

CITY OF RIVIERA BEACH CITY COUNCIL
AGENDA ITEM SUMMARY

MEETING DATE: December 15, 2010

AGENDA ITEM SUMMARY NO. B10-122-1

- AWARDS / PRESENTATIONS / PETITIONS
- CONSENT
- PUBLIC HEARING
- ORDINANCE ON SECOND READING
- ORDINANCE ON FIRST HEARING

- REGULAR
- RESOLUTION
- DISCUSSION & DELIBERATION
- BOARD APPOINTMENT
- WORKSHOP

TITLE/SUBJECT: Marina Dock and Bulkhead Inspection/Design, Engineering and Permit Modifications

RECOMMENDATION / MOTION: Staff recommends that City Council approve a work order with Sea Diversified Inc. to complete the design, engineering, preparation of the bid package and permit modifications for the marina dock replacement; and the assessment, design, engineering, and preparation of the bid package for the replacement of the marina bulkhead; authorizing the Finance Director to appropriate funds and make payments not to exceed \$415,500.00 from the Palm Beach County Water Access Grant fund 424-0000-543-6-3101 and the Florida Inland Navigational District Grant fund 425-0000-543-1-3103.

• Assistant City Manager <i>[Signature]</i> 12/8/10	Library
• City Attorney <i>[Signature]</i> 12/8/10	• Marina <i>[Signature]</i> 12-7-10
City Clerk <i>[Signature]</i>	Police
• Community Development <i>[Signature]</i> 12-8-10	• Public Works <i>[Signature]</i> 12-8-10
• Finance <i>[Signature]</i> 12/8/10	• Purchasing <i>[Signature]</i> 12-8-2010
Fire	Recreation & Parks
Human Resources	Water & Sewer
Information Services	Other Grant Coordinator

APPROVED BY CITY MANAGER: *[Signature]*

DATE: 12-8-10

Originating Dept. MARINA <i>[Signature]</i>	Costs: \$415,500.00 Current FY: 2010 Funding Source: <input type="checkbox"/> Capital Improvement <input type="checkbox"/> Operating <input checked="" type="checkbox"/> Other:	City Council Actions: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/conditions <input type="checkbox"/> Denied _____ <input type="checkbox"/> Tabled to _____ <input type="checkbox"/> Referred to Staff _____
User Dept. THE CITY	Budget Account Number: PBC Water Access Grant: 424-0000-543-6-3103. F.I.N.D. Grant: 425-0000-543-1-3103	Attachments: 1. Fiscal Impact 2. Resolution 3. Scope of works
Advertised: Date: Paper: <input checked="" type="checkbox"/> Not Required	Affected Parties <input type="checkbox"/> Notified <input checked="" type="checkbox"/> Not Required	

SUMMARY: This work order will allow the City to move forward with the next step(s) to redevelop the public marina. Work will include an assessment of existing bulkhead conditions, the bulkhead final repair/replacement design, which will include the development of the utility corridors that will support the new bulkhead and dock layout, the development of bid specifications and documents; the finalization of dock design and layout, any necessary permit modification submissions and bid specifications for the same. This work order will also include any additional or updated civil, geotechnical and underwater aquatic vegetation (UAV) studies and surveys. Completion of this portion of the engineering work will result in the development of the necessary request for proposals (RFP) for the bulkhead construction and the request for proposal (RFP) for the dock selection and construction.

Item No. 06

BACKGROUND:

The City received grant funding from the Florida Inland Navigational District (F.I.N.D.) in the amount of \$475,000.00 which requires matching funds for the design, engineering, permitting for the new public marina. We will use the Palm Beach County Water Access grant (PBCWAG) as the matching funds. Both the Palm Beach County Water Access Grant (PBCWAG) and the Florida Inland Navigational District (F.I.N.D.) grant are time sensitive. The PBCWAG construction project must be substantially completed by November 2011 and the F.I.N.D. grant requires the project (engineering and design), be completed on or before September 1, 2011.

