May 15, 2024

Gary Palmer
Capital Projects Manager
City of Cocoa
155 North Wilson Street
Cocoa, FL 32922

Email: gpalmer@cocoafl.com
Hard Copy Mailed Only on Request

RE: LEE WENNER PARK DAY DOCKS – PERMITTING ASSISTANCE

Dear Mr. Palmer,

Mead & Hunt is pleased to provide this engineering scope of services and fee estimate for the above referenced project. We look forward to the opportunity to complete another successful project for the City of Cocoa.

If you have any questions or require additional information, please contact me.

Sincerely,
MEAD & HUNT, Inc.

David A. King, P.E.
Vice President

Attachment: Scope and Fee Estimate

SCOPE OF SERVICES FOR
LEE WENNER PARK DAY DOCKS – PERMITTING ASSISTANCE

GENERAL

This Task Order is in conformance with the Agreement for General Civil Engineering Services ("Agreement"), RFQ-16-01-COC(A) dated January 27, 2016, between the City of Cocoa ("CITY") and Mead & Hunt, Inc. ("MEAD & HUNT") and is referred to herein as the contract.

GENERAL

Wave conditions caused by Hurricane Nicole destroyed the day dock facility at Lee Wenner Park. The CITY wishes to develop preliminary (permit-level) engineering design and seek environmental permits to replace the docks and construct a riprap revetment along the existing bulkhead shoreline. The riprap revetment would serve to reduce reflected wave energy and minimize structural damage during future coastal storms.

ASSUMPTIONS AND LIMITATIONS

See the attached Taylor Engineering Scope of Work for the assumptions and limitations of this scope.

SCOPE OF SERVICES

PHASE 1 – PROJECT MANAGEMENT AND MEETINGS

MEAD & HUNT'S Project Manager (PM) will initiate the project and manage the budget and schedule, manage project staffing, review subconsultant invoices, manage project coordination, and schedule quality management processes for work products. The PM will monitor progress throughout the project and prepare monthly invoices for the CITY. It is assumed that these services will cover the estimated 10-month project duration. MEAD & HUNT will conduct a project kick-off meeting with the project team and CITY staff to review project goals, scope of work, project schedule and administrative issues. It is assumed that five (5) virtual progress meetings will be held with CITY throughout the effort. Following the meetings, MEAD & HUNT will prepare a written summary of the project meeting and distribute to the attendees. MEAD & HUNT will implement a quality assurance and control process, which includes independent review of the project technical work products before its submission to the CITY. Deliverables: Monthly invoices, meeting agendas and summaries

PHASE 2 – DATA COLLECTION AND SITE RECONNAISSANCE

MEAD & HUNT will perform a limited amount of data collection and site reconnaissance including the collection of topographic and hydrographic surveys as detailed in the attached Taylor Engineering Scope of Work. If needed, MEAD & HUNT will also coordinate a geotechnical investigation. An allowance of such is included. Deliverables: Signed & Sealed Topographic and Hydrographic Survey, Geotechnical Investigation (if needed)

PHASE 3 – COASTAL CONDITIONS ANALYSIS AND DESIGN WAVE ASSESSMENT

MEAD & HUNT will subcontract with Taylor Engineering to analyze the coastal conditions and assess the design to establish the engineering parameters to incorporate into the project. See the attached Taylor Engineering Scope of Work for additional details. Deliverables: Recommended Design Conditions

PHASE 4 – PRELIMINARY (PERMIT-LEVEL) ENGINEERING DESIGN

MEAD & HUNT will prepare preliminary/permit-level engineering design for:

- Fixed docks
- Rock revetment
- Pile supported walkway along bulkhead

MEAD & HUNT will submit draft preliminary design drawings to CITY for review/comment and then meet with CITY staff to discuss staff's comments. MEAD & HUNT will also submit the draft drawings to the CITY's planned contractor for their review/comment. MEAD & HUNT will incorporate the CITY's comments and the appropriate contractor's comments to finalize the preliminary design drawings. MEAD & HUNT will solicit an order of magnitude/budgetary construction cost estimate from the CITY's planned contractor and reviews such upon receipt. See the attached Taylor Engineering Scope of Work for additional details. Deliverables: Draft Preliminary Design Drawings, CITY/Contractor Comment Response Log, Final Preliminary Design Drawings, Construction Cost Estimate Review

PHASE 5 – ENVIRONMENTAL PERMITTING

Upon CITY acceptance of preliminary design drawings, MEAD & HUNT will pursue the permits from the following agencies:

