marineline Center of Juno Beach, a non-profit corporation, was selected to conduct monitoring on the Juno Beach section of this project as they have been monitoring Juno Beach for over twenty (20) years and bring an unparalleled level of experience to this project.

## Attachment 1

## TASK ORDER

TASK ORDER: 2377-11 CONSULTANT: Taylor Engineering, Inc.  
381-3652-M040-3120, 381-3652-M045-3120  
ACCOUNT: 381-3652-M028-3120 CONTRACT: R2004-2377, R2006-2661  
[Fiscal approval of Budget Availability: see attached ]

PROJECT MANAGER: Ben Harkanson PHONE: 561-233-2519

CONTRACT MANAGER: Juan Cueto PHONE: 561-233-2431

**PROJECT NAME:** Sea Turtle Monitoring – North County Beaches

**LOCATION/DISTRICT #:** Jupiter (District 1)

**TASK DESCRIPTION** (use additional pages if necessary): The Consultant shall monitor sea turtle nesting along the beaches from the Martin/Palm Beach county line south through to the north boundary of John D. MacArthur State Park as described in the Scope of Work (SOW).

**DELIVERABLES:** See scope of work dated 2/9/07.

TASK ORDER TYPE: FIXED PRICE DUE DATE: 12/15/07

**TOTAL AMOUNT \$ 243,147.00** See attached spreadsheet dated 2/9/07

RETAINAGE: \$ 0.00

(Check 1 or both) for Subcontract Amounts: Black

M/WBE ☐ \$ \$ \$ \$

SBE ☐ \$ \_\_\_\_\_ \$ \_\_\_\_\_ \$ \_\_\_\_\_ \$ \_\_\_\_\_

**TOTAL SBE-M/WBE PARTICIPATION: \$ 0.00**

CONSULTANT REP: J. Ling Song DATE: 3/2/07

DIVISION DIRECTOR: DRB DATE: 3-3-07

APPROVED AS TO TERMS ~~AND~~ CONDITIONS:

ERM DIRECTOR: Richard E. Aschultz DATE: 3/5/07

**APPROVED AS TO FORM AND LEGAL SUFFICIENCY:**

ASSISTANT COUNTY ATTORNEY: \_\_\_\_\_ DATE: \_\_\_\_\_

BOARD OF COUNTY COMMISSIONERS: \_\_\_\_\_ DATE: \_\_\_\_\_

**Addie L. Greene, Chairperson**

# T A Y L O R   E N G I N E E R I N G   I N C

February 9, 2007

Ms. Leanne Welch, Environmental Program Supervisor  
Palm Beach County  
Department of Environmental Resources Management  
2300 N. Jog Road - Fourth Floor  
West Palm Beach, FL 33411-2743

Re: Sea Turtle Monitoring Proposal

Dear Ms. Welch,

Taylor Engineering is pleased to present the proposal for sea turtle related monitoring services in support of the Jupiter/Carlin Shore Protection Project, Juno Beach Shore Protection Project, and the Juno Fishing Pier.

Taylor Engineering has assembled the team of Ecological Associates, Inc. and the Loggerhead Marinelife Center to provide the services described in the attached Scope of Work. The lump sum cost for these services is \$243,147, including the optional nighttime pedestrian surveys for the Juno Pier monitoring.

This team provides a high level of research based monitoring experience and local experience. Importantly, we expect these organizations will play important roles in support of the Alternative Beach Profile Project, presently under consideration for Juno Beach.

If you have any questions, please contact me at 640-7310 or [bhoward@taylorentengineering.com](mailto:bhoward@taylorentengineering.com).

Sincerely,



Bud Howard  
Senior Scientist

Enclosures

W:\Proposals\2007-024 PBC Turtle Monitoring\Cover Ltr Final Prop.doc

5

Exhibit A  
Scope of Work  
Palm Beach County Sea Turtle Monitoring - North County  
February 9, 2007

In support of State and Federal permit requirements issued to Palm Beach County for the Jupiter/Carlin and Juno Beach Shore Protection Projects, Taylor Engineering (TE) intends to subcontract Ecological Associates Inc. (EAI) to provide sea turtle monitoring services. EAI has over 20 years of experience conducting sea turtle monitoring and research throughout Florida. EAI has teamed with the Loggerhead Marinelife Center of Juno Beach (MLC). The MLC also brings over 20 years of experience and local knowledge to the team. The TE, EAI and MLC team (hereafter referred to as the CONSULTANT) provides a beneficial combination of resources and skills to fulfill the monitoring needs for Palm Beach County (COUNTY).

The CONSULTANT shall monitor sea turtle nesting along the beaches from the Martin/Palm Beach county line south through to the north boundary of John D. MacArthur State Park (approx 9.5 miles). The area has been divided into 5 beaches for historical monitoring consistency. Monitoring of the 5 beaches will be done according to COUNTY established criteria, as set forth in this Scope. In order to provide cost calculations for the various permit requirements of each shore protection project area, the CONSULTANT has divided the beach into 3 segments: Segment 1 - County line to Jupiter Inlet, Segment 2 - Jupiter Inlet to south property line of the Reef Club, Segment 3 - south property line of the Reef Club to the north boundary of MacArthur State Park. The costs for the various tasks and services described in this Scope of Work are provided in Attachment A.

The CONSULTANT shall obtain all Florida Fish and Wildlife Conservation Commission (FWC) required permits required for sea turtle monitoring. All sea turtle monitoring permit required reporting shall be submitted to FWC following review by the County. The CONSULTANT shall utilize trained and experienced staff to conduct all monitoring activities. All data shall be collected and entered into a computerized data management system, quality control and assurance conditions satisfied, and then submitted to the COUNTY at the end of each phase as set forth in this Scope of Work. All data entered will be summarized by the CONSULTANT for use in an annual report. The COUNTY may, at its discretion, conduct independent surveys and observe data collection and analysis techniques for the purpose of comparing and validating compliance with FWC guidelines and this contract. Proven and unjustifiable discrepancies of more than 10% on 10% of observations on a given day may be cause for contract termination.