The issuance of this work order will ensure the timely completion of this phase of the public marina project.

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EXHIBIT A-1

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2011	2012	2013	2014	2015
Capital Expenditures	_____	_____	_____	_____	_____
Operating Costs	_____	_____	_____	_____	_____
External Revenues	\$415,500	_____	_____	_____	_____
Program Income (City)	_____	_____	_____	_____	_____
In-Kind Match (City)	_____	_____	_____	_____	_____
NET FISCAL IMPACT	\$415,500	_____	_____	_____	_____

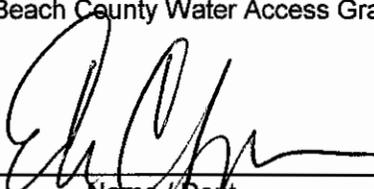
NO. ADDITIONAL FTE POSITIONS (Cumulative) n/a n/a n/a n/a n/a

Is Item Included In Current Budget? n/a Yes ___ No ___
 Budget Account No.: Fund ___ Dept/Division ___ Org. ___ Object ___ Reporting
 Category _____

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

Funds will be utilized from the Palm Beach County Water Access Grant with matching reimbursement from the F.I.N.D Grant

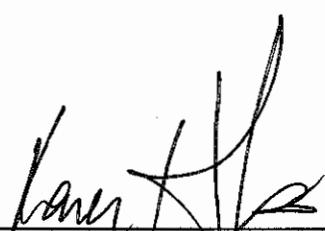
C. Departmental Fiscal Review:



 Name / Dept.

III. REVIEW COMMENTS

A. Finance Department and/or Purchasing/Intergovernmental Relations/Grants Comments:



 Finance Department

 Purchasing and Grants

B. Other Department Review:

 Department Director

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIVIERA BEACH, PALM BEACH COUNTY, FLORIDA, APPROVING A WORK ORDER WITH SEADIVERSIFIED INC. OF DELRAY BEACH, FLORIDA NOT TO EXCEED \$415,500.00 FOR THE PURPOSE OF COMPLETING THE DESIGN, ENGINEERING, BID SPECIFICATION DOCUMENTS AND ANY NECESSARY PERMIT MODIFICATIONS FOR THE REPLACEMENT OF THE MARINA DOCKS AND THE DESIGN, ENGINEERING, AND BID SPECIFICATION DOCUMENT FOR THE REPLACEMENT OF THE BULKHEAD AT THE RIVIERA BEACH MUNICIPAL MARINA; AUTHORIZING THE FINANCE DIRECTOR TO MAKE PAYMENT FROM THE PALM BEACH COUNTY WATER ACCESS GRANT #424-0000-543-6-3103 AND THE FLORIDA INLAND NAVIGATIONAL DISTRICT GRANT #425-0000-543-1-3103; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Riviera Beach was awarded an extension to the \$5 million in Palm Beach County Public Water Access Grant with a substantial completion date of November 17, 2011, and a Florida Inland Navigational District Grant in the amount of \$475,000.00 with a completion date of September 1, 2011; and

WHEREAS, the Riviera Beach Marina requires substantial repairs and redevelopment in order to operate a competitive, safe and attractive Public Marina; and

WHEREAS, the Design, Engineering and Bid specifications of the project(s) are necessary in order to proceed with the development of the Public Marina.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RIVIERA BEACH, PALM BEACH COUNTY, FLORIDA, AS FOLLOWS:

RESOLUTION NO. _____

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SECTION 1. That the City Council approves the work order with Sea Diversified Inc. of Delray Beach Florida, per the attached scope of services.

SECTION 2. The Finance Director is authorized to appropriate funds from the Palm Beach Water Access Grant funds account number 424-0000-543-6-3103, and the Florida Inland Navigational District Grant funds 425-0000-543-1-3103, with the payment being made the same.

