

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2009	2010	2011	2012	2013
Capital Expenditures	_____	_____	_____	_____	_____
Operating Costs	<u>190,744</u>	_____	_____	_____	_____
External Revenues	_____	_____	_____	_____	_____
Program Income (County)	_____	_____	_____	_____	_____
In-Kind Match (County)	_____	_____	_____	_____	_____
NET FISCAL IMPACT	<u>190,744</u>	_____	_____	_____	_____
# ADDITIONAL FTE POSITIONS (Cumulative)	_____	_____	_____	_____	_____
Is Item Included in Current Budget?			Yes <u>X</u>	No _____	
Budget Account No.:	Fund	Department	Unit	Object	
Feasibility Study	3652	381	M045	3120	
		Program	_____		

B. Recommended Sources of Funds/Summary of Fiscal Impact:
 Beach Improvement Fund \$43,193.98 + \$104,356.04 (ACOE anticipated share) + \$43,193.98 (FDEP anticipated share)

C. Department Fiscal Review: *JF*

III. REVIEW COMMENTS

A. OFMB Fiscal and/or Contract Dev. and Control Comments:
** Cost share will be available after the County completes the report.*

OFMB
2-13-09
2/10/09
2/4/09

Contract Development and Control
2/13/09
 This item complies with current County policies.

B. Legal Sufficiency:
Assistant County Attorney
2/18/09

C. Other Department Review:

Department Director

Background and Justification (continued from page 1):

The Project area is located directly south of the Jupiter Inlet and encompasses 1.05 miles of beach. To date, two large-scale federally authorized beach nourishment projects (1995 & 2002) have been completed. The second large-scale beach renourishment is presently scheduled for fall 2010.

The Project was identified as eligible for Federal participation in both the ACOE's General Design Memorandum (1987) and Coast of Florida Study (COFS 1995). The 1986 Water Resource Development Act (WRDA) authorized Federal participation in the Project for fifty (50) years. The ACOE recommended within the Coast of Florida Study (COFS) that Federal participation extend beyond the scheduled ten (10) years to include the "economic life of the project." Federal participation for the Project expired in 2005.

The Report will evaluate the "economic feasibility of extending federal participation" for the next thirty-seven (37) years of the fifty (50) year project life. Some of Taylor's services commenced in July 2008.

Attachment 1

TASK ORDER

TASK ORDER: 0410-07 CONSULTANT: Taylor Engineering

ACCOUNT: 3652-381-M045-3120 CONTRACT: R2008-0410

[Fiscal approval of Budget Availability: signature]

PROJECT MANAGER: Kimberly Miranda PHONE: 561-233-2465

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

PROJECT NAME: Jupiter/Carlin Section 934 Study

LOCATION/DISTRICT #: Jupiter / District 1

TASK DESCRIPTION (use additional pages if necessary): The Consultant shall provide a Section 934 Study in support of the renourishment of the Jupiter/Carlin Beach project, as described in the scope of services.

DELIVERABLES: See proposal dated 01/13/09.

TASK ORDER TYPE: FIXED PRICE \$182,824.00 DUE DATE: August 31, 2010
NOT-TO-EXCEED \$7,920.00

TOTAL AMOUNT \$ 190,744.00 See attached spreadsheet dated 01/13/09

(Check where appropriate)
for Contract and Subcontract Amounts:

	Black	Hispanic	Women	Other (specify)	White Male
M/WBE (State) <input type="checkbox"/>	\$ _____	\$ _____	\$ _____	\$ _____	
SBE-M/WBE* <input type="checkbox"/>	\$ _____	\$ _____	\$ _____	\$ _____	
SBE <input type="checkbox"/>	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____

*certified as both an SBE and a State MBE
TOTAL SBE-M/WBE PARTICIPATION: \$ 0.00

CONSULTANT REP: signature DATE: 1/19/2009

DIVISION DIRECTOR: _____ DATE: _____

APPROVED AS TO TERMS AND CONDITIONS:

ERM DIRECTOR: Richard E. [signature] DATE: 2/4/09

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

ASSISTANT COUNTY ATTORNEY: _____ DATE: _____

BOARD OF COUNTY COMMISSIONERS: _____ DATE: _____

John F. Koons, Chairman

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

January 13, 2008

Ms. Kimberly Miranda
Palm Beach County
2300 North Jog Road
4th Floor
West Palm Beach, FL 33411-2743

EMAILED

Re: Jupiter/Carlin Section 934 Study – 3rd Revision

Dear Ms. Miranda,

As per your request, please find enclosed our revised proposal for completing a Section 934 Study for the Jupiter Carlin segment of the Palm Beach County Shore Protection Project. We will perform Taylor Engineering work for a lump sum, fixed fee cost of \$182,824 and our subcontractor will perform its work for a cost plus, not to exceed amount of \$7,920.

Please contact me at 904-256-1341 or at mkrecic@taylorengeering.com if you have any questions or require additional information.

Sincerely,



Michael R. Krecic, P.E.
Director of Coastal Engineering

Enclosure

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EXHIBIT A

Palm Beach County Jupiter/Carlin Shore Protection Project Section 934 Study

Overview and Project Understanding

The Palm Beach County Shore Protection Project (SPP), authorized by Section 110 of the Rivers and Harbors Act (Public Law 87-874) on October 23, 1962, provides for beach fill extending from the Martin County line to Lake Worth Inlet and South Lake Worth Inlet to the Broward County line. The 1994 addendum to the 1987 General Design Memorandum (GDM) supersedes the original authorized project dimensions and calls for restoring approximately 1.05 miles of beach between Florida Department of Environmental Protection (FDEP) reference monument R-13 (Jupiter Inlet south jetty) and R-19 (Carlin Park). The fill restores the October 1989 mean high water (MHW) shoreline and provides additional material to offset erosive losses for seven years between each subsequent renourishment. Federal participation in the project allowed non-federal construction and renourishment with subsequent reimbursement of the federal share of project cost for a period of 10 years following initial construction. Palm Beach County constructed the initial project in 1995 and renourished the beach in 2002. Federal participation in the project expired in 2005.