All sea turtle crawl data shall be entered into the COUNTY's web-based data management system (database). The COUNTY shall provide training on use of the database and will provide the necessary technical support, but not the equipment or software necessary to operate the database. The database can only be utilized on personal computers using Internet Explorer 5.5 - 6.X; the database does not perform correctly with other browsers or other versions of Internet Explorer. Additional setting changes may also be required. In the event the COUNTY's database fails to function as designed, the CONSULTANT and the COUNTY shall determine mutually agreeable alternatives for data management and reporting. All data collected in the field will be recorded on printed survey forms, approved by the COUNTY, with the fields further described for each Task. All physical beach monitoring data shall be compiled, stored, and submitted as outlined in each Task.

In order to maintain consistency in data collection techniques, the CONSULTANT will be provided with a set of COUNTY Sea Turtle Monitoring Guidelines, containing specific definitions and monitoring criteria. The CONSULTANT shall be required to follow the same methodology unless written approval has been given for alternate methods. The CONSULTANT (including all monitoring staff) will also be required to attend a pre-season training meeting with COUNTY staff. Additional training and/or clarification of monitoring criteria shall be provided as necessary. 6

The following Tasks will be performed:

TASK 1: Daily Nesting Surveys & Beach Monitoring

Daily surveys shall be conducted for all zones between March 15 and September 30. All locations of crawls for the following tasks are to be collected with the use of a real-time corrected differential GPS unit with sub-meter accuracy; one appropriately equipped GPS unit will be provided by the COUNTY and a second unit will be made available for use in emergency situations, each such event not to exceed seven days in duration. If necessary, data may be post-processed to obtain sub-meter accuracy using a base station approved by the COUNTY. Each occurrence where post-processing is necessary, as well as the steps taken to identify and resolve the problem, shall be reported to the COUNTY with the appropriate monthly data submittal.

The following parameters shall be recorded for each crawl encountered on a daily survey form approved by the COUNTY:

- A) Date.
- B) Crawl location.
- C) Survey zone and/or subzone location.
- D) Species of turtle.
- E) Crawl type.
- F) Estimated distance from the egg chamber or landward extent of the non-nesting emergence to the high water line.
- G) Estimated distance from the egg chamber or landward extent of the non-nesting emergence to the toe of dune.
- H) Number of abandoned body pits.
- I) Number of abandoned egg chambers.
- J) Estimated total crawl length (total distance traveled by the turtle) for all non-nesting crawls above the high water line.
- K) Any obstructions (natural or man-made) encountered by the turtle and the turtle's response to that obstruction.

Additionally, each nest record must contain a designation of marked/staked (yes/no) and clutch located (yes/no). If the nest is marked, a unique nest identification number must be assigned according to the COUNTY's naming convention (species, date, marked nest number [for the day, in that zone, expressed as a letter], beach; example: CC-060307-4B-JC is the second marked nest on June 3, 2007 in survey zone 4 at Jupiter Carlin).

Zone boundary markers will be maintained by the CONSULTANT in the dune at historical locations within the entire survey area, and maintained throughout the nesting season (Attachment B).

Frequency: Daily from March 15 through September 30.

Data Reporting: Each crawl record, including all parameters mentioned above, shall be entered into the COUNTY'S web-based data management system within one business day of collection. If the database is malfunctioning, the CONSULTANT will immediately notify the COUNTY. Raw data sheets are to be provided to the COUNTY weekly by fax or email until the COUNTY is confident in the quality of the data provided, and then, upon written notice from the COUNTY, with the appropriate monthly data submittal.

Daily Shorebird Surveys

As part of the daily sea turtle nesting surveys, all shorebird activity involving the following species shall be noted daily on a shorebird activity datasheet provided by the COUNTY:

7

- A) Least tern (*Sterna antillarum*)
- B) Semi-palmated plover (*Charadrius semipalmatus*)
- C) Black-bellied plover (*Pluvialis squatarola*)
- D) Wilson's plover (*Charadrius wilsonia*)
- E) Piping plover (*Charadrius melodus*)
- F) Killdeer (*Charadrius vociferous*)

Each time one of the above species is observed, the date, time, location (zone and/or subzone), the number of birds, and their activity shall be noted. Activities of interest include loafing, feeding, nesting, and courtship behaviors. If nesting activities by any of the above species, or any other species, are observed, the CONSULTANT must notify the COUNTY within 12 hours. The COUNTY, in consultation with FWC, will then decide if protective action must be taken.

Frequency: Daily from March 15 to September 30.

Data Reporting: All shorebird activity shall be summarized in an Excel spreadsheet or Access database, as directed by the COUNTY, and submitted with the appropriate monthly data submittal.

#### Escarpment Mapping

Weekly visual surveys for escarpment formation shall be conducted for the entire survey area. Escarpments steeper than 60° that exceed 18 inches in height for a distance of 100 feet or greater shall be mapped as a line feature with DGPS. The average height of any escarpments meeting the above criteria shall be estimated and the maximum height measured. These data shall be recorded on printed data forms approved by the COUNTY.

Frequency: Weekly from March 15 through September 30.

Data Reporting: A summary of all surveys, including date and time, environmental conditions (winds, tide, and sea state), zone and/or subzone location, average height, and maximum height and length of the escarpments (as a Microsoft Excel file), as well as GIS line features of escarpments (as ArcMap shapefiles in NAD83, Florida East) and the original Trimble .ssf files shall be included with each monthly data submittal.

#### High Water Line and Toe of Dune Mapping

Each month (after typical, non-storm conditions), the most recent high water line shall be mapped with DGPS for the entire survey area. In July, (after typical, non-storm conditions), the toe of dune or seaward vegetation line shall be mapped once with DGPS for the entire survey area.

Frequency: Monthly from March 15 to September 30 (for high water line) and once between July 1 and July 31 (for toe of dune).

Data Reporting: GIS line features of the high water line and toe of the dune (as ArcMap shapefiles in NAD83, Florida East) and the original Trimble .ssf files shall be included with the appropriate monthly data submittal.

