

**AGREEMENT BETWEEN BROWARD COUNTY AND OLSEN ASSOCIATES, INC.,
FOR COASTAL ENGINEERING CONSULTANT SERVICES FOR SEGMENT III SHORE PROTECTION
(RFP # T2112588P1)**

This Agreement ("Agreement") is made and entered into by and between Broward County, a political subdivision of the State of Florida ("County") and Olsen Associates, Inc., a Florida corporation ("Consultant") (collectively referred to as the "Parties").

IN CONSIDERATION of the mutual terms, conditions, promises, covenants, and payments hereinafter set forth, the Parties agree as follows:

ARTICLE 1. DEFINITIONS AND IDENTIFICATIONS

The following definitions and identifications set forth below apply unless the context in which the word or phrase is used requires a different definition:

1.1 **Board**: The Board of County Commissioners of Broward County, Florida, which is the governing body of the Broward County government created by the Broward County Charter.

1.2 **Consultant**: The architect or engineer selected to perform the services pursuant to this Agreement.

1.3 **Contract Administrator**: The Director of the Environmental Planning and Community Resilience Division, who is the representative of County concerning the Project. In the administration of this Agreement, as contrasted with matters of policy, all Parties may rely upon instructions or determinations made by the Contract Administrator; provided, however, that such instructions and determinations do not change the Scope of Services.

1.4 **Contractor**: The person, firm, corporation or other entity who enters into an agreement with County to perform the construction work for the Project.

1.5 **County Administrator**: The administrative head of County pursuant to Sections 3.02 and 3.03 of the Broward County Charter.

1.6 **County Attorney**: The chief legal counsel for County who directs and supervises the Office of the County Attorney pursuant to Section 2.10 of the Broward County Charter.

1.7 **Notice To Proceed**: A written authorization to proceed with the Project, phase, or task thereof, issued by the Contract Administrator.

1.8 **Project**: The coastal engineering consultant services for Segment III Shore Protection as described in Article 3 and Exhibit A - Scope of Services, including all necessary, incidental, and

related activities and services required by the Scope of Services and contemplated in Consultant's level of effort.

1.9 **Project Manager**: The County employee responsible for implementation of the Project under the supervision of the Contract Administrator.

1.10 **Subconsultant**: A firm, partnership, corporation, independent contractor (including 1099 individuals), or combination thereof providing services to County through Consultant for all or any portion of the services under this Agreement.

ARTICLE 2. PREAMBLE

In order to establish the background, context, and frame of reference for this Agreement and to generally express the objectives and intentions of the respective Parties hereto, the following statements, representations, and explanations shall be accepted as predicates for the undertakings and commitments included within the provisions which follow and may be relied upon by the Parties as essential elements of the mutual considerations upon which this Agreement is based.

2.1 County has budgeted funds for the Project. This Project is funded with County, state and federal funds.

2.2 County has met the requirements of Section 287.055, Florida Statutes, the Consultants' Competitive Negotiation Act, and has selected Consultant to perform the services hereunder.

2.3 Negotiations pertaining to the services to be performed by Consultant were undertaken with Consultant, and this Agreement incorporates the results of such negotiations.

ARTICLE 3. SCOPE OF SERVICES

3.1 Consultant's services shall consist of the tasks and phases set forth in Exhibit A, attached hereto and made a part hereof, and shall include civil, structural, mechanical, and electrical engineering, architectural services, and other professional design services, as applicable for the Project. Consultant shall provide all services as set forth in Exhibit A including all necessary, incidental, and related activities and services required by the Scope of Services and contemplated in Consultant's level of effort.

3.2 The Scope of Services does not delineate every detail and minor work task required to be performed by Consultant to complete the Project. If, during the course of the performance of the services included in this Agreement, Consultant determines that work should be performed to complete the Project which is in Consultant's opinion outside the level of effort originally anticipated, whether or not the Scope of Services identifies the work items, Consultant shall notify Contract Administrator in writing in a timely manner before proceeding with the work. If

Consultant proceeds with said work without notifying the Contract Administrator, said work shall be deemed to be within the original level of effort, whether or not specifically addressed in the Scope of Services. Notice to Contract Administrator does not constitute authorization or approval by County to Consultant to perform the work. Performance of work by Consultant outside the originally anticipated level of effort without prior written County approval is at Consultant's sole risk.

3.3 Exhibit A provides an overall description of the Project and details the services for the first Phase of the Project. Additional negotiations and amendments to this Agreement will be required to include the services for subsequent phases or for additional services. County and Consultant may negotiate additional scopes of services, compensation, time of performance, and other related matters for future phases of the Project. If County and Consultant cannot contractually agree, County shall have the right to immediately terminate negotiations at no cost to County and procure services for subsequent Project phases from another source.

3.4 Consultant shall pay its Subconsultants and suppliers providing services under this Agreement within fifteen (15) calendar days following receipt of payment from County for such subcontracted work or supplies. Consultant agrees that if it withholds an amount as retainage from a Subconsultant or supplier, it will release such retainage and pay same within fifteen (15) days following receipt of payment of retained amounts from County. The Contract Administrator may, at its option, increase allowable retainage or withhold progress payments unless and until Consultant demonstrates timely payments of sums due to all its Subconsultants and suppliers.

ARTICLE 4. TIME FOR PERFORMANCE; CONTRACTOR DAMAGES

4.1 Consultant shall perform the services in Exhibit A within the time periods generally described in Exhibit A. The Agreement term shall commence on the date of the first Notice to Proceed, and shall continue until substantial completion of the Scope of Services or earlier if terminated pursuant to Article 10.

4.2 Prior to beginning the performance of any services under this Agreement, Consultant must receive a Notice to Proceed. Consultant must also receive a Notice to Proceed from the Contract Administrator prior to beginning the performance of services in any subsequent phases of this Agreement. Prior to granting approval for Consultant to proceed to a subsequent phase, the Contract Administrator may, at his or her sole option, require Consultant to submit the itemized deliverables and documents identified in Exhibit A for the Contract Administrator's review.

4.3 In the event Consultant is unable to complete the above services because of delays resulting from untimely review by County or other governmental authorities having jurisdiction over the Project, and such delays are not the fault of Consultant, or because of delays which were caused by factors outside the control of Consultant, County shall grant a reasonable extension of time for completion of the services and shall provide reasonable compensation, if appropriate.

It shall be the responsibility of Consultant to notify the Contract Administrator promptly in writing whenever a delay in approval by a governmental agency is anticipated or experienced, and to inform the Contract Administrator of all facts and details related to the delay.

4.4 In the event Contractor fails to substantially complete the Project on or before the substantial completion date specified in its agreement with County or if Contractor is granted an extension of time beyond said substantial completion date, and Consultant's services are extended beyond the substantial completion date, through no fault of Consultant, Consultant shall be compensated in accordance with Article 5 for all services rendered by Consultant beyond the substantial completion date.

4.5 In the event Contractor fails to substantially complete the Project on or before the substantial completion date specified in its agreement with County, and the failure to substantially complete is caused in whole or in part by Consultant, then Consultant shall pay to County its proportional share of any claim or damages to Contractor arising out of the delay. By reference hereto, the provisions for the computation of delay costs/damages and any amounts included therein, whether direct or indirect, in the agreement between the Contractor and County are incorporated herein. This provision shall not affect the rights and obligations of either party as set forth in Section 10.8, Indemnification of County.