Section 934 of the 1986 Water Resource Development Act (Public Law 99-662) provides discretionary authority to the Secretary of the Army, acting through the U.S. Army Corps of Engineers (USACE) Office of the Chief of Engineers, to extend federal participation to the 50th year after the date of initial construction of a project. The Palm Beach County Environmental Resource Management (ERM) requested Taylor Engineering develop a proposal to prepare a Reevaluation Report, Section 934. The report intends to serve as the decision document for extension of federal cost sharing during the remaining 37 years of the 50-year project life.

Assumptions

We have developed our Scope of Services with the following understandings and assumptions:

- Based on discussions with the USACE Jacksonville District, we will use the *Fort Pierce, Florida Shore Protection Project, Reevaluation Report, Section 934 Study with Environmental Assessment* (dated May 1995) as the guide for preparing the Jupiter/Carlin SPP Section 934 report.
- The 934 study and report will use the engineering project design and coastal processes evaluations included within the 1994 GDM and subsequent monitoring reports.

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- Storm recession/frequency correlations prepared for the 1994 GDM utilizing the computer model DUNE will serve as the basis for storm induced shoreline changes.
- The Section 934 study report will incorporate available survey and geotechnical data and previously flown aerial photography.
- The study and report will update the economic justification for the authorized design (maintain the 1989 shoreline) as specified within the 1994 GDM.
- Palm Beach County will provide the x,y coordinates for the 1989 shoreline or elevation and range from FDEP reference monument as referenced within the 1994 GDM prepared by Coastal Planning and Engineering, Inc and ERM.
- We will not consider alternative project design evaluations including any investigation of beach fill incremental widths, berm heights, or extension of project lengths.
- Palm Beach County will provide all data relevant to available parking facilities and accesses within the project area and estimates of administrative costs for temporary project easements.
- The USACE Jacksonville District will provide Taylor Engineering the most recent version of the MCACES software for development of project cost tables.
- Storm damage benefit analysis will utilize the storm damage model (SDM) as presented within the 1994 GDM. The USACE Jacksonville District will provide Taylor Engineering the latest version of the SDM. Modeling for this analysis requires updating structural improvement values and lands to current price levels and the development of updated future shoreline positions.
- The recreational benefit analysis will rely on the travel cost method as contained within the 1994 GDM and will include updated population demand, beach capacity, and vehicular operating costs.
- Existing public parks and roads will provide for any temporary construction staging areas.
- An Environmental Assessment (EA) will prove sufficient to address the temporal increase in beach nourishment activities and any current environmental concerns which have arisen since the preparation of the Environmental Impact Statement (EIS) supplement for Jupiter Carlin in 1994.
- We will incorporate existing biological assessments and opinions prepared for previous nourishments and disposal activities related to maintenance dredging into the Section 934 EA. Palm Beach County will provide all environmental documentation related to the new

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borrow site located offshore Singer Island proposed for the renourishment of the Jupiter/Carlin and Juno Beach projects.

- The Section 934 study report will also utilize any available National Environmental Policy Act (NEPA) documentation and cultural resources investigations accomplished in support of the new borrow site located offshore Singer Island. The USACE Jacksonville District will accomplish all report coordination with federal and state of Florida agencies as required through NEPA.
- We will incorporate the results of the cultural resources survey of the new borrow area offshore Singer Island performed under Taylor Engineering's Jupiter/Carlin Design and Permitting task order.
- The Section 934 report will require a USACE-prepared Peer Review Plan (PRP), specifying an Agency Technical Review (ATR).
- This scope of services includes two meetings with Palm Beach County and one meeting with the USACE Jacksonville District in Jacksonville. Preparation of the Section 934 study report will require extensive review and coordination efforts with the county, USACE Jacksonville District, ATR, federal and state of Florida agencies, USACE South Atlantic Division (SAD), and USACE Office of the Chief of Engineers.
- The scope of services also includes participating in monthly USACE Project Delivery Team (PDT) teleconferences with the USACE and Palm Beach County. Taylor Engineering's participation in the teleconferences commences in July 2008.

TASK DESCRIPTIONS

Task 1: Collect, Assemble, and Review Data

Taylor Engineering will inventory and collect relevant sources of available information required to address and support the economic feasibility of extending federal participation in the Jupiter/Carlin project. Data and reports will include

- 1994 GDM project design document
- Monitoring reports with appendices and all related beach profile survey data
- Observations and summaries from the Jupiter Carlin Structures Feasibility Study
- Borrow area investigations performed for Palm Beach County for the new site located offshore Singer Island including environmental and geotechnical data and analysis

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- Any hurricane and storm impact studies
- Existing aerial photography
- Socio-economic data including population density and location, beach activity demand, pertinent property and structural data including location and assessment values
- Current approved procedures, policies, regulations and interest rates utilized by the USACE
- Related environmental and NEPA documents, biological assessments and species inventories.

Deliverables for Task 1:

- A digital listing in PDF and MS Word format of all applicable references and data obtained and reviewed.

Task 2: Real Estate Assessment and Analysis

We will inventory structures located within the project limits by relying heavily on data available from the Palm Beach County Property Appraiser. For each structure, we will list structure type and elevations, foundation type (slab on grade or pile-supported), number of floors, and coastal armor (if any), face of structure, and midpoint or most landward point of structure locations relative to the 1989 shoreline. We will adopt the structural inventory shown in the 1994 GDM to the maximum extent possible and update it, where appropriate.

Given the unavailability of direct cost estimates of physical replacement less depreciation, we propose to select a representative sample of structures for direct estimation of replacement cost less depreciation. To determine the depreciated value or "replacement cost less depreciation" (ER1105-2-100; April 2000), our subcontractor, Strahan Realty Advisors, Inc., will evaluate the replacement cost for six representative structures within the 1.05-mile project area. Depreciation calculations will apply a "straight-line" method. The depreciation method specifies a building life of 50 years for all structures with 20% residual value at the end of the building's life. For each of the six representative structures, dividing the depreciated structure replacement cost by the latest Palm Beach County Property Appraiser's value will provide a ratio of the two cost estimates. Multiplying the property appraiser's building value by the depreciated replacement cost factor provides the replacement cost minus depreciation for each structure in the 1.05-mile study area.

