



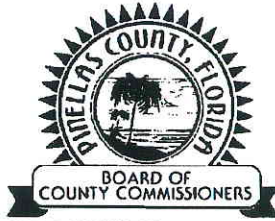
No. 17
BCC 10/20/09
3:00 P.M. KENNARE/Schmidt

#17 Amendment No. 2 to State of Florida Department of Environmental Protection Contract No. DC839 with Humiston & Moore Engineers, P.A. for professional services for the Honeymoon Island Beach Restoration Project decreasing the contract in the amount of \$166,750.00 approved; revised contract amount \$566,160.00 with 75 percent to be reimbursed by the State through an existing contract; Chairman authorized to sign and the Clerk to attest (Environmental Management).

Motion - Commissioner Latvala
Second - Commissioner Welch

Responding to query by Commissioner Seel, Director of Environmental Management William M. Davis indicated that the County staff is in discussions with the State to determine who will maintain oversight of the project.

Vote - 7 - 0



BOARD OF COUNTY COMMISSIONERS

DATE: October 20, 2009
AGENDA ITEM NO. 17.

Consent Agenda

Regular Agenda

Public Hearing

County Administrator's Signature: 

Subject:

Approval of Amendment No. 2 to the Florida Department of Environmental Protection (FDEP) Contract No. DC839 for Professional Services with Humiston & Moore Engineers for the Honeymoon Island Beach Restoration project.

Department:

Environmental Management

Staff Member Responsible:

William M. Davis, Director 

Recommended Action:

I RECOMMEND THE BOARD APPROVE AMENDMENT NO. 2 TO THE FDEP CONTRACT FOR PROFESSIONAL SERVICES FOR THE HONEYMOON ISLAND BEACH RESTORATION.

Summary Explanation/Background:

Amendment No. 2 to FDEP Contract No. DC839 (Attachment No. 2) for Professional Services with Humiston & Moore Engineers modifies the scope of the Honeymoon Island Beach Restoration Project. Amendment No. 1 resulted in shared contract administration responsibilities between FDEP Division of Recreation and Parks (DRP) and Pinellas County, thereby providing a local sponsor for the project for state funding eligibility.

Amendment No. 2 modifies the scope of the consultant's work at a reduced cost from Amendment No. 1. Task II, Sand Search has been changed to remove a detailed and costly offshore sand search and to add an upland (mine) sand source and expanded ebb shoal investigation. The amended scope also includes modeling, design, and permitting. This portion will include an analysis of the long-term cost and shoreline response to relocating a bathhouse and portion of a parking lot in order to provide a more natural shoreline shape, which will result in less erosion of nourished sand. Once the shoreline position was relocated landward, an erosion control structure would be installed and the beach restored. This option may be a more sustainable coastal management plan than simply installing structures at the present shoreline position.

Fiscal Impact/Cost/Revenue Summary:

The revised scope of work results in a cost savings of \$166,750 from the cost of Amendment No. 1. The Honeymoon Island Beach Restoration is cost shared 75% State and 25% County. The total cost to Pinellas County is \$566,160, of which 75% will be reimbursed by the State through an existing contract. The State has already paid \$70,250 of the project cost.

Funds for this project are available from tourist development tax funds dedicated to beach improvements. The project is funded as follows:

State:	\$ 494,870
County:	\$ 141,540
TOTAL:	\$ 636,410

Exhibits/Attachments Attached:

1. Contract Review Transmittal Slip
2. Amendment No. 2 to FDEP Contract No. DC839

CONTRACT REVIEW TRANSMITTAL SLIP

PROJECT: Amendment No. 2 to FDEP Division of Recreation and Parks Contract No. DC839 for Professional Services with Humiston & Moore Engineers

BID / CONTRACT NO.: _____ ESTIMATED EXPENDITURE / REVENUE: \$561,460/\$421,095
 (\$140,365 total cost after reimbursement)

(Circle appropriate choice above.)

(Circle appropriate choice above.)

Upon completion of your review, please complete the Contract Review Transmittal Slip below and **forward to the next Review Authority on the list, skipping any authority marked "N/A."**

OTHER SPECIFICS RELATING TO THE CONTRACT: This Amendment changes only the consultants scope of work, resulting in a cost reduction.

REVIEW SEQUENCE	DATE	SIGNATURE	COMMENTS (IF ANY)	COMMENTS REVIEWED AND INCORPORATED (ORIGINATOR'S INITIALS & DATE)
Jackie Trainer DEM	9/1/09	<i>J. Trainer</i>	Reviewed first by Dr. N. Eiko. Task 11 SA doesn't include \$4700 in total. Add "Attachment A" on SOW, add pg #s.	JT 9/30/09
Andy Squires DEM	9/1/09	<i>Andy Squires</i>		
Will Davis DEM, Director	9/2/09	<i>W. Davis</i>		
Beth Winger Risk	9/2/09	<i>BW</i>		
Casandra Williams Finance	9/8/09	<i>CBW</i>		
Joe Lauro Purchasing				
John Woodruff OMB	9/3/09	<i>John Woodruff</i>		
Elizabeth Warren County Admin	9/1/09	<i>Elizabeth Warren</i>		
Jewel Cole Legal	9/14/09	<i>Jewel Cole</i>		

Please return to Jackie Trainer, DEM Accounting via interoffice mail. All inquires should be made to Jackie at ext. 44249. Thank you.

DEP CONTRACT No. DC839
STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

RECEIVED
AUG 11 2009
DEPARTMENT OF ENVIRONMENTAL PROTECTION

AMENDMENT No. 02

THIS AGREEMENT was entered into on the 5th day of August 2008, and amended on the 3rd day of February 2009, by and between the Department of Environmental Protection with headquarters at 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, a state agency ("Department"), the Pinellas County Board of County Commissioners, 315 Court Street, Clearwater, Florida 33756, a Florida local governmental entity ("County") and Humiston & Moore Engineers, P.A., with headquarters at, 5679 Strand Court, Naples, Florida 34110, a Florida corporation ("Consultant").

The Consultant was selected to provide professional engineering services according to the Consultants Competitive Negotiations Act, Chapter 287.055 Florida Statutes. The Request for Statement of Qualifications No. RFSOQBDC 02 06/07 and the Consultant's response are included herein by reference.

The Agreement is hereby amended as follows:

1. The Contract Scope of Work and Cost for Task II shall be amended as indicated in Attachment 'A' of this Amendment. The total contract price, cited on Page 2, Paragraph 3, of Amendment No. 1 to the contract, shall be decreased by \$166,750.00 from \$803,160.00 to \$636,410.00. The Department shall provide \$70,250.00, and the County shall provide \$566,160.00.
2. In Amendment No. 1, Paragraph 7, a new Paragraph 4.10 was added to the original contract authorizing additional services, when approved in writing by the County. These services are to cover the expense of unforeseen circumstances. The maximum amount for these expenses is hereby increased by \$25,000.00, from \$50,000.00 to \$75,000.00.

IN ALL OTHER RESPECTS, the Agreement of which this is an Amendment, and attachments relative thereto, shall remain in full force and effect.

1. Attachments.

Attachment A shall be included as part of this Amendment.