ARTICLE 5. COMPENSATION AND METHOD OF PAYMENT

5.1 Amount and Method of Compensation

5.1.1 Lump Sum Compensation. Compensation to Consultant for the performance of all Phase I services identified in Exhibit A is payable on a "Lump Sum" basis, and as otherwise required by this Agreement, shall be not more than a total lump sum of Two Million Seven Hundred Twenty-Nine Thousand Three Hundred Eighty-Five and Twenty-Four Hundredths Dollars (\$2,729,385.24), inclusive of all Optional Services, Services noted as "Authorization Withheld," and Reimbursable Expenses.

5.1.2 Optional Services. County has established an amount of One Hundred Thousand Dollars (\$100,000.00) for potential Optional Services which may be utilized pursuant to Article 6. Unused amounts of these Optional Services monies shall be retained by County. A Work Authorization for Optional Services shall specify the method of payment, Maximum Amount Not-To-Exceed, Lump Sum, or combination thereof, applicable to that Work Authorization.

5.1.3 Reimbursable Expenses. County has established a maximum amount not-to-exceed of Sixty-Seven Thousand Three Hundred Dollars (\$67,300) for potential reimbursable expenses which may be utilized pursuant to Section 5.3. Unused amounts of those monies established for reimbursable expenses shall be retained by County.

5.1.4 Salary Costs. The maximum billing rates payable by County for each of Consultant's employee categories are shown on Exhibit B and are further described in Section 5.2.

If, for services designated as payable on a Maximum Amount Not-To-Exceed, Consultant has "lump sum" agreements with any Subconsultant(s), then Consultant shall bill all "lump sum" Subconsultant fees with no "markup." Likewise, Consultant shall bill, with no mark-up, all maximum not to exceed Subconsultant fees using the employee categories for Salary Costs on Exhibit B as defined in Section 5.2 and Reimbursables defined in Section 5.3. All Subconsultant fees shall be billed in the actual amount paid by Consultant.

5.1.5 Phased Payments. Payments for services shall be paid out pursuant to the Project tasks and phasing specified in Exhibit A. The retainage amount set forth in Section 5.5 shall be applied to the percentage amount for each task.

Project Phase	Fee %	Fee Amount/Phase
Phase I: Engineering, Design and Permitting	100%	\$2,729,385.24
Phase II: Pre-Construction Services (To Be Determined in Future Amendments)	0%	\$0
Phase III: Construction Services (To Be Determined in Future Amendments)	0%	\$0
Phase IV: Post-Construction Services (To Be Determined in Future Amendments)	0%	\$0
Total Services Fee	100%	\$2,729,385.24

5.1.6 The dollar limitation set forth in Sections 5.1 is a limitation upon, and describes the maximum extent of, County's obligation to pay Consultant, but does not constitute a limitation, of any sort, upon Consultant's obligation to incur such expenses in the performance of services hereunder.

5.2 Salary Costs. The term Salary Costs as used herein shall mean the hourly rate actually paid to all personnel engaged directly on the Project, as adjusted by an overall multiplier which consists of the following: 1) a fringe benefits factor; 2) an overhead factor; and 3) an operating margin. Said Salary Costs are to be used only for time directly attributable to the Project. The fringe benefit and overhead rates shall be Consultant's most recent and actual rates determined in accordance with Federal Acquisition Regulations ("FAR") guidelines and audited by an independent Certified Public Accountant. For the purposes of this Agreement, the rates must be audited for fiscal periods of Consultant within eighteen months preceding the execution date of this Agreement. These rates shall remain in effect for the term of this Agreement except as provided for in this Section 5.2 inclusive of the subsections below.

5.2.1 Consultant shall require all of its Subconsultants to comply with the requirements of Section 5.2.

5.2.2 Salary Costs for Consultant and Subconsultants as shown in Exhibit B are the Maximum Billing Rates which are provisional, subject to audit of actual costs, and if the audit discloses that the actual costs are less than the costs set forth on Exhibit B for Consultant or any Subconsultant, Consultant shall reimburse County based upon the actual costs determined by the audit.

5.2.3 Unless otherwise noted, the Salary Costs stated above are based upon Consultant's "home office" rates. Should it become appropriate during the course of this Agreement that a "field office" rate be applied, then it is incumbent upon Consultant to submit a supplemental Exhibit B reflective of such rates for approval by Contract Administrator and invoice County accordingly.

5.2.4 The total hours payable by County for any "exempt" or "non-exempt" personnel shall not exceed forty (40) hours per employee in any week. In the event the work requires Consultant's or Subconsultant's personnel to work in excess of 40 hours per week, any additional hours must be authorized in advance, in writing, by the Contract Administrator. If approved, Salary Costs for additional hours of service provided by nonexempt (hourly) employees or exempt (salaried) employees shall be invoiced to County at no more than one and one-half of the employee's hourly rate and in a manner consistent with Consultant's or Subconsultant's applicable certified FAR audit and all other provisions of Section 5.2. In the event a "Safe Harbor" rate is elected for use by Consultant or Subconsultant, then the additional hours are payable at no more than the employee's regular rate.

5.2.5 Consultant and any of its Subconsultants may alternatively use a "Safe Harbor" combined fringe benefit and overhead rate of 110% in lieu of providing fringe benefit and overhead cost factors certified by an independent Certified Public Accountant in accordance with the Federal Acquisition Regulation ("FAR") guidelines. The Safe Harbor rate, once elected, shall remain in place for the entire term of this Agreement, and be applicable for use as "home" and "field" fringe benefit and overhead rates, if applicable, and shall not be subject to audit under this Agreement. All other provisions of Section 5.2 remain in place.

5.2.6 It is noted that at the time of contracting, Consultant and Subconsultant Coastal Eco-Group Inc. do not have fringe benefit and overhead factors certified by an independent CPA in accordance with Section 5.2. Notwithstanding the Salary Costs (formula and requirements) set forth in Section 5.2 above, hourly rates have been negotiated with Consultant utilizing a method and factors agreed to by Consultant and the Contract Administrator which do not comply with Section 5.2 and the maximum billing rates as shown in Exhibit B are considered provisional. If the Consultant or Subconsultant

Coastal Eco-Group Inc. obtain a certified audit of its fringe benefit and overhead cost factors in accordance with Section 5.2, the Consultant may submit a copy of the certified audit for review by County's Contract Administrator no later than 15 months after execution of this Agreement with an Amended Exhibit B reflecting rates and a multiplier consistent with the certified audit, but with the multiplier capped at no more than 3.0. If accepted by the Contract Administrator as consistent with the certified audit and this paragraph, the Contract Administrator shall approve the Amended Exhibit B and notify the Consultant in writing. To the extent the Amended Exhibit B would justify an increase in compensation, any negotiated increase in Consultant's lump sum compensation for uncompleted work shall be recommended to, and subject to approval of, the appropriate award authority.