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Task 3: Engineering Data Collection and Analysis

Review of previously prepared monitoring reports and the 1994 GDM will determine the basis for applicable shoreline and volumetric changes with and without the authorized beach fill. The previously prepared documents will provide the basis of long-term shoreline change and appropriate advance fill volumes for inputting into the SDM and evaluating costs of the remaining project life. We will use the summer 2008 beach profile survey data to determine the beach fill volume required for the design fill (1989 MHW shoreline) and advance nourishment templates.

Based on the above templates, we will develop cost estimates for the next required renourishment and subsequent renourishments for the remainder of the project's life (37 years). Development of project costs will depend on the authorized renourishment interval (seven years) and updated volumes (based on updated advance fill requirement) with a dredge plant operating within the new borrow site located offshore Singer Island. We will develop these estimates in MCACES.

With the 1994 GDM serving as a base, we will prepare the engineering section of the Section 934 study with updated information developed under this task.

Deliverables for Task 3:

- Draft Engineering section of the Section 934 study report including project history and performance (with shoreline and volume changes), problem identification (natural forces, shoreline response modeling review, dune model inputs [from 1994 GDM]), engineering design and MCACES cost estimates (design criteria, plan description, and cost estimates) in digital PDF and MS Word format for county comments.

Task 4: Economic Evaluation

The guidance for implementing Section 934 (CECW-PA/CECW-PE, November 22, 1991) states one must

“(1) Identify (update, no indexing) current benefits of the existing project to determine if continued maintenance of the existing project is economically justified and consistent with current

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Additionally, this study requires determining the current value of lands (without structure) located one lot landward of oceanfront property (nearshore property). An evaluation of recent land sales as reported by the county's Property Appraiser will serve as the basis of this value, a proxy for the lands potentially lost due to storm damages.

Additional real estate inventory needed for the study includes available general public parking and lands available for construction staging activities. Shoreline ownership and use determine federal and non-federal cost sharing percentages. Federal participation may occur in areas of adequate parking only as defined by current federal law and policies. We will determine adequate parking via calculations of beach capacity and demand. We assume Palm Beach County will provide us with the available public parking and access within the project area. In addition, we assume existing public parks and roads will provide for any temporary construction staging areas. We will develop the federal and non-federal cost allocations based on shoreline use in this task.

We will update the Real Estate Appendix of the 1994 GDM. This task includes updating the estimated costs of lands, easements, right-of-ways, and relocations. We assume Palm Beach County will provide administrative costs for obtaining all temporary easements required for project construction. Similarly, we will obtain an estimate of USACE costs for federal review of the acquisition process. Finally, we will update any text as needed.

Deliverables for Task 2:

- A table showing structural inventory, including structure, replacement cost less depreciation, shoreline frontage, number of floors, distance to face of structure, distance to midpoint or most landward point of structure locations relative to the 1989 shoreline in digital PDF and MS Word format.
- A table showing structural inventory with distance to coastal armor (if any), construction index (SDM trigger index for armor placement) in digital PDF and MS Word format.
- A listing of estimated value of nearshore lands, and potential construction staging areas in digital PDF and MS Word format.
- Draft Real Estate Appendix in digital PDF and MS Word format for county comments.

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policies; and (2) develop alternatives (size & timing) for nourishment and recommend the most cost-effective nourishment scheme for the authorized project.”

Based on discussions with the USACE Jacksonville District, Palm Beach County should use the *Fort Pierce, Florida Shore Protection Project, Reevaluation Report, Section 934 Study with Environmental Assessment* (dated May 1995) as the guide for preparing the Jupiter/Carlin SPP report. The Fort Pierce report excludes any project reformulation as required in item 2 of the above guidance. As such, this scope of work excludes developing alternatives and focuses solely on updating project economics.

This task will evaluate economic benefits of the shore protection for the authorized project design plan over the remaining 37 years of the 50-year project life. The evaluation will include with and without project reduction of damages to shorefront structures and of the loss of lands to erosion. It also includes the recreational benefit associated with the shore protection project. Storm damage reduction analysis will focus on utilizing an updated structural inventory, structure values, and historical shoreline changes input into the SDM as employed in the original evaluation for the 1994 GDM. The SDM calculates loss of land values with and without the project based on storm induced and long term erosion applied to the appropriate nearshore property values. We will perform simulations with the SDM including updates of the structural inventory and other values adopted directly from the 1994 GDM. Before running the SDM model, we will also update coastal armoring costs (dollars per linear foot) based on recent USACE Jacksonville estimates.

Recreation benefit analysis will mimic the GDM except for updates to the travel cost method, beach demand, and population density available with projections for the remaining project life. We will update beach demand based on recent state of Florida and Palm Beach County statistics as presented in Florida's *Statewide Comprehensive Outdoor Recreation Plan* (2000) and the latest *Florida Statistical Abstract*. Vehicular operation costs will also require updating through a search of published literature such as the Automobile Association of America. We will adopt the travel cost method outlined in the GDM with updated costs. We will prepare a separate Recreational Benefit Appendix to the Section 934 study.

Finally, comparison of the updated economic benefits to the renourishment costs on an annual basis at the currently accepted federal interest rate will provide the net excess benefits minus costs, the associated benefit to cost ratio, and the economic justification for continued federal participation.

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Deliverables for Task 4:

- Draft Economic section of the Section 934 study report including the primary project benefits (storm damage and loss of land), incidental benefits (recreation), costs, and economic justification in digital PDF and MS Word format for county comments.
- Draft Recreation Benefit Appendix in digital PDF and MS Word format for county comments.

Task 5: Environmental Evaluation

The required environmental documentation for a section 934 evaluation must

“(1) Verify that impacts presented in the original project environmental documentation were accurately and adequately projected. (2) Address the environmental implications of any unanticipated or unforeseen impacts. (3) Address project impacts relative to any changed conditions or requirements (i.e., new endangered species, new environmental legislation, slight modifications or refinements to the project, etc.). (4) Incorporate documentation of coordination with Federal and state agencies and others. The thrust of the coordination should be to ascertain whether there are significant environmental reasons why the project should not continue and to provide opportunity to identify "new" environmental concerns. In particular, comments from the Fish and Wildlife Service (at a level commensurate with a Planning Aid Report) under the Fish and Wildlife Coordination Act, Environmental Protection Agency, National Marine Fisheries Service, state coastal agency, and state water quality agency should be included.”