Attachment A, Page 1-9: Statement of Work
Attachment A, Page 10-13: Figures 1, 2, 3 and References
Attachment A, Page 14: Task II Basic Services Cost Outline
Attachment A, Page 15-21: Task II Basic Services Cost Detail

The parties have caused this Agreement to be formally executed effective the date signed on behalf of the Department of Environmental Protection shown below.

FOR THE CONSULTANT

FOR THE DEPARTMENT

Authorized Person

Michael Bullock, Director
Florida Division of Recreation and Parks
Or his Designee.

Brett D. Moore, P.E.
Print Name

10-29-09
Date

Vice-President
Title

9-25-9
Date

APPROVED AS TO FORM

65-0262351
FEID Number

Department Attorney

FOR THE COUNTY

Pinellas County Board of County Commissioners
County Commission Chair

10/20/09
Date

ATTEST

APPROVED AS TO FORM AND LEGALITY

County Clerk
County Attorney

Attachment A
Scope of Work

Task II Scope of Work

Basic Services: The scope of our services for the offshore sand search phase of the project has been amended to consist of the following elements:

- II.1 Sand Source Investigation - Inland and Ebb Shoal
- II.2 Data collection
- II.3 Preliminary design of erosion control structures¹, numerical modeling & Coastal Process Analysis
- II.4 State & Federal Permitting
- II.5 Final Plans and Technical Specifications
- II.6 Bid Phase Services

II.1 SAND SOURCE INVESTIGATION

II.1.A. Upland Sand Mine Investigation

Inland sand site selection: Upon issuance of a Notice to Proceed from the Department of Environmental Protection (DEP) Division of Recreational and Parks (Parks) and Pinellas County (Pinellas), Humiston and Moore Engineers (H&M) will evaluate three sand mines as potential sources of sand for Phase Two of the Honeymoon Island Beach Restoration Project. These sand sources are referred to as Tampa Groves Mining in Pinellas County, Farabee Pit in Charlotte County, and Ortona Sand Mine in Glades County.

H&M will provide an evaluation of each site regarding its potential use as a source of sand for providing beach quality sand to satisfy the beach fill requirements for Phase Two of the Honeymoon Island Beach Restoration Project. Sand placement is planned only after the construction of the erosion control structures for Phase Two. Evaluation of each inland sand source mine shall include the following:

- Site visit to observe processing of sand
- Selection of three representative samples for evaluation of geotechnical characteristics of the processed sand from each mine. The representative samples from each mine's processed material shall come from three separate locations in the stockpiled material at each mine. The processing procedures for each sand mine shall be documented in detail and submitted as part of the report deliverables referenced in Section II.1.E herein. The analysis of the samples will be conducted as described under section II.1.C. of this section.

II.1.B. Ebb Shoal Borrow Area Investigation

Ebb shoal sand source: In addition to the inland sand sources described under Section II.1.A. above, the borrow area which was dredged under Phase One of the Honeymoon Island Beach Restoration Project and the adjoining area to the north, west and south along the outer portion of the ebb shoal will be evaluated as a potential source for sand for Phase Two of the Honeymoon Island Beach Restoration Project. Please refer to the attached exhibit showing an aerial of the proposed offshore borrow area location and ebb shoal. H&M will submit an Environmental Resource Permit (ERP) application to request a de minimus exemption to conduct vibracore sand samples within the study area described herein.

¹ It is expected that erosion control structures to be considered will be low profile T-groins (designed similar to Phase One on site) emergent rock mound breakwaters, or a combination of both.

As part of the application, updated bathymetric data from the August 2009 monitoring survey and an updated environmental survey of the ebb shoal region (Item II.B.2.) will be included. The application for the de minimus exemption will include assurances that the vibracore activity will stop immediately if any potential resource is encountered. The results of all vibracore activities will be documented, identified, photographed and categorized to be included in our report referenced in the deliverable section of this section.

Sand samples extending a minimum of two feet below the depth of proposed dredging will be collected and analyzed for placement on the beaches of Honeymoon Island. A total of 8 vibracores within the ebb shoal region will be collected, and the vibracores will be spaced no more than 1000 feet apart. It is expected that approximate 15 foot vibracore lengths will be sufficient in this ebb shoal area. The final locations of these vibracores will be subject to change based on the results of the environmental assessment in item II.2.B, herein. The vibracore locations will be forwarded to DEP BBCS for comment prior to their collection. In the event full penetration and/or recovery cannot be achieved at a given vibracore location, 80 percent recovery shall be considered adequate. In the event that refusal is encountered prior to achieving the desired depth, an additional vibracore shall be taken or a hydraulic jetting technique will be used to compliment a second run and to optimize the probability of achieving core penetration to the desired depth. The analysis of the samples will be conducted as described under Section II.1.C, herein.

II.1.C. Geotechnical Analysis of Samples

Inland samples: A total of three post processing sand samples will be collected from each of the three inland mines. Of the three samples collected from each mine, all three will be analyzed for grain size analysis, two will analyzed for carbonate content and one of those samples will be analyzed for post carbonate sieve analysis. (Subtotal sieve: 12; total carbonate: 6)

Vibracore samples: It is anticipated that up to 24 sub-samples will be analyzed for grain size analysis. Samples will be taken from each distinct layer that occurs within the vibracore, with no sub-samples of the vibracores being longer than 5 feet. One third of the sub-samples (up to 8) will be analyzed for carbonate content. Approximately one half of the sub-samples analyzed for carbonate content (up to 4) will be analyzed for post carbonate sieve analysis and those sampled will be well distributed within the proposed area for future dredging. (Subtotal sieve: 28; total carbonate: 8)

Geotechnical analysis: The vibracore samples, beach samples, and mine samples will be analyzed in the following manner. When performing the grain size analyses of the sediment samples collected in this study (both vibracores and beach samples), the following will be conducted when submitting data (in tabular form) to the Department for review: 1) sieve number, 2) diameter in mm, 3) diameter in phi units, 4) weight retained on sieve, 5) weight percent retained on sieve, 6) cumulative weight retained on sieve, 7) cumulative weight percent retained on sieve. All weights and percentages will be recorded to the nearest 0.01 gm. The sieve stack will use screens at half-phi intervals between sieve #4 and #230 in addition to a ¾ inch screen. Additionally, the analysis will include a table of mean, median (d50), standard deviation (sorting), Munsell color based on moist samples, silt percent and carbonate content. The moment method will be used to calculate grain size statistics. The carbonate testing method shall be conducted according to Determination of Carbonates as described in Methods of Study of Sediments, Twenhofel and Tyler, 1941. Post-carbonate digestion sieve tests will be

performed as part of this work as discussed under the previous section. Frequency and cumulative frequency plots of each sample will be provided, as well as vibracore photographs. (Total sieve: 40; total carbonate: 14)

The following sieves will be used as referenced herein

Retaining Sieve (phi)	Retaining Sieve (mm)	US Standard Sieve #	Retaining Sieve (phi)	Retaining Sieve (mm)	US Standard Sieve #
-4.25		3/4"	0.5	0.7071	25
-4		5/8"	1	0.5	35
-2.5		3.5	1.5	0.3536	45
-2.25		4	2	0.25	60
-2	4	5	2.5	0.1768	80
-1.5	2.8284	7	3	0.125	120
-1	2	10	3.5	0.0884	170
-0.5	1.4142	14	4	0.0625	230
0	1	18			Pan

II.1.D. Compatibility Analysis with Inland and Nearshore Borrow Area Locations

Compatibility analysis: A sand compatibility analysis will be performed between the 4 beach samples previously collected at DEP monuments locations R-8, R-8.5, R-9, and R-9.5 and the vibracore sub-samples, expected to be no more than 24 total (2 to 3 sub-samples per vibracore) and the three samples from each of the three inland mines. All samples will undergo a sieve and color analysis as described herein. H&M will use the results of the sediment analysis and color analysis of the samples to conduct the compatibility analysis. This compatibility analysis will include using the moment method. When evaluating the sand material to be dredged, the sediment characteristics of the sand in the borrow area will be weighted according to the estimated volume associated with the respective samples. Relative color comparison will be evaluated as well.