5.3 Reimbursables. For reimbursement of any travel costs, travel-related expenses, or other direct nonsalary expenses directly attributable to this Project permitted under this Agreement, Consultant agrees to adhere to Section 112.061, Florida Statutes, except to the extent, if any, that Exhibit B-1 expressly provides to the contrary. County shall not be liable for any such expenses that have not been approved in advance, in writing, by the Contract Administrator. Reimbursable Subconsultant expenses are limited as described herein when the Subconsultant agreement provides for reimbursable expenses.

5.4 Method of Billing For Lump Sum Compensation. Consultant shall submit billings which are identified by the specific Project number on a monthly basis in a timely manner. These billings shall identify the nature of the work performed, the task(s) and phase of work, and the estimated percent of work accomplished. Billings for each phase shall not exceed the amounts allocated to said phase. Billings shall also indicate the cumulative amount of Subconsultant participation to date. The statement shall show a summary of fees with accrual of the total and credits for portions paid previously. When requested, Consultant shall provide backup for past and current invoices that record hours, salary costs, and expense costs on a task basis, so that total hours and costs by task may be determined.

5.5 Method of Payment

5.5.1 County shall pay Consultant within thirty (30) calendar days from receipt of Consultant's proper statement, as defined by County's Prompt Payment Ordinance, ninety percent (90%) of the total shown to be due on such statement. When the services to be performed on each phase of the Project are fifty percent (50%) complete and upon written request by Consultant and written approval by the Contract Administrator that the Project is progressing in a satisfactory manner, the Contract Administrator, in his or her sole discretion, may authorize that subsequent payments for each phase may be increased to ninety-five percent (95%) of the total shown to be due on subsequent statements. No amount shall be withheld from payments for Reimbursables or for services performed during the construction phase.

5.5.2 Upon Consultant's satisfactory completion of each phase and after the Contract Administrator's review and approval, County shall remit to Consultant that ten percent (10%) or five percent (5%) portion of the amounts previously withheld. Final payment for the Project must be approved by the Director of the Broward County Purchasing Division.

5.5.3 Payment will be made to Consultant at:
Olsen Associates, Inc.
2618 Herschel Street
Jacksonville, Florida 32204 USA

ARTICLE 6. OPTIONAL AND ADDITIONAL SERVICES; CHANGES IN SCOPE OF SERVICES

6.1 County or Consultant may request changes that would increase, decrease, or otherwise modify the Scope of Services to be provided under this Agreement. Such changes must be made in accordance with the provisions of the Broward County Procurement Code and must be contained in a written amendment, executed by the Parties hereto, with the same formality and of equal dignity herewith, prior to any deviation from the terms of this Agreement, including the initiation of any additional services.

6.2 Costs of additional services identified by the Contract Administrator during the life of this Agreement and as contained in a written amendment will be compensated on an hourly basis, or an agreed upon lump sum, or as a reimbursable as provided in Article 5. Additional services authorized by the Contract Administrator shall include a required completion date for Consultant's performance of those additional services.

6.3 In the event a dispute between the Contract Administrator and Consultant arises over whether requested services constitute additional services and such dispute cannot be resolved by the Contract Administrator and Consultant, such dispute shall be promptly presented to County's Director of Purchasing for resolution. The Director's decision shall be final and binding on the Parties. The resolution shall be set forth in a written document in accordance with Section 6.1 above, if applicable. During the pendency of any dispute, Consultant shall promptly perform the disputed services.

6.4 Consultant may, at the Contract Administrator's discretion, be authorized to perform Optional Services as delineated in Exhibit A, Scope of Services, up to the maximum fee amount established for Optional Services under Section 5.1.2. Any Optional Services to be performed by Consultant pursuant to the terms of this Agreement shall first be authorized by the Contract Administrator in writing by a "Work Authorization" in accordance with this article. Prior to issuing a Work Authorization, the Contract Administrator must provide the Office of the County Attorney with the written description of the work to be undertaken as required by Section 6.4.4.1 and must obtain a written concurrence from the Office of the County Attorney that the work

proposed to be performed pursuant to the Work Authorization is within the scope of services of this Agreement.

6.4.1 Before any Optional Service is commenced pursuant to a Work Authorization, Consultant shall supply the Contract Administrator with a written estimate for all charges expected to be incurred for such Optional Service, which estimate shall be reviewed by Contract Administrator and a final amount for Consultant's compensation shall be approved as follows:

6.4.1.1 Work Authorizations that will cost County not more than Fifty Thousand Dollars (\$50,000.00) in the aggregate may be signed by Contract Administrator and Consultant.

6.4.1.2 Work Authorizations that will cost County not more than One Hundred Thousand Dollars (\$100,000.00) in the aggregate may be signed by County's Purchasing Director and Consultant.

6.4.1.3 Any Work Authorization above County's Purchasing Director's authority in Section 6.4.1.2 must be approved by the Board.

6.4.2 Subsequent to Contract Administrator issuing a Work Authorization pursuant to this article, Contract Administrator will issue a Notice to Proceed ("NTP") for those authorized Optional Services. Consultant shall not commence such work until after receipt of the Contract Administrator's NTP.

6.4.3 Any modifications to a Work Authorization shall require an amended Work Authorization approved by the Contract Administrator, Purchasing Director, or Board in accordance with the dollar limitations set forth above.

6.4.4 All Work Authorizations shall be in the appropriate form (Exhibit E) and shall contain, at a minimum, the following information and requirements:

6.4.4.1 A description of the work to be undertaken (which description must specify in detail the individual tasks and other activities to be performed by Consultant), a reference to this Agreement pursuant to which the work to be undertaken is authorized, and a statement of the method of compensation.

6.4.4.2 A budget establishing the amount of compensation, which amount shall constitute a guaranteed maximum and shall not be exceeded unless prior written approval of County is obtained. In the event County does not approve an increase in the guaranteed maximum amount, and the need for such action is not the fault of Consultant, the authorization shall be terminated, and Consultant shall be paid in full for all work completed to that point, but shall in no case exceed the

guaranteed maximum amount. The information contained in the budget shall be in sufficient detail so as to identify the various elements of costs.

6.4.4.3 A time established for completion of the work or services undertaken by Consultant or for the submission to County of documents, reports, and other information pursuant to this Agreement.

6.4.4.4 Any other additional instructions or provision relating to the work authorized pursuant to this Agreement.

6.4.4.5 Work Authorizations shall be dated, serially numbered, and signed.

ARTICLE 7. COUNTY'S RESPONSIBILITIES

7.1 County shall assist Consultant by placing at Consultant's disposal all information County has available pertinent to the Project including previous reports and any other data relative to design or construction of the Project.

7.2 County shall arrange for access to, and make all provisions for, Consultant to enter upon public and private property as required for Consultant to perform its services.

7.3 County shall review the itemized deliverables/documents of Consultant identified in Exhibit A and respond in writing with any comments.

7.4 County shall give prompt written notice to Consultant whenever County observes or otherwise becomes aware of any development that affects the scope or timing of Consultant's services or any defect in the work of the Contractor.

ARTICLE 8. INSURANCE

8.1 For purposes of this article, the term "County" shall include Broward County and its members, officials, officers, and employees.