SECTION 3. That the City Manager is authorized to approve change orders not to exceed ten percent (10%) of the work order amount.

SECTION 4. This Resolution shall become effective upon its passage and approval by City Council.

PASSED AND APPROVED this _____ day of _____, 2010

[The remainder of this page left blank intentionally]

RESOLUTION NO. _____

PAGE 3

APPROVED:

THOMAS A. MASTERS
MAYOR

DAWN S. PARDO
CHAIRPERSON

ATTEST:

CARRIE E. WARD
MASTER MUNICIPAL CLERK
CITY CLERK

JUDY L. DAVIS
CHAIR PRO TEM

BILLIE E. BROOKS
COUNCILPERSON

CEDRICK A. THOMAS
COUNCILPERSON

SHELBY L. LOWE
COUNCILPERSON

MOTIONED BY: _____

SECONDED BY: _____

D. PARDO _____

J. DAVIS _____

B. BROOKS _____

C. THOMAS _____

S. LOWE _____

REVIEWED AS TO LEGAL SUFFICIENCY

Pamela H. Ryan

PAMALA HANNA RYAN, CITY ATTORNEY

DATE: 12/8/10



SEA Diversified, Inc.

310 North Swinton Avenue
Delray Beach, Florida 33444
Phone: 561-243-4920
Facsimile: 561-243-4957

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

December 8, 2010

Mr. Edwin Legue
Marina Director
Riviera Beach Marina
200 E 13th Street
Riviera Beach, Florida 33404

**Re: Proposal Number One for Professional Services
City of Riviera Beach Marina Improvements
Sea Diversified P.N. 10-1725**

Dear Mr. Legue:

Sea Diversified, Inc. (SDI) is pleased to provide the following proposal and estimate of fees for professional services relating to proposed improvements to the City of Riviera Beach Marina.

Background

The City of Riviera Beach marina is located immediately north of the Port of Palm Beach and minutes from ocean access through the Lake Worth Inlet. The marina has a reported 150 wet slips including floating docks for dingy tie-up and waverunner rental operations. The wet slip tenants currently consist of charter fish /dive operators and private vessel owners. The marina offers fuel and sewage pump-out and upland amenities include a full service restaurant, shower, laundry and restroom facilities.

The City of Riviera Beach received grants from Palm Beach County, Florida Inland Navigation District (FIND) and the US Fish and Wildlife Service to be used for infrastructure improvements and related enhancements to the marina in order to facilitate and preserve public access. Anticipated improvements include but are not limited to new docks, preferably floating, a new bulkhead and new utility infrastructure.

Based upon our initial discussions, it is apparent that improvements to the marina will be addressed in three (3) parts as follows:

Part I:

Repair / reconstruction of the north portion of the marina extending from approximately the south side of the Tiki Restaurant northerly and easterly to the existing limits of the facility. This part will include replacement of the existing bulkhead, replacement of the existing dock structures and improvements to the existing marina utility infrastructure. Improvements to upland components of the marina including but not limited to the marina offices, laundry / restroom facilities, parking, upland promenade and other miscellaneous structures may be included in this first part of the project.



Part II:

Expansion of the marina easterly to the limits of the State “Dedication Line” and northerly along the shoreline of Bicentennial Park. This part of the project will address the feasibility of modifying the limits of the State “Dedication Line” to allow for an increase in the overall footprint of the facility and additional area for public access.

Part III:

This part of the project will address the south half of the marina adjacent to the boat dry storage facility, which may include the area in front of this facility. It is unknown at this point what the ultimate plan will be for this portion of the marina, therefore this part of the project will be limited to the development of various design concepts for the replacement of wet slips within this area. Engineering for the final approved design for this section of the marina is included in this scope of work when determined.