Recent nourishment projects on Jupiter/Carlin SPP suggest that the site has a relatively current (developed within the last 10 years) Environmental Assessment (EA) and Biological Opinion (BO) for such activities. Therefore, Taylor Engineering will collect and use the existing EA as the basis for the Section 934 study's environmental documentation. We will review the EA and BO for the project and adjacent sites and contact the appropriate agencies and other knowledgeable sources to solicit their opinions concerning additional information that an updated EA should include. We understand Palm Beach County is currently preparing a separate environmental document to support development of a new borrow site for Juno Beach. We also understand that the county anticipates dredging this borrow area for the Jupiter/Carlin project. The updated EA should include any information developed for the new borrow area.

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In addition, the new EA will include an updated history of marine turtle nesting in the affected area through 2008 (available after November 2008) and updated information on shorebirds and other threatened and endangered (listed) species. We will use summarized turtle data generated under our 2009 Jupiter/Carlin SPP design and permitting scope of work for the county. An updated history of the nourishment events on the site including locations, volumes, and permit information and a review and update of general site information including any changes to infrastructure and beach use levels in the project-affected area will also reside within the updated document. Additionally, we will review the borrow site environmental documentation, summarize, and as appropriate, include that information in the updated EA. This task will result in revisions to all sections of the previous EA.

We will provide a draft Section 934 report with EA to the United States Fish and Wildlife Service (USFWS) to serve as the basis for federal agency development of the BO.

Deliverables for Task 5:

- Draft of updated EA in digital PDF and MS Word format for county comments.
- Draft of updated EA in digital PDF and MS Word format, incorporating county comments, to USFWS.

Task 6: Geotechnical Evaluation

Palm Beach County has developed a new borrow area for the next renourishments of both the Jupiter /Carlin and Juno Beach project segments. In association with development of the new site, Palm Beach County has collected and evaluated geotechnical data. As part of its 2009 design and permitting scope of work, Taylor Engineering will evaluate and compare data collected for the borrow site to the un-nourished "native" material at Jupiter/Carlin and the sediment composition as exists presently within the nourished project. This Section 934 study will adopt the overfill ratio calculated for our 2009 Jupiter/Carlin SPP design and permitting scope of work for the county to determine the volume required for advance nourishment of the project. We will prepare a Geotechnical Appendix to document the borrow area and the suitability of the materials as relates to the existing project.

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Deliverables for Task 6:

- Draft Geotechnical Appendix of the 934 study report in digital PDF and MS Word format for county comments.

Task 7: Final Report Preparation

We will prepare the Reevaluation Report, Section 934 Study, with EA including a main report that describes all engineering, economic, and environmental analyses supporting a recommendation to extend federal participation in the Jupiter/Carlin project until the year 2045. We will print the EA in its entirety with all relevant coordination documentation and include it within the Section 934 study following the main report. Additional appendices addressing geotechnical, economic (recreational benefits), pertinent correspondence (i.e., all relevant coordination documentation), and real estate will follow the EA.

The report and EA will undergo thorough coordination and review by Taylor Engineering, Palm Beach County, the USACE Jacksonville District, ATR, all required federal and state of Florida agencies, the USACE SAD, and the USACE Office of the Chief of Engineers. Taylor Engineering will respond to comments during each phase of the review furnishing responses and revisions as appropriate to move through the coordination and approval process.

Deliverables for Task 7:

- Draft of the Section 934 study report with EA in PDF and MS Word format to county for comments.
- Draft of the Section 934 study report with EA (incorporating county comments) in PDF and MS Word format and 10 hard copies to USACE Jacksonville District for comments.
- Draft of the Section 934 study report with EA (incorporating USACE Jacksonville District comments) in PDF and MS Word format and five hard copies to ATR for comments.
- Draft of the Section 934 study report with EA (incorporating ATR comments) in PDF and MS Word format and 10 hard copies to USACE Jacksonville District for review by USACE SAD.
- Draft of the Section 934 study report with EA (incorporating USACE SAD comments) in PDF and MS Word format and 20 hard copies to USACE Jacksonville District for review by other federal/state agencies.

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- Draft of the Section 934 study report with EA (incorporating agencies' comments) in PDF and MS Word format and six hard copies to USACE Jacksonville District for review by USACE Office of the Chief of Engineers.
- Final of the Section 934 study report with EA (incorporating USACE Office of the Chief of Engineers' comments) in PDF and MS Word format and 15 hard copies.

Task 8: Coordination

We anticipate holding several meetings with Palm Beach County and two meetings with the USACE Jacksonville District to facilitate the report approval process. We will attend a project kickoff meeting with Palm Beach County and USACE Jacksonville District in Jacksonville to confirm project responsibilities and coordination activities. We will attend another meeting with the county and USACE Jacksonville District in Jacksonville before initiating the ATR process. One director, one senior engineer, and one senior scientist will attend the meetings. Additionally, commencing in July 2008, one director will participate in the monthly PDT teleconferences directed by the USACE Jacksonville District. We have budgeted for one director to participate in 18 meetings (through December 2009).

These coordination efforts will afford the county an opportunity to participate, comment, and engage in the study process, direction, and results.

END OF SCOPE OF SERVICES

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TAYLOR ENGINEERING, INC.
 COST SUMMARY
 P2008-090: JUPITER CARLIN SECTION 934 STUDY WITH ENVIRONMENTAL ASSESSMENT