8.2 Consultant shall maintain, at its sole expense and at all times during the term of this Agreement (unless a different time period is otherwise stated herein), at least the minimum limits of insurance coverage designated in Exhibit D (inclusive of any amount provided by an umbrella or excess policy) in accordance with the terms and conditions stated in this article. All required insurance shall apply on a primary basis, and shall not require contribution from, any other insurance or self-insurance maintained by County. Any insurance, or self-insurance, maintained by County shall be in excess of, and shall not contribute with, the insurance provided by Consultant.

8.3 Insurers providing the insurance required by this Agreement must either be: (1) authorized by a current certificate of authority issued by the State of Florida to transact insurance in the State of Florida, or (2) except with respect to coverage for the liability imposed by the Florida Workers' Compensation Act, an eligible surplus lines insurer under Florida law. In addition, each such insurer shall have and maintain throughout the period for which coverage is required, a minimum A. M. Best Company Rating of "A-" and a minimum Financial Size Category of "VII." To the extent insurance requirements are designated in Exhibit D, the applicable policies shall comply with the following:

8.3.1 Commercial General Liability Insurance. Policy shall be no more restrictive than that provided by the latest edition of the standard Commercial General Liability Form (Form CG 00 01) as filed for use in the State of Florida by the Insurance Services Office (ISO), with the exception of endorsements specifically required by ISO or the State of Florida, and liability arising out of:

- Mold, fungus, or bacteria
- Terrorism
- Silica, asbestos or lead
- Sexual molestation
- Architects and engineers professional liability, unless coverage for professional liability is specifically required by this Agreement.

County shall be included on the policy (and any excess or umbrella policy) as an "Additional Insured" on a form no more restrictive than ISO form CG 20 10 (Additional Insured – Owners, Lessees, or Contractor). The policy (and any excess or umbrella policy) must be endorsed to waive the insurer's right to subrogate against County.

8.3.2 Business Automobile Liability Insurance. Policy shall be no more restrictive than that provided by Section II (Liability Coverage) of the most recent version of the standard Business Auto Policy (ISO Form CA 00 01) without any restrictive endorsements, including coverage for liability contractually assumed, and shall cover all owned, non-owned, and hired autos used in connection with the performance of work under this Agreement. County shall be included on the policy (and any excess or umbrella policy) as an "Additional Insured." The policy (and any excess or umbrella policy) must be endorsed to waive the insurer's right to subrogate against County.

8.3.3 Workers' Compensation/Employer's Liability Insurance. Such insurance shall be no more restrictive than that provided by the latest edition of the standard Workers' Compensation Policy, as filed for use in Florida by the National Council on Compensation Insurance (NCCI), with the exception of endorsements required by NCCI or the State of Florida. The policy must be endorsed to waive the insurer's right to subrogate against County in the manner which would result from the attachment of the NCCI form "Waiver of our Right to Recover from Others Endorsement" (Advisory Form WC 00 03 13) with

County scheduled thereon. Where appropriate, coverage shall be included for any applicable federal or state employer's liability laws including, but not limited to, the Federal Employer's Liability Act, the Jones Act, and the Longshoreman and Harbor Workers' Compensation Act.

8.3.4 Professional Liability Insurance. Such insurance shall cover Consultant for those sources of liability arising out of the rendering or failure to render professional services in the performance of the services required in this Agreement. If policy provides coverage on a claims-made basis, such coverage must respond to all claims reported within at least three (3) years following the period for which coverage is required, unless a longer period is indicated in Exhibit D.

8.4 Within fifteen (15) days after the full execution of this Agreement or notification of award, whichever is earlier, Consultant shall provide to County satisfactory evidence of the insurance required in this Agreement. With respect to the Workers' Compensation/Employer's Liability Insurance, Professional Liability, and Business Automobile Liability Insurance, an appropriate Certificate of Insurance identifying the Project and signed by an authorized representative of the insurer shall be satisfactory evidence of insurance. With respect to the Commercial General Liability, an appropriate Certificate of Insurance identifying the Project, signed by an authorized representative of the insurer, and copies of the actual additional insured endorsements as issued on the policy(ies) shall be satisfactory evidence of such insurance.

8.5 Coverage is not to cease and is to remain in force until County determines all performance required of Consultant is completed. If any of the insurance coverage will expire prior to the completion of the Services, proof of insurance renewal shall be provided to County prior to the policy's expiration.

8.6 Consultant shall provide County thirty (30) days' advance notice of any cancellation of the policy except in cases of cancellation for non-payment for which County shall be given ten (10) days' advance notice.

8.7 Consultant shall provide, within thirty (30) days after receipt of a written request from County, a copy of the policies providing the coverage required by this Agreement. Consultant may redact portions of the policies that are not relevant to the insurance required by this Agreement.

8.8 County and Consultant, each for itself and on behalf of its insurers, to the fullest extent permitted by law without voiding the insurance required hereunder, waive all rights against the other party and any of the other party's contractors, Subconsultants, agents, and employees for damages or loss to the extent covered and paid for by any insurance maintained by the other party.

8.9 If Consultant uses a Subconsultant, Consultant shall require each Subconsultant to endorse County as an "Additional Insured" on the Subconsultant's Commercial General Liability policy.

ARTICLE 9. EQUAL EMPLOYMENT OPPORTUNITY

9.1 No party to this Agreement may discriminate on the basis of race, color, sex, religion, national origin, disability, age, marital status, political affiliation, sexual orientation, pregnancy, or gender identity and expression in the performance of this Agreement. After award, Consultant shall submit documentation to the Project Manager of its affirmative steps taken which meet the Exhibit F Federally Funded Contracts Requirements for contracting with small and minority businesses, women's business enterprises and labor surplus area firms.

Consultant shall include the foregoing or similar language in its contracts with any Subconsultants, except that any project assisted by the U.S. Department of Transportation funds shall comply with the non-discrimination requirements in 49 C.F.R. Parts 23 and 26.

Failure by Consultant to carry out any of the requirements of this section shall constitute a material breach of this Agreement, which shall permit County to terminate this Agreement or to exercise any other remedy provided under this Agreement, Broward County Code of Ordinances, Broward County Administrative Code, or under other applicable law, all such remedies being cumulative.

9.2 By execution of this Agreement, Consultant represents that it has not been placed on the discriminatory vendor list as provided in Section 287.134, Florida Statutes. County hereby materially relies on such representation in entering into this Agreement. An untrue representation of the foregoing shall entitle County to terminate this Agreement and recover from Consultant all monies paid by County pursuant to this Agreement, and may result in debarment from County's competitive procurement activities.

ARTICLE 10. MISCELLANEOUS

10.1 Ownership of Documents. All finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs, specifications and reports prepared or provided by Consultant in connection with this Agreement shall become the property of County, whether the Project for which they are made is completed or not, and shall be delivered by Consultant to Contract Administrator within fifteen (15) days after the receipt of the written notice of termination. If applicable, County may withhold any payments then due to Consultant until Consultant complies with the provisions of this section.

