Agenda Item #:\_\_\_\_\_\_/

# PALM BEACH COUNTY **BOARD OF COUNTY COMMISSIONERS**

# AGENDA ITEM SUMMARY

Meeting Date: October 5, 2010

(X) Consent () Workshop ) Regular ) Public Hearing

Department Submitted By: **Submitted For:** 

**Environmental Resources Management** Environmental Resources Management

# **I. EXECUTIVE BRIEF**

Motion and Title: Staff recommends motion to approve: Task Order No. 1297-01 to a continuing Contract (R2010-1297) with Olsen Associates, Inc. (Olsen) in the amount of \$185,092.18 for Phase I planning, design, and permitting of the third nourishment of the Ocean Ridge Shore Protection Project.

Summary: The Contract with Olsen, a Jacksonville, Florida company, was approved on August 17, 2010 (R2010-1297). This Task Order 1297-01 authorizes Olsen to conduct planning, borrow area development, preliminary engineering and design of the beach fill project, a preliminary feasibility investigation into groin field modifications, and permit application, with a completion date of April 5, 2011. The Task Order is funded by tourist development taxes. State and Federal funding agreements are also anticipated. No ad valorem support is required. There is 27.9% Small Business Enterprise and Minority/Woman Business Enterprise (SBE-M/WBE) subconsultant participation on the Task Order. Olsen committed to an overall 38% SBE-M/WBE participation in the Contract. Olsen has achieved 27.9% cumulative SBE-M/WBE participation on the Contract including this Task Order. District 4 (JM)

Background and Justification: The beach at Ocean Ridge was nourished in 1998 and 2005. The federally estimated nourishment interval is six (6) years. Since the rock groin field was installed in 1997 at the north end of the project, only 1.1 miles out of the original 1.42 total project miles have required sand fill since 1998. Cost-sharing of approximately 50% Federal and 25% State is anticipated for this nourishment project. State funding for the groin field modification is being requested.

# Attachments:

1. Task Order No. 1297-01 with Contract History 2. Contract (pages 1, 19, Exhibit B Fee Schedule)

12 Wal **Recommended by:** Approved by:

**County Administrator** 

# **II. FISCAL IMPACT ANALYSIS**

# A. Five Year Summary of Fiscal Impact:

Fiscal Years Capital Expenditures Operating Costs	<b>2011</b> <a>\$185,092</a>	2012	2013	201	4	2015
External Revenues Program Income (County) In-Kind Match (County)					· ·	
NET FISCAL IMPACT	\$185,092				<u> </u>	
# ADDITIONAL FTE POSITIONS (Cumulative)	·					
Is Item Included in Current Budget Account No.:	t Budget? Fund <u>3652</u> Program	Yes Department	<u>x</u> 381 (	<b>No</b> Unit <u>M015</u>	<b>Object</b> <u>31</u>	<u>20</u>

# B. Recommended Sources of Funds/Summary of Fiscal Impact:

Tourist development taxes.

C. Department Fiscal Review:

# **III. REVIEW COMMENTS**

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

**OFMB** alp Jul 10 Z Legal Sufficiency: B. Ь Assistant County Attorney С. **Other Department Review:** 

7110 Contract Development and C Janes 9/17/10 E,

This item complies with current County policies.

**Department Director** 

# Attachment 1

TASK ORDER
TASK ORDER: 1297-01 CONSULTANT: Olsen Associates, Inc.
ACCOUNT: <u>3652-381-M015-3120</u> CONTRACT: <u>R2010-1297</u> [Fiscal approval of Budget Availability: <u>Manual Funda</u>
PROJECT MANAGER: <u>Tracy Logue</u> PHONE: <u>561-233-2491</u>
CONTRACT MANAGER: Juan Cueto PHONE: <u>561-233-2431</u>
PROJECT NAME: Ocean Ridge Shore Protection Project 3 – Phase I
LOCATION/DISTRICT #: Ocean Ridge / District 4
TASK DESCRIPTION (use additional pages if necessary): <u>The Consultant shall provide</u> professional services for the implementation of the Ocean Ridge Shore Protection Project 3, as described in the attached proposal dated September 8, 2010.
DELIVERABLES: <u>See scope of work dated 9/8/2010.</u>
TASK ORDER TYPE: <u>FIXED PRICE \$182,169.02</u> DUE DATE: <u>4/5/2011</u> NOT-TO-EXCEED \$2,923.16 (Travel)
TOTAL AMOUNT \$_185,092.18 See attached proposal dated9/8/2010
(Check where appropriate) for Contract and Subcontract Amounts:       Black       Hispanic       Women       Other (specify)       White Male         M/WBE (State) ⊠       \$\$       \$\$       \$\$       \$\$       \$\$         SBE-M/WBE* □       \$\$       \$\$       \$\$       \$\$       \$\$       \$\$         SBE<
TOTAL SBE-M/WBE PARTICIPATION: \$ 51,672.52
CONSULTANT REP: DATE: <u>9 Sept N</u>
DIVISION DIRECTOR: Paul Davis for DB DATE: 9/13/13
APPROVED AS TO TERMS AND CONDITIONS:
ERM DIRECTOR: Kulende - Walnung DATE: 9/13/10
APPROVED AS TO FORM AND LEGAL SUFFICIENCY:
ASSISTANT COUNTY ATTORNEY: DATE:
BOARD OF COUNTY COMMISSIONERS: DATE: DATE:



September 8, 2010

Richard E. Walesky, Director Palm Beach County Dept. of Environmental Resources Management 2300 North Jog Road, 4<sup>th</sup> Floor West Palm Beach, FL 33411-2734

Re: Ocean Ridge Shore Protection Project 3 – Revised Task Order 1 – Phase 1 Proposal (Ver. 3)

Mr. Walesky,

In response to September 3, 2010 comments from PBC-ERM on our Phase 1 of Task Order 1 (Ocean Ridge Shore Protection Project 3) proposal, please find attached our revised proposal and supporting documentation. The information provided herein includes the original scope of work (Attachment A), revised cost details for Olsen Associates, Inc. (CONSULTANT) (Attachment B), revised proposal for SEA, Inc. dated September 3, 2010 (Attachment C) and unrevised proposal for Sea Diversified, Inc. (Attachment D).

The cost for the revised Task Order 1 (Phase I) proposal is a lump sum amount of \$182,169.02 plus a not-to-exceed travel allowance of \$2,923.16. Of this amount, \$51,672.52 is allocated to SBE and M/WBE certified firms.

Please contact us with questions regarding this revised submittal.

Sincerely yours,

when & hero

Christopher G. Creed, P.E. Sr. Engineer / Vice President

olsen associates, inc. 1 2618 Herschel Street 1 Jacksonville, FL 32204 1 904.387.6114 1 FAX 904.384.7368

PHASE I

# 1. Planning

- 1.1. <u>Study Planning/Coordination.</u> The CONSULTANT shall work with Palm Beach County ERM staff to develop a phased scope of work to progressively study, design, permit, and implement the Ocean Ridge Shore Protection Project 3.
- 1.2. <u>Coordination with USACE-Jacksonville District.</u> The CONSULTANT shall work with Palm Beach County ERM staff to determine the planning tasks that will ultimately be required by the USACE-Jacksonville District to implement the Ocean Ridge Shore Protection Project 3. This effort shall include coordination with the USACE and Federal Resource Agencies to determine the scope of a required Limited Reevaluation Report (LRR) and the NEPA documentation. It is not known at this time if implementation of the project will require the application of the Beach-fx storm damage benefits model or if the project will require an Environmental Assessment (EA) or a Supplement to the Environmental Impact Statement (EIS) for the Shore Protection Project, Palm Beach County, Florida. Due to the recent listing of Acropora cervicornis and Acropora palmata and associated Critical Habitat designation for these coral species, modification of the EIS may be necessary. The CONSULTANT shall also support Palm Beach County ERM staff in the preparation for and participation in meeting, monthly conference calls, follow-up, and other necessary project related activities with the USACE-Jacksonville District.

# 2. Sand Borrow Area Development

- 2.1. <u>Geotechnical Investigation</u>. The CONSULTANT shall characterize the sand resources within an extended area of the Ocean Ridge sand borrow area and verify compatibility with native beach sediments along Ocean Ridge Shore Protection Project shoreline. This effort shall include the collection of ten (10) vibracores, geotechnical laboratory analyses and reporting, an updated cultural resources investigation, and preliminary borrow area delineation and design. The purpose of this effort shall be to assemble information required by the permitting agencies to allow beach quality sand within the Ocean Ridge borrow area to be excavated and placed as beach renourishment material along the Ocean Ridge shoreline.
  - 2.1.1. <u>Permitting</u>. The CONSULTANT shall apply for and work to acquire a De Minimis Exemption to allow for the collection of vibracores and other geotechnical data in the Ocean Ridge sand borrow area and along the Ocean Ridge project shoreline.
  - 2.1.2. <u>Core Borings.</u> The CONSULTANT through a qualified subconsultant shall collect ten (10) core borings offshore of Ocean Ridge. The cores shall be collected using equipment based on a model 271 B Alpine Pneumatic Vibracore

configured to take 3-inch (min.) diameter cores up to 20 feet in length. The model 271 B is a self-contained, freestanding pneumatic vibracore unit.

- 2.1.3. <u>Core Logs.</u> Each core boring shall be visually inspected, and logged in detail according to ASTM D2488, the standard practice for visual descriptions of the stratigraphic soil layers. Results of the logging procedure shall be coded into the gINT<sup>TM</sup> software customized for the Florida Department of Environmental Protection (FDEP) ROSS database. The gINT<sup>TM</sup> software includes Engineering Form 1836 commonly used by the U.S. Army Corps of Engineers for core log presentation. During the logging procedure, particular attention shall be paid to lithology, texture, silt and clay content, shell content, and Munsell color. Samples for grain-size analysis shall be taken at intervals warranted by changes in lithology. A composite sample of each core shall also be taken to represent the interval that best corresponds to beach quality sand. Results of the grain-size analysis procedure described below shall be compared with the core logs to insure consistency between the soil classification listed on the core logs and the classification of individual samples.
- 2.1.4. <u>Sample Analysis (Borrow Area).</u> Each core boring sample shall be split into two sub-samples. One of the two sub-samples shall be used to perform the various analyses and the second sub-sample shall be archived. Grain size analysis shall be conducted according to ASTM Standard D-422 for mechanical particle size analysis of the soils. Samples shall be mechanically sieved using a set of nested screens that divide sediments at phi intervals from -4 to +3.5 phi and will include the +3.75 phi (#200 mesh screen) required by the FDEP. Weight retained on each sieve shall be used to compute grain-size distribution in terms of weight percent of sample in each size class. For bulk fine (silt and clay fraction) and coarse content, the ASTM D1140 (ASTM, 2008) and the Wentworth (1929) procedures of determining percent fine fraction shall be followed. The percent fine sediment retained on #230 and #200 sieves shall also be reported.

Grain size distribution of samples processed in accordance with the above procedures shall be analyzed using the method of moments and graphic methods as described by Folk (1974). Tabular summaries of each sample shall be generated for sieve size, phi size, and mesh opening size in millimeters, weight of sediment retained in grams, cumulative percent retained, and cumulative percent passing. Sample statistics (e.g., mean, standard deviation, skewness, and kurtosis) are displayed in the summary tables.

The carbonate content of each discrete and composite sample shall also be determined using a high temperature burn and included in the reporting.

2.1.5. <u>Sample Analysis (Native Beach)</u>. Sediment samples will be collected by the COUNTY along the Ocean Ridge project shoreline following guidelines,

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included in USACE Coastal Engineering Technical Note CETN-II-29 (Dec 1991) and provided to the CONSULTANT. It is assumed that twenty-eight samples will be collected, seven samples along four R-monument transects. The CONSULTANT shall perform the same analyses on the native beach samples as those performed for the core boring samples and described in Task 2.1.4.

- 2.1.6. <u>Final Report.</u> The CONSULTANT through the geotechnical subconsultant shall prepare a final report that describes the goals, methods, and results of the geotechnical investigation. The report shall include a series of appendices that list the core logs, grain size analysis of the discrete and composite samples, and grain size analysis of the borrow area and native beach samples. Additional products shall include the data set presented in the various database formats required by the FDEP. Among these products are the ACCESS Database file exported from the gINT<sup>TM</sup> software and the GIS layers depicting the location of the core borings.
- 2.2. <u>Cultural Resources Investigation.</u> The CONSULTANT through a qualified subconsultant shall perform a cultural resources investigation of two (2) potential borrow sites off the coast of Ocean Ridge in Palm Beach County, Florida. The two (2) borrow sites extend north and south of the 1998 and 2005 borrow sites in water depths ranging from approximately 30 to 40 feet. The cultural resource remote sensing survey tasks described herein are intended to conform to the requirements of the Florida Division of Historical Resources (FDHR) pursuant to Chapters 1A-32 and 1A-46, Florida Administrative Code (F.A.C.) in coordination with the State Historic Preservation Officer (SHPO) and the US Army Corps of Engineers, Jacksonville District (USACE). It is understood that the USACE Jacksonville District has not reviewed or approved this scope of work. Modifications to the scope of work and budget may be required following review and comment by the Jacksonville District.