- FDEP
- USACE

See the attached Taylor Engineering Scope of Work for additional details. MEAD & HUNT will pay permit application fees directly to agencies and be reimbursed by CITY. An allowance is included for such. Deliverables: Permit Application Package, Responses to RAIs, Issued Permit

EXCLUSIONS

This scope of services excludes all items not specifically described herein, including but not limited to:

- Final design/construction document preparation
- Submerged land lease acquisition, including survey
- Utility adjustment/relocation design
- Permitting assistance for any permits not mentioned above
- Bidding phase assistance
- Construction Phase Services
- Funding assistance (to be provided by CITY)

SCHEDULE

MEAD & HUNT estimates the work included in this task order will be completed in accordance with the following schedule. If a notice to proceed is received by end of July 2024, work is expected to be completed by the end of April 2025. The FIND grant term or 'Project Period' ends September 30, 2025.

Phase/Task	Duration to Complete	Starting upon	Cumulative Duration
Phase 1 – Project Management	300 days	Receipt of notice to proceed	-
Phase 2 – Data Collection and Site Reconnaissance	60 days	Receipt of notice to proceed	60
Phase 3 – Coastal Conditions Analysis and Wave Height Assessment	30 days	Receipt of notice to proceed (concurrent with Phase 2)	60
Phase 4 – Preliminary/Permit-Level Design	90 days	Receipt of preliminary surveys (concurrent with Phase 3)	120
Phase 5 – Environmental Permitting	240 days	Initiation of Phase 3 effort	270

Total CITY review time is assume to be 30 days. The above schedule excludes timeframe for submerged land lease that may be required.

COMPENSATION

The estimated not-to-exceed cost for this Scope of Services is **$165,980** based on the following breakdown and manhour estimate:

Phase/Task	Fee/Cost	Basis
Phase 1 – Project Management	$18,776	Lump Sum
Phase 2 – Data Collection and Site Reconnaissance	$6,334	Lump Sum
Phase 3 - Coastal Conditions Analysis and Wave Height Assessment	$6,714	Lump Sum
Phase 4 – Preliminary/Permit-Level Design	$9,204	Lump Sum
Phase 5 - Environmental Permitting	$6,902	Lump Sum
SUBTOTAL	$41,028	
Phase 6 – Subconsultants/Reimbursables		
Taylor Engineering	$89,452	Actual Cost
Geotechnical Allowance	$10,000	Actual Cost
Permit Fee Allowance	$12,000	Actual Cost
Printing, Travel, Postage, etc.	$3,500	Actual Cost
Contingency (CITY approval required)	$10,000	TBD
TOTAL	**$165,980**	

Task	Description	Senior Client/Project Manager	Senior Project Engineer	Project Engineer	Engineer III	Engineer I	Admin Assistant	Total Task ($)
	Hourly Rate	$ 256	$ 201	$ 186	$ 168	$ 137	$ 101	See Below
1	**PROJECT MANAGEMENT**							
	Project Coordination/Management	40					20	$ 12,260
	Project Kick-Off Meeting	2		2			2	$ 1,086
	Meetings	10		10			10	$ 5,430
	Subtotals	**52**	**0**	**12**	**0**	**0**	**32**	**$ 18,776**
2	**DATA COLLECTION & SITE RECONNAISANCE**							
	Survey Coordination	3				2	2	$ 1,244
	Geotechnical Coordination	3		4		2	2	$ 1,988
	Site Reconnaissance	6		4		6		$ 3,102
	Subtotals	**12**	**0**	**8**	**0**	**10**	**4**	**$ 6,334**
3	**COASTAL CONDITIONS ANALYSIS AND DESIGN WAVE ASSESSMENT**							
	Taylor Coordination	10					8	$ 3,368
	QAQC	6	8				2	$ 3,346
	Subtotals	**16**	**8**	**0**	**0**	**0**	**10**	**$ 6,714**
4	**PRELIMINARY/PERMIT-LEVEL ENGINEERING DESIGN**							
	Draft Drawings/QAQC	4	8					$ 2,632
	Draft Drawings Review Meerting	2		2			2	$ 1,086
	Final Drawings/QAQC	4	8					$ 2,632
	Coordination with Contractor/Cost Estimate	6		6			2	$ 2,854
	Subtotals	**16**	**16**	**8**	**0**	**0**	**4**	**$ 9,204**
5	**ENVIRONMENTAL PERMITTING**							
	Preapplication Meetings	4		4			4	$ 2,172
	FDEP Permit Application/QAQC	2		4		2		$ 1,530
	USACE Permit Application/QAQC	2		4		2		$ 1,530
	RAIs	4		2		2		$ 1,670
	Subtotals	**12**	**0**	**14**	**0**	**6**	**4**	**$ 6,902**
	TOTAL ALL TASKS	**96**	**24**	**28**	**0**	**10**	**50**	**$ 41,028**
							Subconsultants/Reimbursables	$ 124,952
							Grand Total	**$ 165,980**