I. LABOR COST

Description	Man-Hours												Cost
	CEO	Pres	VP	Sr Adv	Director	Sr Prof	Proj Prof	Prof	Sr Edit	Sr Tech	Tech	Admin	
Hourly Burdened Rate	247.00	186.00	165.00	144.00	125.00	103.00	103.00	73.00	95.00	85.00	58.00	43.00	
Task 1: Collect, Assemble, and Review Data													
1.1 1994 GDM project design document						2.0							206.00
1.2 Physical monitoring reports						2.0							206.00
1.3 Jupiter/Carlin Structures study						2.0							206.00
1.4 Borrow area investigations					2.0	4.0						1.0	705.00
1.5 Hurricane/storm impact studies						2.0						1.0	249.00
1.6 Existing aerial photography						1.0						1.0	146.00
1.7 Socio-economic data					1.0	8.0						1.0	992.00
1.8 USACE policies, regulations, interest rate			1.0			4.0						1.0	620.00
1.9 Environmental and NEPA documents			1.0		8.0	24.0						2.0	3,723.00
Task 1 Totals			2.0		11.0	49.0						7.0	7,053.00
Task 2: Real Estate Assessment and Analysis													
2.1 Structural inventory					1.0	4.0		32.0			4.0	2.0	3,191.00
2.2 Replacement cost less depreciation					1.0	2.0		4.0				1.0	666.00
2.3 Nearshore lands					1.0	4.0		8.0					1,121.00
2.4 Public parking						1.0		1.0					176.00
2.5 Federal/non-federal cost allocation					1.0	2.0		8.0					915.00
2.6 Construction staging areas						1.0							103.00
2.7 Draft Real Estate Appendix					4.0	8.0		16.0	1.0			2.0	2,673.00
2.8													
Task 2 Totals					8.0	22.0		69.0	1.0		4.0	5.0	8,845.00
Task 3: Engineering Data Collection and Analysis													
3.1 Long-term shoreline change						1.0		4.0					395.00
3.2 Long-term and short-term volume change						1.0		4.0					395.00
3.3 Calculate required beach fill from 2008 profiles					1.0	2.0		12.0					1,207.00
3.4 MCACES					4.0	16.0							2,148.00
3.5 Draft Engineering section of report					4.0	8.0		40.0	2.0			2.0	4,520.00
3.6													
Task 3 Totals					9.0	28.0		60.0	2.0			2.0	8,665.00
Task 4: Economic Studies													
4.1 Update coastal armor unit costs					2.0	4.0							662.00
4.2 SDM model w/o project set-up					1.0	4.0		16.0					1,705.00
4.3 SDM model w/ project set-up					1.0	4.0		16.0					1,705.00
4.4 Calculation of without project damages					2.0	8.0		32.0					3,410.00
4.5 Calculation of with project damages					2.0	8.0		32.0					3,410.00
4.6 Recreation benefits					8.0	40.0							5,120.00
4.7 Draft Recreation Benefits Appendix					4.0	24.0			4.0			4.0	3,524.00
4.8 Draft Economic section of report					4.0	16.0		40.0				2.0	5,154.00
Task 4 Totals					24.0	108.0		136.0	4.0			6.0	24,690.00
Task 5: Environmental Studies													
5.1 Contacts with involved federal and state agency tech staffs			4.0		4.0	8.0							1,984.00
5.2 Coordination with USACE. County calls, emails			1.0		8.0	12.0							2,401.00
5.3 Environmental Assessment Revisions (First Draft)			1.0		8.0	12.0		32.0				4.0	4,909.00
5.4 Revisions of all other EA sections (First Draft)			2.0		8.0	20.0		32.0	4.0			8.0	6,450.00

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5.5 Second Draft EA to USFWS				2.0	8.0		8.0					2.0	1,744.00
5.6													
Task 5 Totals			8.0	30.0	60.0		72.0	4.0				14.0	17,488.00
Task 6: Geotechnical Studies													
6.1 Geologic History							8.0						584.00
6.2 Sand Source					4.0		16.0						1,580.00
6.3 Project Versus Borrow Site Materials Review					4.0		16.0						1,580.00
6.4 Overfill Ratio Analysis					1.0								103.00
6.5 Draft Geotechnical Appendix			4.0	12.0			26.0				4.0		3,806.00
Task 6 Totals			4.0	21.0			66.0				4.0		7,653.00
Task 7: Final Report Preparation													
7.1 Intro, Description, History, Problem Identification		1.0	1.0	1.0			24.0	1.0				4.0	2,412.00
7.2 Engineering Design and Cost Estimates		1.0	1.0	2.0			8.0	1.0	20.0	20.0		5.0	4,250.00
7.3 Economic Evaluation		1.0	1.0	16.0			40.0	1.0				1.0	4,996.00
7.4 Authorized Project, Implementation		1.0	1.0	1.0			8.0	1.0				1.0	1,115.00
7.5 Coordination Summary		1.0	1.0	1.0			8.0	1.0				1.0	1,115.00
7.6 Conclusions/Recommendations		1.0	1.0	1.0			8.0	1.0				1.0	1,115.00
7.7 Environmental Assessment		3.0	4.0	16.0			24.0	2.0				1.0	4,628.00
7.8 Geotechnical Appendix		1.0	1.0	8.0			16.0	1.0				1.0	2,420.00
7.9 Recreation Benefit Appendix		1.0	1.0	2.0			8.0	1.0				1.0	1,218.00
7.10 Pertinent Correspondence			1.0	1.0			8.0					1.0	855.00
7.11 Real Estate Appendix		1.0	1.0	1.0			8.0	1.0				1.0	1,115.00
7.12 Respond to county comments		1.0		8.0	24.0		40.0					2.0	6,643.00
7.13 Draft Section 934/EA to USACE Jacksonville		1.0		8.0	24.0		40.0	2.0	4.0	4.0		2.0	7,405.00
7.14 Respond to USACE Jacksonville comments		1.0		8.0	24.0		40.0					1.0	6,600.00
7.15 Draft Section 934/EA to ATR		1.0		8.0	24.0		40.0	2.0	4.0	4.0		4.0	7,491.00
7.16 Respond to ATR comments		1.0		8.0	24.0		40.0					1.0	6,600.00
7.17 Draft Section 934/EA to USACE SAD		1.0		8.0	24.0		40.0	2.0	2.0	2.0		4.0	7,205.00
7.18 Respond to USACE SAD comments		1.0		8.0	24.0		40.0					1.0	6,600.00
7.19 Draft Section 934/EA to other state and federal		1.0		8.0	24.0		40.0	2.0	2.0	2.0		4.0	7,205.00
7.20 Respond to other state and federal agencies'		1.0		8.0	24.0		40.0					1.0	6,600.00
7.21 Draft Section 934/EA to USACE Office of Chief		1.0		8.0	24.0		40.0	2.0	2.0	2.0		4.0	7,205.00
7.22 Respond to USACE Office of Chief Engineers		1.0		4.0	8.0		16.0					1.0	2,700.00
7.23 Final Section 934/EA to USACE		1.0		4.0	8.0		16.0	2.0	2.0	2.0		4.0	3,305.00
Task 7 Totals		24.0		102.0	306.0		592.0	23.0	36.0	36.0		47.0	100,798.00
Task 8: Coordination													
8.1 Project kickoff meeting and preparation				8.0	16.0							1.0	2,691.00
8.2 Meeting before ATR submission and preparation				8.0	16.0							1.0	2,691.00
8.3 Monthly PDT Teleconferences				18.0									2,250.00
8.6													
Task 8 Totals				34.0	32.0							2.0	7,632.00