The surveys shall be conducted under the direction of Tidewater Atlantic Research, Inc. (TAR), a qualified Marine Archaeological firm that specializes in cultural resource investigations. The TAR effort shall include archival research, an underwater remote sensing survey combined with bathymetric data collection to identify and map submerged features of potential prehistoric or historic significance, diver groundtruthing, if necessary, and reporting. The underwater remote sensing survey shall include bathymetric, magnetometer, side scan sonar and sub-bottom profiler data collection.

2.2.1. <u>General Surveying</u>. All positioning and hydrographic surveying shall be conducted under the responsible charge of a Professional Surveyor and Mapper registered in the State of Florida. All work shall meet or exceed the Minimal Technical Standards set forth by the Florida Board of Professional Surveyors and Mappers in Chapter 61G17-6, Florida Administrative Code, pursuant to Section 472.027, Florida Statutes. Additionally, all work shall be conducted in

accordance with the BBCS Monitoring Standards for Beach Erosion Control Projects and the U.S. Army Corps of Engineers Manual for Hydrographic Surveying.

Horizontal and Vertical Data:

Horizontal Data: Feet, relative to the Florida State Plane Coordinate System, East Zone, North American Datum (NAD), 83/90.Vertical Datum: Feet, relative to the North American Vertical

Datum, (NAVD) of 1988.

2.2.2. <u>Bathymetry</u>. Bathymetric data shall be collected using a single-beam sounder along transects spaced at intervals of no greater than fifteen (15) meters. The survey shall be conducted using an automated hydrographic system comprised of a survey launch, marine grade sounder, Differential Global Positioning System (DGPS) and computer-based navigation / data collection system. The sounder shall be calibrated via bar checks at the beginning of each survey day. Soundings shall be corrected for tidal fluctuations using an integrated Real-Time Kinematic GPS. A tide gauge shall also be established and monitored in proximity to the project area as a redundant means of recording tides during the course of data collection. A motion sensor shall also be employed as necessary to reduce the effects of vessel heave, pitch and roll during the course of data collection.

Sounding / positioning data shall be collected and recorded continuously throughout the survey on computer internal hard-drives. Daily backups of all raw digital data to CD ROM shall be performed as required. Upon completion of field survey activities, data shall be edited and reduced to the project datum and formatted as required for bathymetric modeling and chart preparation. Final data, reduced to an X,Y,Z, ASCII format shall be imported to a CADD environment and subsequently translated to Digital Terrain Model (DTM) for generating contour charts and profile plots.

2.2.3. <u>Side Scan Sonar.</u> Side scan sonar data shall be collected using a digital, high resolution (100 / 500 kHz) side scan sonar data acquisition system. Alternatively, an ultra-high resolution (400 / 900 kHz) side scan sonar system that utilizes full spectrum CHIRP technology may be employed if required by TAR. Positioning and heading shall be provided via integrated dual-antenna DGPS with heading accuracy of 0.5 degrees. The survey may be conducted either independent of or simultaneous with the bathymetric survey. Side scan sonar data shall be collected along transect intervals and range settings set to achieve 100% coverage of the proposed survey area. In order to maximize the ability to classify objects or features detected during the survey, 50% minimum overlap of data between adjacent lines shall be maintained. Data shall be

captured in a georeferenced, digital environment allowing the operator to interpret and classify objects real-time during the course of the survey.

Upon completion of the field data collection, digital mosaics shall be developed and overlaid with the bathymetric contour charts. Objects or features detected during the survey or as part of post-processing shall be specifically annotated on the survey charts along with their apparent classification. This shall include hardbottom features, exposed rock outcrops, changes in apparent surface sediment type, manmade objects / debris, exposed cable / pipeline crossings and shipwrecks. Such objects or features shall be additionally tabulated noting the location (x,y coordinate) and apparent classification. Objects of unknown classification shall be set as targets for subsequent magnetometer survey operations. The targets shall also be used to position divers during the groundtruthing phase of field investigations, if necessary.

2.2.4. <u>Magnetometry.</u> Magnetometer data shall be collected to identify features lying on or buried within the sediments that may not be readily detectable from the side scan sonar survey. This shall be limited to objects of ferrous composition such as pipes / cables, submerged vessels or other isolated / scattered manmade debris. The survey shall be conducted using a cesium magnetometer with positioning and heading provided via integrated dual-antenna DGPS with heading accuracy of 0.5 degrees. Magnetometer data shall be collected along transects spaced at intervals of no greater than fifteen (15) meters. Additional lines shall be run as required to define the limits of anomaly clusters and/or to better describe scattered anomaly tracks.

Upon completion of the fieldwork, data shall be overlaid with the bathymetric contour and side scan sonar charts. Magnetic anomalies detected during the survey or as part of post-processing shall be specifically annotated on the survey charts along with such information as gamma intensity, duration and apparent association with other survey anomalies and / or side scan sonar targets. Data shall be presented in magnetic contour format with an overlay of survey track lines. Such anomalies shall be additionally tabulated noting the location (x,y coordinates), and potential significance. Detailed maps of significant anomalies shall be provided for subsequent diver groundtruthing, as applicable.

2.2.5. <u>Sub-Bottom Profiling</u>. Sub-bottom profile data shall be collected using a subbottom profile system operating at low frequency range (2-16 kHz) to maximize penetration into the surface sediments. The sub-bottom profile system shall be a portable system that uses a full spectrum CHIRP technology that minimizes multipath and noise effects while achieving high definition image slices of the sub-bottom material characteristics. Positioning and heading shall be provided via integrated dual-antenna DGPS with heading accuracy of 0.5 degrees. Data shall be captured in a georeferenced, digital environment allowing the operator to interpret and classify sediment stratifications real-time during the course of

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the survey. Data shall be collected along transects spaced at intervals of no greater than fifteen (15) meters. Tie lines shall be conducted as necessary to verify the primary profile data.

Upon completion of the fieldwork, data shall be processed to identify and map sub-bottom stratifications as discernable from the seismic data. Isolated objects or features buried below the seafloor shall be specifically noted as anomalies for subsequent investigations. Final deliverables shall include processed subbottom data reduced to a X, Y, delta-Z format. Sub-bottom isopach plots shall be provided, if requested along with a tabulation of buried objects of potential significance.

- 2.2.6. <u>Report of Findings.</u> The CONSULTANT shall prepare a cultural resources summary report that present results of the bathymetric and remote sensing surveys as well as discussion of the archeological review and interpretation of the data. Specifically the report shall will include the following:
  - □ Raw survey data in electronic format
  - D Processed bathymetric survey data in ASCII X,Y,Z format
  - □ Georeferenced side scan sonar mosaics in .tiff or .jpg format
  - □ Processed magnetometer data and tabulation of anomalies (Excel, .xls format)
  - □ Processed sub-bottom profile data in ASCII X,Y,Z format including tabulation of anomalies (Excel, .xls format)
  - □ Electronic CADD files, as applicable
    - o Bathymetric contour charts
    - o Side scan sonar mosaic charts with digitized features or objects of interest
    - o Chart of magnetometer anomalies with tabulation of coordinates
    - o Sub-bottom isopach charts depicting buried objects of potential significance
  - Discussion of archival research, survey methodologies, horizontal and vertical control, survey results, interpretation of remote sensing record and observed objects of potential significance, and recommendations for subsequent field investigations, as required.
- 2.2.7. <u>Diver Groundtruthing</u>. If recommended by the archeologist, a qualified marine archeologist shall conduct groundtruthing dives to observe and classify potentially significant objects or features of unknown characteristics. Divers may also be deployed to determine the apparent characteristics of the sub-bottom material stratifications or seismic reflectors encountered during the remote sensing operations. Divers shall be equipped with hydraulic jetting equipment and/or other sand displacement devices as necessary to expose buried objects of potential significance to the project. Underwater metal

detectors may also be required to assist with locating anomalies encountered from the magnetometer survey.

Divers shall be positioned using DGPS over targets established as part of the remote sensing operations. At each target location, divers shall record the ambient bottom elevations and conditions along with horizontal / vertical extent of sand displacement in attempt to uncover buried objects or anomalies of interest. Items encountered during the dive efforts shall be described and classified in diver log sheets and photographed for subsequent reporting to TAR. Should no object or feature be encountered during the dive operations after a reasonable attempt to uncover, diver log sheets shall be noted accordingly.

Upon completion of the diver groundtruthing operations, diver log sheets shall be compiled and interpreted by TAR. A report of findings will also be prepared, as applicable, to describe the groundtruthing procedures and equipment utilized to expose buried targets. The report shall provide a summary of findings including a detailed description of any objects encountered as part of the dive operations.

- 2.3. <u>Preliminary Borrow Area Delineation</u>. The CONSULTANT shall apply data and results from surveys and analyses described herein to delineate the sand borrow areas(s) to be used for the construction of the Ocean Ridge Shore Protection Project 3. The effort shall include sediment compatibility analyses and estimates of available sand volumes from the borrow area.
- 2.4. <u>Report of Findings.</u> The CONSULTANT shall prepare a Borrow Area Summary Report that presents data, analyses, results of the geotechnical, cultural resources, and engineering investigation (see Task 3.0) and will propose recommended limits of the sand borrow area. The report shall also include a review of all reasonably available geotechnical data from the Ocean Ridge borrow site, an assessment of borrow area sediment compatibility with the native beach sediments and quantification of the potentially available volume of material within the borrow area. The report shall be formatted in a manner that can be incorporated into permit applications and Federal decision documents. The CONSULTANT shall provide the COUNTY with one draft, then with five (5) hardcopies and one (1) PDF copy of the final report.

## 3. Preliminary Engineering and Schematic Level Design – Beach Fill

The CONSULTANT shall perform an assessment of existing beach conditions, engineering analyses and perform schematic level design for the Ocean Ridge Shore Protection Project 3 beach fill.

3.1. <u>Beach Condition Assessment.</u> The CONSULTANT shall perform an evaluation of existing beach conditions and performance of the 2005 Ocean Ridge renourishment

project based upon relevant monitoring data and beach profile surveys data available for the Ocean Ridge shoreline. The assessment shall evaluate shoreline and beach volume change rates that have occurred since the 2005 project. The CONSULTANT shall compare existing beach conditions, as represented by the most current available data, to the authorized design and construction templates for the Ocean Ridge Shore Protection Project, the project template that has been constructed twice in the past.

3.2. <u>Engineering and Schematic Level Beach Fill Design.</u> The CONSULTANT shall incorporate the findings from the borrow area investigation, sediment compatibility analyses, cultural resources investigation, past project performance evaluation, and beach condition assessment into schematic level beach fill and borrow area design analyses. The effort shall evaluate the possible need for modifications to beach volume and configuration to potentially improve future project performance -- as relevant.

Based upon the findings of the engineering effort, the CONSULTANT shall prepare schematic level drawings for the tentative configuration of the Ocean Ridge Shore Protection Project 3. The results of analyses and associated drawings shall be formatted such that they can be incorporated into permit application supporting documents.

It is noted that this level of design will not take into consideration the current conditions of nearshore hardbottom features. Surveys of those areas are not planned until implementation of Phase II of this scope of work. The CONSULTANT shall provide the COUNTY with one draft, then with five (5) hardcopies and one (1) PDF copy of the schematic level design plan and cross-section drawings.

# 4. Preliminary Feasibility Investigation of Potential Modifications to the Groin Field

- **4.1.** <u>Existing Structure Assessment.</u> The CONSULTANT shall visit the project site and perform an assessment of the current condition of visible portions of the eight rock groins along the northern Ocean Ridge shoreline. The CONSULTANT shall also review 1998 as-built surveys and photographs of the groins for the purposes of approximating the condition of buried portions of the groins. The results of this task will be incorporated into the Summary Report (Task 4.3).
- **4.2.** <u>Preliminary Feasibility Investigation.</u> The CONSULTANT shall perform a preliminary evaluation of the potential physical and economic effects of modifying portions of the existing Ocean Ridge rubble mound groin field. The preliminary analysis shall attempt to evaluate with available shoreline and beach profile data and aerial photography the potential effects (both beneficial and adverse) that groin modifications may have upon the groin field shoreline and the project shoreline southward thereof. This shall only be an analytical "desktop" analysis and will not include numerical wave, sediment transport, or shoreline change modeling at this time.