6	**SUBCONSULTANT/REIMBURSABLES**	
	Taylor Engineering Allowance	$ 89,452
	Geotechnical Allowance	$ 10,000
	Permit Application Fee Allowance	$ 12,000
	Reproduction/Postage/Travel Allowance	$ 3,500
	Contingency	$ 10,000
	Total	**$ 124,952**

AUTHORIZATION

The scope of services and compensation stated in this proposal are valid for a period of thirty (30) days from date of submission. If authorization to proceed is not received during this period, this proposal may be withdrawn or modified by MEAD & HUNT.

Accepted by: CITY OF COCOA	Approved by: MEAD & HUNT, INC.
By: _____	By: 
Name: _____	Name: David A. King, PE
Title: _____	Title: Vice President/Business Unit Leader
The above person is authorized to sign for Client and bind the Client to the terms hereof.	
Date: _____	Date May 15, 2024

IF THE CONTRACTOR (MEAD & HUNT, INC.) HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S (MEAD & HUNT, INC.'s) DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT (PROPOSAL), CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT CITY HALL, CITY OF COCOA, 65 STONE STREET, COCOA, FL 32922, City Clerk, Carie Shealy, (321) 433-8484, cshealy@cocoafl.org.

THE CITY ACKNOWLEDGES AND AGREES THAT THIS TASK ORDER IS SUBJECT TO SECTION 558.0035, FLORIDA STATUTES WHICH PROVIDES THAT INDIVIDUAL DESIGN PROFESSIONALS EMPLOYED BY THE ENGINEER OR AN AGENT OF THE ENGINEER MAY NOT BE INDIVIDUALLY LIABLE FOR ECONOMIC DAMAGES RESULTING FROM NEGLIGENCE OCCURRING WITHIN THE COURSE AND SCOPE OF PROFESSIONAL SERVICES PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE AGREEMENT AND THIS TASK ORDER ISSUED THEREUNDER PROVIDED CERTAIN STATUTORY CONDITIONS ARE SATISFIED.

Taylor Engineering
Scope of Work
for
Preliminary Engineering and Environmental Permitting
for
Lee Wenner Park Day Dock Boat Basin
Cocoa, Florida

INTRODUCTION

Wave conditions caused by Hurricane Nicole destroyed the day dock facility at Lee Wenner Park located in the City of Cocoa (City). The City wishes to develop preliminary (permit-level) engineering design and seek environmental permits to replace the docks and construct a riprap revetment along the existing bulkhead shoreline. The riprap revetment would serve to reduce reflected wave energy and minimize structural damage during future coastal storms. Mead and Hunt (Client) holds a continuing services contract with the City.

Through this Scope of Work, Client engages Taylor Engineering (Taylor) to complete permit-level engineering and seek environmental permits.

ASSUMPTIONS AND LIMITATIONS

Taylor prepared this Scope of Work with the following assumptions and limitations. If any of the below assumptions prove incorrect, Taylor will consult with the Client/City and, as necessary or appropriate, modify this Scope of Work and fee.

- *The anticipated construction will entail new fixed docks within the same footprint of the historical floating docks, a shoreline revetment immediately riverward of the existing bulkhead, and a pile supported walkway, measuring approximately 6-ft wide positioning immediately riverward of the existing bulkhead and above the revetment.*
- *City will provide permits and/or historical drawings of the destroyed day docks which Taylor will apply to develop the replacement dock plan.*
- *This Scope of Work excludes geotechnical exploration. Taylor will review and consider any geotechnical information provided by the Client/City in development of a permit-level design. However, to complete future final engineering design, a detailed and site-specific geotechnical investigation will be necessary and will occur outside of this Scope of Work through future authorization.*
- *Taylor will rely on professional judgement and information provided in existing permits or historical construction drawings (provided by the City) documenting the location of the destroyed docks and piers to develop a structural plan. This Scope of Work excludes iterations or refinements of structural layouts or detailed/final engineering design, which will occur outside of this Scope of Work through future authorization.*
- *This Scope of Work serves to determine appropriate coastal design conditions for the revetment and replacement docks.*