10.2 Termination.

10.2.1 This Agreement or any Work Authorization issued under this Agreement may be terminated for cause by the aggrieved party if the party in breach has not corrected the breach within ten (10) days after written notice from the aggrieved party identifying the breach. This Agreement may also be terminated for convenience by the Board. Termination for convenience by the Board shall be effective on the termination date stated in written notice provided by County, which termination date shall be not less than thirty (30) days after the date of such written notice. If this Agreement or Work Authorization was entered into on behalf of County by someone other than the Board, termination by County may be by action of the County Administrator or County representative (including his or her successor) who entered in this Agreement on behalf of County. This Agreement may also be terminated by the County Administrator upon such notice as the County Administrator deems appropriate under the circumstances in the event the County Administrator determines that termination is necessary to protect the public health or safety. If County erroneously, improperly or unjustifiably terminates for cause, such termination shall be deemed a termination for convenience, which shall be effective thirty (30) days after such notice of termination for cause is provided.

10.2.2 This Agreement may be terminated for cause for reasons including, but not limited to, Consultant's repeated (whether negligent or intentional) submission for payment of false or incorrect bills or invoices, failure to suitably perform the work; or failure to continuously perform the work in a manner calculated to meet or accomplish the objectives as set forth in this Agreement or Work Authorization. This Agreement may also be terminated for cause if Consultant is placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List created pursuant to Section 215.473, Florida Statutes, as amended or if Consultant provides a false certification submitted pursuant to Section 287.135, Florida Statutes, as amended.

10.2.3 Notice of termination shall be provided in accordance with Section 10.12 of this Agreement except that notice of termination by the County Administrator which the County Administrator deems necessary to protect the public health or safety may be verbal notice that shall be promptly confirmed in writing in accordance with Section 10.12 of this Agreement.

10.2.4 In the event this Agreement or a Work Authorization issued under this Agreement is terminated for convenience, Consultant shall be paid for any services properly performed under this Agreement or Work Authorization through the termination date specified in the written notice of termination. Consultant acknowledges and agrees that it has received good, valuable and sufficient consideration from County, the receipt and adequacy of which are hereby acknowledged by Consultant, for County's right to terminate this Agreement for convenience.

10.2.5 In the event this Agreement or a Work Authorization is terminated, for any reason, any amounts due Consultant shall be withheld by County until all documents are provided to County pursuant to Section 10.1.

10.3 Public Records. To the extent Consultant is acting on behalf of County as stated in Section 119.0701, Florida Statutes, Consultant shall:

- a. Keep and maintain public records required by County to perform the services under this Agreement;
- b. Upon request from County, provide County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time and at a cost that does not exceed that provided in Chapter 119, Florida Statutes, or as otherwise provided by law;
- c. Ensure that public records that are exempt or confidential and exempt from public record requirements are not disclosed except as authorized by law for the duration of this Agreement and following completion or termination of this Agreement if the records are not transferred to County; and
- d. Upon expiration or termination of this Agreement, transfer to County, at no cost, all public records in possession of Consultant or keep and maintain public records required by County to perform the services. If Consultant transfers the records to County, Consultant shall destroy any duplicate public records that are exempt or confidential and exempt. If Consultant keeps and maintains the public records, Consultant shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to County upon request in a format that is compatible with the information technology systems of County.

The failure of Consultant to comply with the provisions of this section shall constitute a material breach of this Agreement entitling County to exercise any remedy provided in this Agreement or under applicable law.

A request for public records regarding this Agreement must be made directly to County, who will be responsible for responding to any such public records requests. Consultant will provide any requested records to County to enable County to respond to the public records request.

Any material submitted to County that Consultant contends constitutes or contains trade secrets or is otherwise exempt from production under Florida public records laws (including Florida Statutes Chapter 119) ("Trade Secret Materials") must be separately submitted and conspicuously labeled "EXEMPT FROM PUBLIC RECORD PRODUCT – TRADE SECRET." In addition, Consultant must, simultaneous with the submission of any Trade Secret Materials, provide a

sworn affidavit from a person with personal knowledge attesting that the Trade Secret Materials constitute trade secrets under Florida Statutes Section 812.081 and stating the factual basis for same. In the event that a third party submits a request to County for records designated by Consultant as Trade Secret Materials, County shall refrain from disclosing the Trade Secret Materials, unless otherwise ordered by a court of competent jurisdiction or authorized in writing by Consultant. Consultant shall indemnify and defend County and its employees and agents from any and all claims, causes of action, losses, fines, penalties, damages, judgments and liabilities of any kind, including attorneys' fees, litigation expenses, and court costs, relating to the non-disclosure of any Trade Secret Materials in response to a records request by a third party.

IF CONSULTANT HAS QUESTIONS REGARDING THE APPLICATION OF FLORIDA STATUTES CHAPTER 119 TO CONSULTANT'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT (954) 519-1231, nsharp@broward.org, 115 S. ANDREWS AVE., ROOM 329H, FORT LAUDERDALE, FLORIDA 33301.

10.4 Audit Rights and Retention of Records. Consultant shall preserve all Contract Records (as defined below) for a minimum period of three (3) years after expiration or termination of this Agreement or until resolution of any audit findings, whichever is longer. Contract Records shall, upon reasonable notice, be open to County inspection and subject to audit and reproduction during normal business hours. County audits and inspections pursuant to this section may be performed by any County representative (including any outside representative engaged by County). County may conduct audits or inspections at any time during the term of this Agreement and for a period of three years after the expiration or termination of this Agreement (or longer if required by law). County may, without limitation, verify information, payroll distribution, and amounts through interviews, written affirmations, and on-site inspection with Consultant's employees, Subconsultants, vendors, or other labor.

Contract Records include any and all information, materials and data of every kind and character, including without limitation, records, books, papers, documents, subscriptions, recordings, agreements, purchase orders, leases, contracts, commitments, arrangements, notes, daily diaries, drawings, receipts, vouchers and memoranda, and any and all other documents that pertain to rights, duties, obligations or performance under this Agreement. Contract Records include hard copy and electronic records, written policies and procedures, time sheets, payroll records and registers, cancelled payroll checks, estimating work sheets, correspondence, invoices and related payment documentation, general ledgers, insurance rebates and dividends, and any other records pertaining to rights, duties, obligations or performance under this Agreement, whether by Consultant or Subconsultants.

County shall have the right to audit, review, examine, inspect, analyze, and make copies of all Contract Records at a location within Broward County. County reserves the right to conduct such audit or review at Consultant's place of business, if deemed appropriate by County, with seventy-two (72) hours' advance notice. Consultant agrees to provide adequate and appropriate work space. Consultant shall provide County with reasonable access to Consultant's facilities, and County shall be allowed to interview all current or former employees to discuss matters pertinent to the performance of this Agreement.

Consultant shall, by written contract, require its Subconsultants to agree to the requirements and obligations of this section.

Any incomplete or incorrect entry in such books, records, and accounts shall be a basis for County's disallowance and recovery of any payment reliant upon such entry. If an audit or inspection in accordance with this section discloses overpricing or overcharges to County of any nature by Consultant or its Subconsultants in excess of five percent (5%) of the total contract billings reviewed by County, the reasonable actual cost of County's audit shall be reimbursed to County by Consultant in addition to making adjustments for the overcharges. Any adjustments or payments due as a result of such audit or inspection shall be made within thirty (30) days from presentation of County's findings to Consultant.