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The CONSULTANT shall also perform a cursory evaluation of the potential effects that groin field modification may have upon the economics and Federal cost-sharing for the Ocean Ridge Federal Shore Protection Project. If findings from this reconnaissance level evaluation suggest that groin field modifications may be beneficial, or at least not adverse, to the Federal project, a more detailed study of the potential effects groin field modification may have upon the Federal project economics and project cost sharing shall be included in the Limited Reevaluation Report (LRR) (see Phase II). The analyses and results of this effort will be discussed and summarized in the report prepared under Task 4.3.

**4.3.** Summary Report with Recommendations. The CONSULTANT shall prepare a brief summary report that details the findings of the structure assessment and preliminary groin field modification feasibility investigation. The report shall include schematic level drawings of various groin field modification plan(s) considered. Each drawing shall include a general description of recommended groin modifications and an assessment of the amount of rock material that may be produced through armor stone removal. These drawings will be included in the summary report. The CONSULTANT shall provide the COUNTY with one draft, then with five (5) hardcopies and one (1) PDF copy of the final report.

# Attachment B

# Palm Beach County, Florida OCEAN RIDGE SHORE PROTECTION PROJECT 3: Phase I

# TOTAL SUMMARY

# Olsen Associates, Inc. Costs

Task	Labor	ODC's	Outside SVS/Cntrctrs	Total
TASK 1: PLANNING			T	
1.1 Study Planning/Coordination	\$8,730.00	\$50.00	\$0.00	\$8,780.00
1.2 Coordination with USACE - Jacksonville District	\$6,768.00	\$50.00	\$0.00	\$6,818.00
Subtotal	\$15,498.00	\$100.00	\$0.00	\$15,598.00
TASK 2: SAND BORROW AREA DEVELOPMENT				· ·
2.1 Geotechnical Investigation	\$3,798.00	\$50.00	\$54,292.52	\$58,140.52
2.2 Cultural Resources Investigation (Phase I only, no diver vertication)	\$3,798.00	\$50.00	\$40,847.66	\$44,695.66
2.3 Preliminary Borrow Area Delineation	\$7,496.00	\$50.00	\$0.00	\$7,546.00
2.4 Report of Findings	\$9,678.00	\$300.00	\$0.00	\$9,978.00
Subtotal	\$24,770.00	\$450.00	\$95,140.18	\$120,360.18
TASK 3: PRELIMINARY ENGINEERING and SCHEMATIC LEVEL DESIGN - BEACH FILL	·			
3.1 Beach Condition Assessment	\$10,150.00	\$50.00	\$0.00	\$10,200.00
3.2 Engineering and Schematic Level Beach Fill Design	\$12,414.00	\$50.00	\$0.00	\$12,464.00
Subtotal	\$22,564.00	\$100.00	\$0.00	\$22,664.00
				<u>х</u>
TASK 4: PRELIMINARY FEASIBILITY INVESTIGATION of POTENTIAL MODIFICATIONS TO THE GROIN FIELD				
4.1 Existing Structure Assessment	\$4,320.00	\$0.00	\$0.00	\$4,320.00
4.2 Preliminary Feasibility Investigation	\$14,998.00	\$0.00	\$0.00	\$14,998.00
4.3 Summary Report with Recommendations	\$6,852.00	\$300.00	\$0.00	\$7,152.00
Subtotal	\$26,170.00	\$300.00	\$0.00	\$26,470.00
				· · ·
TOTAL	\$89,002.00	\$950.00	\$95,140.18	\$185,092.18

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9/8/2010

#### Attachment B Palm Beach County, Florida OCEAN RIDGE SHORE PROTECTION PROJECT 3: Phase I

TASK 1.0: PLANNING SUBTASK DIRECT LABOR BREAKDOWN

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A CALL STORE	Course Sector		5 5 6 5 March	DIREC	T LABOR	and the second	and the second		A	and the street	9.5.5 9 F <b>4</b>	ODC1	1. 17 A	OUTSIDE SVS/SUB-COI	NTRAGTORS	TOTAL
LABOR CATEGORY	ADMIN/ MGMT	DESIGN	ANALYSES	MODELING	FIELD WORK	PLANNING/ LIASON	TRAVEL	REVIEW& COMMENT	TOTAL HOURS	RATE	COST	ITEM	TOTAL	SERVICE	COST	
Principal	8				Same State	2			10	\$210	\$2,100	IN-HOUSE SERVICES				
Principal II	9-19-15-1-1-1-								0	\$178	\$0	TRAVEL				이 아이는 것이 아이지
Sr Engineer			BOR SEA			40			40	\$150	\$6,000	PER DIEM				
Coastal Engr I					KALAN P				0	\$114	\$0	REPRODUCTION	\$50			
Coastal Engr II	8					101100			0	\$95	\$0	LD TEL/FAX			양의 이 것 이 것 이 것	
Coastal Engr III									0	\$78	\$0	FED EX				
CAD									0	\$59	\$0	POSTAGE				
Adm. Asst. Clerical	8	1.0830-06			28	2			10	\$63	\$630					
	and the state of the						la de la composition	Sale and a second				MISC		1 <u>- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -</u>		
SUBTOTAL DIRECT LABOR					No. See Profe						\$8,730	subtotal	\$50	subtotal	\$0	\$8,780
Sub Task 1.	- Coordinatio	n with USAC	E - Jacksony	ille District							New Alexand					
Sub Task 1.	? - Coordinatio	n with USAC	E - Jacksonv	ille District	T LABOR	<b>jaz</b> ine s	92400	1	8 <b></b> 88 8.00	<u>Miren</u>	Milaisa	ODC'S	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	OUTSIDE SVS/SUB-COM		TOTAL
Sub Task 1.	P - Coordinatio	n with USAC	E - Jacksonv	MODELING	FIELD WORK	LIASON	TRAVEL	REPORT	TOTAL HOURS	RATE	cost	ODC'S	TOTAL	OUTSIDE SVS/SUB-COM	COST	TOTALS
Sub Task 1. LABOR CATEGORY Principal	ADMIN/ MGMT	n with USAC DESIGN	E - Jacksonv ANALYSES	MODELING	FIELD WORK	LIASON 2	TRAVEL	REPORT	TOTAL HOURS 4	RATE \$210	COST \$840	ODC'S	TOTAL	OUTSIDE SVS/SUB-COM	COST	TOTAL
LABOR CATEGORY Principal Principal II	ADMIN/ MGMT 2	n with USAC DESIGN	E - Jacksonv ANALYSES	MODELING	FIELD WORK	LIASON 2	TRAVEL	REPORT	TOTAL HOURS 4 0	RATE \$210 \$178	COST \$840 \$0	ODC'S ITEM IN-HOUSE SERVICES TRAVEL	TOTAL	OUTSIDE SVS/SUB-CON	COST	TOTAL
LABOR CATEGORY Principal Principal II Sr Engineer	ADMIN/ MGMT 2	n with USAC	E - Jacksony ANALYSES	MODELING	FIELD WORK	LIASON 2 24	TRAVEL	REPORT	TOTAL HOURS 4 0 24	RATE \$210 \$178 \$150	COST \$840 \$0 \$3,600	ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM	TOTAL	OUTSIDE SYS/SUB-COP	ITRACTORS 4	
LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr I	ADMIN/ MGMT 2	n with USAC DESIGN	E - Jacksony ANALYSES	MODELING	FIELD WORK	LIASON 2 24 16	TRAVEL	REPORT	TOTAL HOURS 4 0 24 16	RATE \$210 \$178 \$150 \$114	COST \$840 \$0 \$3,600 \$1,824	ODC'S ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION	TOTAL \$50	OUTSIDE SVS/SUB-COP	COST	
LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr I Coastal Engr II	2 - Coordinatio	n with USAC DESIGN	E - Jacksony ANALYSES	Ille District DIREC MODELING	FIELD WORK	LIASON 2 24 16	TRAVEL	REPORT	TOTAL HOURS 4 0 24 16 0	RATE \$210 \$178 \$150 \$114 \$95	COST \$840 \$0 \$3,600 \$1,824 \$0	ODC'S ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX	TOTAL \$50	OUTSIDE SYS/SUB-COF	COST	TOTAL
Sub Task 1. LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr I Coastal Engr II Coastal Engr II	2 - Coordinatio	n with USAC	E - Jacksonv ANALYSES	Ille District DIREC	TLABOR FIELD WORK	LIASON 2 24 18		REPORT PREP	TOTAL HOURS 4 0 24 16 0 0	RATE \$210 \$178 \$150 \$114 \$95 \$78	COST \$840 \$0 \$3,600 \$1,824 \$0 \$0 \$0	ODC'S ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX	TOTAL \$50	OUTSIDE SVS/SUB-COF	COST	
LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr I Coastal Engr II Coastal Engr II Coastal Engr III Coastal Engr III Coastal Engr III	2 - Coordinatio	n with USAC	E - Jacksonv ANALYSES	Ille District DIREC MODELING	TLABOR FIELD WORK	LIASON 2 24 18	TRAVEL	REPORT	TOTAL HOURS 4 0 24 16 0 0 0	RATE \$210 \$178 \$150 \$114 \$95 \$78 \$59	COST \$840 \$0 \$3,600 \$1,824 \$0 \$0 \$0 \$0	ODC'S ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE	50	CUTSIDE SVS/SUB-COP	COST	
LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr I Coastal Engr II Coastal Engr II Coastal Engr II CAB	- Coordinatio	n with USAC	E - Jacksonv	IIIe District DiREC MODELING	TLABOR	LIASON 2 24 18 4	TRAVEL	REPORT PREP	TOTAL HOURS 4 0 24 16 0 0 0 0 8	RATE \$210 \$178 \$150 \$114 \$95 \$78 \$59 \$63	COST \$840 \$0 \$3,600 \$1,824 \$0 \$0 \$0 \$0 \$0 \$0 \$0	ODC'S ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEUFAX FED EX POSTAGE	50	OUTSIDE SVS/SUB-COP	COST	
LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr II Coastal Engr II Coastal Engr III Coastal Engr III CAD Adm, Asst. Clerical	- Coordinatio	n with USAC	E - Jacksony ANALYSES	IIIe District DIREC MODELING	TLABOR	LIASON 2 24 18 4		REPORT PREP	TOTAL HOURS 4 0 24 16 0 0 0 0 8	RATE \$210 \$178 \$150 \$114 \$95 \$78 \$59 \$63	COST \$840 \$0 \$3,600 \$1,824 \$0 \$0 \$0 \$0 \$504	ODC'S ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE MISC	<u>TOTAL</u> \$50	OUTSIDE SYS/SUB-COF	COST	

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9/8/2010

olsen associates, inc.