II.1.E. Deliverable: Geotechnical Report

Deliverable (Report #1): H&M will provide a draft report of the results of the evaluation of each mine and the ebb shoal for review by the DEP Parks, Pinellas County, and DEP Beaches and Coastal Systems. The report will include a letter of certification from a Professional Geologist, or Professional Engineer, registered in the State of Florida certifying the results of the sediment analysis. All data relating to the ebb shoal sand analysis shall also be provided in Access or gINT file format for input as reference into the DEP Reconnaissance Offshore Sand Search (ROSS) database. Spreadsheets used for statistical analysis will be provided. This report will include a compatibility analysis of the average of the three samples from each mine with an average of the post beach fill samples collected and analyzed at 4 stations along the beach and filed with the DEP as part of the post construction monitoring for monuments locations R-8, R-8.5, R-9, and R-9.5. DEP Parks will forward the draft report to the DEP Bureau of Beaches and Coastal Systems (Beaches) for input. Based on the results and comparative evaluation, the sites will be determined as whether or not they are feasible from a sand compatibility analysis perspective. If more than one site is feasible, those feasible sites will be ranked based on the data analysis of each mine, compatibility analysis, including Munsell color, relative distance from the project site, availability of sand, and cost. Upon receipt of

comments from DEP Parks, Pinellas County, and DEP Beaches, Report #1 will be finalized. The same will be done for the ebb shoal sand source. Two hard copies and one digital copy will be provided to Pinellas County and DEP Parks. This report will also include information from Pinellas County regarding the conditions of the bridges and roadway along Curlew Avenue from U.S. 19 to the project site for use as an access corridor for the potential trucking of up to 100,000 cubic yards.

II.2. DATA COLLECTION

II.2.A. Supplemental Bathymetric Data

Beach Profile Data: Beach and offshore profile data collected as part of the design and monitoring of Phase I of the Honeymoon Island Beach Restoration Project will be supplemented with additional data in the nearshore region for the potential siting of additional erosion control structures. The existing monitoring data will be considered as well as the additional profile data for establishing a nearshore surface for positioning and evaluating erosion control structures. The monitoring data to be collected in August 2009 in the vicinity of the borrow area is assumed to be sufficient bathymetry for evaluating the outer portion of the ebb shoal area as a potential source of sand to satisfy part or all of the potential sand needs for the second phase of the Honeymoon Island Beach Restoration Project. The nearshore area in the location of the proposed erosion control structures will provide additional bathymetric detail in the vicinity of anticipated consideration of alternative erosion control structure design. The nearshore survey shall include mapping of the submerged groin north of the north parking facility as an existing submerged feature which may have some effect on the beach system. Mapping of this submerged structure will also provide information for contractors to consider should removal of that structure become part of the bid documents. Please refer to Figure 1.

II.2.B. Submerged Aquatic Vegetation and Hardbottom Assessment

Environmental Assessment: An environmental assessment of submerged aquatic vegetation and hardbottom will be done within the proposed area of the nearshore region for Phase Two extending from R-7.5 to R-9.5 up to approximately 800 feet offshore (52 acres +/-). The same survey will also be done for the outer portion of the ebb shoal considered as a potential sand source for Phase Two along with the previous area dredged (75 acres +/-). Please refer to Figure 2. The first stage will involve a presence – absence survey and mapping of Submerged Aquatic Vegetation (SAV) communities. It is anticipated that this first phase will not find significant amounts of SAV in the areas identified in Figure 2. The second stage will quantitatively map and survey the existing SAV and hardbottom communities found within the areas evaluated that are also within 300 feet of anticipated dredging or construction of erosion control structures. This second stage of the environmental assessment of the project areas will include documentation of any seagrass and macroalgal species.

II.2.C. Geotechnical Conditions in Vicinity of Proposed Erosion Control Structures

Geotechnical Assessment: Following the preliminary design of the erosion control structures, Humiston and Moore Engineers (H&M) will submit an Environmental Resource Permit application to request a de minimus exemption to conduct a geotechnical investigation consisting of three Standard Penetration Test borings that will be taken in the nearshore area at this time assumed to be approximately 300 feet offshore and spaced at approximately 500 feet apart to determine the nature and condition of the subsurface soils. The borings will penetrate between approximately 15

to 20 feet below the soil surface to provide geotechnical conditions in the vicinity of the anticipated erosion control structures. The application for the de minimus exemption will include assurances that the activity will stop immediately if any potential resource is encountered. This work will not be done until after issuance of a de minimus exemption and once the type and location of erosion control structures are decided upon as indicated by the filing of the JCP application following the pre-application meeting. The positioning of the borings will coincide with proposed structures and will provide information relevant for the driving of sheetpiles. The results will be considered in the design of the erosion control structures and will be presented for contractors' reference in the technical specifications for this project when the project is advertised for bid.

II.2.D. Wave Data Collection and Modeling

Wave Data: A directional wave gage will be installed up to 3 months offshore of Hurricane Pass in water depths greater than 25 feet. Please refer to Figure 3. The gage will be used to calibrate a wave model using the Coastal Data Information Program (CDIP) Station 144 offshore wave buoy located offshore of St. Petersburg. The CDIP buoy at Station 144 has been collecting directional wave data since July 2007 at approximately 94 miles offshore in water depths greater than 300 feet. The combination of available long-term offshore data and the proposed nearshore wave data collection will help to calibrate a nearshore wave model for the project area using the Corps of Engineers Coastal Modeling System (CMS). The wave model will provide varying wave conditions and long-term wave input data to the coastal processes modeling as part of this project.

The physical monitoring data for the interim project provide documentation of the nearshore morphology change since the interim project was constructed. The ability to model sand transport and morphology over that period can provide a calibrated model to evaluate alternatives more effectively. Model calibration for that period of time will require simulating the nearshore waves for the past 2 years.