LABOR TOTALS — HOURS		34.0	222.0	626.0		995.0	34.0	36.0	40.0	87.0			2,074.0
LABOR TOTALS — COST		5,610.00	27,750.00	64,478.00		72,635.00	3,230.00	3,060.00	2,320.00	3,741.00			\$182,824.00

II. OTHER DIRECT COSTS

Description	Quantity	Unit Cost	Direct Cost	Burden	Burdened Cost
Task 2: Real Estate Assessment and Analysis					
Subcontract: Strahan Realty Advisors, Inc.	1.0	7,920.00	7,920.00	1.00	7,920.00

TOTAL OTHER DIRECT COSTS					7,920.00
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TOTAL PROJECT COST													\$190,744.00
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STRAHAN REALTY ADVISORS, INC.
James J. Strahan, MAI, SRA
State Certified General Real Estate Appraiser RZ 293

December 18, 2008

Ed Hodgens, P.E.
Senior Engineer, Coastal Engineering
Taylor Engineering, Inc.
10151 Deerwood Park Blvd.
Bldg. 300, Suite 300,
Jacksonville, FL 32256

Re: Appraisal Consulting Proposal
Structure Replacement Cost Estimate, Jupiter/Carlin Segment
Beach Renourishment Study, Palm Beach County

Dear Mr. Hodgens:

As requested, we have reviewed the information relating to the Structure Replacement Costs of six (6) representative structures for the Jupiter/Carlin Beach Renourishment Study. These structures include parking lots, bath houses, condominium buildings, a restaurant, and a hotel building.

As part of the coastal renourishment process, Palm Beach County is providing information for the replacement cost of certain structures within the 1.05-mile segment of the beach front in Jupiter. To satisfy this section of the study, we propose an Appraisal Consulting Assignment to complete the task.

Appraisal Consulting: "the act or process of developing an analysis, recommendation, or opinion to solve a problem, where an opinion of value is a component of the analysis leading to the assignment results." from the Uniform Standards of Professional Appraisal Practice (USPAP), January 1, 2008.

Offices:
384 Golf View Road, Suite A
North Palm Beach, FL 33408

9 S. Wild Olive Avenue
Daytona Beach, FL 32118

561.308.6645

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Ed Hodgens, P.E.
December 18, 2008
Page 2

The scope of this appraisal consulting assignment would be to:

- Investigate each component of the structure relative to the size of the living area and common area (if applicable) and the number of units
- Collect and analyze recent construction cost data for similar structures and or on a price per unit basis (price per square foot or linear foot typical)
- estimate the quality of construction of each component
- apply the appropriate cost data relative to the different components
- summarize the cost estimate for each representative structure

The assignment is similar to the beach restoration project in Boca Raton Strahan Realty Advisors completed in March 2008. In that project, costs new of eight high rise buildings with over 1,700 units and 4.6 million square feet of living area were estimated.

The appraisal consulting assignment will not estimate the market value of each structure but rather a "representative" structure cost. The cost data will be used to estimate the replacement cost of each structure within this project. The report will include the descriptions of the structures and summaries of the data used to form our conclusions.

This report will be prepared in compliance with the Uniform Standards of Professional Appraisal Practice (USPAP) and those of the Appraisal Institute.

Attached is the propose cost estimate for the appraisal consulting services. It is estimated that the services can be completed in a 60 time frame.

We look forward to working with you on this important assignment.

Respectfully,
Strahan Realty Advisors, Inc.



James J. Strahan, MAI, SRA
State Certified General Real Estate Appraiser RZ 293

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Fee Schedule Appraisals Consulting -Structure Replacement Cost Estimate

Jupiter Beach--Palm Beach County Beach Renourishment Study

Structure	Component Name/Type	Fee Schedule				
1	Jupiter Beach Park Bath House					
	Tasks	Employee	Hours	Rate	Fee	Total Fee
	Building Size/Number of Units	J Strahan	1	\$ 110.00	\$ 110.00	
	Collection of Cost Data	J Strahan	3	\$ 110.00	\$ 330.00	
	Construction Quality Estimate	J Strahan	1	\$ 110.00	\$ 110.00	
	Selection & Application of Costs	J Strahan	0.5	\$ 110.00	\$ 55.00	
	Summise findings	J Strahan	1.5	\$ 110.00	\$ 165.00	\$ 770.00
2	Parking lots--North JPark, South JPark, Jupiter Beach Resort, Carling Park East of A1A					
	Tasks	Employee	Hours	Rate	Fee	Total Fee
	Building Size/Number of Units	J Strahan	1	\$ 110.00	\$ 110.00	
	Collection of Cost Data	J Strahan	2	\$ 110.00	\$ 220.00	
	Construction Quality Estimate	J Strahan	1.5	\$ 110.00	\$ 165.00	
	Selection & Application of Costs	J Strahan	1	\$ 110.00	\$ 110.00	
	Summise findings	J Strahan	2	\$ 110.00	\$ 220.00	\$ 825.00
3	Ocean Trails Condominium-High-rise Condo Buildings (parking, pools, Condo V not included)					
	Tasks	Employee	Hours	Rate	Fee	Total Fee
	Building Size/Number of Units	J Strahan	4	\$ 110.00	\$ 440.00	
	Collection of Cost Data	J Strahan	12	\$ 110.00	\$ 1,320.00	
	Construction Quality Estimate	J Strahan	2	\$ 110.00	\$ 220.00	
	Selection & Application of Costs	J Strahan	3.5	\$ 110.00	\$ 385.00	
	Summise findings	J Strahan	3	\$ 110.00	\$ 330.00	\$ 2,695.00
4	Jupiter Beach Resort--One High-rise Hotel Building (pool, cabana bar, etc. not included)					
	Tasks	Employee	Hours	Rate	Fee	Total Fee
	Building Size/Number of Units	J Strahan	3	\$ 110.00	\$ 330.00	
	Collection of Cost Data	J Strahan	9	\$ 110.00	\$ 990.00	
	Construction Quality Estimate	J Strahan	1.5	\$ 110.00	\$ 165.00	
	Selection & Application of Costs	J Strahan	3	\$ 110.00	\$ 330.00	
	Summise findings	J Strahan	2	\$ 110.00	\$ 220.00	\$ 2,035.00
5	Carlin Park-Civic Center, Bath House--buildings only					
	Tasks	Employee	Hours	Rate	Fee	Total Fee
	Building Size/Number of Units	J Strahan	1	\$ 110.00	\$ 110.00	
	Collection of Cost Data	J Strahan	2	\$ 110.00	\$ 220.00	
	Construction Quality Estimate	J Strahan	1.5	\$ 110.00	\$ 165.00	
	Selection & Application of Costs	J Strahan	2	\$ 110.00	\$ 220.00	
	Summise findings	J Strahan	2	\$ 110.00	\$ 220.00	\$ 935.00
6	Carlin Park Lazy Loggerhead Caf�-building only					
	Tasks	Employee	Hours	Rate	Fee	Total Fee
	Building Size/Number of Units	J Strahan	1	\$ 110.00	\$ 110.00	
	Collection of Cost Data	J Strahan	3	\$ 110.00	\$ 330.00	
	Construction Quality Estimate	J Strahan	0.5	\$ 110.00	\$ 55.00	
	Selection & Application of Costs	J Strahan	0.5	\$ 110.00	\$ 55.00	
	Summise findings	J Strahan	1	\$ 110.00	\$ 110.00	\$ 660.00