Attachment B

Palm Beach County, Florida OCEAN RIDGE SHORE PROTECTION PROJECT 3: Phase I

#### TASK 2.0: SAND BORROW AREA DEVELOPMENT SUBTASK DIRECT LABOR BREAKDOWN

Sub Task 2.1	- Geotechnic	ai investigati	on	ÖIRE	CTLABOR	e sa wad					医子宫 医克尔二氏	ODC's	하다. 아파	OUTSIDE SVS/SUB-CON	RACTORS	TOTAL
	ADMIN/	DEOLON			04/00	Corres-	TRAVE	Report Prep/Review	TOTAL	RATE	COST	ITEM	TOTAL	SERVICE	COST	
LABOR CATEGORY	MGMI	DESIGN	ANALTSES	MODELING	avac	portuerice	1010 66	. icp/icerie	2	\$210	\$420	IN-HOUSE SERVICES	1	SEA, Inc. (M/WBE)	\$23,292.52	
rincipal	<u></u>					+		+	0	\$178	\$0	TRAVEL	1	AVS (Sub to SEA, Inc.)	\$31,000.00	
rincipal II					12	+		8	20	\$150	\$3,000	PER DIEM				
r Engineer					16	former and				\$114	\$0	REPRODUCTION	\$50	and the second sec		
Coastal Engr I			l			+	+	+	o	\$05	\$0	ID TEL/FAX				
Coastal Engr II						. <u> </u>				\$70	40 60	EED EY			-	
Coastal Engr III		ļ					ļ			\$70	\$0	POSTAGE				
CAD	· · · · · · · · · · · · · · · · · · ·		L							309		FUSTAGE				
dm. Asst. Clerical	2				2			2	0	<b>3</b> 0J	33/0	MISC				
UBTOTAL DIRECT LABOR		l		امی میں میں میں میں میں میں میں اور			h	1			\$3,798	subtotal	\$50	subtotal	\$54,292.52	\$58,140.52
Sub Task 7 2	Cultural Res	ources inve	stigation (Pha	ase i only, no	diver verfic	ation)										al conserva na conservation de la c
JUD TARN 2.4	- Cultural Net		angunen (r	DIRE	CT LABOR	an dei		15.07756				ODC's	22535298	OUTSIDE SVS/SUB-CON	RACTORS	TOTAL
y any in waaraa ng dhiki ang day kanangan na Uuukid Kababar	ADMIN/					Corres-		Report	TOTAL				TOTAL	SERVICE	COST	
LABOR CATEGORY	MGMT	DESIGN	ANALYSES	MODELING	QA/QC	pondence	TRAVEL	Prep/Review	HOURS	RATE	COST		IUIAL	Sea Ownerified (CPE)	\$28 380 00	
Principal	2								2	\$210	\$420	IN-HOUSE SERVICES		Sea Diversilled (SBE)	\$12 467 66	
Principal II									0	\$178	\$0	TRAVEL		Ark (Sub to Sea Diversified)	\$12,407.00	
Sr Engineer		· · ·			12	1		8	20	\$150	\$3,000	PER DIEM			+	
Coastal Engr I	1								0	\$114	\$0	REPRODUCTION	\$50		+	
Coastal Engr II						1			0	\$95	\$0	LD TEL/FAX				
Coastal Engr III							1		0	\$78	\$0	FED EX				
									0	\$59	\$0	POSTAGE				
	· • · · · · · · · · · · · · · · · · · ·				2			2	6	\$63	\$378			-		
Adm. Asst. Clerical	2			A DESCRIPTION OF A DESC	and a second sec	A REAL PROPERTY AND A REAL						11000				
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3	- Pretiminary	Borrow Area	Delineation			[	 	· · · · · · · · · · · · · · · · · · ·			\$3,798	MISC subtotal	\$50	subtotal	\$40,847.66	\$44,695.66
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3	- Pretiminary ADMIN/	Borrow Area	Delineation	DIRE	ST LABOR	Corres-		REPORT	TOTAL		\$3,798	MISC subtotal ODC'S	\$50		\$40,847.66	\$44,695.66
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY	- Pretiminary ADMIN/ MGMT	Borrow Area	ANALYSES		ET LABOR	Corres- pondence	TRAVEL	REPORT	TOTAL HOURS	RATE	\$3,798 COST	MISC subtotal ODC's	\$50 TOTAL	sublotal OUTSIDE SVS/SUB-CON SERVICE	\$40,847.66	\$44,695.66
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY Principal	- Pretiminary ADMIN/ MGMT 2	Borrow Area	ANALYSES		et labor	Corres- pondence	TRAVEL	REPORT	TOTAL HOURS 2	RATE \$210	\$3,798 COST \$420	MISC subtotal ODC's ITEM IN-HOUSE SERVICES	\$50 TOTAL	SUBIONAL SUBICON	\$40,847.66	\$44,695.66
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY Principal Principal	- Pretiminary ADMIN/ MGMT 2	Borrow Area	ANALYSES		et labor	Corres- pondence	TRAVEL	REPORT	TOTAL HOURS 2 0	RATE \$210 \$178	\$3,798 COST \$420 \$0	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL DED OFFIC	\$50 TOTAL	SUDIOIAI	\$40,847.66	\$44,695.66
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY Principal Principal II Sr Engineer	- Pretiminary ADMIN/ MGMT 2	Borrow Area	ANALYSES	DIRE	CT LABOR QA/QC 8	Corres- pondence	TRAVEL	REPORT	TOTAL HOURS 2 0 8	RATE \$210 \$178 \$150	\$3,798 COST \$420 \$0 \$1,200	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM DEGREGUEZTION	\$50 TOTAL	Sublotal OUTSIDE SVS/SUB-CON SERVICE	\$40,847.66	\$44,695.66
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr I	2 Pretiminary ADMIN/ MGMT 2	Borrow Ares DESIGN	ANALYSES	DIRE	CT LABOR	Corres- pondence	TRAVEL	REPORT	TOTAL HOURS 2 0 8 16	RATE \$210 \$178 \$150 \$114	\$3,798 COST \$420 \$0 \$1,200 \$1,824	MISC subtotal ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION	\$50 TOTAL \$50	SUBICIAL OUTSIDE SVS/SUB-CON SERVICE	\$40,847.66	\$44,695.66
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 Sub Task 2.3 Frincipal Principal Principal II Sr Engineer Coastal Engr I Coastal Engr I	Pretiminary ADMIN/ MGMT 2	Borrow Area DESIGN 8	ANALYSES 8 40	DIRE	CT LABOR QA/QC 8	Correspondence	TRAVEL	REPORT	TOTAL HOURS 2 0 8 16 40	RATE \$210 \$178 \$150 \$114 \$95	\$3,798 COST \$420 \$0 \$1,200 \$1,824 \$3,800	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX	\$50 TOTAL \$50	SUDIOIAI	\$40,847.66	\$44,695.66
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr I Coastal Engr II Coastal Engr III	- Pretiminary ADMIN/ MGMT 2	Borrow Area	ANALYSES 8 40		CT LABOR QA/QC 8	Corres- pondence	TRAVEL	REPORT	TOTAL HOURS 2 0 8 16 40 0	RATE \$210 \$178 \$150 \$114 \$95 \$78	\$3,798 COST \$420 \$0 \$1,200 \$1,824 \$3,800 \$0	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LO TEL/FAX FED EX	\$50 TOTAL \$50	SUBIONAL	\$40,847.66	\$44,695.66
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 Principal Principal II Sr Engineer Coastal Engr I Coastal Engr II Coastal Engr III Coastal Engr III Coastal Engr III	2 - Pretiminary ADMIN/ MGMT 2	Borrow Area DESIGN 8	ANALYSES		CT LABOR	Corres- pondence	TRAVEL	REPORT	TOTAL HOURS 2 0 8 16 40 0 0	RATE \$210 \$178 \$150 \$114 \$95 \$78 \$59	\$3,798 COST \$420 \$0 \$1,200 \$1,824 \$3,800 \$0 \$0 \$0	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE	\$50 TOTAL \$50	SUBIOLAL OUTSIDE SVS/SUB-CON SERVICE	\$40,847.66	\$44,695.66
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY Principal Principal II Principal II P	- Preliminary ADMIN/ MGMT 2 2	Borrow Area DESIGN 8	ANALYSES 8 40 2	DIRE	CT LABOR	Corres- pondence	TRAVEL	REPORT	TOTAL HOURS 2 0 8 16 40 0 0 0 4	RATE \$210 \$178 \$150 \$114 \$95 \$78 \$59 \$63	\$3,798 COST \$420 \$0 \$1,200 \$1,824 \$3,800 \$0 \$0 \$0 \$252	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LO TEL/FAX FED EX POSTAGE MISC	\$50 TOTAL \$50	SUBIOLAI	\$40,847.66	544,695.66
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 Sub Task 2.3 Principal Principal II Principal II Pri	- Pretiminary ADMIN/ MGMT 2 2	Borrow Area	ANALYSES 8 40 2		CT LABOR QA/QC 8	Correspondence	TRAVEL	REPORT	TOTAL HOURS 2 0 8 16 40 0 0 0 4	RATE \$210 \$178 \$150 \$114 \$95 \$78 \$59 \$63	\$3,798 COST \$420 \$0 \$1,200 \$1,824 \$3,800 \$0 \$0 \$252 \$7,496	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LO TEL/FAX FED EX POSTAGE MISC subtotal	\$50 TOTAL \$50 \$50	SUDIOTAI	\$40,847.66	\$44,695.66
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY Principal Principal II Principal II Substat Engr II Coastal Engr II Coastal Engr II Substat Loirect LABOR Substat Loirect LABOR	- Preliminary ADMIN/ MGMT 2 2	Borrow Area	B Delineation		CT LABOR	Corres- pondence	TRAVEL	REPORT	TOTAL HOURS 2 0 8 16 40 0 0 4	RATE \$210 \$178 \$150 \$114 \$95 \$78 \$59 \$63	\$3,798 COST \$420 \$0 \$1,200 \$1,824 \$3,800 \$0 \$252 \$7,496	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEUFAX FED EX POSTAGE MISC subtotal	\$50 TOTAL \$50 \$50 \$50	SUBIOLAL OUTSIDE SVS/SUB-CON SERVICE SUBIOLAL SUBIOLAL SUBIOLAL	\$40,847.66	\$44,695.66 TOTAL \$7,546.00
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY Principal Principal II Principal II P	Pretiminary ADMIN/ MGMT 2 2	Borrow Are	AMALYSES 8 40 2	DIRE	CT LABOR QA/QC 8	Correspondence	TRAVEL	REPORT	TOTAL HOURS 2 0 8 16 40 0 0 0 4	RATE \$210 \$178 \$150 \$151 \$55 \$63	\$3,798 COST \$420 \$0 \$1,200 \$1,824 \$3,800 \$0 \$252 \$7,496	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEUFAX FED EX POSTAGE MISC subtotal ODC's	\$50 <b>TOTAL</b> \$50 \$50 \$50	SUBIOTAL	\$40,847.66	\$44,695.66 TOTAL \$7,546.00
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 Principal Principal II Sr Engineer Coastal Engr II Coastal Engr II Coastal Engr II Coastal Engr II SUBTOTAL DIRECT LABOR Sub Task 2.4	Pretiminary ADMIN/ MGMT 2 2 - Report of Fi ADMIN/	Borrow Area	Belineation	DIRE	CT LABOR QA/QC 8 CT LABOR	Corres- pondence	TRAVEL	REPORT	TOTAL HOURS 2 0 8 6 6 40 0 0 4 4 4 0 0 4 4 7 707AL	RATE \$210 \$178 \$150 \$114 \$95 \$78 \$78 \$78 \$63	\$3,798 COST \$420 \$0 \$1,200 \$1,824 \$3,800 \$0 \$50 \$252 \$7,496	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE MISC subtotal ODC's	\$50 TOTAL \$50 \$50	SUbiotal OUTSIDE SVS/SUB-CON SERVICE SUbiotal Subiotal OUTSIDE SVS/SUB-CON	\$40,847.66	\$44,695.66 TOTAL \$7,546.00