The WIS data which were used in the interim project phase is limited to the 20 years 1980 to 1999 which does not cover recent years, especially the high active seasons from 2004 to 2008. The CDIP buoy began to provide directional wave data since July 2007 which provide valuable offshore wave information. However in order to provide accurate nearshore wave data using the offshore wave record a calibrated bottom friction factor is needed. The bottom friction factor can be obtained through calibration process of wave propagation from offshore to nearshore during a storm event. The proposed wave data measurement aims at collecting data for a period of time such that suitable storms will occur during the deployment while the CDIP buoy is operational.

II.3. - PRELIMINARY DESIGN, NUMERICAL MODELING AND COASTAL PROCESS ANALYSIS

II.3.A. Inlet Reservoir Model –Application

Inlet Shoal Recovery Modeling: Several computer modeling tools will be applied in the preliminary and final design stages of this project. The Inlet Reservoir Model (IRM, Kraus, 2000) was applied by H&M (2005) for Hurricane Pass under Phase One of the Honeymoon Island Beach Restoration Project. Validation of the IRM for Hurricane Pass will be done using the updated post construction monitoring data completed to date for the interim beach project (Phase One). This model will be used for evaluation of ebb shoal recovery and for long term assessment of potential maintenance dredging for sand placement in the project area. This model will also be used to assess the potential for

using the outer portion of the ebb shoal as a renewable source of sand. The model will evaluate the quantity of sand that can be dredged given the computed effects on the stability and recovery rate of the ebb shoal.

II.3.B. Sediment Transport and Morphology Modeling

Sediment Transport and Morphology Modeling: Shoreline and volumetric change data along the shoreline and in the nearshore area will be used to update the sediment transport gradients for the project area. The analysis will include conditions that existed prior to ebb shoal dredging and beach fill placement completed under Phase One as well as post construction monitoring conditions. This will establish the relative rates at which sand has been transported into and bypassed Hurricane Pass to adjacent shorelines prior to and following the interim project (Phase One). Modeling applications with the updated data, including supplemental bathymetric data and wave and current measurements, will include coastal processes modeling using the Coastal Modeling System (CMS) to quantify sediment transport gradients and morphology changes. CMS will be used for the purpose of evaluating design alternatives. Results from the regional circulation model completed previously for Phase One will be used as input boundary conditions for the CMS modeling. The NLine model (Dabees and Kamphuis) will be used to project the long-term response to the installation of the erosion control structures and provide estimates of potential salient configurations within the project area. These results will also be considered in evaluating the project life of the beach fill and anticipated renourishment interval.

II.3.C. Alternatives Analysis

Alternatives Analysis: Through the modeling listed above, preliminary design alternatives will be developed. Preliminary design will include evaluation of shoreline response and projected design life of the beach fill. Through an iterative process, two different configurations of erosion control structures will be evaluated using the modeling approach discussed above in Section II.3.B. The intent of this procedure is to adjust positioning of a segmented breakwater structure and a T-groin field to obtain optimum results for shoreline protection and for minimization of impacts to the adjacent shorelines. We anticipate that the two erosion control design alternatives to be considered will consist of a rock mound segmented breakwater and/or T-groins similar to the design of the T-groin completed under Phase I. When evaluating these alternatives, relative opinions of cost, permitability, and practicality from a construction and engineering design perspective will be considered.

Relative performance evaluation of the alternatives will be reviewed along with an estimate of the renourishment interval and approximate long-term (20-year) maintenance costs.

When considering the two structural alternatives discussed herein, an adjustment to the existing headland area to be protected will be considered. The extent of the adjustment of the shoreline will be coordinated with Pinellas County and DEP Parks relative to impacts on parking and beach access. In this evaluation of alternatives, the long-term effect of the shoreline, or headland, adjustment on the long-term maintenance costs of the erosion control project will be considered.

It is recognized that in consideration of all alternatives, avoiding erosion of the northern spit of Honeymoon Island is also one of the design objectives of the DEP Parks.

II.3.D. Beach Fill Design Based on Sand Source and Quantity

Preliminary Beach Fill Design: Based on the anticipated response to the various erosion control structure configurations, a preliminary beach fill design will be completed. Sand compatibility of the existing beach using sediment data from Phase One with the three inland borrow sources and outer ebb shoal region to be considered as potential borrow sources for Phase Two. The beach fill design will be based on the amount of sand available from the ebb shoal for Phase Two and the decision on amount of sand decided to be used via trucking.

II.4.- STATE AND FEDERAL PERMITTING

II.4.A. Summary of Preliminary Design and Analysis in PowerPoint, Followed by Pre-Application Meeting

Pre-application Meeting: The results of the modeling, alternatives analysis and preliminary design will be summarized in a PowerPoint presentation that will be filed with DEP Parks, Pinellas County, and DEP Beaches and Coastal Systems in advance of a pre-application meeting. Following 30 days after filing of the PowerPoint presentation, a pre-application meeting will be held in Tallahassee with the DEP Parks, Pinellas County, and DEP Beaches and Coastal Systems. Staff of the Florida Fish and Wildlife Conservation Commission and the DEP Office of Coastal and Aquatic Managed Areas will be invited as well. The results of the meeting will be summarized in the JCP application.

II.4.B. Preparation of JCP Submittal to DEP, Supporting Documentation, Permit Plans, Reports, and Response to Request for Additional Information (RAI) from DEP

DEP Permitting: An application will be filed with the Florida Department of Environmental Protection (DEP) under the Joint Coastal Permitting (JCP) program for Phase Two of the Honeymoon Island Beach Restoration Project. The submittal will include but not be limited to updated survey data from the last monitoring survey, permit drawings for the erosion control structures and the beach fill, the erosion control design and alternatives analysis report, a QA/QC plan for the beach fill, geotechnical data and analysis for the sand source and beach compatibility, a copy of the geotechnical report referenced under Section II.1.E herein, a monitoring plan and submerged land public easement surveys and legal descriptions for the proposed locations of the erosion control structures. Existing and updated rectified aerials as collected by Pinellas County will be used in the analysis. All application fees will be filed by the DEP Park Service as part of this scope of this work and are not eligible for reimbursement from DEP Beaches.

If the headland rounding is selected as a viable option, plans will include details of the headland adjustment in terms of the amount of excavation including sections detailing the adjusted slope and extent of upland to be removed. Disposal of that material will be coordinated with Pinellas County and DEP Parks. Sufficient detail will be provided for DEP Parks or Pinellas County staff to design the necessary modifications to the parking lot.

II.4.C. State Permitting - DEP – Develop Monitoring Plan Merging Phases I and II

Monitoring: As part of the permit processing and coordination with the DEP and Corps of Engineers, a physical hydrographic monitoring plan will be prepared to track the performance of the project along with the continued performance of Phase One. This

plan will supersede the physical monitoring plan for Phase One, once the JCP permit Notice to Proceed is issued for Phase Two, to include those necessary elements as part of Phase Two monitoring. No new rectified aerials will be collected beyond those collected by Pinellas County.

II.4.D. Federal Permitting – USACE

Corps of Engineers: A copy of the JCP application will be forwarded to the U.S. Army Corps of Engineers for their processing of an Individual Permit or modified Phase One permit. This will include coordination with NOAA National Marine Fisheries and the U.S. Fish and Wildlife Service.