Scope of Work:

The scope of work pursuant to this initial proposal will include the following tasks:

- | | |
|--------------------|---|
| Task One: | Understanding of City Objectives and Scope Refinement |
| Task Two: | Information Gathering and Supplemental Data Collection |
| Task Three: | Conceptual Design Development |
| Task Four: | Environmental Permitting |
| Task Five: | Preparation of Final Plans, Specifications and Bid Documents |
| Task Six: | Construction Phase Services |

Task One: Understanding of City Objectives and Scope Refinement

SDI will meet with representatives of the City to discuss goals and objectives for the project and outline specific issues that need to be addressed during the design development phase. We will evaluate available funding and / or budget constraints as necessary to establish design parameters and to set limitations on the extent of improvements. We will identify and define protocol for communication and exchange of information between the City and SDI including subconsultants, marina staff, slip tenants and the overall general public. Based upon these initial discussions with the City, we will refine the scope of work as necessary to ensure fulfillment of the project objectives.

Task Two: Information Gathering and Supplemental Data Collection

SDI will seek and compile readily available information pertinent to the proposed marina improvements such as the following:

- Current bathymetric data within and beyond the marina basin extending to the ICWW.
- Marina boundary information including a description of the State “Dedication Line”.
- Detailed asbuilt survey of the existing marina including upland topographic features.
- Detailed utility maps, preferably utility asbuilts.
- Geotechnical data, both upland and within the marina basin.
- Current and wave data.



- Marine resources maps.
- Environmental permits, previous and / or current.
- Upland plans for development or other improvements, if applicable.
- Previous inspection reports, conceptual plans or any other historical information pertaining to the development of the City marina.
- Copies of any proposed agreements between the City and private ventures that may restrict the extent of improvements or place conditions on any proposed changes to the facility.

Depending upon the extent of available and reliable information, SDI will conduct the necessary tasks to supplement the information and data necessary for the design and permitting of the marina improvements. Specific tasks that may be required include the following:

Sub-Task A: Updated / Supplemental Bathymetric Data Collection

SDI conducted a bathymetric survey of the marina and portions of the ICWW adjacent to the marina in year 2009. It is also understood that bathymetric data was acquired by others as part of recent permitting activities. SDI shall use this data to the extent practical, however it is anticipated that this data may have to be updated and possibly supplemented to support design and permitting efforts associated with Parts I, II and / or III of the project described above.

SDI shall conduct the bathymetric survey using a vessel equipped with automated hydrographic data collection system. RTK GPS and conventional poling techniques will be employed in areas and around structures not conducive for automated hydrographic data collection methodologies. Upon completion of the field survey, data will be edited and reduced to the project vertical datum as required for producing detailed contour maps of the project area(s). The City will be provided with bathymetric maps certified by a Professional Surveyor and Mapper licensed in the State of Florida.

Sub-Task B: Updated / Supplemental Boundary and Topographic Data Collection

It is anticipated that boundary and topographic data will be available to some extent in support design and permitting efforts associated with Parts I, II and / or III of the project described above. As necessary, SDI will update and supplement this survey data as follows:

- **Item 1: Upland Boundary and Topographic Survey**
SDI will map upland topographic features to within fifty (50) feet of the bulkhead as required for the design of bulkhead improvements, marina ingress / egress features, and utility infrastructure routing associated with the proposed marina improvements. Additional topographic data will be collected beyond fifty (50) of the bulkhead if required for utility design. Pertinent features to be located include but are not necessarily limited to building structures, walkways, exposed utilities, parking areas, trees and landscaping. Features will be located using RTK GPS survey methodologies. As part of this survey effort SDI shall establish the location of the marina boundary lines based upon existing boundary survey information provided by



the City. It is noted that this task does not include a full boundary survey of the marina property. Should a full boundary survey be required, the fee for this task shall be addressed via separate agreement

- **Item 2: Marina As-built Survey**
SDI will map the horizontal and vertical location of the dock structures extending from the face of the bulkhead waterward to the easterly, northerly and southerly limits of the marina. The survey will include mapping of the topside deck structures, pile bents and fixed deck-mounted features such as utility pedestals, fire boxes and lighting features. The survey will also include the fuel dock (fixed and floating portions), and all features associated with the fueling operations. Features will be located using RTK GPS survey methodologies. Mapping of utilities will be addressed in Sub-Task C.