#### TASK 2: Nest Evaluations and Monitoring

Selected nests will be located, marked, tracked throughout the incubation period, and nest contents evaluated, if applicable. Nests will be marked approximately 2 feet west of the egg chamber using a 2 foot (or larger) wooden stake. An additional wooden stake will be placed at the toe of the dune in the dune vegetation. Precise measurements (distance and bearing) will be made to the dune stakes and to appropriate landmarks to facilitate locating the nest if the nest stake is removed. This information will be recorded on both the nest stake and the datasheet. 8



The clutch for each marked nest will be located by digging a maximum of 10 narrow holes. If the clutch is not found, the approximate location will be marked and monitored throughout the incubation period.

The nest marking rotation for each species within each beach segment (defined above) will be developed in consultation with the COUNTY prior to the start of each sea turtle season. The goal shall be to randomly mark a sufficient number of loggerhead nests in order to evaluate a statistically meaningful number of nests in the fill area and non-fill area (~125 per treatment). The nest marking protocol shall take into account variable nesting densities in the fill and non-fill areas to ensure similar sample sizes for each treatment. Historic and predicted trends shall be used to formulate the protocol. A running count shall be maintained and the beach shall be surveyed in the same direction each day to ensure randomization. In the early part of each nesting season, current data shall be compared to predictions and, as necessary, adjustments made to the marking protocol to ensure a sufficient number of evaluated nests.

When sufficient numbers of nests are available, the following minimum numbers of nests will be marked for each species. If fewer nests are available, all nests will be marked.

| Survey Segment | Estimated Numbers of Nests to be Marked |       |             |
|----------------|---|-------|-------------|
|                | Loggerhead                              | Green | Leatherback |
| North          | 525                                     | 175   | 15          |
| Central        | 300                                     | 65    | 25          |
| South          | 300                                     | 245   | 100         |

In addition to any nest marking schedule, any nest, regardless of species or marking rotation, laid in a vehicle access or within a 10 foot perimeter of any portable lifeguard tower, shall be marked solely for protection purposes. To identify these nests as protected, they shall be assigned a nest ID as described in Task 1, with the addition of "P" after the marked nest number (example: CC-060307-4BP-JC). These nests shall be checked daily for the parameters mentioned below, but shall not be evaluated for reproductive success. All stakes shall be removed either seventy-two hours post-emergence or after 70 days of deposition, which ever occurs first. All protected nests shall be assigned a fate of protected.

Every marked nest shall be checked daily for:

- A) Presence of nest stakes. If the nest stake is missing, the stake will be reset, that day, using either the distance and bearing information recorded in the database or the GPS, unless continued stake loss due to ongoing, extreme tidal events is likely.
- B) Evidence of overwash. Overwash events will be categorized as to severity using the following criteria:
  - a. 1 = overwash over the egg chamber, but less than 1 meter west of egg chamber
  - b. 2 = overwash extent greater than 1 meter west of the egg chamber
- C) Evidence of predation. All depredation events that involve loss of eggs (not just loss of hatchlings) will be recorded, including the predator species, number of eggs lost, and the time of depredation (pre- or post-hatchling emergence); all predated nests shall be assigned a fate of "predated" on the first instance of egg loss, even if viable eggs remain intact.
- D) Evidence of hatching and/or disorientation. All hatchling emergences (not just from marked nests) shall be evaluated for disorientation. A disorientation report shall be completed for any amount of disoriented hatchlings. All disorientation events will be recorded on the FWC Marine Turtle Hatchling Disorientation Incident Report Form and fax or emailed to the COUNTY within 24 hours of observation; the original form shall be mailed to FWC within 24 hours of observation.

All appropriate information shall be recorded daily on a nest inspection datasheet (automatically generated by the database).

For each marked nest to be evaluated, the number of hatched eggs, unhatched eggs, pipped live eggs, pipped dead eggs, live hatchlings, dead hatchlings, and spacer eggs shall be recorded. Additionally, the depth from the surface to the top and bottom of the egg chamber, and the distance to the most recent high water line and the toe of the dune shall be measured. All data shall be recorded on a hatch success datasheet approved by the COUNTY. Each marked nest shall be assigned a fate according to the codes established in the database. If hatchling emergence is not observed after 70 days of incubation (80 days for leatherbacks), the nest site shall be excavated to locate the clutch. A nest fate of "clutch not found" may be used only after a 4'x4'x4' area has been excavated. All relocated nests must be marked and evaluated, regardless of species or marking rotation.

Frequency: Daily from March 15 until the last marked nest is inventoried.

Data Reporting: Each nest inspection event and hatch success record, including the above mentioned parameters, shall be entered into the COUNTY'S web-based data management system within one business day of collection. Raw nest inspection and hatch success datasheets are to be provided to the COUNTY weekly by fax or email until the COUNTY is confident in the quality of the data provided, and then, upon written notice from the COUNTY, with the appropriate monthly data submittal.

### TASK 3: Sediment Temperature Monitoring

A total of eighteen (18) temperature dataloggers (Onset Corporation Water Temp Pro model or equivalent, with an accuracy of  $\pm 0.2$  °C or better) shall be deployed in the configuration described below in three deployments between April 1 and September 30; a total of thirty-six (36) dataloggers shall be necessary. One full set of loggers shall be deployed on April 1 and retrieved on June 30, another full set shall be deployed on June 1 and retrieved on August 31, and a third full set shall be deployed on July 1 and retrieved on September 30. The loggers used in the first deployment shall be reset for the third deployment, provided the batteries in each logger have been replaced. Each logger shall be placed at a depth of 45 centimeters and set to log the temperature at least every 15 minutes. Three foot (or larger) wood stakes will be placed 2 feet west of each logger and will be marked to reflect the logger ID (using the naming convention described in Task 1, using DL as the species and H, M, or L to reflect the logger position; for example: DL-040107-3H-TEQ is the logger ID for the high beach logger set in zone 3CC on April 1, 2007) and the distance and compass bearing to the corresponding dune stake. Loggers shall be anchored to the marker stake using a nylon or otherwise non-conductive, non-degradable line (at least 2 feet long) to minimize stake and/or logger loss. Loggers will be disturbed only if stake loss occurs; logger position must be confirmed prior to stake replacement. For those loggers that require stake replacement, the temperature data for the following 24 hours shall be discarded (or otherwise identified in the database) as unreliable due to equilibration. Loggers shall be checked daily for the presence of stakes and evidence of overwash, as outlined in Task 2, and the appropriate information recorded on a nest inspection datasheet (automatically generated by the database). Upon retrieval, the depth to the top of the datalogger shall be recorded and the data downloaded.