II.4.E. Development of a QA/QC Plan - DEP

QA/QC Plan: As part of the permit processing and coordination with the DEP and Corps of Engineers, a Quality Assurance (QA) and Quality Control (QC) plan will be prepared relative to the sand to be placed on the beach to ensure the quality of the imported beach sand remains within the permitted design standards.

II.4.F. Biological Opinion

Coordination with USFWS on an amended Biological Opinion: As part of the permit review and coordination with the DEP and USACE, coordination with the FWS is necessary in order to amend the existing 2005 Biological Opinion to account for the expanded design.

II.5.- FINALIZE PLANS AND TECHNICAL SPECIFICATIONS

II.5.A. Preparation of Plans and Specifications, Bid Schedule, Updated Survey

Plans and Specifications: Finalize design and prepare Technical Specifications and a bid schedule to be included with the Pinellas County contract documents for bidding. An updated survey of the project area will be necessary to complete the construction plans as part of this task. The most recent survey from the on-going monitoring will be used in the preparation of the construction plans.

If the survey is more than 6 months old or if the project area has undergone sufficient changes since the last survey at the opinion of the Project Engineer, an updated survey will be conducted within 6 months of the anticipated commencement of construction.

II.5.B. Preparation of Opinion of Probable Costs

Opinion of Costs: Prepare a preliminary opinion of probable costs based on the final design. Contact other local governments for recent costs for similar construction. Contact suppliers and contractors for material sources and costs.

II.6.- BID PHASE SERVICES

II.6.A. Pre-Bid Conference on Site

Pre-Bid Conference: Respond to inquiries from potential bidders and attend a pre-bid conference and site visit with representatives of Pinellas County, DEP Parks and prospective bidders.

II.6.B. Preparation of Addenda to Bid Package

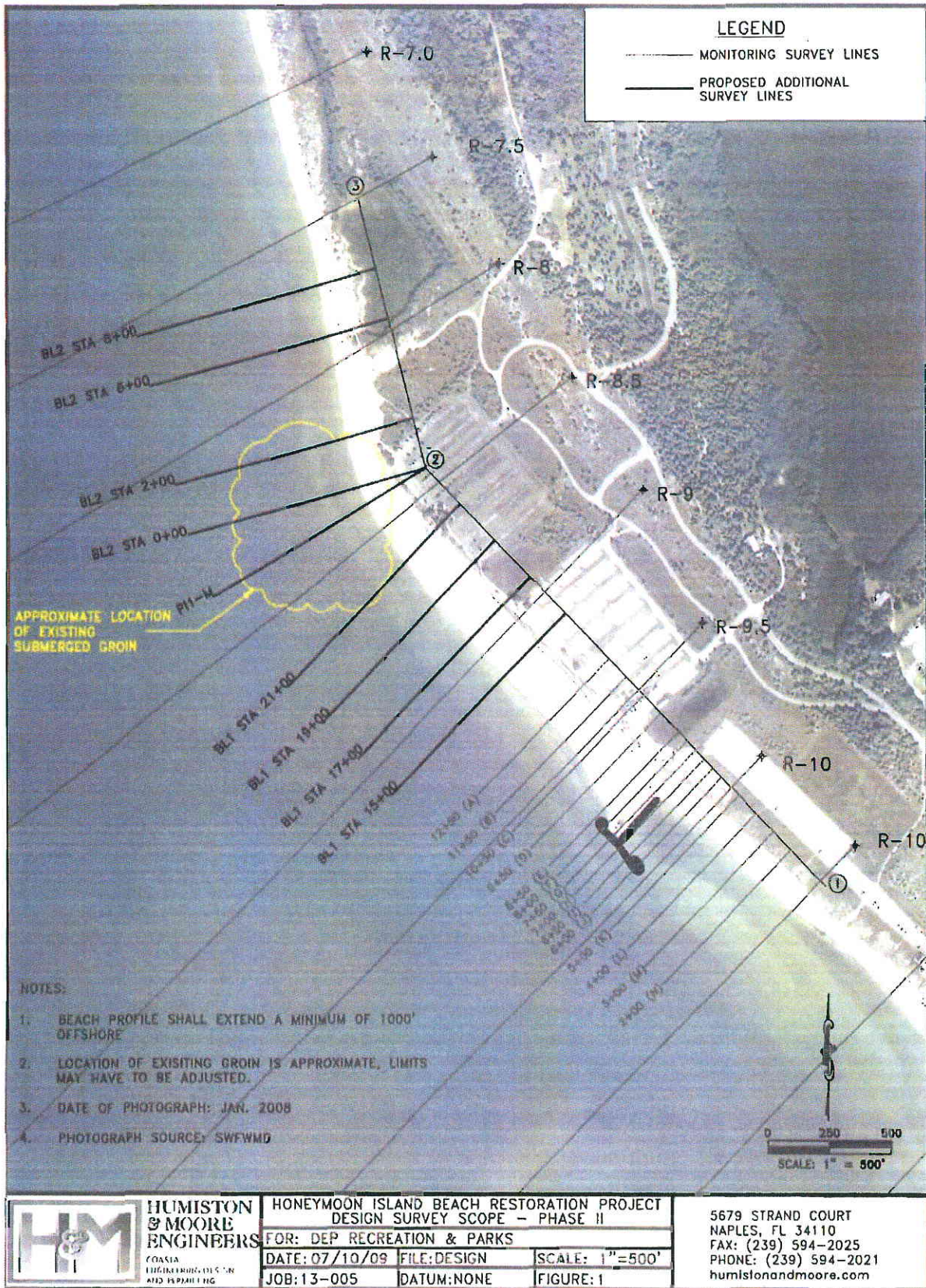
Addenda to Bid Package: Preparation of addenda to bid documents and responses to requests for information from prospective Bidders at the request of Pinellas County and DEP Parks on an as needed basis.

II.6.C. Qualification of Bidders and Recommendation

Bid Qualification: Evaluate bidders' qualifications, contact references, and prepare a formal recommendation to Pinellas County and DEP Parks regarding awarding of the construction contract.

These services will be billed on a time and materials basis. Subconsultant services will be billed on a lump sum basis.

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NOTES:

1. BEACH PROFILE SHALL EXTEND A MINIMUM OF 1000' OFFSHORE
2. LOCATION OF EXISTING GROIN IS APPROXIMATE, LIMITS MAY HAVE TO BE ADJUSTED.
3. DATE OF PHOTOGRAPH: JAN. 2008
4. PHOTOGRAPH SOURCE: SWFWMD



HUMISTON & MOORE ENGINEERS
COASTAL ENGINEERS, ARCHITECTS AND PLANNERS

HONEYMOON ISLAND BEACH RESTORATION PROJECT DESIGN SURVEY SCOPE - PHASE II		
FOR: DEP RECREATION & PARKS		
DATE: 07/10/09	FILE: DESIGN	SCALE: 1"=500'
JOB: 13-005	DATUM: NONE	FIGURE: 1

5679 STRAND COURT
 NAPLES, FL 34110
 FAX: (239) 594-2025
 PHONE: (239) 594-2021
 humistonandmoore.com



AREAS OF ENVIRONMENTAL ASSESSMENT FOR SUBMERGED AQUATIC VEGETATION AND HARDBOTTOM HABITAT. APPROXIMATELY 125 ACRES.