Sub-Task C: Utility Mapping and Inspection

SDI will conduct an inspection of exposed utilities both landward and waterward of the bulkhead and prepare utility maps to supplement existing and available maps that may be available from the City. Landward of the bulkhead, SDI will evaluate and inspect, as practical, potable water sources, sanitary systems (to support proposed vessel sanitary pump-out systems), fire protection systems, power sources (transformers and distribution panels), phone and cable distribution systems. Engineers will coordinate with survey crews to ensure that predominate utility features are located and detailed on topographic survey charts developed as part of Sub-Task B.

Immediately landward of the bulkhead, the presence / location of active utilities supporting upland facilities and / or wet slips will be critical insofar as the design of the new bulkhead structure. Depending on the extent and level of details depicted on existing utility maps provided by the City, exploratory excavation or "pot holing" may be required to determine the horizontal / vertical location of utilities buried beneath the upland promenade behind the bulkhead. This work will be conducted as part of this Sub-Task.

Waterward of the bulkhead, SDI will evaluate, inspect and map the utilities secured to the underside of the existing fixed piers. Mapping of utilities will be only to the extent required to describe the general routing of utilities within the marina. Utilities will be noted on the marina asbuilt charts prepared under Sub-Task B, Item 2. Results of the utility inspection and mapping efforts will form the basis for evaluating utility upgrade and possible re-routing requirements pertaining to the proposed marina improvements. The inspections will also determine the condition and capacity of utility infrastructure to support each Part of the marina improvements described above.

Sub-Task D: Bulkhead Inspection

SDI shall conduct a detailed inspection of the bulkhead to determine the condition of structure both above and below water. Based upon the results of the inspection, SDI will evaluate options for repair of replacement, all or in part. Options for repair or



replacement will be based upon the condition and long-term projected capacity of the wall to support proposed wet slip improvements and future upland development programs.

Observations of existing conditions will be conducted by marine engineers with dive capabilities. Engineers will note the visual condition of the concrete cap, panels, king piles and lateral support system, as visually accessible without extensive excavation or destruction of features landward of the bulkhead. A detailed inspection report will be prepared and submitted to the City along with recommendations for repairs or replacement. The results of the inspection will be used for preparing plans and specifications for bulkhead improvements described below.

Sub-Task E: Dock and Pier Structural Inspection

Although it is anticipated that the existing fixed docks and piers shall be removed and replaced as part of the marina improvement project, SDI shall conduct an inspection of the structures to determine whether any components may be suitable for future use. The condition of structures will be evaluated both above and below water by marine engineers with dive capabilities. Engineers will note the visual condition of the concrete decks, pile bents and piles. The results of the inspection will be used for preparing plans and specifications for demolition and / or repairs of existing structures, as applicable to the proposed plans for wet slip improvements.

Sub-Task F: Geotechnical Study

Soils information is required for the design of the seawall and dock support piles. Soils information will also be required for the design of upland utility infrastructure. SDI will coordinate with the City regarding the research and acquisition of required geotechnical information and shall arrange for the services of a local, reputable geotechnical engineering firm, if required. Borings are generally specified for a minimum of forty (40) feet of penetration with the objective of achieving at least ten (10) blows per foot over the last five (5) feet. We shall delineate where the borings shall be performed and require that the geotechnical report contain at a minimum graphical logs showing a description of the soil layers, water table, material classification and the "blow counts" (N values). Estimated cost for borings including a report of findings is based upon approximately six (6) borings located upland of the existing bulkhead.