Logger placement shall be based on the expected location of the majority of nests. On narrow beaches, loggers shall be placed at least 10 feet apart. Loggers should be placed as follows:

- A) Coral Cove dune fill area – Three (3) dataloggers shall be placed at the midpoints of the high, mid, and low thirds of the dry beach in the southern portion of zone 3CC (just north of the lifeguard tower).
- B) Coral Cove non-fill area – Three (3) dataloggers shall be placed at the midpoints of the high, mid, and low thirds of the dry beach in the northern portion of zone 8CC.

- C) Jupiter Carlin fill area – Three (3) dataloggers shall be placed at the midpoints of the high, mid, and low thirds of the dry beach in the southern portion of zone 5JC (just north of the Jupiter Civic Center).
- D) Jupiter Carlin/Juno Beach non-fill area – Three (3) dataloggers shall be placed at the midpoints of the high, mid, and low thirds of the dry beach in the southern portion of zone 9JC or in the northern portion of zone 1JB (just north or south of the Jupiter Reef Club).
- E) Juno Beach fill area – Three (3) dataloggers shall be placed at the midpoints of the high, mid, and low thirds of the dry beach in the southern portion of zone 5JB or the northern portion of zone 6JB in the vicinity of Loggerhead Park.
- F) MacArthur Beach State Park – Three (3) dataloggers shall be placed at the midpoints of the high, mid, and low thirds of the dry beach in an appropriate natural sand area.

All temperature data shall be entered in an Access database approved by the COUNTY. Pre-approved quality control procedures shall be implemented to ensure that the data is of the highest quality and ready for analysis. Any questionable data (e.g.: data collected immediately after downloading or datalogger presence confirmation) shall be flagged to facilitate exclusion during analysis. A log of all datalogger inspections and downloads shall be stored in the database.

Frequency: Datalogger stake inspections shall occur daily and dataloggers will be downloaded following each deployment as outlined between April 1 and September 30.

Data Reporting: The database containing all available data shall be included with each monthly data submittal.

#### TASK 4: Compaction

Once prior to March 30, the CONSULTANT shall take sediment compaction readings at each DEP survey monument and half-monument throughout the survey area (104 transects). Three sampling stations shall be established on each transect at high, mid, and low beach between the toe of the dune and the high water line. If less than 50 feet of dry beach are present, the sampling stations may be reduced to only high and low beach. At each station, five (5) replicate sediment compaction measurements shall be made using a cone penetrometer at three (3) depths (0-6", 6-12", and 12-18"); the sand shall be excavated from the sampling station between each depth reading. Penetrometers will not be provided by the COUNTY. All compaction data (transect ID, beach position, sampling depth, and compaction measurements) shall be recorded on a compaction monitoring datasheet approved by the COUNTY. All compaction data shall be entered into an Access database by the COUNTY.

Frequency: Once prior to March 30.

Data Reporting: The raw compaction datasheets shall be included with the appropriate monthly data submittal.

#### TASK 5: Survey Zone Characterization

In July (after typical, non-storm conditions), a digital photograph of at least 2 megapixel resolution shall be taken at each survey zone marker. These photos shall be taken facing north, west, and south (total of three photos per zone marker) while standing at the high water line at each zone marker and should be representative of the typical conditions in that survey zone. All photographs shall be labeled by zone marker, direction, and date (example: 1CC\_south\_yymmdd).

Frequency: Once between July 1 and July 31.

Data Reporting: Digital photographs shall be submitted in .jpg format with the appropriate monthly data submittal. //

#### TASK 6: Program Management, Quality Assurance/Quality Control, and Reporting

All raw data reporting forms shall be checked for accuracy and clarity by a CONSULTANT supervisor or senior staff member and all problems resolved within one business day of data collection. Data will be entered into the COUNTY'S web-based data management system and each entry verified for accuracy by two (2) different people within four (4) weeks of data collection. Persons performing data entry and all verification checks shall initial and date each raw data sheet. Alternative methods for data verification and quality assurance may be implemented by the CONSULTANT if approved in advance by the COUNTY.

GPS data shall be downloaded and, if required, uploaded to the database within 48 hours or one business day of data collection, whichever is longer, and examined for accuracy of content and position and for real-time correction. Those data points that are not corrected real-time will be post-processed. Each occurrence where post processing is necessary, as well as the steps taken to identify and resolve the problem, shall be reported to the COUNTY with the appropriate monthly data submittal. Any crawl location that cannot be corrected through real-time or post processing shall be reported to the COUNTY with the appropriate monthly data submittal.

For each Phase of work, the following Deliverables will be submitted monthly by the CONSULTANT to the COUNTY in order to receive payment:

- A. A copy of all differentially corrected data files generated through the use of the GPS equipment.
- B. All appropriate and required data described in this Scope of Work.
- C. A summary of all problems encountered associated with data collection or processing and the steps taken to resolve these issues.

Invoices and data reports shall be submitted by the 15<sup>th</sup> of each month following the month of data collection.