- *This Scope of Work excludes a boundary survey. If it is determined a full boundary survey is required per regulatory agency directive, Taylor Engineering will need to negotiate an additional fee.*
- *Taylor will develop preliminary design and permit drawings for one site layout.*
- *The construction project will avoid or minimize wetland and submerged resources as much as practical.*
- *This project excludes any efforts or coordination with FEMA or FEMA reimbursement.*
- *This Scope of Work excludes final engineering, development of final construction documents, or construction phase services which may occur under future authorization.*

TASKS

<u>Task 1 – Topographic and Hydrographic Surveys</u>

Taylor will complete a topographic survey documenting 30 feet upland of the existing bulkhead (between road and waterway). Taylor's subcontractor, ARC Surveying and Mapping, will complete a hydrographic survey at the boat basin. Figure 1 below provides the extents of these surveys.

To provide a cost-effective approach, a full boundary survey will not be conducted. If it is determined a full boundary survey is required per regulatory agency directive, Taylor Engineering will need to negotiate an additional fee.

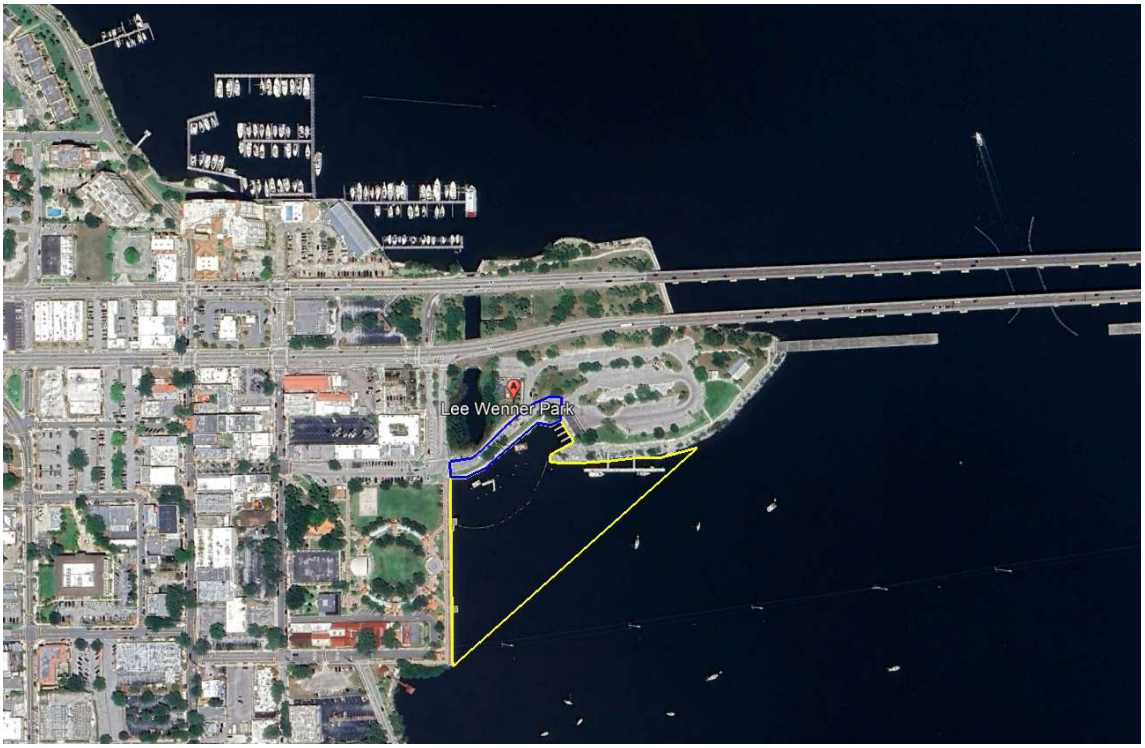

Figure 1. Topographic Survey Area Outlined in Blue and Hydrographic Survey Area Outlined in Yellow

Task 2 – Coastal Conditions Analysis and Design Wave Assessment

Taylor will develop a coastal conditions analysis for the project site. Taylor will evaluate the historical and FEMA storm data for the area and/or modify and apply previously developed coastal models to determine water levels and current speeds at the site for the desired return period storms. Taylor will determine wave heights at the site from FEMA wave model results and compare these to model wave heights based on ASCE 7-22 wind speeds. Taylor will document tide and storm water levels, wind speeds, current, and wave conditions. Based on these results, Taylor will recommend design conditions for the proposed facility.