10.5 Public Entity Crime Act. Consultant represents that it is familiar with the requirements and prohibitions under the Public Entity Crime Act, Section 287.133, Florida Statutes, and represents that its entry into this Agreement will not violate that Act. In addition to the foregoing, Consultant further represents that there has been no determination that it committed a "public entity crime" as defined by Section 287.133, Florida Statutes, and that it has not been formally charged with committing an act defined as a "public entity crime" regardless of the amount of money involved or whether Consultant has been placed on the convicted vendor list. Notwithstanding any provision in this Agreement to the contrary, if any representation stated in this section is false, County shall have the right to immediately terminate this Agreement and recover all sums paid to Consultant under this Agreement

10.6 Subconsultants. Consultant shall utilize the Subconsultants identified in the proposal that were a material part of the selection of Consultant to provide the services for this Project. Consultant shall obtain written approval of Contract Administrator prior to changing or modifying the list of Subconsultants submitted by Consultant. The list of Subconsultants is provided on Exhibit C, Schedule of Subconsultants as attached hereto and made a part hereof. Consultant shall bind in writing each and every approved Subconsultant to the terms stated in this Agreement, provided that this provision shall not, in and of itself, impose the insurance requirements set forth in Article 8 on Consultant's Subconsultants.

10.7 Assignment and Performance. Neither this Agreement nor any interest herein shall be assigned, transferred, or encumbered without the written consent of the other party and Consultant shall not subcontract any portion of the work required by this Agreement except as

authorized pursuant to Section 10.6. County shall have the right to terminate this Agreement, effective immediately, if there is an assignment, or attempted assignment, transfer, or encumbrance, of this Agreement or any right or interest herein by Consultant without County's written consent.

Consultant represents that all persons delivering the services required by this Agreement have the knowledge and skills, either by training, experience, education, or a combination thereof, to adequately and competently perform the duties, obligations, and services set forth in the Scope of Services and to provide and perform such services to County's satisfaction for the agreed compensation.

Consultant shall perform its duties, obligations, and services under this Agreement in a skillful and respectable manner. The quality of Consultant's performance and all interim and final product(s) provided to or on behalf of County shall be comparable to local and national standards.

10.8 Indemnification of County. Consultant shall indemnify and hold harmless County, its officers and employees from liabilities, damages, losses, and costs, including, but not limited to, reasonable attorneys' fees, to the extent caused by the negligence, recklessness or intentionally wrongful conduct of Consultant or other persons employed or utilized by Consultant in the performance of this Agreement. The provisions of this section shall survive the expiration or earlier termination of this Agreement. To the extent considered necessary by Contract Administrator and County Attorney, any sums due Consultant under this Agreement may be retained by County until all of County's claims for indemnification pursuant to this Agreement have been settled or otherwise resolved, and any amount withheld shall not be subject to payment of interest by County.

10.9 Representative of County and Consultant. The Parties recognize that questions in the day-to-day conduct of the Project will arise. The Contract Administrator, upon Consultant's request, shall advise Consultant in writing of one (1) or more County employees to whom all communications pertaining to the day-to-day conduct of the Project shall be addressed. Consultant shall inform the Contract Administrator in writing of Consultant's representative to whom matters involving the conduct of the Project shall be addressed.

10.10 All Prior Agreements Regarding Project Superseded. This document incorporates and includes all prior negotiations, correspondence, conversations, agreements or understandings applicable to the Project; and the Parties agree that there are no commitments, agreements or understandings concerning the subject matter of this Agreement that are not contained in this document. Accordingly, the Parties agree that no deviation from the terms hereof shall be predicated upon any prior representations or agreements whether oral or written.

10.11 Amendments. No modification, amendment or alteration in the terms or conditions contained herein shall be effective unless contained in a written document executed with the same formality and of equal dignity herewith.

10.12 Notices. Whenever either party desires to give notice to the other, such notice must be in writing, sent by certified United States Mail, postage prepaid, return receipt requested, or sent by commercial express carrier with acknowledgement of delivery, or by hand delivery with a request for a written receipt of acknowledgment of delivery, addressed to the party for whom it is intended at the place last specified. The place for giving notice shall remain the same as set forth herein until changed in writing in the manner provided in this section. For the present, the Parties designate the following as the respective places for giving of notice:

For County:
Environmental Planning and Community Resilience Division
Attn: Dr. Jennifer Jurado, Director
Governmental Center, Room 329H
115 South Andrews Avenue
Fort Lauderdale, Florida 33301
Email address: jjurado@broward.org

For Consultant:
Olsen Associates, Inc.
Attn: Christopher G. Creed
2618 Herschel Street
Jacksonville, Florida 32204 USA
Email address: c Creed@olsen-associates.com

10.13 Truth-In-Negotiation Certificate. Consultant's compensation under this Agreement is based upon representations supplied to County by Consultant, and Consultant certifies that the wage rates, factual unit costs, and other information supplied to substantiate Consultant's compensation, including without limitation in the negotiation of this Agreement, are accurate, complete, and current at the time of contracting. County shall be entitled to recover any damages it incurs to the extent any such representation is untrue.

10.14 Interpretation. The language of this Agreement has been agreed to by both Parties to express their mutual intent and no rule of strict construction shall be applied against either party hereto. The headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement. All personal pronouns used in this Agreement shall include the other gender, and the singular shall include the plural, and vice versa, unless the context otherwise requires. Terms such as "herein," "hereof," "hereunder," and "hereinafter" refer to this Agreement as a whole and not to any particular sentence, paragraph, or section where they appear, unless the context otherwise requires. Whenever reference is made to a section or article of this Agreement, such reference is to the section or

article as a whole, including all of the subsections of such section, unless the reference is made to a particular subsection or subparagraph of such section or article.

10.15 Consultant's Staff. Consultant will provide the key staff identified in their proposal for Project as long as said key staff are in Consultant's employment. Consultant will obtain prior written approval of Contract Administrator to change key staff. Consultant shall provide Contract Administrator with such information as necessary to determine the suitability of proposed new key staff. Contract Administrator will be reasonable in evaluating key staff qualifications. If Contract Administrator desires to request removal of any of Consultant's staff, Contract Administrator shall first meet with Consultant and provide reasonable justification for said removal.

10.16 Drug-Free Workplace. It is a requirement of County that it enter into contracts only with firms that certify the establishment of a drug-free work place in accordance with Section 21.31(a) of the Broward County Administrative Code. Execution of this Agreement by Consultant shall also serve as Consultant's required certification that it either has or that it will establish a drug-free work place in accordance with Section 21.31(a) of the Broward County Administrative Code.

10.17 Independent Contractor. Consultant is an independent contractor under this Agreement. Services provided by Consultant shall be subject to the supervision of Consultant. In providing the services, Consultant or its agents shall not be acting and shall not be deemed as acting as officers, employees, or agents of County, except as authorized by the Contract Administrator for permitting, licensing, or other regulatory requirements.

10.18 Third Party Beneficiaries. Neither Consultant nor County intends to directly or substantially benefit a third party by this Agreement. Therefore, the Parties acknowledge that there are no third party beneficiaries to this Agreement and that no third party shall be entitled to assert a right or claim against either of them based upon this Agreement.