#### Annual Report

Two hard copies and one electronic copy (in Microsoft Word and Excel format) of a final annual report shall be prepared by the CONSULTANT and submitted to the COUNTY by December 15. This data summary shall include the following in tabular, graphic and/or written form, as applicable:

- A) A description of the study area and data collection methods.
  - B) Labeled photos of each survey zone depicting typical beach conditions.
  - C) The total number of crawls (by type) for each species in each zone.
  - D) A summary of overwash events and a correlation of number of overwash events as compared to hatchling emergence success by beach type (fill, non-fill).
  - E) The total number of nests of each species evaluated for hatching/emergence success in each zone.
  - F) For excavated nests summarize by zone and species, the average:
    - a. clutch size
    - b. hatched eggs
    - c. unhatched eggs
    - d. pipped dead eggs
    - e. pipped live eggs
    - f. live hatchlings
    - g. dead hatchlings
    - h. spacer eggs
    - i. hatch success
    - j. emergence success
  - G) A summary of the number of nests (by species) lost to erosion or affected by predation in each zone.
- 12

- H) A summary of temperature data throughout the nesting season and a correlation of temperature over time as compared to hatchling emergence success.
- I) A summary of compaction monitoring and results.
- J) A summary of shorebird data and results.
- K) A brief description and explanation of any problems encountered or unusual events (hurricanes, erosion, coastal construction, etc.) that may have affected data collection efforts or observed trends.
- L) A comparison of key data comparisons to previous years.
- N) Recommendations for future monitoring activities to improve the quality of the COUNTY's sea turtle program.

As the prime consultant to the COUNTY, Taylor Engineering will oversee the project to ensure the highest level of work. The project management will include:

- Weekly progress meetings with project leaders throughout the project to ensure efficient progress, coordination, task completion, quality assurance and control, problem identification and resolution, and compliance with deliverable requirements.
- Review of deliverables prior to submittal to the COUNTY.
- Coordination of COUNTY information requests.

#### OPTIONAL Special Project and Construction Related Monitoring

In addition to the standard sea turtle monitoring work described above, the COUNTY may authorize the CONSULTANT to provide the following special project monitoring according to the cost schedule defined in Attachment A.

#### Option A - Juno Pier Night Monitoring

The CONSULTANT shall conduct weekly night monitoring surveys in survey zones 1JB, 4JB, 5JB, and 8JB, in half hour increments between 8:00 PM and 12:00 AM. The following parameters shall be recorded on a datasheet to be designed by the CONSULTANT and approved by the COUNTY:

##### Zone and subzone

- Time
- Number of people observed
- Activities of people observed, including the following:
  - Sitting
  - Standing
  - Walking
  - Swimming
  - Fishing
  - Watching turtles
- Number of people/turtle interactions. If people/turtle interactions are observed, the following must also be recorded:
- Turtle activity (nesting, crawling, body pitting, returning)
- Crawl outcome (nest, non-nesting emergence)

Frequency: Weekly between May 15 and September 15.

Data Reporting: All night monitoring survey data shall be summarized in an Excel spreadsheet and submitted with the appropriate monthly data submittals. Raw night monitoring datasheets shall be provided to the COUNTY weekly by fax or email until the COUNTY is confident in the quality of the data provided, and then, upon written notice from the COUNTY, with the appropriate monthly data submittal. A summary of night monitoring activities and results shall be included in the final Annual Report.

13

**Attachment A**

**Palm Beach County Sea Turtle Monitoring - North County**

**Prepared By**

**Taylor Engineering with Ecological Associates, Inc. and the Loggerhead Marinelifelife Center**

**Summary of Costs**

February 9, 2007

| <u>Standard Monitoring</u>   | <u>Costs</u> |                |
|--|--------------|----------------|
| Mobilization/Preparation   | \$           | 5,477          |
| Nesting Surveys and Beach Monitoring                                 |              |                |
| North Segment  | \$           | 16,262         |
| Central Segment  | \$           | 13,357         |
| South Segment  | \$           | 21,607         |
| Nest Marking & Monitoring  |              |                |
| North Segment  | \$           | 11,474         |
| Central Segment  | \$           | 6,270          |
| South Segment  | \$           | 10,654         |
| Sediment Temperature Monitoring                                      | \$           | 1,800          |
| Compaction Monitoring  | \$           | 5,039          |
| Survey Zone Characterization   | \$           | 2,703          |
| Program Management and Reporting                                     |              |                |
| EAI and MLC  | \$           | 95,120         |
| Taylor Engineering   | \$           | 14,000         |
| Equipment Fees (Per Year)  |              |                |
| ATV's (6), maintenance, and operation                                | \$           | 11,700         |
| ATV Trailer  | \$           | 400            |
| Truck  | \$           | 8,029          |
| Lazer Range Finders (4)  | \$           | 900            |
| Sub-meter GPS systems (2)  | \$           | 3,400          |
| Field Computer   | \$           | 417            |
| Temperature Data Loggers (45)  | \$           | 2,475          |
| General Field Supplies (Stakes, flagging tape, mallets, forms, etc.) | \$           | 2,343          |
| Equipment Total  | \$           | 29,664         |
| <b>Total: Standard Monitoring</b>                                    | <b>\$</b>    | <b>233,427</b> |
| Allocation: <b>Prime Contractor : Taylor Engineering</b>             | \$           | 14,000         |
| <b>Subcontractor : Ecological Associates, Inc.</b>                   | \$           | 219,427        |

**Optional Specialty Monitoring**

|   |    |       |
|---|----|-------|
| Option A Nighttime Pedestrian Survey - Juno Pier<br>Provided by Ecological Associates, Inc. | \$ | 9,720 |
|---|----|-------|