Task 3 – Preliminary (Permit-Level) Engineering Design

Taylor will develop a preliminary design for the waterfront/marine structures:

- Fixed docks (to be replaced within same footprint of historical floating docks)
- Rock revetment in front of existing bulkhead (approximately 300-ft long)
- New pile supported walkway (6-ft wide) in front of the bulkhead (approximately 300-ft long)

Preliminary engineering will consider upland site conditions, geotechnical conditions (if available and provided by the City), coastal conditions, and adjacent facilities (boat ramp).

The task deliverable will include permit drawings; these drawings will depict plan arrangement, typical structural cross-sections, and basic structural details. The designers will also provide an opinion of probable construction cost based on this permit-level design.

Once the engineering is complete, Taylor will coordinate with the Client/City to schedule a meeting to review the design and receive comments before finalizing the permit drawings and continuing with Task 4.

TASK 4 – Environmental Permitting

Task 4.1 – Natural Resources Survey and Report

Permitting for this project will require an assessment of wetlands and submerged resources (e.g., seagrass, oysters) within and immediately adjacent to the proposed project footprint. As such, Taylor environmental staff will complete a survey to characterize and map wetlands and submerged resources at the proposed development site. The wetlands and submerged resources survey will employ qualitative and quantitative methods accepted by state and federal regulatory and resource agencies. Taylor will use real-time kinematic global positioning system (RTK GPS) providing sub-foot accuracy to record the location of resource boundaries identified during the survey.

Taylor will prepare a natural resources survey report to document our findings. The report will describe the survey methodology and characterize and quantify the biological communities within the survey area including an assessment of project potential impacts on listed and candidate species. The report will include resource maps that delineate the survey area resource boundaries including location and limits of wetlands and seagrass communities.

Task 4.2 – Pre-application Meetings

Taylor will work with the Client/City and lead state and federal permitting agencies (FDEP and USACE) to coordinate and facilitate virtual pre-application meetings to present and discuss the proposed project. During the meetings, Taylor will discuss the administrative process and appropriate permit authorization for the project. For Client/City and agency review, Taylor will prepare and submit a summary of the pre-application meeting. The summary will focus on the permit types required and agency recommendations for the application contents.

Task 4.3 – Permit Application Package Completion and Submittal

Taylor will develop permit application packages for the FDEP and USACE based on input received during the pre-application meetings and submit the packages for County approval. After making any final changes to the application packages, Taylor will submit to the FDEP and USACE for processing.

Task 4.4 – Response to Requests for Additional Information

Because of potential impacts related to the proposed riprap revetment, Taylor anticipates an in depth review of these applications with the regulatory agencies. Therefore, this Scope of Work budgets to respond to one request for additional information (RAI) for each permit application. Taylor has budgeted $12,164 for these RAI responses. If agency requests require efforts expected to generate fees beyond this limit, Taylor will inform the Client/City and provide a proposal for the required additional services.

DELIVERABLES

Taylor will provide the following deliverables:

Task 1 – Topographic and Hydrographic Surveys

- Signed and sealed hydrographic survey

Task 2 – Coastal Conditions Analysis

- Signed and sealed coastal conditions report

Task 3 – Preliminary (Permit-Level) Engineering Design

- Preliminary design drawings (permit drawings)
- Permit-level opinion of probable construction cost

TASK 4 – Environmental Permitting

- Natural Resource Report
- Pre-application meeting minutes for FDEP and USACE
- Permit applications

SCHEDULE

The table below provides a schedule for the proposed work. Taylor Engineering will update and maintain the schedule with confirmed dates upon receipt of a notice to proceed.

Task No.	Description	Months from Notice to Proceed								
		1	2	3	4	5	6	7	8	9
1	**Topographic and Hydrographic Surveys**									
2	**Coastal Conditions Analysis**									
3	**Preliminary (Permit-Level) Engineering Design**									
4	**Environmental Permitting**[1]									

[1]Project schedule for permitting is estimated. Taylor Engineering cannot guarantee the project will be permitted in this time frame as it is contingent on regulatory review.

FEE

Taylor will complete the work described herein for a Fixed Fee of $89,452.00 as tabulated and summarized in Exhibit A, which includes our subcontractor's proposal for hydrographic survey.