In Asst. Clerical Sub Task 2.3 Sub Task 2.3 LABOR CATEGORY Principal Principal II Sastal Engr II Coastal Engr II Coastal Engr II Coastal Engr II Coastal Engr II Coastal Engr II Sab Adm. Asst. Clerical Sub Task 2.4 LABOR CATEGORY	Pretiminary ADMIN/ MGMT 2 2 - Report of Fi ADMIN/ MGMT	Borrow Area	Delineation ANALYSES 8 40 2 ANALYSES ANALYSES	DIRE	CT LABOR QA/QC 8 CT LABOR CT LABOR QA/QC	Corres- pondence	TRAVEL	REPORT PREP	TOTAL HOURS 2 0 8 16 40 0 0 4 4 0 0 4 4 10 7 10 7 14 HOURS	RATE \$210 \$178 \$150 \$150 \$150 \$150 \$150 \$150 \$150 \$63	\$3,798 COST \$420 \$0 \$1,200 \$1,824 \$3,800 \$0 \$0 \$252 \$7,496 COST \$252	MISC subtolal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE MISC subtolal ODC's	\$50 TOTAL \$50 \$50 \$50 TOTAL	SUbiotal OUTSIDE SVS/SUB-CON SERVICE Subiotal OUTSIDE SVS/SUB-CON SERVICE	\$40,847,66	\$44,695.66 TOTAL \$7,546.00 TOTAL
Adm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr II Coastal Engr II Coastal Engr II Coastal Engr II Sub Task 2.4 LABOR CATEGORY Principal	- Pretiminary ADMIN/ MGMT 2 2 - Report of Fi ADMIN/ MGMT 2	Borrow Area	ANALYSES	DIRE	CT LABOR QA/QC 8 CT LABOR QA/QC QA/QC	Corres- pondence	TRAVEL	REPORT PREP	TOTAL HOURS 2 0 8 16 40 0 4 4 5 7 0 7 4 7 7 7 7 8 8 7 8 7 7 8 7 8 7 8 7 8 7	RATE \$210 \$178 \$154 \$154 \$55 \$63 \$63 \$63 \$63 \$63 \$63 \$63	\$3,798 COST \$420 \$0 \$1,200 \$1,824 \$3,800 \$0 \$252 \$7,496 COST \$440 \$0 \$7,496	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LO TEL/FAX FED EX POSTAGE MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL	\$50 TOTAL \$50 \$50 \$50	SUBIOTAL	\$40,847,66	544,695.66
In Asst. Clerical Sub Task 2.3 Sub Task 2.3 Principal Principal Principal II Soastal Engr II Soastal Engr II Soastal Engr II Soastal Engr II Soastal Engr II Soastal Engr II Sub Task 2.4 Sub Task 2.4 LABOR CATEGORY Principal Principal II Principal II	Pretiminary     ADMIN/     ADMIN/     MGMT     2     2     C     Report of Fi     ADMIN/     A	Borrow Area DESIGN 8 Indings DESIGN	Belineation	DIRE	CT LABOR QA/QC 8 CT LABOR CT LABOR QA/QC 2	Correspondence	TRAVEL	REPORT PREP	TOTAL HOURS 2 0 8 16 40 0 0 4 4 TOTAL HOURS 4 4 0 0	RATE \$210 \$178 \$150 \$151 \$59 \$63 \$63 RATE \$210 \$178	\$3,798 COST \$420 \$0 \$1,200 \$252 \$7,496 \$255 \$1,496 \$0 \$0 \$0 \$0 \$1,200 \$1	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL DED DEM	\$50 TOTAL \$50 \$50 \$50 TOTAL	SUbiotal OUTSIDE SVS/SUB-CON SERVICE SUbiotal OUTSIDE SVS/SUB-CON SERVICE	\$40,847.66	\$44,695.66
kdm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr II Coastal Engr II Coastal Engr II Coastal Engr II Coastal Engr II Sub Task 2.4 LABOR CATEGORY Principal Principal II Sr Engineer	Pretiminary ADMIN/ MGMT 2 2 2 - Report of Fl ADMIN/ MGMT 2	Borrow Area	Belineation ANALYSES 8 40 2 ANALYSES ANALYSES	DIRE	CT LABOR QA/QC 8 CT LABOR QA/QC 2	Corres- pondence	TRAVEL	REPORT PREP REPORT PREP REPORT PREP	TOTAL HOURS 2 0 9 9 16 40 0 0 4 4 5 7 0 7 0 4 8 7 0 7 0 8 7 7 7 8 7 8 7 8 7 7 8 7 8 7	RATE \$210 \$178 \$150 \$114 \$95 \$59 \$63 RATE \$210 \$178 \$150 \$178	\$3,798 \$3,798 COST \$420 \$0 \$1,220 \$1,824 \$3,800 \$0 \$252 \$7,496 COST \$440 \$0 \$0 \$2,400 \$2,400 \$2,400 \$2,400 \$2,400 \$2,400 \$2,400 \$2,400 \$2,400 \$2,400 \$2,400 \$2,400 \$2,400 \$2,400 \$3,800	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM DEFORCOLOCION	\$50 TOTAL \$50 \$50 TOTAL \$250	SUBIOTAL	\$40,847.66	\$44,695.66 TOTAL \$7,546.00 TOTAL
kdm. Asst. Clerical SUBTOTAL DIRECT LABOR Sub Task 2.3  Trincipal Principal II Sr Engineer Coastal Engr II Coastal Engr II Coastal Engr II Coastal Engr II SuBTOTAL DIRECT LABOR Sub Task 2.4  LABOR CATEGORY Principal II Sr Engineer Coastal Engr II COASTAL COARCATEGOR COARCAT	Pretiminary     ADMIN/     MGMT     2     C     Report of FI     ADMIN/     MGMT     2	Borrow Ares DESIGN 8 Indings DESIGN	AMALYSES	DIRE	CT LABOR QA/QC 8 CT LABOR QA/QC 2	Corres- pondence	TRAVEL	REPORT PREP REPORT PREP	TOTAL HOURS 2 0 8 16 40 0 4 4 TOTAL HOURS 4 0 6 16 16 16	RATE \$210 \$178 \$154 \$154 \$55 \$63 RATE \$210 \$178 \$210 \$178 \$179 \$178 \$179 \$178 \$179 \$178 \$179 \$178 \$178 \$179 \$178 \$179 \$178 \$114	\$3,798 COST \$420 \$0 \$1,200 \$1,824 \$3,800 \$0 \$252 \$7,496 COST \$440 \$0 \$2,400 \$4,560	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEUFAX FED EX POSTAGE MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION	\$50 TOTAL \$50 \$50 \$50 TOTAL \$250	Sublotal OUTSIDE SVS/SUB-CON SERVICE Sublotal OUTSIDE SVS/SUB-CON SERVICE	\$40,847,66	\$44,695.66
ILABOR CATEGORY  ILABOR CATEGORY  Incipal  Incip	Pretiminary ADMIN/ MGMT 2 2 - Report of Fi ADMIN/ MGMT 2	Borrow Area	Delineation ANALYSES 8 40 2 ANALYSES ANALYSES	DIRE	CT LABOR QA/QC 8 CT LABOR CT LABOR QA/QC 2	Corres- pondence	TRAVEL	REPORT PREP REP REPORT PREP 16 40	TOTAL HOURS 2 0 8 16 40 0 0 4 0 4 0 4 10 16 40 0 0 0	RATE \$210 \$178 \$150 \$150 \$150 \$150 \$78 \$78 \$63 \$63 \$63 \$63 \$63 \$63 \$78 \$50 \$178 \$150 \$178 \$150 \$178 \$150 \$178	\$3,798 \$3,798 COST \$420 \$0 \$1,824 \$3,800 \$0 \$1,824 \$3,800 \$0 \$252 \$7,496 \$7,496 \$7,496 \$7,496 \$2,400 \$0 \$4,860 \$0 \$0 \$0 \$0 \$1,860 \$0 \$0 \$2,00 \$1,824 \$3,800 \$0 \$1,824 \$3,800 \$0 \$1,824 \$3,800 \$0 \$0 \$1,824 \$3,800 \$0 \$0 \$1,824 \$3,800 \$0 \$0 \$1,824 \$3,800 \$0 \$0 \$252 \$7,496 \$0 \$0 \$0 \$0 \$25,400 \$0 \$0 \$0 \$0 \$0 \$252 \$7,496 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE MISC subtotal ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX	\$50 TOTAL \$50 \$50 TOTAL \$250	SUbiotal OUTSIDE SVS/SUB-CON SERVICE SUbiotal OUTSIDE SVS/SUB-CON SERVICE	\$40,847.66	\$44,695.66 TOTAL \$7,546.00 TOTAL
kdm. Asst. Clerical UBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY Principal Principal II Coastal Engr I Coastal Engr II Coastal Engr II Coastal Engr II Sub Task 2.4 LABOR CATEGORY Principal Principal II Ste Engineer Coastal Engr I Coastal Engr	Pretiminary     ADMIN/     MGMT     2     2     .     Report of Fi     ADMIN/     MGMT     2     .	Borrow Ares DESIGN 8 Indiage	ANALYSES	DIRE	CT LABOR QA/QC 8 CT LABOR QA/QC 2	Corres- pondence	TRAVEL	REPORT PREP REPORT PREP 16 40	TOTAL HOURS 2 0 8 16 40 0 4 4 TOTAL HOURS 4 0 16 40 0 0	RATE \$210 \$178 \$154 \$55 \$59 \$63 RATE \$210 \$178 \$178 \$178 \$114 \$95 \$78	\$3,798 COST \$420 \$0 \$1,200 \$1,824 \$3,800 \$0 \$252 \$7,496 COST \$840 \$0 \$2,400 \$4,560 \$0 \$1,248	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LO TEL/FAX FED EX POSTAGE MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX	\$50 TOTAL \$50 \$50 \$50 TOTAL \$250	sublotal OUTSIDE SVS/SUB-CON SERVICE Sublotal OUTSIDE SVS/SUB-CON SERVICE	\$40,847,66	\$44,695.66
dm. Asst. Clerical UBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY Principal Principal II Ste Engineer Coastal Engr I Coastal Engr II Coastal Engr II Coastal Engr II SAD LABOR CATEGORY LABOR CATEGORY Principal II St Engineer Coastal Engr II Coastal Engr	Pretiminary     ADMIN/     ADMIN/     MGMT     2     2     C     Report of Fi     ADMIN/     GMT     2	Borrow Area	Belineation	DIRE	CT LABOR QA/QC 8 CT LABOR CT LABOR QA/QC 2	Correspondence	TRAVEL	REPORT PREP REPORT PREP 16 40 16	TOTAL HOURS 2 0 8 16 40 0 4 4 4 0 16 16 0 16 0	RATE \$210 \$178 \$150 \$150 \$78 \$59 \$63 RATE \$210 \$178 \$150 \$178 \$150 \$114 \$95 \$79	\$3,798 \$3,798 COST \$420 \$0 \$1,200 \$252 \$7,496 \$252 \$1,400 \$2,400 \$4,560 \$4,560 \$4,560 \$1,240 \$2,400 \$4,560 \$1,240 \$1,240 \$2,400 \$1,240 \$1,240 \$1,240 \$1,240 \$1,240 \$1,240 \$1,240 \$1,240 \$1,240 \$1,240 \$1,240 \$1,240 \$1,248 \$0 \$0 \$1,240 \$1,248 \$0 \$0 \$0 \$1,248 \$0 \$0 \$0 \$1,248 \$0 \$0 \$1,248 \$0 \$0 \$1,248 \$0 \$0 \$0 \$1,248 \$0 \$0 \$0 \$1,248 \$0 \$0 \$0 \$1,248 \$0 \$0 \$0 \$1,248 \$0 \$0 \$0 \$1,248 \$0 \$0 \$0 \$0 \$1,248 \$0 \$0 \$0 \$0 \$1,248 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE	\$50 TOTAL \$50 \$50 TOTAL \$250 \$250 \$50	SUblotal OUTSIDE SVS/SUB-CON SERVICE SUblotal OUTSIDE SVS/SUB-CON SERVICE	\$40,847.66	\$44,695.66
dm. Asst. Clerical UBTOTAL DIRECT LABOR Sub Task 2.3 LABOR CATEGORY Principal Principal II Six Engineer Coastal Engr II Coastal Engr II Coastal Engr III Coastal Engr II C	Pretiminary ADMIN/ MGMT 2 2 - Report of Fi ADMIN/ MGMT 2 2	Borrow Area	Belineation	DIRE	CT LABOR QA/QC 8 CT LABOR CT LABOR QA/QC 2	Correspondence	TRAVEL	REPORT PREP REP REPORT PREP 16 40 16 8	TOTAL HOURS 2 0 8 16 40 0 4 4 40 4 4 0 16 40 0 16 0 0 10	RATE \$210 \$178 \$150 \$150 \$144 \$95 \$78 \$63 RATE \$210 \$178 \$150 \$178 \$150 \$178 \$150 \$178 \$59 \$63 \$178 \$150 \$178 \$178 \$150 \$178 \$150 \$178 \$150 \$178 \$150 \$178 \$150 \$178 \$150 \$100 \$100 \$100 \$100 \$100 \$100 \$100	\$3,798 \$3,798 COST \$420 \$0 \$1,200 \$1,200 \$1,200 \$1,200 \$1,200 \$1,200 \$1,200 \$1,200 \$0 \$252 \$7,496 \$7,496 \$252 \$7,496 \$252 \$7,496 \$2,400 \$0 \$4,560 \$0 \$0 \$1,248 \$0 \$0 \$0 \$1,240 \$0 \$0 \$2,100 \$1,200 \$252 \$7,496 \$2,400 \$4,560 \$0 \$4,560 \$0 \$1,240 \$0 \$2,400 \$4,560 \$0 \$4,560 \$0 \$4,560 \$0 \$2,400 \$0 \$4,560 \$0 \$2,500 \$1,240 \$0 \$2,400 \$1,240 \$0 \$2,400 \$0 \$1,240 \$0 \$2,400 \$0 \$1,240 \$0 \$0 \$2,400 \$0 \$1,248 \$0 \$0 \$0 \$0 \$0 \$0 \$2,400 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE MISC subtotal ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE UISC	\$50 TOTAL \$50 \$50 TOTAL \$250 \$50	SUbiotal OUTSIDE SVS/SUB-CON SERVICE SUbiotal OUTSIDE SVS/SUB-CON SERVICE	\$40,847.66 RACTORS COST S0.00 COST COST COST	\$44,695.66