14

## Zone Boundaries, Lengths, and Naming Conventions

| Zone     | Length<br>(miles) | North Boundary* |             | ERM Treatment                | FWC Beach Name                               |  |
|----------|-------------------|-----------------|-------------|------------------------------|--|--|
|          |                   | X               | Y           |                              |  |  |
| 1CC      | 0.24              | 955628.2554     | 959522.1462 | Tequesta High<br>Density     | Tequesta Beaches<br>(combine with 5CC - 8CC) |  |
| 2CC      | 0.20              | 955947.6298     | 958382.8899 |                              |  |  |
| 3CC      | 0.08              | 956203.7498     | 957380.2127 | Tequesta Dune<br>Fill        | Coral Cove Park                              |  |
| 4CC      | 0.10              | 956396.8186     | 956974.9107 |                              |  |  |
| 5CC      | 0.04              | 956583.2218     | 956504.1846 |                              |  |  |
| 6CC      | 0.15              | 956612.4946     | 956310.7527 |                              |  |  |
| 7CC      | 0.09              | 956762.5032     | 955551.2916 |                              |  |  |
| 8CC      | 0.13              | 956845.1538     | 955104.5046 | Tequesta Non-Fill<br>and JIC | Tequesta Beaches<br>(combine with 1CC - 2CC) |  |
| 9CC      | 0.21              | 957065.2582     | 954454.1354 |                              |  |  |
| 10CC     | 0.18              | 957389.8062     | 953494.9838 |                              |  |  |
| 11CC     | 0.24              | 957710.9543     | 952620.9635 |                              |  |  |
| 12CC     | 0.19              | 958163.3753     | 951507.0928 |                              |  |  |
| 13CC     | 0.10              | 958551.1555     | 950677.3227 |                              |  |  |
| 1JC      | 0.15              | 958721.6384     | 949764.6951 | Jupiter Carlin Fill          | Jupiter/Carlin                               |  |
| 2JC      | 0.19              | 958665.7389     | 948907.3233 |                              |  |  |
| 3JC      | 0.25              | 959140.0750     | 948006.0281 |                              |  |  |
| 4JC      | 0.07              | 959400.8077     | 946694.7973 |                              |  |  |
| 5JC      | 0.19              | 959489.2377     | 946309.1954 |                              |  |  |
| 6JC      | 0.26              | 959646.2339     | 945316.0618 |                              |  |  |
| 7JC      | 0.19              | 959848.8867     | 943969.1092 | Jupiter Carlin<br>Non-fill   |  |  |
| 8JC      | 0.20              | 960126.5572     | 943014.6473 |                              |  |  |
| 9JC      | 0.05              | 960431.0271     | 942021.8382 |                              |  |  |
| 10JC     | 0.08              | 960557.5388     | 941782.1609 |                              |  |  |
| 1JB      | 0.58              | 960642.0307     | 941391.8073 | Juno Beach<br>Non-fill       | Jupiter/Juno                                 |  |
| 2JB      | 0.42              | 961535.7039     | 938494.4498 |                              |  |  |
| 3JB      | 0.50              | 962119.2847     | 936371.9170 | Juno Beach Fill              |  |  |
| 4JB      | 0.51              | 962882.4584     | 933843.1435 |                              |  |  |
| 5JB      | 0.63              | 963549.0693     | 931228.3139 |                              |  |  |
| 6JB      | 0.53              | 964503.7528     | 928014.6570 |                              |  |  |
| 7JB      | 0.47              | 965391.7864     | 925342.8122 |                              |  |  |
| 8JB      | 0.48              | 966103.9875     | 922965.0747 | Juno Beach<br>Non-fill       |  |  |
| 9JB      | 0.54              | 966696.6224     | 920519.3299 |                              |  |  |
| 10JB     | 1.06              | 967326.3986     | 917739.4469 |                              |  |  |
| 11JB     | 0.27              | 968460.1383     | 912253.7035 |                              |  |  |
| End 11JB |                   | 968814.6279     | 910905.3500 |                              |  |  |

\*coordinate system is NAD 83, Florida East

15

Exhibit B

**TAYLOR ENGINEERING, INC.  
COST SUMMARY BY TASK**

**P2007-024: PALM BEACH COUNTY SEA TURTLE MONITORING - NORTH COUNTY**

**TASK 1: Program Management**

| <i>Labor</i>        | <i>Hours</i> | <i>Cost (\$)</i> | <i>Task Totals</i> |
|---------------------|--------------|------------------|--------------------|
| Senior Professional | 140.0        | 14,000.00        |                    |
| Total Man-Hours     | 140.0        |                  |                    |
| Labor Cost          |              |                  | 14,000.00          |
| Total Task 1        |              |                  | \$ 14,000.00       |

**TASK 2: Ecological Associates, Inc. Subcontract**

| <i>Labor</i>                      | <i>Hours</i> | <i>Cost (\$)</i> | <i>Task Totals</i> |
|-----------------------------------|--------------|------------------|--------------------|
| <i>Non-Labor</i>                  | <i>Units</i> | <i>Cost (\$)</i> |                    |
| Standard Monitoring               | 1.0          | 219,427.00       |                    |
| Optional Night Pedestrian Surveys | 1.0          | 9,720.00         |                    |
| Total Non-Labor Cost              |              |                  | 229,147.00         |
| Total Task 2                      |              |                  | \$ 229,147.00      |

**Project Total \$ 243,147.00**



## Taylor Engineering Continuing Contract for Coastal and Marine Engineering

Contract R2004-2377 dated Nov. 16, 2004 for period of two years expires on Nov. 15, 2006

Contract Amendment R2006-2661 dated December 5, 2006 extends contract through November 15, 2007.

SBE-MBE Goal 20.0% (12% SBE/W; 8% MBE/H)

Task order summary:

| TASK NUMBER           | TOTAL/<br>SBE and/or<br>MWBE<br>AMOUNT | TASK DUE<br>DATE | TASK DESCRIPTION  | APPROVED<br>BY/DATE |
|-----------------------|--|------------------|---|---------------------|
| 2377-01               | 18,817.00<br>0.00                      | 1/31/05          | Dubois Park Seawall Replacement   | CRC<br>12/22/04     |
| 2377-02               | 123,688.00<br>28,280.00                | 8/30/05          | Dubois Park Redevelopment - Phase I   | BCC<br>04/04/05     |
| 2377-03               | 15,234.00<br>0.00                      | 8/30/05          | Jupiter/Carlin 24-Month Monitoring Report   | CRC<br>06/15/05     |
| 2377-04               | 12,806.00<br>0.00                      | 12/29/05         | Juno Beach Shore Protection Project<br>4 Year Post-Construction Monitoring Report | CRC<br>10/19/05     |
| 2377-05               | 9,296.00<br>0.00                       | 12/19/05         | Dubois Park Timber Wall Design  | ERM<br>11/22/05     |
| 2377-06               | 79,985.00<br>12,800.00                 | 12/15/06         | Bryant Park Feasibility Study & Conceptual Master Plan                            | BCC<br>2/28/06      |
| 2377-07               | 94,624.00<br>0.00                      | 5/17/06          | West Palm Beach Canal (C-51) Acoustic Survey                                      | CRC<br>3/1/06       |
| AMENDMENT NUMBER<br>1 |  |                  | Revised Exhibit B - Fee Schedule  | ERM<br>5/18/06      |
| 2377-08               | 12,256.00<br>0.00                      | 9/22/06          | Jupiter/Carlin 3 Year Monitoring Report   | ERM<br>7/25/06      |
| 2377-09               | 54,516.80<br>52,420.00                 | 9/29/06          | Palm Beach County Regional Monitoring: 189 Onshore<br>Beach Profiles              | CRC<br>8/9/06       |
| AMENDMENT NUMBER<br>2 |  |                  | 1 Year Contract Extension<br>R2006-2661   | BCC<br>12/5/06      |
| AMENDMENT NUMBER<br>3 |  |                  | Revised Exhibit B - Fee Schedule  | ERM                 |
| 2377-10               | 126,593.00<br>2,200.00                 | 12/13/07         | Dubois Park Redevelopment - Phase II  | BCC                 |
| 2377-11               | 243,147.00<br>0.00                     | 12/15/07         | Sea Turtle Monitoring - North County  | BCC                 |
|                       |  |                  |   |                     |
|                       |  |                  |   |                     |

Total: 790,962.80

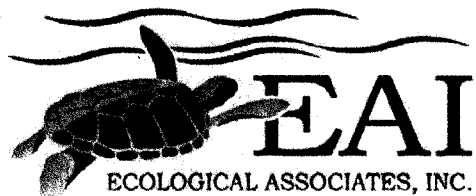
SBE-MBE: 95,700.00

SBE-MBE Participation: 12.1%

Report Date & Filename: 02/28/07

T:\eers\engser\consult\TAYLOR\_2006\history\_2377.xls]Sheet1

17



Mr. Bud Howard  
Senior Scientist  
Taylor Engineering, Inc.  
1665 Palm Beach Lakes Blvd., Suite 803  
West Palm Beach, Florida 33401

February 9, 2007

Dear Mr. Howard:

Ecological Associates Inc. (EAI) is pleased to team with Taylor Engineering, Inc. in support of Palm Beach County's sea turtle monitoring program. EAI has a long history of conducting sea turtle research and conservation programs in Florida and has the expertise to provide all of the services outlined in the County's Scope of Work for this project. To ensure that it has adequate staff to conduct all required field activities in a timely and efficient manner, EAI has partnered with the Loggerhead Marinelife Center (MLC) of Juno Beach. The MLC brings a great deal of local knowledge regarding beach conditions in the project area to the EAI team. Staff from both EAI and MLC will participate in all aspects of the project under the management of EAI senior staff.

EAI previously provided Taylor Engineering with a breakdown of field, equipment, data management, and project management costs under a unified rate schedule. The costs for all services provided by EAI, as itemized in Taylor Engineering's proposal to Palm Beach County dated February 9, 2007, total \$229,147, inclusive of the optional nighttime pedestrian survey for the Juno Pier.

EAI is pleased to have the opportunity to assist Taylor Engineering with this project. Should you have any questions regarding proposed services or associated costs, I can be reached at (772) 334-3729.

Sincerely,

*Robert G. Ernest*

Robert G. Ernest  
President

RGE/rge

c: R.E. Martin/EAI Scientific Director

18

Attachment 2a

R2004 2377

**CONTRACT FOR PROFESSIONAL CONSULTANT SERVICES  
BETWEEN PALM BEACH COUNTY AND  
TAYLOR ENGINEERING, INC.**

This is a Contract made as of NOV 16 2004, by and between Palm Beach County, a Political Subdivision of the State of Florida, by and through its Board of County Commissioners, hereinafter referred to as the COUNTY, and Taylor Engineering, Inc., 9000 Cypress Green Drive, Suite 200, Jacksonville, Florida 32256, an engineering firm, a corporation, authorized to do business in the State of Florida, hereinafter referred to as the CONSULTANT, whose Federal I.D. Number is 59-2850478.

In consideration of the mutual promises contained herein, the COUNTY and the CONSULTANT agree as follows:

**ARTICLE 1 - SERVICES**

The CONSULTANT's responsibility under this Contract is to perform professional coastal and marine engineering services and incidental services as more specifically set forth in the Scope of Work attached hereto as Exhibit "A". In the event services are required to be performed that are not described in Exhibit "A", but are within the general scope of services, the COUNTY and the CONSULTANT hereby reserve the right to negotiate task orders covering the desired services.

The CONSULTANT shall conduct professional services in accordance with Chapters 471 and 472, Florida Statutes and other applicable local, state and federal standards. The CONSULTANT shall conduct topographic and hydrographic survey work in compliance with the U.S. Army Corps of Engineers "Technical Requirements for Surveying, Mapping and Photogrammetric Services," Revised March 1989 and the U.S. Army Corps of Engineers "Engineering Design: Hydrographic Surveying," EM 1110-2-1003, February 28, 1991, and the most current Florida Department of Environmental Protection specifications for topographic (section 02000) and bathymetric (section 02100) surveying.

**ARTICLE 2 - PERIODS OF SERVICE AND SCHEDULES**

This Contract commences on the day and year first written above and ends two years later. At the option of the COUNTY, the Contract can be renewed for an additional one-year period.

Reports and other work items shall be delivered or completed according to schedules established in each task order.

**ARTICLE 3 - ASSIGNMENT OF WORK**

The CONSULTANT shall provide professional services on a task order basis. A copy of the Task Order form and Task Change Order form are attached hereto as Exhibit "C" and Exhibit "D". The COUNTY reserves the right to modify these forms during the term of the Contract.