10.19 Conflicts. Neither Consultant nor its employees shall have or hold any continuing or frequently recurring employment or contractual relationship that is substantially antagonistic or incompatible with Consultant's loyal and conscientious exercise of judgment and care related to its performance under this Agreement. None of Consultant's officers or employees shall, during the term of this Agreement, serve as an expert witness against County in any legal or administrative proceeding in which he, she, or Consultant is not a party, unless compelled by court process. Further, such persons shall not give sworn testimony or issue a report or writing, as an expression of his or her expert opinion, which is adverse or prejudicial to the interests of County in connection with any such pending or threatened legal or administrative proceeding unless compelled by court process. The limitations of this section shall not preclude Consultant or any persons in any way from representing themselves, including giving expert testimony in support thereof, in any action or in any administrative or legal proceeding. In the event Consultant is permitted pursuant to this Agreement to utilize Subconsultants to perform any

services required by this Agreement, Consultant shall require such Subconsultants, by written contract, to comply with the provisions of this section to the same extent as Consultant.

10.20 Contingency Fee. Consultant warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement and that it has not paid or agreed to pay any person, company, corporation, individual or firm, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement. For a breach or violation of this provision, Board shall have the right to terminate this Agreement without liability at its discretion, or to deduct from this Agreement price or otherwise recover the full amount of such fee, commission, percentage, gift or consideration.

10.21 Materiality and Waiver of Breach. County and Consultant agree that each requirement, duty, and obligation set forth herein was bargained for at arms-length and is agreed to by the Parties in exchange for quid pro quo, that each is substantial and important to the formation of this Agreement and that each is, therefore, a material term hereof. County's failure to enforce any provision of this Agreement shall not be deemed a waiver of such provision or modification of this Agreement. A waiver of any breach of a provision of this Agreement shall not be deemed a waiver of any subsequent breach and shall not be construed to be a modification of the terms of this Agreement.

10.22 Compliance with Laws. Consultant shall comply with all federal, state, and local laws, codes, ordinances, rules, and regulations in performing its duties, responsibilities, and obligations related to this Agreement.

10.23 Severability. In the event any part of this Agreement is found to be unenforceable by any court of competent jurisdiction, that part shall be deemed severed from this Agreement and the balance of this Agreement shall remain in full force and effect.

10.24 Joint Preparation. This Agreement has been jointly prepared by the Parties hereto, and shall not be construed more strictly against either Party.

10.25 Priority of Provisions. If there is a conflict or inconsistency between any term, statement, requirement, or provision of any exhibit attached hereto, any document or events referred to herein, or any document incorporated into this Agreement by reference and a term, statement, requirement, or provision of this Agreement, the term, statement, requirement, or provision contained in Articles 1 through 10 of this Agreement shall prevail and be given effect.

10.26 Law, Jurisdiction, Venue, Waiver of Jury Trial. This Agreement shall be interpreted and construed in accordance with and governed by the laws of the state of Florida. All Parties acknowledge and accept that jurisdiction of any controversies or legal problems arising out of this Agreement, and any action involving the enforcement or interpretation of any rights

hereunder, shall be exclusively in the state courts of the Seventeenth Judicial Circuit in Broward County, Florida, and venue for litigation arising out of this Agreement shall be exclusively in such state courts, forsaking any other jurisdiction which either party may claim by virtue of its residency or other jurisdictional device. **BY ENTERING INTO THIS AGREEMENT, CONSULTANT AND County HEREBY EXPRESSLY WAIVE ANY RIGHTS EITHER PARTY MAY HAVE TO A TRIAL BY JURY OF ANY CIVIL LITIGATION RELATED TO THIS AGREEMENT. IF A PARTY FAILS TO WITHDRAW A REQUEST FOR A JURY TRIAL IN A LAWSUIT ARISING OUT OF THIS AGREEMENT AFTER WRITTEN NOTICE BY THE OTHER PARTY OF VIOLATION OF THIS SECTION, THE PARTY MAKING THE REQUEST FOR JURY TRIAL SHALL BE LIABLE FOR THE REASONABLE ATTORNEYS' FEES AND COSTS OF THE OTHER PARTY IN CONTESTING THE REQUEST FOR JURY TRIAL, AND SUCH AMOUNTS SHALL BE AWARDED BY THE COURT IN ADJUDICATING THE MOTION.**

10.27 Incorporation by Reference. Any and all Recital clauses stated above are true and correct and are incorporated herein by reference. The attached Exhibits are incorporated into and made a part of this Agreement.

10.28 Re-Use of Project. County may, at its option, re-use (in whole or in part) the resulting end-product or deliverables resulting from Consultant's professional services (including, but not limited to, drawings, specifications, other documents, and services as described herein and in Exhibit A, Scope of Services); and Consultant agrees to such re-use in accordance with this provision.

If the Contract Administrator elects to re-use the services, drawings, specifications, and other documents, in whole or in part, prepared for this Project for other projects on other sites, Consultant will be paid a re-use fee to be negotiated between Consultant and County's Contract Administrator, subject to approval by the proper awarding authority.

Each re-use shall include all Basic Services and modifications to the drawings, specifications, and other documents normally required to adapt the design documents to a new site. This re-use may include preparation of reverse plans, changes to the program, provision for exceptional site conditions, preparation of documents for off-site improvements, provisions for revised solar orientation, provisions for revised vehicular and pedestrian access, and modifications to building elevations, ornament, or other aesthetic features. In all re-use assignments, the design documents shall be revised to comply with building codes and other jurisdictional requirements current at the time of re-use for the new site location.

The terms and conditions of this Agreement shall remain in force for each re-use project, unless otherwise agreed by the Parties in writing.

10.29 Payable Interest

10.29.1. Payment of Interest. County shall not be liable to pay any interest to Consultant for any reason, whether as prejudgment interest or for any other purpose,

and in furtherance thereof Consultant waives, rejects, disclaims and surrenders any and all entitlement it has or may have to receive interest in connection with a dispute or claim arising from, related to, or in connection with this Agreement. This subsection shall not apply to any claim for interest, including for post-judgment interest, if such application would be contrary to applicable law.

10.29.2. Rate of Interest. If the preceding subsection is inapplicable or is determined to be invalid or unenforceable by a court of competent jurisdiction, the annual rate of interest payable by County under this Agreement, whether as prejudgment interest or for any other purpose, shall be, to the full extent permissible under applicable law, 0.25% (one quarter of one percent) simple interest (uncompounded).

10.30 Representation of Authority. Each individual executing this Agreement on behalf of a party hereto hereby represents and warrants that he or she is, on the date he or she signs this Agreement, duly authorized by all necessary and appropriate action to execute this Agreement on behalf of such party and does so with full and legal authority.

10.31 Counterparts and Multiple Originals. This Agreement may be executed in multiple originals, and may be executed in counterparts, each of which shall be deemed to be an original, but all of which, taken together, shall constitute one and the same agreement.

10.32 Domestic Partnership Requirement. Consultant certifies and represents that it will comply with County's Domestic Partnership Act (Section 16½-157 of the Broward County Code of Ordinances, as amended) during the entire term of this Agreement. The failure of Consultant to comply shall be a material breach of this Agreement, entitling County to pursue any and all remedies provided under applicable law including, but not limited to (1) retaining all monies due or to become due Consultant until Consultant complies; (2) termination of this Agreement; and (3) suspension or debarment of Consultant from doing business with County.