olsen associates, inc.

9/8/2010

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#### Attachment B Palm Beach County, Florida OCEAN RIDGE SHORE PROTECTION PROJECT 3: Phase I

#### TASK 3.0: Preliminary Engineering and Schematic Level Design – Beach Fill SUBTASK DIRECT LABOR BREAKDOWN

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			갈 맛있는 것	DIRE	T LABOR	flefti, andi	ARCONS-					ODC's	的复数不可求	OUTSIDE SVS/SUB-CON	ITRACTORS	TOTAL
LABOR CATEGORY	ADMIN/ MGMT	DESIGN	ANALYSES	MODELING	FIELD WORK	LIASON	TRAVEL	REPORT PREP	TOTAL HOURS	RATE	COST	ITEM	TOTAL	SERVICE	COST	
Principal	2	1	2				T		4	\$210	\$840	IN-HOUSE SERVICES	1			
Principal II						1			0	\$178	\$0	TRAVEL				
Sr Engineer			16						16	\$150	\$2,400	PER DIEM				
Coastal Engr I			40						40	\$114	\$4,560	REPRODUCTION	\$50			
Coastal Engr II			1				1		0	\$95	\$0	LD TEL/FAX				
Coastal Engr III			16						16	\$78	\$1,248	FED EX				
CAD		1	8						8	\$59	\$472	POSTAGE				
Adm. Asst. Clerical	2	1		1				8	10	\$63	\$630					
												MISC				
SUBTOTAL DIRECT LABOR				•							\$10,150	subtotal	\$50	subtotal	\$0	\$10,200
		-												· · · · · · · · · · · · · · · · · · ·		
Sub Task 3.	- Engineering	and Schem	atic Level Be	ach Fill Desic	n .											
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				DIREC	T LABOR		(1998) Alexandro	ja konser	oneki eher	CREWS ??		ODC's	an a	OUTSIDE SVS/SUB-CON	TRACTORS	TOTAL
	ADMIN/ MGMT	DESIGN	ANALYSES		FIELD WORK	QA/QC	TRAVEL	REPORT	TOTAL HOURS	RATE	COST	ODC'S	TOTAL		COST	TOTAL
LABOR CATEGORY	ADMIN/ MGMT	DESIGN	ANALYSES		FIELD WORK	QA/QC	TRAVEL	REPORT PREP	TOTAL HOURS 2	RATE \$210	COST \$420	ODC'S	TOTAL	OUTSIDE SVS/SUB-CON	COST	TOTAL
LABOR CATEGORY Principal Principal II	ADMIN/ MGMT 2	DESIGN	ANALYSES		FIELD WORK	QA/QC	TRAVEL	REPORT PREP	TOTAL HOURS 2 0	RATE \$210 \$178	COST \$420 \$0	ODC's ITEM IN-HOUSE SERVICES TRAVEL	TOTAL	OUTSIDE SVS/SUB-CON	COST	TOTAL
LABOR CATEGORY Principal Principal II Sr Engineer	ADMIN/ MGMT 2	DESIGN	ANALYSES		FIELD WORK	QA/QC	TRAVEL	REPORT PREP	TOTAL HOURS 2 0 16	RATE \$210 \$178 \$150	COST \$420 \$0 \$2,400	ODC'S ITEM IN-HOUSE SERVICES TRAVEL PER DIEM	TOTAL	OUTSIDE SVS/SUB-CON	COST	
LABOR CATEGORY Principal Principal II Sr Engineer Coastal Ford I	ADMIN/ MGMT 2	DESIGN 4	ANALYSES		FIELD WORK	QA/QC 12	TRAVEL	REPORT PREP	TOTAL HOURS 2 0 16 32	RATE \$210 \$178 \$150 \$114	COST \$420 \$0 \$2,400 \$3,648	ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION	TOTAL \$50	OUTSIDE SVS/SUB-CON	COST	
LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr I Coastal Engr II	ADMIN/ MGMT 2	DESIGN 4 16	ANALYSES		FIELD WORK	QA/QC 12		REPORT PREP	TOTAL HOURS 2 0 16 32 24	RATE \$210 \$178 \$150 \$114 \$95	COST \$420 \$0 \$2,400 \$3,648 \$2,280	ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX	TOTAL \$50	OUTSIDE SVS/SUB-CON SERVICE	COST	TOTAL
LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr I Coastal Engr II Coastal Engr III	ADMIN/ MGMT 2	DESIGN 4 16 24	ANALYSES		T LABOR	QA/QC 12	TRAVEL	REPORT PREP 8 8	TOTAL HOURS 2 0 16 32 24 24 24	RATE \$210 \$178 \$150 \$114 \$95 \$78	COST \$420 \$0 \$2,400 \$3,648 \$2,280 \$1,872	ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX	<b>TOTAL</b>	OUTSIDE SVS/SUB-CON	COST	
LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr I Coastal Engr II Coastal Engr III Coastal Engr III Coastal Engr III Coastal Composition	ADMIN/ MGMT 2	DESIGN 4 16 24 24	ANALYSES 24	DIRE	T LABOR	QA/QC 12	TRAVEL	REPORT PREP 8 8	TOTAL HOURS 2 0 1 16 32 24 24 24 24 24	RATE \$210 \$178 \$150 \$114 \$95 \$78 \$59	COST \$420 \$0 \$2,400 \$3,648 \$2,280 \$1,872 \$1,416	ODC'S ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE	550	OUTSIDE SVS/SUB-CON	COST	TOTAL
LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr I Coastal Engr II Coastal Engr III Coastal Engr III CAB Adm. Asst. Clerical	ADMIN/ MGMT 2	DESIGN 4 16 24 24 24	ANALYSES 24	DIRE	FIELD WORK	QA/QC 12	TRAVEL	REPORT PREP 8 8	TOTAL HOURS 2 0 16 32 24 24 24 24 6	RATE \$210 \$178 \$150 \$114 \$95 \$78 \$59 \$63	COST \$420 \$0 \$2,400 \$3,648 \$2,280 \$1,872 \$1,416 \$378	ODC'S ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE	550	OUTSIDE SVS/SUB-CON	COST	TOTAL
LABOR CATEGORY Principal Principal II Sr Engineer Coastal Engr I Coastal Engr II Coastal Engr III Coastal Engr III CAD Adm. Asst. Clerical	ADMIN/ MGMT 2	DESIGN 4 16 24 24	ANALYSES 24	DIRE	TLABOR FIELD WORK	QA/QC 12	TRAVEL	REPORT PREP 8 8 8	TOTAL HOURS 2 0 16 32 24 24 24 24 6	RATE \$210 \$178 \$150 \$114 \$95 \$78 \$59 \$63	COST \$420 \$0 \$2,400 \$3,648 \$2,280 \$1,872 \$1,416 \$378	ODC's ITEM IN-HOUSE SERVICES TRAVEL PER DIEM REPRODUCTION LD TEL/FAX FED EX POSTAGE MISC	550	OUTSIDE SVS/SUB-CON	COST	

9/8/2010

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#### Attachment B

#### Palm Beach County, Florida OCEAN RIDGE SHORE PROTECTION PROJECT 3: Phase I

#### TASK 4.0: Preliminary Feasibility Investigation of Potential Modifications to the Groin Field SUBTASK DIRECT LABOR BREAKDOWN

Sub Task 4.	1 - Existing St	ructure Asse	ssment	9974.000 3 1969 <b>16 2 4 4 16</b>	lan ing ara-ako	neo ante natorial S	a tha an	uniter and the second	New York Connect States	anter anter a second	State Brandona		en deuxanen erren		- مناجله دانه	
AN CARACTER STATES	BARA BARA	일 문화 관계 관계		਼ੁੁੁੁੁੁ ਹੇ।ਲਿਵ	CT LABOR	경영은 관광관	PARK CONT		ter strange af the		er weisen		80.599 State	OUTSIDE SVS/SUB-CON	INACIONS	IOTAL
LABOR CATEGORY	ADMIN/ MGMT	DESIGN	ANALYSES	MODELING	FIELD WORK	LIASON	TRAVEL	REPORT PREP	TOTAL HOURS	RATE	COST	ITEM	COST	SERVICE	COST	COST
Principal	2						T		2	\$210	\$420	IN-HOUSE SERVICES				
Principal II								1	0	\$178	\$0	TRAVEL		1		
Sr Engineer		1	8	1	5				13	\$150	\$1,950	PER DIEM				
Coastal Engr I			16			1			16	\$114	\$1,824	REPRODUCTION				
Coastal Engr II						•	a receive the base of a deader of the second	and the second second second	0	\$95	\$0	LD TEL/FAX				
Coastal Engr III								1	0	\$78	\$0	FED EX				
SAD	_						1		0	\$59	\$0	POSTAGE				
Adm. Asst. Clerical	2	1		1					2	\$63	\$126	· · ·				
			and a second second second second					1				MISC				
UBTOTAL DIRECT LABOR	and the second second second second second					-					\$4,320	subtotal	\$0	subtotal	\$0	\$4,32
		F														
500 (ask 4.)	• Prenminary	Feasibility I	nvestigation	DIRE		er saker a	S. SARAR IN	et de la composition	Participas		ar an	ODC's		OUTSIDE SVS/SUB-CON	TRACTORS	TOTAL
	ADMIN/	999966-3462 (1966 	가장 나가면서 유명하게 선정했다.	Danka raturi iza	FIELD	nyenn namarann 	an an an Anna Anna Anna Anna Anna Anna	REPORT	TOTAL	and streamed	de Maria Edularia a Januaria wa		1 9 <sup>24</sup> - 1989 - 1997 - 1997 - 1998		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Constraint Constraints
LABOR CATEGORY	MGMT	DESIGN	ANALYSES	MODELING	WORK	LIASON	TRAVEL	PREP	HOURS	RATE	COST	ITEM	COST	SERVICE	COST	COST
rincipal	2			1		1		4	6	\$210	\$1,260	IN-HOUSE SERVICES				
Principal II		1				+			0	\$178	\$0	TRAVEL				
r Engineer			8					+	8	\$150	\$1,200	PER DIEM	· • • • • • • • • • • • • • • • • • • •			
Coastal Engr I		1	40			1			40	\$114	\$4,560	REPRODUCTION	-			
Coastal Engr II			80			4		+	80	\$95	\$7,600	LD TEL/FAX				
Coastal Engr III		÷	+			+			0	\$78	\$0	FED EX				
CAD									0	\$59	\$0	POSTAGE	1			
dm. Asst. Clerical	2				-			4	6	\$63	\$378			-		
								••••••••••••••••••••••••••••••••••••••				MISC	1 10 mm 10 11 10 11			a concernation of the
SUBTOTAL DIRECT LABOR					·		L	· · · · · · · · · · · · · · · · · · ·	1.*		\$14,998	subtotal	\$0	subtotal	\$0	\$14,99
Sub Task 4	0					1					1 <u>.</u>					
Sub 1858 4.	• Summary R	eport with K	ecommendal	DIRE	TLABOR		en en e		Section 1		RE 24 8 7 1 4	ODC's		OUTSIDE SVS/SUB-CON	TRACTORS	TOTAL
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LABOR CATEGORY	MGMT	DESIGN	ANALYSES	MODELING	WORK	LIASON	TRAVEL	PREP	HOURS	RATE	COST	ITEM	COST	SERVICE	COST	COST
Principal								4	4	\$210	\$840	IN-HOUSE SERVICES	· •			-
Principal II		1						1	0	\$178	\$0	TRAVEL				
Sr Engineer		1		1				8	8	\$150	\$1,200	PER DIEM				
Coastal Engr	· · · · · · · · · · · · · · · · · · ·					-		40	40	\$114	\$4,560	REPRODUCTION	\$250			
Coastal Engr II		+	t	t		1		+	0	\$95	\$0	LD TEL/FAX	+ •	-		
Coastal Engr III		1	1			+	l		ō	\$78	\$0	FEDEX	+	-		
CAD				t				+	ō	\$59	\$0	POSTAGE	\$50	-		
Adm. Asst. Clerical			1	1				4	4	\$63	\$252		+			
		+	1		· · · · · · · · · · · · · · · · · · ·			•	• · · · · · · · · · · · · · · · · · · ·		+	MISC	+			
URTOTAL DIRECT LABOR		J		l				•	<b>.</b>		\$6.852	subtotal	\$300	subtotal	\$0	\$7,15

olsen associates, inc.

9/8/2010

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Attachment C

Scientific Environmental Applications, Inc. (S.E.A.) 5575 Willoughby Dr. Melbourne, FL 32934 email seapp1@aol.com Telephone/fax 321.254.2708 www.seappinc.com

September 3, 2010

Chris Creed, P.E. Olsen Associates, Inc. 2618 Herschel Street Jacksonville, FL 32204

Re: Revised Palm Beach County Ocean Ridge Sand Source Evaluation Budget

Dear Mr. Creed:

The attached budget for Ocean Ridge Sand Source Evaluation Project is a breakout of the costs associated with Scientific Environmental Applications, Inc. (S.E.A.) and American Vibracore Services, Inc. (AVS). Cost increases per sample unit as allowed per S.E.A.'s current contract with Palm Beach County (10/22/09-10/22/10) and next year's contract (10/22/10-10/21/11) are shown as samples may be processed in either contract year. The lump sum total is \$54,292.52 = \$23,292.52 (SEA) + \$31,000 (AVS) for Ocean Ridge Sand Source Evaluation Project and processing all samples during 10/22/10-10/21/11. If you have any questions, I may be reached at 321.254.2708.