Fee Schedule Total

\$ 7,920.00

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STRAHAN REALTY ADVISORS, INC.
JAMES J. STRAHAN, MAI, SRA
State-Certified General Real Estate Appraiser RZ 293

ABRIDGED QUALIFICATIONS

James J. Strahan holds the MAI and the SRA designations from the Appraisal Institute and has been appraising real estate since 1977. He is a state-certified General Appraiser and a Registered Real Estate Broker in the State of Florida. Since 1991, he has been focus on review appraisals for state agencies and private individuals.

Mr. Strahan was the Director of Appraisals for the South Florida Water Management District for 11 years and is currently approved to appraise/review for South Florida Water Management District, Southwest Florida Water Management District, U.S. Army Corps of Engineers, Florida Department of Environmental Protection, and numerous banks.

Mr. Strahan has successfully completed the following courses or seminars given by real estate appraisal organizations:

Appraisal Courses and Seminars

Valuation of Less Than Fee - May 1995, 1996
Riparian Rights - May 1994
Easement Valuation - May 1994
Cattle Grazing Seminar -
Review Appraisals May 1993
Appraising Rural Properties - May 1997
Appraisal Considerations - May 1998
Realtors Land Institute Citrus Course - May 1999

Highest/Best Use/ Valuation Techniques - May 2000
Attacking and Defending Appraisals -2000
SFWMD Federal Land Acquisitions - May 2001
SJRWMD Land Acquisitions - December 2001
SFWMD Everglades Restoration - May 2002
SFWMD Oil, Gas, Mineral Valuation - May 2002
SFWMD Appraisal Seminar
Review Appraisals - May 2003
SFWMD Appraisal Seminar - May 2004
SFWMD Appraisal Seminar - May 2005
SFWMD Appraisal Seminar - May 2006
SFWMD Wetlands Seminar - May 2007

Appraisal Institute Sponsored

Review Appraisals - Feb 1997
Limited Appraisals/Evaluations - May 1995
Income Valuation - March 1995
Standards of Professional Practice - September 1997
USPAP Core Law - May 1998
Partial Interest Valuation - August 1999
USPAP - Core Law - August 2000
Has Government Gone Too Far - November 2000
Uniform Appraisal Standards for Federal Land Acquisitions - March 2003
USPAP June 2003
Business Practice and Ethics - April 2003
USPAP Core Law June 2004
USPAP/Core Law - Dec 2005
Bus Practices & Ethics Dec 2005
Uniform Standards for Federal Land Acquisitions - January 2007
USPAP/Core Law October 2008

ABRIDGED QUALIFICATIONS (Continued)

In addition to the above listed courses, Mr. Strahan has attended many seminars and two-day courses. Recent speaking engagements include the International Right of Ways Institute, South Florida Water Management Appraisal Services, and International Association of Assessing Officers. Mr. Strahan is the Co-Author of the "State of Florida's Supplemental Appraisal Standards for Less Than Fee Acquisitions." Mr. Strahan is qualified as an expert in the courts and also served as Special Master for the Palm Beach County Property Appraisal Adjustment Board.

Some of the major property types which Mr. Strahan has appraised are: agricultural (farms and ranches), beach restoration projects, commercial (shopping centers, offices, apartment buildings, golf courses); industrial properties, and residential properties (individual homes and subdivisions). Mr. Strahan specializes in unique and special-purpose properties including rights-of-way (proposed and abandoned), one-of-a-kind buildings and partially completed buildings, marinas, damaged properties and churches. Other areas of specialization include the analysis of various interests such as leasehold/leased fee, partial-ownership interests, easements, including flowage and conservation easements, mitigation banks, and other uncommon ownerships. Typically, the appraisal assignments have been for acquisitions purposes, mortgages, litigation (eminent domain, bankruptcy, dissolution of real estate) and taxation, either state or federal or local ad valorem.