EXISTING BORROW AREA LIMITS HONEYMOON ISLAND BEACH RESTORATION-PHASE I DEP PERMIT #0249602-001-JC AREA TO BE INCLUDED IN SURVEY.

HURRICANE PASS



SCALE: 1" = 1000'

DATE OF PHOTOGRAPH: JANUARY 2008
PHOTOGRAPH SOURCE: PINELLAS COUNTY



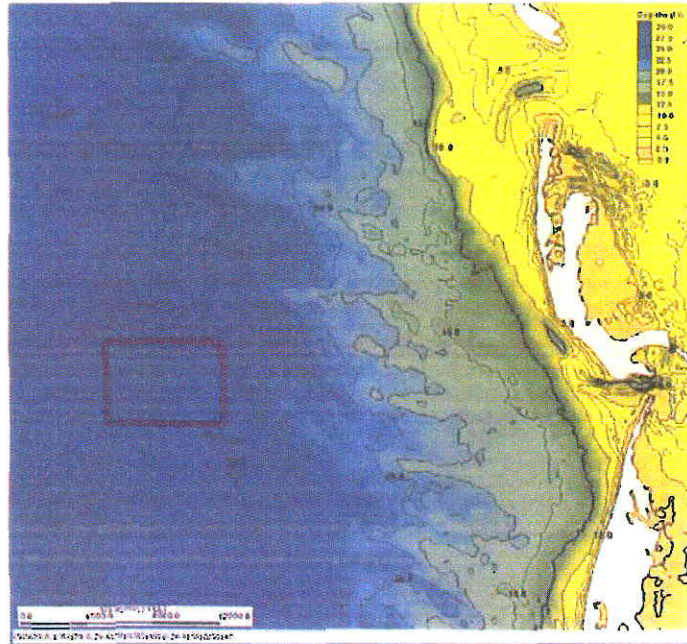
HUMISTON & MOORE ENGINEERS
COASTAL ENGINEERING DESIGN AND PERMITTING

HONEYMOON ISLAND PHASE II SAV AND HARDBOTTOM SURVEY
FOR: PINELLAS COUNTY & DEP DIV. OF REC. & PKS.
DATE: 6/26/09 FILE: SEAGRASS SCALE: 1"=1000'
JOB: 13-005 DATUM: N/A FIGURE: 2

5679 STRAND COURT
NAPLES, FL 34110
FAX: (239) 594-2025
PHONE: (239) 594-2021
humistonandmoore.com

Honeymoon Island Beach Restoration Project Nearshore Directional Wave Gage

The proposed nearshore gage is intended to measure directional wave and water levels for a period of 3 months to be deployed during the winter months. The wave gage is to be deployed at water depths greater than 25 ft offshore of Hurricane Pass. The wave data collected by the proposed wave gauge will be used to calibrate a wave model using the CDIP station 144 offshore wave buoy located further offshore of St. Petersburg.



Proposed location of nearshore wave gage (approximately 3 miles offshore of Hurricane Pass at depths greater than 25 ft)

The CDIP buoy has been collecting directional wave data since July 2007 approximately 94 miles offshore at water depth greater than 300 ft.

<http://cdip.ucsd.edu/?nav=historic&sub=data&stn=144&stream=p1>

The combination of the available long-term offshore data and the proposed nearshore wave data collection will help calibrate a wave model and provide long-term wave input to the coastal processes modeling needed for the project.



CDIP Gulf of Mexico Wave Buoy station 144 located 94 miles offshore of St. Petersburg, Florida



Figure 3. Nearshore Directional Wave gage

REFERENCES

- Buttolph, A. M., C. W. Reed, N. C. Kraus, N. Ono, M. Larson, B. Camenen, H. Hanson, T. Wamsley, and A. K. Zundel. 2006, *Two-dimensional depth-averaged circulation model CMS: Ver. 3.0*, CHL Tech. Report ERDC/CHL TR-06-09. Vicksburg, MS: U.S. Army Eng. Res. and Develop. Center.
- Dabees, M. and Kamphuis J.W. 2000, *NLINE: Efficient Modeling of 3-D Beach Change*, Proc. 27th ICCE, Sydney, Australia, ASCE, pp. 2700-2713.
- Humiston & Moore (2005), *Evaluation of the Coastal Processes of Honeymoon Island and Inlet Dynamics of Hurricane Pass*, Technical Report HM13005, prepared for Florida Department of Environmental Protection, May 2005, 39p.
- Kraus, N.C. 2000, *A Reservoir Model of Ebb-tidal Shoal Evolution and Sand Bypassing*, J. Waterway, Port, Coastal and Ocean Eng., 126(6), 305-313.

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Task II BASIC SERVICES COST OUTLINE

II.1- SAND SOURCE INVESTIGATION

II.1.A. Upland sand mine (3) investigation	10,430.00
II.1.B. Ebb shoal sand search, ERP exemption, vibracores	26,230.00
II.1.C. Geotechnical analysis of samples	12,690.00
II.1.D. Compatibility analysis, weighting and location	6,245.00
II.1.E. Deliverable (Report #1):	<u>11,020.00</u>
Subtotal for II.1	<u>66,615.00</u>

II.2- DATA COLLECTION

II.2.A. Supplemental bathymetric data, plot review	\$12,745.00
II.2.B. Environmental Assessment, nearshore & ebb shoal	\$16,300.00
II.2.C. Geotechnical Assessment at locations of proposed structures	\$13,070.00
II.2.D. Wave Data 3-months, 2 intermediate checks	<u>\$29,430.00</u>
Subtotal for II.2	<u>\$71,545.00</u>

II.3.- PRELIMINARY DESIGN, NUMERICAL MODELING AND COASTAL PROCESS ANALYSIS

II.3.A. Inlet Reservoir Model - Validation and Application	\$17,540.00
II.3.B. Sediment Transport and Morphology Modeling	\$39,770.00
II.3.C. Alternatives Analysis Segmented Breakwater and T-groins	\$31,050.00
II.3.D. Preliminary Beach Fill Design	\$6,880.00
Subtotal for II.3	<u>\$95,240.00</u>

II.4.- STATE AND FEDERAL PERMITTING

II.4.A. Prepare a PowerPoint presentation of the results of the preliminary design	\$25,390.00
II.4.B. State Permitting - DEP - JCP, Prepare application	\$40,590.00
II.4.C. Develop Monitoring Plan	4,760.00
II.4.D. QA/QC Plan for DEP	\$3,220.00
II.4.E. Federal Permitting - USACE	\$3,340.00
II.4.F. Biological Opinion Coordination (amendment to 2005 BO)	\$11,290.00
Subtotal II.4 A-E,K,L	<u>\$88,590.00</u>

II.5.- FINALIZE PLANS AND TECHNICAL SPECIFICATIONS

II.5.A. Plans and Specifications - updated survey	\$29,260.00
II.5.B. Opinion of Costs	\$10,740.00
Subtotal for II.5	<u>\$40,000.00</u>