Sub-Task G: Wind, Wave and Current Study

SDI shall conduct a wind, wave and current study as required for developing design parameters for the new fixed and / or floating dock systems. The study shall be conducted by Team coastal engineers with expertise in hydraulic modeling of open tidal waterbodies and wave climate forecasting, both wind and vessel induced. The results of the study will provide valuable information regarding tidally influenced current velocities and direction. This information will be used for evaluating slip orientation as pertaining to vessel maneuvering into and out of berths. This information will also be used to assess current loads against vessels as needed for the design of docks and dock mooring systems.



An understanding of the wave climate will be used to assess the effects of waves on vessels and proposed floating dock systems. The study will evaluate wave conditions based upon fetch and water depth and varying wind conditions. The study will also consider wave refraction and wave reflection characteristics based upon existing bathymetry and marina geometry factoring in varying wind conditions. Although the Riviera Beach Marina is located in a vessel "No Wake" zone, the effects of vessel wake will be evaluated for use in the design of the new wet slips.

Sub-Task H: Supplemental Marine Resources Mapping

Based upon the extent of available and reliable marine resources information, SDI will coordinate with their Team marine biologists to supplement and /or update this information as required for Parts I, II or III of the proposed marina improvements. It is apparent that Part I of the proposed improvements, which has been permitted by State and Federal Agencies, will require no additional marine resources mapping unless major modifications are made to the proposed size, layout or geometry of the facility. Parts II and III of the proposed project, which extends beyond the limits of the current permits, may require additional environmental studies. Additional environmental studies will be conducted, as required, under this Sub-Task.

Task Three: Conceptual Design Development

Using the data and information compiled in Tasks One and Two, SDI will prepare conceptual plans for the proposed marina improvements pertaining to Parts I, II and III of the project. This will include conceptual plans for the bulkhead, docks / piers and marina utilities such as electric, water, sewage pumpout, fire protection and fuel. Estimates of probable construction costs shall be prepared if requested by the Client.

Plans will be prepared to the extent required for presentation to representatives of the City and the general public, if required. The conceptual plans will also be prepared to the level of detail required for permitting through SFWMD, FDEP, USCOE and local permitting authorities having jurisdiction to review and comment on the project. Conceptual plans will be generated via CADD, MicroStation format and / or AutoCAD format.

As part of this task, SDI will meet with representatives of the City to discuss existing slip sizes and alternatives for modified fleet mix distributions. We will discuss considerations for existing slip tenants of the facility and current demands for wet slips in the Palm Beach County Area. We shall evaluate projected revenue based on size of slip. Ultimately, we intend to determine an ultimate slip mix for developing design concepts for the new wet slips. This along with the following factors will be used for the preparation of conceptual marina layouts and other details:

- Slip and fareway orientation for ease of berthing and navigation.
- Slip sizes to properly accommodate the desired vessel mix distribution of the City.
- Utility infrastructure to meet the current needs of today's vessels including properly sized electrical service, potable water and sewage pumpout.



- Accommodations for commercial fishing and dive operations, fueling operations, water taxi, transient dockage and dingy tie-up.
- Wave protection including an evaluation of a perimeter breakwater structure
- Incorporation of existing structures, as practical.
- Upland development, both existing and proposed.
- Parking and marina access to accommodate the slip tenants, as well as the patrons of the facility.
- Security for the slip tenants
- ADA compliance

Additionally, we will address product selection and stress the importance of choosing products that are properly engineered for public use and longevity in the harsh marine environment. We will develop strict performance standards for floating dock systems and assist in establishing criteria for evaluating the qualifications of the floating dock manufacturers.

Similar to the floating dock system, SDI will discuss with the City options including the pros and cons and cost considerations to other components of the marina such as:

- Piling alternatives – concrete, steel, ICP, timber and other
- Seawall alternatives – concrete versus coated steel including options for lateral support systems
- Utility pedestal, supplemental lighting, and other electrical system options
- Fire protection system component options
- Sewage pump-out options
- Miscellaneous items – dock boxes, cleats, fendering, pile caps, signage and fish cleaning stations

Conceptual plans including product selection alternatives will be discussed through meetings with City staff and any required public meetings to achieve final approval to proceed to the next step.