Jupiter/Carlin Section 934 Study																												
Task	Month1	Month2	Month3	Month4	Month5	Month6	Month7	Month8	Month9	Month10	Month11	Month12	Month13	Month14	Month15	Month16	Month17	Month18	Month19	Month20	Month21	Month22	Month23	Month24	Month25	Month26	Month27	Month28
TASK 1: Collect, Assemble, and Review Data																												
TASK 2: Real Estate Assessment and Analysis																												
TASK 3: Engineering Data Collection and Analysis																												
TASK 4: Economic Studies																												
TASK 5: Environmental Studies																												
TASK 6: Geotechnical Studies																												
TASK 7: Final Report Preparation																												
TASK 8: Coordination																												

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Taylor Engineering Continuing Contract for Coastal and Marine Engineering

Contract R2008-0410 dated March 1, 2008 for period of two years expires on Feb. 28, 2010

SBE-MBE Goal 15.0% (10% SBE/W; 5% MBE/H)

Task order summary:

TASK NUMBER	TOTAL/ SBE and/or MWBE AMOUNT	TASK DUE DATE	TASK DESCRIPTION	APPROVED BY/DATE
Taylor-01	316,582.00 0.00	1/31/09	2008 North County Sea Turtle Monitoring	BCC 3/11/08
Taylor-01A	49,023.00 0.00	1/31/09	2008 North County Sea Turtle Monitoring	ERM 3/11/08
0410-02	5,000.00 0.00	4/30/08	2007 Jupiter Inlet Ebb Shoal Survey	ERM 4/29/08
0410-03	93,924.00 35,462.00	10/31/08	2008 Regional Monitoring Beach Profiles and 3 Ebb Shoal Surveys	CRC 8/6/08
0410-04	21,766.00 0.00	10/31/08	Ocean Ridge 36 Month Monitoring Report	ERM 7/25/08
0410-05	164,763.00 0.00	9/9/09	Jupiter/Carlin Renourishment Beach Fill and Permitting	BCC 9/9/08
0410-03A	18,363.00 8,046.00	10/31/08	2008 Regional Monitoring Beach Profiles and 3 Ebb Shoal Surveys	ERM 10/22/08
Taylor-01B	9,852.50 0.00	1/31/09	2008 North County Sea Turtle Monitoring	ERM 11/10/08
0410-05A	25,168.84 0.00	9/9/09	Jupiter/Carlin Renourishment Beach Fill and Permitting	ERM 11/17/08
0410-06	91,660.00 13,776.00	4/24/09	Zeke's Parcel Waterfront Design	CRC 12/17/08
0410-07	190,744.00 0.00	8/31/10	Jupiter/Carlin Section 934 Study	BCC

Subtotal: 986,846.34

Subtotal SBE-MBE: 57,284.00

Subtotal SBE-MBE Part.: 5.8%

Report Date & Filename: 01/26/09 T:\eervengser\Consultants\TAYLOR_2008\history_0410.xls]Sheet1

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JC
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R2008 0410

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

This is a Contract made as of MAR 11 2008, by and between Palm Beach County, a Political Subdivision of the State of Florida, by and through its Board of County Commissioners, hereinafter referred to as the COUNTY, and Taylor Engineering, Inc., 9000 Cypress Green Drive, Suite 200, Jacksonville, Florida 32256, an engineering firm, a corporation, authorized to do business in the State of Florida, hereinafter referred to as the CONSULTANT, whose Federal I.D. Number is 59-2850478.

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

ARTICLE 1 - SERVICES

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

The CONSULTANT shall conduct professional services in accordance with Chapters 471 and 472, Florida Statutes and other applicable local, state and federal standards. The CONSULTANT shall conduct topographic and hydrographic survey work in compliance with the U.S. Army Corps of Engineers "Technical Requirements for Surveying, Mapping and Photogrammetric Services," Revised March 1989 and the U.S. Army Corps of Engineers "Engineering Design: Hydrographic Surveying," EM 1110-2-1003, January 1, 2001, 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 March 1, 2008 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.

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ARTICLE 32 - CRIMINAL HISTORY RECORDS CHECK

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

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

R 2008 04 10
MAR 11 2008

ATTEST:

Sharon R. Bock, Clerk & Comptroller

By:

Sharon R. Bock
Deputy Clerk



PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS:

By:

Addie L. Greene
Addie L. Greene, Chairperson

WITNESS:

Carla M. Cannon
Signature

Carla M. Cannon
Name (type or print)

CONSULTANT:

Taylor Engineering, Inc.
Company Name

Steven J. Schropp
Signature

Steven J. Schropp
Name (type or print)

Vice President
Title

(corp.seal)

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY:

By:

James E. Miller
Assistant County Attorney

APPROVED AS TO TERMS
AND CONDITIONS:

By:

Richard E. Walesky
Richard E. Walesky, Director
Dept. of Environmental Resources Mgmt.

EXHIBIT B
Taylor Engineering, Inc.
Schedule of Hourly Labor Rates
and Equipment Fees and Other Direct Costs
for 2008
Palm Beach County
Coastal & Marine Engineering Services

Position	Rate Basis Hourly Wage	Burdened Hourly Billing Rate*
<i>CEO</i>	86.67	247.00
<i>President</i>	65.26	186.00
<i>Vice President</i>	57.89	165.00
<i>Senior Advisor</i>	50.53	144.00
<i>Director</i>	43.86	125.00
<i>Senior Professional</i>	36.14	103.00
<i>Project Professional</i>	36.14	103.00
<i>Staff Professional</i>	25.61	73.00
<i>Senior Editor</i>	33.33	95.00
<i>Sr. Technical Support</i>	29.82	85.00
<i>Technical Support</i>	20.35	58.00
<i>Administrative</i>	15.09	43.00

Equipment Fee and Other Direct Costs	Rate	Unit
Black & White Photocopies (8-1/2 x 11)	\$0.15	/page
Black & White Photocopies (11 x 17)	\$0.20	/page
Color Photocopies (8-1/2 x 11)	\$1.25	/page
Color Photocopies (11 x 17)	\$1.50	/page
Computer Generated Glossy Plots (24" x 36" Glossy Paper)	\$65.00	/page
Computer Generated Glossy Plots (24" x 36" Standard Paper)	\$35.00	/page
14' Aluminum Jonboat	\$80.00	/day
Truck	\$85.00	/day
Trimble Differential GPS	\$100.00	/day
ADFM Velocity Profiler Pro20	\$200.00	/day
ADCP Rio Grande Current Meter	\$200.00	/day
Sokkia SET6E Total Station	\$350.00	/day
Cone Penetrometer	\$15.00	/day
YSI SCT Meter	\$50.00	/day
YSI DO Meter	\$50.00	/day
Hand-held GPS	\$10.00	/day

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

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