II.6.- BID PHASE SERVICES

II.6.A. Pre-Bid Conference	\$6,120.00
II.6.B. Addenda to Bid Package	7,320.00
II.6.C. Bid Qualification	<u>1,830.00</u>
Subtotal for II.6	<u>\$15,270.00</u>

Total for Task II **\$377,260.00**

Task II BASIC SERVICES COST DETAIL - DESIGN & PERMITTING

II.1- SAND SOURCE INVESTIGATION

II.2- DATA COLLECTION

II.3.- PRELIMINARY DESIGN, NUMERICAL MODELING AND COASTAL PROCESS ANALYSIS

II.4.- STATE AND FEDERAL PERMITTING

II.5.- FINALIZE PLANS AND TECHNICAL SPECIFICATIONS

II.6.- BID PHASE SERVICES

II.1. SAND SOURCE INVESTIGATION

II.1.A. Upland Sand Mine Investigation, Site visits, samples for analysis

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	20			3,700.00
Engineer III	105	4			420.00
Engineer II	95	8			760.00
Engineer I	80	40			3,200.00
AutoCAD Technician I	75	24			1,800.00
Project Coordinator	70	2			140.00
Expense - mailings, copying			250		250.00
Expense			160		160.00
					<u>10,430.00</u>

II.1.B. Ebb Shoal Area Investigation, file for ERP de minimus exemption, assist with vibracores, coord with DEP

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	4			740.00
Engineer III	105	2			210.00
Engineer II	95	12			1,140.00
Engineer I	80	10			800.00
AutoCAD Technician I	75	4			300.00
Project Coordinator	70	1			70.00
Expense - application fee*		1	100		100.00
Expense - mailings, copying			50		50.00
Expense Athena Tech. vibracores (8)**			22820		22,820.00

*application fee not eligible for state cost share

** Cost for Athena above includes mobilization and demobilization costs

26,230.00

II.1.C. Geotechnical Analysis of Samples, Vibracore sub-samples, beach samples, mine samples

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	2			370.00
Engineer III	105	4			420.00
Engineer II	95	8			760.00
Engineer I	80	40			3,200.00
AutoCAD Technician I	75	24			1,800.00
Project Coordinator	70	2			140.00
Expense sieve analysis		40	115		4,600.00
Expense carbonate analysis		14	100		1,400.00

12,690.00

II.1.D. Compatibility Analysis of Samples based on potential weighting and location, DEP Standards and Procedures, coordinate transport of samples

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	4			740.00
Senior Engineer	145	1			145.00
Engineer III	105	4			420.00
Engineer II	95	30			2,850.00

AutoCAD Technician II	85	12		1,020.00
Project Coordinator	70	1		70.00
Expense - mailings, copying			500	500.00
Expense archive samples			500	500.00
				<u>6,245.00</u>

II.1.E. Deliverable (Report #1): Ebb shoal, sand mines with beach fill from Phase I

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	10			1,850.00
Senior Engineer	145	2			290.00
Engineer III	105	4			420.00
Engineer II	95	40			3,800.00
Engineer I	80	6			480.00
AutoCAD Technician II	85	24			2,040.00
AutoCAD Technician I	75	20			1,500.00
Project Coordinator	70	2			140.00
Expense - mailings, copying			500		500.00
					<u>11,020.00</u>

Total II.1 66,615.00

Task II BASIC SERVICES COST DETAIL - DESIGN & PERMITTING

II.1.- SAND SOURCE INVESTIGATION

II.2.- DATA COLLECTION

II.3.- PRELIMINARY DESIGN, NUMERICAL MODELING AND COASTAL PROCESS ANALYSIS

II.4.- STATE AND FEDERAL PERMITTING

II.5.- FINALIZE PLANS AND TECHNICAL SPECIFICATIONS

II.6.- BID PHASE SERVICES

II.2. Data Collection

II.2.A. Supplemental bathymetric data

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	1			185.00
Engineer III	105	2			210.00
AutoCAD Technician II	85	8			680.00
Project Coordinator	70	1			70.00
Expenses SDI (9) profiles & multibeam/groin			9,200.00		9,200.00
Expenses Mobilization if after August 2009			2,400.00		2,400.00
					<u>12,745.00</u>

II.2.B. Environmental Assessment, near shore & ebb shoal Phases I & II, presence – absence (100 acres), then qualification (3 acres)

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	2			370.00
Engineer III	105	4			420.00
Engineer I	80	12			960.00
AutoCAD Technician II	85	8			680.00
Project Coordinator	70	1			70.00
Expense - mailings, copying	50				50.00
Expense Schenda			13750		13,750.00
					<u>16,300.00</u>

II.2.C. Geotechnical Assessment at locations of proposed structures
Following de minimus exemption and initial design acceptance

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	1			185.00
Engineer III	105	1			105.00
Engineer I	80	16			1,280.00
AutoCAD Technician II	85	8			680.00
Project Coordinator	70	1			70.00
Expense - mailings, copying	Application Fee ERP*		100		100.00
Expense - mailings, copying	Ardaman		10500		10,500.00
Expense			150		150.00

*appl. Fee not eligible for DEP BBCS funding

13,070.00

II.2.D. Wave data 3-months intermediate checks

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	2			370.00
Senior Engineer	145	4			580.00
Engineer III	105	2			210.00
Engineer II	95	40			3,800.00
Project Coordinator	70	1			70.00
Expense	SDI*		20700		20,700.00
Expense	*2 adl visits, download and battery		3700		3,700.00

29,430.00

Total II.2 71,545.00

Task II BASIC SERVICES COST DETAIL - DESIGN & PERMITTING

II.1.- SAND SOURCE INVESTIGATION

II.2.- DATA COLLECTION

II.3.- PRELIMINARY DESIGN, NUMERICAL MODELING AND COASTAL PROCESS ANALYSIS

II.4.- STATE AND FEDERAL PERMITTING

II.5.- FINALIZE PLANS AND TECHNICAL SPECIFICATIONS

II.6.- BID PHASE SERVICES

II.3. Preliminary Design, Numerical Modeling and Coastal Process Analysis

II.3.A. Inlet Reservoir Model – Validation and Application

Run for Ebb Shoal Recovery and Quality Renewable Source of Sand

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	6			1,110.00
Senior Engineer	145	40			5,800.00
Engineer II	95	24			2,280.00
AutoCAD Technician II	85	80			6,800.00
AutoCAD Technician I	75	20			1,500.00
Expense - mailings, copying			50		50.00

17,540.00

II.3.B. Sediment Transport and Morphology Modeling Boundary Conditions from Phase I Modeling for CMS and Nline

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	12			2,220.00
Senior Engineer	145	100			14,500.00
Engineer III	105	12			1,260.00
Engineer II	95	120			11,400.00
AutoCAD Technician II	85	120			10,200.00
Project Coordinator	70	2			140.00
Expense - mailings, copying			50		50.00

39,770.00

II.3.C. Alternatives Analysis Segmented Breakwater and T-groins, Evaluate two different configurations headland rounding, renourishment intervals and relative costs, long term maintenance costs