**ARTICLE 32 - CRIMINAL HISTORY RECORDS CHECK**

The CONSULTANT shall comply with the provisions of Ordinance 2003-030, the Criminal History Records Check Ordinance ("Ordinance"), if CONSULTANT's employees or subcontractors are required under this contract to enter a "critical facility" as identified in Resolution R-2003-1274. The CONSULTANT acknowledges and agrees that all employees and subcontractors who are to enter a "critical facility" will be subject to a fingerprint based criminal history records check. Although COUNTY agrees to pay for all applicable FDLE/FBI fees required for criminal history record checks, the CONSULTANT shall be solely responsible for the financial, schedule, and staffing implications associated in complying with Ordinance 2003-030.

IN WITNESS WHEREOF, the Board of County Commissioners of Palm Beach County, Florida has made and executed this Contract on behalf of the COUNTY and CONSULTANT has hereunto set its hand the day and year above written.

DOROTHY H. WILKEN, CLERK  
Board of County Commissioners

By: *Judith Wilken*  
DEPUTY CLERK  
PALM BEACH COUNTY  
FLORIDA

WITNESS:

*Carla Cannon*

Signature

*Carla Cannon*

Name (type or print)

APPROVED AS TO FORM  
AND LEGAL SUFFICIENCY:

By: *Anne Wilken*  
Assistant County Attorney

APPROVED AS TO TERMS  
AND CONDITIONS:

By: *Richard E. Walesky*  
Richard E. Walesky, Director  
Dept. of Environmental Resources Mgmt.

**R2004 2377**

PALM BEACH COUNTY NOV 16 2004  
BOARD OF COUNTY COMMISSIONERS:

By: *Tony Masiotti*  
Tony Masiotti Chair

CONSULTANT:

Taylor Engineering, Inc.

Company Name

*Ji-Ang Song*

Signature

Ji-Ang Song, P.E.

Name (type or print)

President

Title

(corp.seal)



**EXHIBIT B**  
Taylor Engineering, Inc.  
Schedule of Hourly Labor Rates  
and Equipment Fees and Other Direct Costs  
for 2007  
Palm Beach County  
Coastal & Marine Engineering Services

| <b>Position</b>       | <b>Weighted<br/>Average Direct<br/>Hourly Wage</b> | <b>Burdened Hourly<br/>Billing Rate*</b> |
|-----------------------|--|--|
| CEO                   | 82.40  | 235.00                                   |
| President             | 70.99  | 202.00                                   |
| Vice President        | 50.46  | 144.00                                   |
| Director              | 40.81  | 116.00                                   |
| Senior Professional   | 35.06  | 100.00                                   |
| Project Professional  | 31.20  | 89.00                                    |
| Staff Professional    | 24.88  | 71.00                                    |
| Senior Editor         | 30.10  | 86.00                                    |
| Sr. Technical Support | 20.44  | 58.00                                    |
| Technical Support     | 16.63  | 47.00                                    |
| Administrative        | 13.97  | 40.00                                    |

| <b>Equipment Fee and Other Direct Costs</b>                | <b>Rate</b> | <b>Unit</b> |
|--|-------------|-------------|
| Black & White Photocopies (8-1/2 x 11)                     | \$0.10      | /page       |
| Black & White Photocopies (11 x 17)                        | \$0.15      | /page       |
| Color Photocopies (8-1/2 x 11)                             | \$1.00      | /page       |
| Color Photocopies (11 x 17)                                | \$1.25      | /page       |
| Computer Generated Glossy Plots (24" x 36" Glossy Paper)   | \$60.00     | /page       |
| Computer Generated Glossy Plots (24" x 36" Standard Paper) | \$30.00     | /page       |
| 14' Aluminum Jonboat                                       | \$75.00     | /day        |
| Truck  | \$80.00     | /day        |
| Trimble Differential GPS                                   | \$100.00    | /day        |
| ADFM Velocity Profiler Pro20                               | \$200.00    | /day        |
| ADCP Rio Grande Current Meter                              | \$200.00    | /day        |
| Sokkia SET6E Total Station                                 | \$350.00    | /day        |
| Cone Penetrometer  | \$15.00     | /day        |
| YSI SCT Meter  | \$50.00     | /day        |
| YSI DO Meter   | \$50.00     | /day        |
| Hand-held GPS  | \$10.00     | /day        |

\*The Burdened Hourly Billing Rates are based on a 2.85 multiplier.

21

2007 -

0652

BGEX - 380- 0301070000000001141

**BOARD OF COUNTY COMMISSIONERS  
PALM BEACH COUNTY, FLORIDA**

**BUDGET TRANSFER  
FUND 3652 Beach Improvement**

| ACCOUNT NAME AND NUMBER                      |                                   | ORIGINAL<br>BUDGET | CURRENT<br>BUDGET | INCREASE | DECREASE | ADJUSTED<br>BUDGET | ENC/EXP<br>2/29/2007 | REMAINING<br>BALANCE |
|--|-----------------------------------|--------------------|-------------------|----------|----------|--------------------|----------------------|----------------------|
| <b><u>Appropriations</u></b>                 |                                   |                    |                   |          |          |                    |                      |                      |
| <b><u>Reserves</u></b>                       |                                   |                    |                   |          |          |                    |                      |                      |
| 381-9900                                     | 9909 Res-Improvement Progm        | 4,179,866          | 6,435,211         | 0        | 50,000   | 6,385,211          | 0                    | 6,385,211            |
| <b><u>Coral Cove Dune Restoration 97</u></b> |                                   |                    |                   |          |          |                    |                      |                      |
| 381-M040                                     | 4630 Beach/Dune Restore/Renourish | 64,146             | 62,000            | 50,000   | 0        | 112,000            | 0                    | 112,000              |
|  |                                   |                    |                   | 50,000   | 50,000   |                    |                      |                      |

Environmental Resources  
Management

INITIATING DEPARTMENT/DIVISION  
Administration/Budget Department Approval  
OFMB Department - Posted

Signatures & Dates

*Richard E. Wadley* 3/5/07  
*John D. ...* 3-7-07  
*...* 3/7/07

BY BOARD OF COUNTY COMMISSIONERS  
AT MEETING OF

March 13, 2007

Deputy Clerk to the  
Board of County Commissioners