Task Four: Environmental Permitting

State and federal permits have been secured for the bulkhead replacement and wet slip reconstruction described as Part I of the project. These permits are current and authorize construction on behalf of the state and federal regulatory agencies assuming no deviation from the permitted plans for improvements. The permitting process for Parts II and III of the proposed marina improvements has not been initiated to our knowledge at this time.

SDI will evaluate the permitted plans for improvements associated with Part I of the project including any general or specific conditions that were incorporated as part of the permits. Should it appear that through the conceptual planning efforts described under Task Three that the overall plans may change, SDI will initiate coordination with state and federal agencies to discuss necessary permit modifications. As directed by the City



and as applicable, SDI will prepare the necessary documents and submit the requests for permit modifications from applicable state and federal agencies.

Pertaining to Parts II and III of the project, SDI will initiate discussions with state and federal agencies, if requested by the City. The permitting process associated with Parts II and III may or may not include additional / supplemental environmental studies and a request for modification to the State "Dedication Line". Permitting services pertaining to Parts II and III of the project will be conducted under this Sub-Task.

Task Five: Final Plans and Specifications

Upon approval of the conceptual plans, SDI will prepare final plans and specifications along with required bid documents to initiate the construction phase of the project. Separate plans, specifications and bid documents will be prepared for the bulkhead repairs and / or replacement to expedite this component of work. This will be followed by plans, specifications and bid documents for Part I of the wet slip improvements. Plans and specifications for Parts II and III of the project will be included with the plans for Part I or as a separate document (s), as directed by the City.

The scope of work will include engineering analysis of all structures and plan / section details of the proposed bulkhead and fixed / floating dock systems. Plans and specifications will also include details of pile supports, utility systems (electrical, lighting, potable water system, sewage pumpout system and fire protection) and any upland facilities approved as part of the conceptual planning phase. This may include plans for marina offices, laundry / restroom facilities, parking improvements, upland promenade and other miscellaneous facilities, structures or marina amenities.

Plan and specifications will include detailed, site specific performance standards for the floating dock system including breakwater structures (if applicable), fixed access platforms and gangways. At a minimum this will address:

- Hurricane loading criteria – occupied and non-occupied conditions
- Design dead load criteria
- Design live load criteria
- Design point load criteria
- Berthing impact load criteria
- Current and wave loading criteria
- Transverse and longitudinal wind load criteria

The specifications will address the requirements of the contractor and dock manufacturer insofar as engineering analyses of the system, mooring analysis, shop drawings and other required submittals. We will also address contractor means and methods for construction to minimize interruption to existing slip tenants, fish and dive charter operations and all other commercial operations.



Task Six: Construction Phase Services

SDI shall provide construction administration services during the construction of the marina and all associated components. The intent of these services is to observe construction on behalf of the owner to ensure that the work is completed in accordance with final plans and specifications. Additionally, we shall monitor construction activities as they relate to established schedules, project budgets, conformance to permit criteria and conditions and overall quality of work. Specific services shall include the following:

- Assistance with Project Bidding
- Pre-Construction Meetings
- Shop Drawing Review / Product Approvals
- Construction Observation / Preparation of Status Reports
- Review of Contractor Pay Requests
- Construction Meetings

Compensation:

SDI shall provide services pertaining to Task One through Six above on a time-and-expense basis not to exceed \$415,500.00.

Should you have questions or require additional information, please do not hesitate to contact us at your convenience. We appreciate the opportunity to assist the City of Riviera Beach and look forward to a successful project.

Sincerely,

A handwritten signature in blue ink, appearing to read 'WTS', is written over a horizontal line.

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

WTS/dq