Sincerely,

Kin Jank

Ms. Kim Zarillo President

ſ asks	Hours/units	Rat	te	Subtotals			
American Vibracore Services, Inc. (AVS) Task	1 Core Borings	-					
Ten core borings Mob/Demob	1	\$	11,000.00	\$	11,000.00		
I en core borings	10	\$	2,000.00	5	20,000.00		*** ***
American Vibracore Services, Inc. (AVS) Tota	ai			\$	31,000.00		\$31,000.00
S.E.A. Core Sampling		Cor	ntract Unit			Contract Pri	ce increase 1.1%
		Pric	ce 10/22/2009-			for 10/22/201	0-10/21/2011
	Hours/units	10/2	21/2010	Subtotals			
Gary Zarillo, Planning and supervision	65	\$	92.00	\$	5,980.00	\$	5,980.00
S.F.A. Task 2 Core and Sample Processing		Cor	ntract Linit		i salaan ti.	Contract Pri	ra increasa 1 1%
size and the second state of the second		Pri	ce 10/22/2009-			for 10/22/201	0-10/21/2011
		10/	21/2010			101 10/	
	Hannahanita			Cubictolo			
Corp long in EDER format. Dista markin Record	Hours/units	998		Subtotais	이 사람이 가지 않는다.		1993년 - 1997년 - 1997년 - 1997년 - 1997년 - 1997년 - 1997
Jore logs in FDEF tormal, rhotographic Record							
	10	\$	130.00	\$	1,300.00	\$	1,300.00
Sample processing for grain size to FDEP specs.					1.1		
	60	\$	47.45	\$	2,847.00	\$	2,878.32
Percent carbonate testing on discrete and		t i					
composite samples			10.04	er '	776 40	e	701 04
Demont Organia tasting an discust and	60	\$	12.94	3	//6.40	\$	/84.94
rercent Organic testing on discrete and			13.04	e	776 10	e	784 04
Wet sieving on discrete and composite complete	60	e e	12.94	ۍ ۲	776.40	\$	794.94
Color code according to Mungell	60	e	12.74	ф. С	776.40	\$	784 04
		20.8%	연양님은 걸음 걸려 안 없는	- 「見」 「ーー」「別の」、「みいわりの話」、	나라 지갑 것 같아요. 나라 가슴을	- ベンド さいかがみがくがしょ	(A) Z & C = [1, 1] Size (1) (1) Second 5.
	999 - 1999 -				A AFA (A		- 210 00
S.E.A. Task 3. Final Products				<u>s</u>	7,252.60	<u>s</u>	7,318.08
S.E.A. Task 3. Final Products				<b>S</b>	7,252.60	<u>\$</u>	7,318.08
S.E.A. Task 3. Final Products Final Report including all FDEP products and 3D	1			<u>s</u>	7,252.60	<u>s</u>	7,318.08
S.E.A: Task 3. Final Products Final Report including all FDEP products and 3D model of sand resource	65	5	92.00	<u>s</u>	7,252.60 5,980.00	<u>s</u>	7,318.08
S.E.A. Task 3. Final Products Final Report including all FDEP products and 3D model of sand resource S.E.A. Field and Sample Archive Expenses	65	<u>s</u>	92.00	<u>s</u>	7,252.60	<u>s</u>	7,318.08 5,980.00
S.E.A. Task 3. Final Products Final Report including all FDEP products and 3D model of sand resource S.E.A. Field and Sample Archive Expenses Core transport	65 1	<b>S</b>	92.00 200.00	<u>s</u>	7,252.60 5,980.00 200.00	\$ \$ \$	7,318.08 5,980.00 200.00
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# Ocean Ridge Sand Source Evaluation Budget Revised September 3, 2010

Lump Sum Total

54,292.52

\$



August 13, 2010

Christopher G. Creed, P.E. Senior Engineer / Vice-President Olsen Associates, Inc. 2618 Herschel Street Jacksonville, Florida 32204

RE: Proposal for Professional Services - Revised Cultural Resources Investigation Ocean Ridge Potential Borrow Sites Sea Diversified P.N. 10-1686

Dear Mr. Creed:

Pursuant to your request, Sea Diversified, Inc. (SDI) is pleased to provide the following revised Statement of Work (SOW) and associated cost pertaining to a proposed cultural resources investigation of two (2) potential borrow sites off the coast of Ocean Ridge in Palm Beach County, Florida. The two (2) borrow sites extend north and south of the 1998 and 2005 borrow sites in water depths ranging from approximately 30 to 40 feet. This SOW pertains to the required remote sensing surveys as conforming to the requirements of the Florida Division of Historical Resources (FDHR) pursuant to Chapters 1A-32 and 1A-46, *Florida Administrative Code (F.A.C.)* in coordination with the State Historic Preservation Officer (SHPO). The surveys shall be conducted under the direction of Tidewater Atlantic Research, Inc. (TAR), a qualified Marine Archaeological firm that specializes in cultural resource investigations associated with offshore sand borrow sites.

Upon the completion of the archival research component of the investigation by TAR, an underwater remote sensing survey combined with bathymetric data collection shall be conducted to identify and map submerged features of potential prehistoric or historic significance. The first phase of the field survey efforts will include bathymetric, magnetometer, side scan sonar and sub-bottom profiler data collection. The second phase of the field investigation will include diver groundtruthing, as required to classify objects or anomalies of unknown characteristics that were detected from the remote sensing operations. Diver operations may include hydraulic jetting or other sand displacement efforts to uncover and expose buried items of potential cultural significance. The field surveys and subsequent groundtruthing operations (if required) will be conducted by trained and experienced technicians under the responsible charge of a Professional Surveyor and Mapper licensed in the State of Florida. A brief description of these services is as follows:

## General:

SDI shall provide supervision, field / office support staff and equipment to perform the scope of work described, herewith. All work shall be conducted to the highest level of industry standards and under the responsible charge of a Professional Surveyor and Mapper registered in the State of Florida. All work shall meet or exceed the Minimal Technical Standards set forth by the Florida Board of Professional Surveyors and Mappers in Chapter 61G17-6, Florida Administrative Code, pursuant to Section 472.027, Florida Statutes. Additionally, all work shall be conducted in accordance with the BBCS Monitoring Standards for Beach Erosion Control Projects and the U.S. Army Corps of Engineers Manual for Hydrographic Surveying.

Attachment D

SEA Diversified, Inc. 1200 NW 17th Avenue, Suite 3 Delray Beach, Florida 33445 Phone: 561-243-4920 Facsimile: 561-243-4957

4640 Lipscomb Street, Suite 10 Palm City, Florida 32905 Phone: 321-984-7268 Facsimile: 321-984-7270

Proposal for Professional Services - Revised Cultural Resources Investigation Ocean Ridge Potential Borrow Sites Sea Diversified P.N. 10-1686 August 13, 2010 Page 2 of 4

Attachment D

## Horizontal and Vertical Data:

 Horizontal Data: Feet, relative to the Florida State Plane Coordinate System, East Zone, North American Datum (NAD), 83/90
 Vertical Datum: Feet, relative to the North American Vertical Datum, (NAVD) of 1988.

## Phase One: Field Data Collection and Report of Findings

## Bathymetry

Bathymetric data shall be collected using a single-beam sounder along transects spaced at intervals of no greater than fifteen (15) meters. The survey shall be conducted using an automated hydrographic system comprised of a survey launch equipped with a Odom marine grade sounder, Trimble Differential Global Positioning System (DGPS) and computer-based navigation / data collection system. The sounder shall be calibrated via bar checks at the beginning of each survey day. Soundings will be corrected for tidal fluctuations using an integrated Real-Time Kinematic GPS. A tide gauge will also be established and monitored in proximity to the project area as a redundant means of recording tides during the course of data collection. A motion sensor will be employed as necessary to reduce the effects of vessel heave, pitch and roll during the course of data collection.

Sounding / positioning data will be collected and recorded continuously throughout the survey on computer internal hard-drives. Daily backups of all raw digital data to CD ROM will be performed as required. Upon completion of field survey activities, data will be edited and reduced to the project datum and formatted as required for bathymetric modeling and chart preparation. Final data, reduced to an X,Y,Z, ASCII format will be imported to a CADD environment and subsequently translated to Digital Terrain Model (DTM) for generating contour charts and profile plots.

## Side Scan Sonar

Side scan sonar data will be collected using an Edgetech fully digital, high resolution (100 / 500 kHz) side scan sonar data acquisition system. Alternatively, an ultra-high resolution (400 / 900 kHz) side scan sonar system that utilizes full spectrum CHIRP technology will be employed at the discretion of TAR. Positioning and heading shall be provided via integrated dual-antenna DGPS with heading accuracy of 0.5 degrees. The survey will be conducted either independent or simultaneous with the bathymetric survey. Data shall be collected along transect intervals and range settings set to achieve 100% coverage of the proposed survey area. In order to maximize the ability to classify objects or features detected during the survey, 50% minimum overlap of data between adjacent lines will be maintained. Data will be captured in a georeferenced, digital environment allowing the operator to interpret and classify objects real-time during the course of the survey.

Upon completion of the field data collection, digital mosaics will be developed and overlaid with the bathymetric contour charts. Objects or features detected during the survey or as part of post-processing will be specifically annotated on the survey charts along with their apparent classification. This will include hardbottom features, exposed rock outcrops, changes in apparent surface sediment type, manmade objects / debris, exposed cable / pipeline crossings and shipwrecks. Such objects or features will be additionally tabulated noting the location (x,y coordinate) and apparent classification. Objects of unknown classification will be set as targets for subsequent magnetometer survey operations. The targets will also be used to position divers during the groundtruthing phase of field investigations.

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Attachment D

Proposal for Professional Services - Revised Cultural Resources Investigation Ocean Ridge Potential Borrow Sites Sea Diversified P.N. 10-1686 August 13, 2010 Page 3 of 4

## Magnetometry

Magnetometer data will be collected to identify features lying on or buried within the sediments that may not be readily detectable from the side scan sonar survey. This will be limited to objects of ferrous composition such as pipes / cables, submerged vessels or other isolated / scattered manmade debris. Of specific interest will be submerged objects of potential cultural importance. The survey shall be conducted using a cesium magnetometer with positioning and heading provided via integrated dual-antenna DGPS with heading accuracy of 0.5 degrees. Magnetometer data shall be collected along transects spaced at intervals of no greater than fifteen (15) meters. Additional lines shall be run as required to define the limits of anomaly clusters and/or to better describe scattered anomaly tracks.

Upon completion of the fieldwork, data will be overlaid with the bathymetric contour and side scan sonar charts. Magnetic anomalies detected during the survey or as part of post-processing will be specifically annotated on the survey charts along with such information as gamma intensity, duration and apparent association with other survey anomalies and / or side scan sonar targets. Data shall be presented in magnetic contour format with and overlay of survey track lines. Such anomalies will be additionally tabulated noting the location (x,y coordinate), and potential significance. Detailed maps of significant anomalies will be provided for subsequent diver groundtruthing, as applicable.

## **Sub-Bottom Profiling**

Sub-bottom profile data shall be collected using an Edgetech Sub-Bottom Profile system operating at low frequency range (2-16 kHz) to maximize penetration into the surface sediments. The sub-bottom profile system will be a portable system that uses a full spectrum CHIRP technology that minimizes multipath and noise effects while achieving high definition image slices of the sub-bottom material characteristics. Positioning and heading shall be provided via integrated dual-antenna DGPS with heading accuracy of 0.5 degrees. Data will be captured in a georeferenced, digital environment allowing the operator to interpret and classify sediment stratifications real-time during the course of the survey. Data will be collected along transects spaced at intervals of no greater than fifteen (15) meters. Tie lines will be conducted as necessary to verify the primary profile data.

Upon completion of the fieldwork, data will be processed to identify and map sub-bottom stratifications as discernable from the seismic data. Isolated objects or features buried below the seafloor will be specifically noted as anomalies for subsequent investigations. Final deliverables shall include processed sub-bottom data reduced to a X, Y, delta-Z format. Sub-bottom isopach plots will be provided, if requested along with a tabulation of buried objects of potential significance.

## **Report of Findings**

The results of the bathymetric and remote sensing surveys will be compiled and submitted to TAR for review and interpretation. Specifically this will include the following:

- Raw survey data in electronic format
- Processed bathymetric survey data in ASCII X,Y,Z format
- Georeferenced side scan sonar mosaics in .tiff or .jpg format
- Magnetometer data
- Sub-bottom profile data
- Bathymetric contour charts

Proposal for Professional Services - Revised Cultural Resources Investigation Ocean Ridge Potential Borrow Sites Sea Diversified P.N. 10-1686 August 13, 2010 Page 4 of 4

Attachment D

 Final survey report including description of methodologies, horizontal and vertical control, survey results and recommendations for subsequent field investigations

Total lump sum fee for Phase One shall be as follows:

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# Phase Two: Diver Groundtruthing

At the direction of TAR, groundtruthing operations, via divers, will be conducted to observe and classify objects or features of unknown characteristics. Divers may also be deployed to determine the apparent characteristics of the sub-bottom material stratifications or seismic reflectors encountered during the remote sensing operations. Divers will be equipped with hydraulic jetting equipment and/or other sand displacement devices as necessary to expose buried objects of potential significance to the project. Underwater metal detectors will also be used to assist with locating anomalies encountered from the magnetometer survey.