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	30			5,550.00
Senior Engineer	145	100			14,500.00
Engineer III	105	16			1,680.00
Engineer II	95	24			2,280.00
Engineer I	80	20			1,600.00
AutoCAD Technician II	85	60			5,100.00
Project Coordinator	70	2			140.00
Expense - mailings, copying			200		200.00

31,050.00

II.3.D. Preliminary Beach Fill Design, Consider design of structures and sand compatibility

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	8			1,480.00
Senior Engineer	145	4			580.00
Engineer II	95	24			2,280.00
AutoCAD Technician II	85	24			2,040.00
Administrative Assistant	50	10			500.00

6,880.00

Total II.3

95,240.00

Task II BASIC SERVICES COST DETAIL - DESIGN & PERMITTING

II.1- SAND SOURCE INVESTIGATION

II.2- DATA COLLECTION

II.3.- PRELIMINARY DESIGN, NUMERICAL MODELING AND COASTAL PROCESS ANALYSIS

~~II.4.- STATE AND FEDERAL PERMITTING~~

II.5.- FINALIZE PLANS AND TECHNICAL SPECIFICATIONS

II.6.- BID PHASE SERVICES

II.4. STATE AND FEDERAL PERMITTING

II.4.A. Prepare a PowerPoint presentation of the results of the preliminary design and forward to agencies, follow up with Pre-application meeting

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	20			3,700.00
Senior Engineer	145	80			11,600.00
Engineer II	95	60			5,700.00
AutoCAD Technician II	85	40			3,400.00
Project Coordinator	70	2			140.00
Plotting, vellum	10.00	15			150.00
Expense			700		700.00

25,390.00

II.4.B. State Permitting - DEP - JCP, Prepare application, File application w/ design report, surveys, easement surveys, QA/QC plan Respond to RAI from DEP

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	46			8,510.00
Senior Engineer	145	20			2,900.00
Engineer III	105	20			2,100.00
Engineer II	95	40			3,800.00
Engineer I	80	100			8,000.00
AutoCAD Technician II	85	120			10,200.00
AutoCAD Technician I	75	40			3,000.00
Project Coordinator	70	4			280.00
Plotting, vellum	10	30			300.00
Expense - mailings, copying			500		500.00
Expense - public easement			1000		1,000.00
					<u>40,590.00</u>

II.4.C. Develop Monitoring Plan, Transition between Phases I and II

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	4			740.00
Senior Engineer	145	4			580.00
Engineer II	95	12			1,140.00
AutoCAD Technician II	85	20			1,700.00
AutoCAD Technician I	75	8			600.00
					<u>4,760.00</u>

II.4.D. Federal Permitting – USACE, Include coordination with NMFS and FWS

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	4			740.00
Engineer III	105	4			420.00
Engineer II	95	8			760.00
Engineer I	80	12			960.00
Project Coordinator	70	2			140.00
Expense - mailings, copying			200		200.00
					<u>3,220.00</u>

II.4.E. QA/QC Plan for DEP for assurances of sediment placed on beach meeting DEP standards

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	4			740.00
Engineer II	95	4			380.00
Engineer I	80	8			640.00
AutoCAD Technician II	85	16			1,360.00
Project Coordinator	70	1			70.00
Expense - mailings, copying			150		150.00
					<u>3,340.00</u>

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II.4.F. USACE Permitting - FWS (U.S. Fish & Wildlife Service)
 Biological Opinion Coordination (amendment to 2005 BO)

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	16			2,960.00
Engineer III	105	16			1,680.00
Engineer II	95	8			760.00
Engineer I	80	60			4,800.00
AutoCAD Technician I	75	12			900.00
Project Coordinator	70	2			140.00
Expense - mailings, copying			50		50.00
					<u>11,290.00</u>

Total II.4 88,590.00

Task II BASIC SERVICES COST DETAIL - DESIGN & PERMITTING

- II.1- SAND SOURCE INVESTIGATION
- II.2- DATA COLLECTION
- II.3.- PRELIMINARY DESIGN, NUMERICAL MODELING AND COASTAL PROCESS ANALYSIS
- II.4.- STATE AND FEDERAL PERMITTING
- II.5.- FINALIZE PLANS AND TECHNICAL SPECIFICATIONS
- II.6.- BID PHASE SERVICES

II.5. FINALIZE PLANS AND TECHNICAL SPECIFICATIONS

II.5.A. Plans and Specifications - updated survey, Bid Schedule

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	40			7,400.00
Senior Engineer	145	4			580.00
Engineer III	105	40			4,200.00
Engineer I	80	40			3,200.00
AutoCAD Technician II	85	60			5,100.00
AutoCAD Technician I	75	40			3,000.00
Project Coordinator	70	4			280.00
Plotting, Vellum	10.00	30			300.00
Expense - mailings, copying			500		500.00
Expense SDI updated survey*			4,700		4,700.00
					<u>29,260.00</u>

II.5.B. Opinion of Costs, Research costs, projects bid.

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	10			1,850.00
Senior Engineer	145	2			290.00
Engineer III	105	24			2,520.00
Engineer II	95	16			1,520.00
Engineer I	80	12			960.00
AutoCAD Technician II	85	18			1,530.00
AutoCAD Technician I	75	20			1,500.00
Project Coordinator	70	1			70.00
Expense - mailings, copying			500		500.00
					<u>10,740.00</u>

Total II.5 40,000.00

Task II BASIC SERVICES COST DETAIL - DESIGN & PERMITTING

- II.1- SAND SOURCE INVESTIGATION
- II.2- DATA COLLECTION
- II.3.- PRELIMINARY DESIGN, NUMERICAL MODELING AND COASTAL PROCESS ANALYSIS
- II.4.- STATE AND FEDERAL PERMITTING
- II.5.- FINALIZE PLANS AND TECHNICAL SPECIFICATIONS
- II.6.- BID PHASE SERVICES

II.6. BID PHASE SERVICES

II.6.A. Pre-Bid Conference, Meeting on site, respond to contractors

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	10			1,850.00
Engineer II	95	12			1,140.00
AutoCAD Technician II	85	16			1,360.00
AutoCAD Technician I	75	12			900.00
Project Coordinator	70	1			70.00
PLOTTING, VELLUM	10.00	15			150.00
Expense - mailings, copying			500		500.00
Expense			150		150.00
					<u>6,120.00</u>

II.6.B. Addenda to Bid Package, Coordinate with County and DEP

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	12			2,220.00
Senior Engineer	145	2			290.00
Engineer III	105	12			1,260.00
Engineer II	95	8			760.00
AutoCAD Technician II	85	20			1,700.00
AutoCAD Technician I	75	12			900.00
Project Coordinator	70	2			140.00
Expense - mailings, copying			50		50.00
					<u>7,320.00</u>

II.6.C. Bid Qualification, Contact references, prepare formal recommendation

	Rate/Unit	Hours/QTY	Cost	Markup	Amount
Principle Engineer	185	4			740.00
Senior Engineer	145	0			0.00
Engineer III	105	4			420.00
Engineer II	95	4			380.00
AutoCAD Technician II	85	2			170.00
Project Coordinator	70	1			70.00
Expense - mailings, copying			50		50.00
					<u>1,830.00</u>

Total II.6 15,270.00