EXHIBIT A

FEE SUMARRY

TAYLOR ENGINEERING, INC.
COST SUMMARY BY TASK
P2023-186: PRELIMINARY ENGINEERING AND ENVIRONMENTAL PERMITTING FOR LEE WENNER PARK DAY DOCK BOAT BASIN

TASK 1: Topographic and Hydrographic Surveys

Labor	Hourly Rate	Hours	Burdened Cost	Task Totals
Principal	$271.00	2.0	542.00	
Senior Professional	$194.00	16.0	3,104.00	
Project Professional	$156.00	4.0	624.00	
Staff Professional	$119.00	12.0	1,428.00	
Total Labor Hours		34.0		
Total Labor Cost				5,698.00

Subconsultants	Direct Cost	Markup @ 10%	Burdened Cost	
Arc Survey	5,750.00	575.00	6,325.00	
Total Subconsultant Cost				6,325.00

Total Task 1 ***$12,023.00***

TASK 2: Coastal Conditions Analysis and Design Wave Assessment

Labor	Hourly Rate	Hours	Burdened Cost	Task Totals
Senior Professional	$194.00	24.0	4,656.00	
Project Professional	$156.00	12.0	1,872.00	
Staff Professional	$119.00	20.0	2,380.00	
Total Labor Hours		56.0		
Total Labor Cost				8,908.00

Total Task 2 **8,908.00**

TASK 3: Preliminary (Permit-Level) Engineering Design

Labor	Hourly Rate	Hours	Burdened Cost	Task Totals
Principal	$271.00	3.5	948.50	
Senior Professional	$194.00	16.0	3,104.00	
Project Professional	$156.00	40.0	6,240.00	
Staff Professional	$119.00	60.0	7,140.00	
Project CAD/GIS	$150.00	116.0	17,400.00	
Total Labor Hours		235.5		
Total Labor Cost				34,832.50

Total Task 3 **34,832.50**

TASK 4: Environmental Permitting

Labor	Hourly Rate	Hours	Burdened Cost	Task Totals
Senior Professional	$194.00	14.0	2,716.00	
Project Professional	$156.00	114.0	17,784.00	
Staff Professional	$119.00	92.0	10,948.00	
Intern	$53.00	10.0	530.00	
Total Labor Hours		230.0		
Total Labor Cost				31,978.00

Other Direct Costs	Quantity	Unit Cost	Direct Cost	Markup @ 10%	Burdened Cost	
Hotel	2.0	400.00	800.00	80.00	880.00	
Milage	500.0	0.67	335.00	33.50	368.50	
Boat	1.0	250.00	250.00	25.00	275.00	
Meals	2.0	85.00	170.00	17.00	187.00	
Total Other Direct Costs						1,710.50

Total Task 4 **33,688.50**

Project Total ***$89,452.00***

Arc Surveying & Mapping, Inc.
Professional Hydrographers ● Surveyors ● Mappers

October 12, 2023

Jonathan Armbruster, P.E.
Taylor Engineering, Inc.
10199 Southside Blvd., Suite 310, Jacksonville, FL 32256
Main: 904-731-7040 | Direct: 904-256-1362
jarmbruster@taylorengineering.com

RE: Hydrographic Surveying Services
Lee Wenner Boat Basin
Cocoa Village, Florida

As requested, Arc Surveying & Mapping, Inc. (Arc) is providing a proposal for acquisition and mapping of hydrographic data within the Lee Wenner Boat Basin and part of the Indian River.

1) **Survey Task:**
   a) Hydrographic survey within the basin as illustrated in the RFP.
   b) The location and identification of all overwater structures within the survey limits, including docks, piles, signage, navigation aids, etc.
   c) Mapping to include bathymetry surface of the existing basin bottom.

2) **Project Datum:** The Horizontal project datum will be based on the Lambert Conformal Conic Projection for the East Zone of Florida (0901) and referenced to the North American Adjustment of 83/90 (NAD83/90). The Vertical project datum will be referenced to the National American Vertical Datum adjustment of 1988 (NAVD88/2011). The units of measurement will be U.S. Survey Feet. Published values, as documented in the NGS data sheets, will be held as the controlling values, and utilized for RTK GPS site calibrations.

3) Deliverables:
   a) DTM and digital survey cad files of survey results.
   b) Set of PDF maps with the results of the topographic survey.

4) **Professional Fees:** $5,750
5)

Arc Surveying and Mapping, Inc. appreciates the opportunity to work with Taylor on this project and is available to answer any questions or concerns you may have.

Sincerely,

Richard Sawyer

Richard J. Sawyer, PSM, CH
Vice President

Accepted By: _____ Date: _____
Taylor Engineering