Divers will be positioned using DGPS over targets established as part of the remote sensing operations. At each target location, divers will record the ambient bottom elevations and conditions along with horizontal / vertical extent of sand displacement in attempt to uncover buried objects or anomalies of interest. Items encountered during the dive efforts will be described and classified in diver log sheets and photographed for subsequent reporting to TAR. Should no object or feature be encountered during the dive operations after a reasonable attempt to uncover, diver log sheets will be noted accordingly.

Upon completion of the diver groundtruthing operations, diver log sheets will be compiled and provided to TAR. A report of findings will also be prepared, as applicable, to describe the groundtruthing procedures and equipment utilized to expose buried targets. The report will provide a summary of findings including a detailed description of any objects encountered as part of the dive operations.

# Total fee for Phase Two, Diver Groundtruthing to be determined after completion of Phase One

Should you have questions or require additional information, please do not hesitate to contact us at your convenience. After your review of this SOW, please let us know if you require any changes or modifications to the scope of survey. Thank you for your consideration and we look forward to hearing from you shortly.

Best regards,

William T. Sadler Jr., P.E., P.S.M. President

WTS/dq

Attachment D Cost Breakdown Sea Diversified, Inc. **Cultural Resources Investigation** Ocean Ridge Potential Borrow Sites SDI P.N. 10-1686 August 11, 2010

	Reg	Reg	ОТ	ОТ		
Description	Hours	Rate	Hours	Rate	Unit	Total
Computer / CADD Operator	8	\$90.00	T	\$135.00	PH	\$720.00
Survey Manager	16	\$95.00		\$142.50	PH	\$1,520.00
Professional Surveyor and Mapper	8	\$120.00		\$180.00	РН	\$960.00
Project Manager	2	\$150.00		\$225.00	РН	\$300.00
Total Cost:						\$3,500.00

Field Data Collection

	Reg	Reg	от	ОТ		
Description	Hours	Rate	Hours	Rate	Unit	Total
2-Person GPS Survey Crew	4	\$160.00		\$240.00	СН	\$640.00
3-Person Hydrographic Survey Crew	40	\$250.00		\$375.00	СН	\$10,000.00
3-Person GPS Survey Crew	0	\$215.00		\$322.50	CH	\$0.00
Survey Manager	32	\$95.00		\$142.50	РН	\$3,040.00
Professional Surveyor and Mapper	16	\$120.00		\$180.00	PH	\$1,920.00
Project Manager	8	\$150.00		\$225.00	PH	\$1,200.00
Side Scan Sonar System	1	\$750.00				\$750.00
Magnetometer System	1	\$350.00				\$350.00
Sub-Bottom Profile System	2	\$850.00				\$1,700.00
Total Cost:						\$19,600.00

# Charts and Deliverables

	Reg	Reg	ОТ	ОТ		
Description	Hours	Rate	Hours	Rate	Unit	Total
Computer / CADD Operator	32	\$90.00		\$135.00	PH	\$2,880.00
Survey Manager	12	\$95.00		\$142.50	PH	\$1,140.00
Professional Surveyor and Mapper	8	\$120.00		\$180.00	РН	\$960.00
Project Manager	2	\$150.00		\$225.00	PH	\$300.00
Total Cost:						\$5,280.00

\$3,500.00

Summary Project Planning **Field Data Collection** 

Field Data Collection	\$19,600.00
Charts and Deliverables	\$5,280.00
Subtotal	\$28,380.00
Tidewater Atlantic Research	\$12,467.66
Total Cost	\$40,847.66

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# **Tracy Logue**

From: Sent: To: Subject: Chris Creed [ccreed@olsen-associates.com] Tuesday, August 24, 2010 10:59 AM Tracy Logue FW: Ocean Ridge

----Original Message-----From: Gordon Watts [mailto:iimr@coastalnet.com] Sent: Tuesday, August 24, 2010 9:25 AM To: Chris Creed Subject: Ocean Ridge

#### Chris,

In response to the comments concerning our cost proposal for the Ocean Ridge project, I would like to define our role and budget calculations. That role is dictated by the requirements of the Florida Bureau of Archaeology (FBAR) and the United States Army Corps of Engineers, Jacksonville District (USACE-JAX).

Our first objective would be to obtain a 1A-32 Permit from FBAR. That requires filling out the 1A-32 permit application, producing and submitting a research methodology and providing a map illustrating the survey area. Obtaining the permit commits Tidewater Atlantic Research, Inc. (TAR) to providing a final report document that addresses FBAR and USACE-JAX comments and meets their report document requirements. Prior to the survey a meeting with USACE-JAX personnel will be attended to address survey and report requirements of the USACE-JAX archaeological staff.

During the survey TAR will provide the archaeologist/principal investigator required by FBAR and UASCEJAX. Dr. Watts will serve as archaeological principal investigator. As such he will supervise the collection of remote sensing data to ensure that magnetic and acoustic records will provide sufficient information to support identification and assessment of submerged cultural resources in the project area. Dr.

Watts education and experience more than meets the standards identified by the Secretary of the United States Department of Interior. He has carried out projects in Florida for over 35 years and has worked for both the FBAR and USACE-JAX.

Upon completion of the survey, Dr. Watts and TAR personnel will analyze the remote sensing data,. Data assessment will include developing a magnetic contour map of the survey area, examining each line of magnetometer records to identify and evaluate each anomaly. Each anomaly will be assessed in terms of apotential association with historically significant submerged cultural resources and National Register of Historic Places eligibility. Acoustic records will be examined for bottom surface material associated with magnetic anomalies and relict landforms that have been demonstrated to have a potential association with prehistoric habitation sites.

In order to provide a background context for assessing the remote sensing data, TAR will conduct a program of historical research. That research will include investigations in local repositories, libraries and historical societies as required by the USACE-JAX archaeological staff and FBAR personnel. Analysis of the data will be detailed in an illustrated report produced by and under the direction of the archaeological principal investigator as per the requirements of both FBAR and USACE-JAX. Comments on the draft report will be addressed in a final report document that will be submitted to Olsen Associates, FBAR and USACE-JAX.

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The budget prepared and submitted by TAR is based on those project requirements. I have calculated for airfare for a trip to Jacksonville to meet with USACE-JAX personnel and a trip to West Palm Beach to participate in the remote sensing survey. Because I could not provide dates for those trips and the schedules will depend on variables such as USACE-JAX personnel availability and weather, I used a rate from US Airways that was sufficient to accommodate last minute travel arrangements. Fuel, in the budget is for the rental car while milage and parking are for getting to and from an airport and leaving a car if necessary. As far as the cost of hotel accommodations in Ocean Ridge, I checked on rates for several motels but could not get a firm quote without a date for travel. If the rate quoted ERM is from we will be happy to use that in our firm fixed cost proposal. We will increase the milage rate to .445 to correspond to Florida state rates if necessary. The different rates for the PI reflect an 8 hour day in the office and a 10+ hour day in the field.

Finally, I have not seen the budget proposal prepared by SEA, Inc. and cannot comment on any duplication of costs for analysis of the data. In order to prepare our report for submerged cultural resources, we must conduct our own analysis of the magnetic and acoustic data.

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Gordon P. Watts, Jr., Ph.D., RPA Director Tidewater Atlantic Research, Inc. P.O. Box 2494 5290 River Road Washington, North Carolina 27889 252-975-6659 (phone) 252-975-2828 (fax)

## Attachment, D

# Tidewater Atlantic Research, Inc. P.O. Box 2494, Washington, North Carolina 27889 (252) 975-6659

11-Aug-10

Fixed Cost Proposal Ocean Ridge Borrow Areas

FBAR Permitting, USACE Coordination & Archaeological Remote Sensing Survey Participation Palm Beach County, Florida

	Units (days)	Unit Cost	Total
Personnel			
Principal Investigator	8	\$300	\$2,400.00
Field Director	0	\$250	\$0.00
Senior Archaeologist	0	\$225	\$0.00
Archaeologist	0	\$200	\$0.00
Archaeological Assistant	0	\$150	\$0.00
Administrative Support	0	\$125	\$0.00
Overhead		0.78	\$1,872.00
		Sub total	<u>\$4,272.00</u>
Travel			
Lodging	7	\$125.00	\$875.00
Per diem	8	\$35.00	\$280.00
Airfare	2	\$550.00	\$1,100.00
Car Rental	8	\$65.00	\$520.00
Fuel & Parking		\$100.00	\$100.00
Mileage	112	\$0.43	\$48.16
		Sub total	<u>\$2,923.16</u>
		Total	<u>\$7,195.16</u>

# \$7,195.16

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Historical Research, Data Analysis,	Report Preparation and Revision		
	Units (days) U	Init Cost	Total
Personnel			
Principal Investigator	3	\$250.00	\$750.00
Senior Archaeologist	3	\$225.00	\$675.00
Historian	4	\$200.00	\$800.00
Computer Graphics Technician	3	\$175.00	\$525.00
Administrative & Clerical	1	\$125.00	\$125.00
Overhead		0.78	\$2,242.50
		Sub total	<u>\$5,117.50</u>
Publishing			and and a second se
Printing & Binding Cost	1	\$75.00	\$75.00
Graphics	1	\$50.00	\$50.00
Supplies	1	\$30.00	\$30.00
		Sub total	<u>\$155.00</u>
		Total	<u>\$5,272.50</u>
Proposed Project Budget		<u>Total</u>	<u>\$12,467.66</u>

# Olsen Associates, Inc. Continuing Contract for Coastal and Marine Engineering

Contract R2010-1297 dated August 17, 2010 for period of two years expires on August 16, 2012. SBE-M/WBE Goal 38.0% (10% SBE/Woman; 8% SBE/White; 6% SBE/Asian; 14% MBE/Woman)

Task order su	immary:			
TASK NUMBER	TOTAL/ SBE and/or MWBE AMOUNT	TASK DUE DATE	TASK DESCRIPTION	APPROVED BY/DATE
1297-01	185,092.18	4/5/2011	Ocean Ridge Shore Protection Project 3 - Phase I	BCC
		·		

 Total:
 185,092.18

 SBE-MBE:
 51,672.52

 SBE-MBE Participation:
 27.9%

 Report Date & Filename:
 09/08/10

 $T:\label{eq:consultants} Olsen\_2010-2012\\[history\_1297.xls]Sheet1$ 

# Attachment 2

JC

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# R 2010 12 97

# CONTRACT FOR PROFESSIONAL CONSULTANT SERVICES BETWEEN PALM BEACH COUNTY AND OLSEN ASSOCIATES, INC.

This Contract is made as of <u>AUG 7 2010</u>, 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 Olsen Associates, Inc., 2618 Herschel Street, Jacksonville, FL 32204, 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 59-2223174.

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 provide 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 most current U.S. Army Corps of Engineers "Technical Requirements for Surveying, Mapping and Photogrammetric Services", the most current U.S. Army Corps of Engineers "Engineering Design: Hydrographic Surveying," EM 1110-2-1003, 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. The 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.  $R 2010 \pm 1297$ AUG 1 7 2010 PALM REACH COUNTY

ATTEST: Sharon R. Bock B١ Deput WITNESS: Signature

CHRISTOPHER G. CREED P.E. Name (type or print)

**APPROVED AS TO FORM** AND LEGAL SUFFICIENC Assistant County Attorney

APPROVED AS TO TERMS AND CONDITIONS

By Richard E. Walesky, Director

Dept. of Environmental Resources Mgmt.

PALM BEACH COUNTY BOARD OF COUNTY GOMAIISSIONERS: Burt Aaronson, Chair Steven L. Abrams **CONSULTANT:** Olsen Associates, Inc. **Company Name** Signature

Erik J. Olsen, P.E. **Typed Name** 

President Title

(corporate seal)

# Palm Beach County Coastal Engineering Services Contract

# EXHIBIT B

CATEGORY	SALARY PER HOUR	BURDENED RATE <sup>1</sup>	
Principal	\$77.21	\$210	Certified as of 20 April 2010
Principal II	\$65.44	\$178	
Sr. Engineer	\$55.15	\$150	
Coastal Eng. I	\$41.81	\$114	Source: W-2 (2009) +3%
Coastal Eng. II	\$34.98	\$95	
Coastal Eng. III	\$28.85	\$78	
CAD	\$21.62	\$59	
Adm. Asst. Clerical	\$23.12	\$63	

<sup>1</sup> Multiplier of 2.72

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