10.33 Additional Security Requirements. Consultant certifies and represents that it will comply with the Port Everglades Security Requirements, attached hereto and incorporated herein as Exhibit G, as may be necessary to comply with this Agreement and carry out the Scope of Services.

10.34 Federally Funded Contracts. Consultant certifies and represents that it will comply with the Federally Funded Contracts Requirements attached hereto and incorporated herein as Exhibit F.

10.35 Additional State Requirements. The Project is funded in part with state funds, and, therefore, the Florida Department of Environmental Protection ("DEP") requires and the Consultant agrees:

10.35.1 Consultant shall comply with all applicable federal, state and local rules and regulations in providing services to the DEP and County under this Agreement. This

includes compliance with all applicable federal, state and local health and safety rules and regulations.

10.35.2 Consultant shall maintain books, records, and documents directly pertinent to performance under this Agreement in accordance with generally accepted accounting principles consistently applied. The DEP, the state, and County, or their authorized representatives, shall have access to such records for audit purposes during the term of this Agreement and for five years following expiration or termination.

10.36 Additional Federal Requirements of the United States Department of the Army. The Project is funded in part with federal funds, and, therefore, the United States Department of the Army requires and the Consultant agrees:

10.36.1 Consultant shall comply, and require its Subconsultants to comply, with all requirements imposed by applicable federal, state, and local laws regulations, and ordinances regarding the Work.

10.36.2 Consultant shall comply with all requirements of applicable federal laws and implementing regulations, including, but not limited to: Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d), and Department of Defense Directive 5500.11 issued pursuant thereto; the Age Discrimination Act of 1975 (42 U.S.C. 6102); the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Army Regulation 600-7 issued pursuant thereto; and 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3708 (labor standards originally enacted as the Davis-Bacon Act, the Contract Work Hours and Safety Standards Act, and the Copeland Anti-Kickback Act).

10.36.3 Consultant shall incorporate, and apply as appropriate, the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and local Governments at 32 C.F.R. Section 33.20, sufficient for County to comply with said requirements and the Single Audit Act Amendments of 1996 (31 U.S.C. 7501-7507), as implemented by Office of Management and Budget (OMB) Circular No. A-133 and Department of Defense Directive 7600.10. Consultant shall, at a minimum, maintain such books, records, documents, or other evidence in accordance with these procedures and for a minimum of three years after completion of the accounting for which such books, records, documents, or other evidence were required. To the extent permitted under applicable federal, state and local laws, regulations, and ordinances, the Consultant shall allow the Department of the Army and County, and to inspect such books, documents, records, or other evidence.

10.36.4 Consultant shall provide for the protection of cultural resources discovered during the Work as provided for under the National Historic Preservation Act ("NHPA"), including, at a minimum, ceasing all work in the immediate area of a discovered cultural resource until the situation is properly evaluated and immediately providing verbal and

written notice to County and the Department of the Army in the event of such discovery. If the Department of the Army concludes that such discovery warrants consultation under the NHPA, the Work shall not continue under the Department of the Army sends written confirmation to County.

10.36.5 Consultant shall comply with and utilize, and require its Subconsultants, to comply with, and utilize, the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by each during the term of this Contract. Refer to the Employment Eligibility Verification Program Requirement Certification Form.

10.37 Additional Federal Requirements of the United States Army Corps of Engineers. The Consultant agrees to the comply with the following United States Army Corps of Engineers ("USACE") Regulations in providing services under this Agreement:

Area of Expertise	Regulation and Link	Purpose of Document
Safety	EM 385-1-1	Safety and Health Requirements
Product Quality Control	ER 1110-2-1150	Defines engineer responsibilities during preconstruction engineering and design phase, such as procedures during the planning, design, construction, and operations phases of civil works projects. It also provides guidance for developing and documenting quality engineering analyses and designs for projects such as Design Documentation Report ("DDR").
	ER 1110-1-12	Provides guidance on Quality Management of products such as the development of Quality Control Plans ("QCPs") for each product developed. QCPs are description of the Project and Product with a discussion of selected technical review alternatives and rationale. As well as discussion of personnel responsible for the quality of the product and discussion on how Quality control records are to be maintained.
	EC 1165-2-214	Provides guidance on Civil Works Review Policy which includes the types of reviews typical for Civil Works products and Covers all levels of review from basic quality control to independent external peer review.
Geospatial Regulations	ER 1110-2-8160	Provides "Policies for Referencing Project Evaluation Grades to Nationwide Vertical Datums" which ensure the reference systems are accurately referenced, such as for flood control systems reference North American Vertical Datum of 1988 ("NAVD").

Area of Expertise	Regulation and Link	Purpose of Document
	ER 1110-1-8156	Provides general guidelines for implementation, development, and maintenance for use and development of geospatial technologies which promotes interoperability of products between federal government and their sponsors or vice versa.
	EM 1110-2-6056	Provides technical guidance for referencing project elevation grades to nationwide vertical datums established and maintained by the U.S. Department of Commerce
	EM 1110-1-2909	Provides detailed technical guidance and procedures for compliance with the policy in Engineer Regulation ("ER") 1110-1-8156
Design and Cost Engineering	ER 1110-2-1407	Defines Hydraulic Design of Coastal Shore protection projects from initial design to engineering inspection and evaluation during construction. It also defines the level of experience the design engineer is required to have as well as various phases a coastal project will encounter from design to monitoring.
	ER 200-2-2	Prescribes procedures for protecting the National Environmental Policy Act ("NEPA") pursuant to national environmental statutes, applicable executive orders, and other federal requirements.
	ER 110-2-2902	Prescribes procedures for the maintenance and operation of shore protection projects. This regulation provides background on beach erosion control projects and notes the federal participation is conditional on non-federal interest operational and maintenance during the economic life of the project.
	ER 1110-2-1302	Provides policy, guidance, and procedures for cost engineering responsibilities for all Civil Works projects.
	EM 1110-2-1100	Provides a comprehensive technical coastal engineering document for the application of techniques and methods for most coastal engineering problems. The document provides the basic principles of coastal process and shore protection projects (See Part VI).
	EM 1110-2-1810	Provides guidance on coastal geology and a discussion of data sources and field study methods applicable to coastal geological studies.
	EM 1110-2-5025	Provides guidance for activities associated with dredging equipment and disposal techniques.



IN WITNESS WHEREOF, the Parties hereto have made and executed this Agreement: BROWARD COUNTY, through its BOARD OF COUNTY COMMISSIONERS, signing by and through its Mayor or Vice-Mayor, authorized to execute same by Board action on the _____ day of _____, 2018, and Olsen Associates, Inc., signing by and through its Vice President _____, duly authorized to execute same.

County

ATTEST:

BROWARD COUNTY, by and through
its Board of County Commissioners

Broward County Administrator, as
Ex-officio Clerk of the Broward County
Board of County Commissioners

By _____
Mayor

____ day of _____, 2018

Insurance requirements
approved by Broward County
Risk Management Division

By Tim Cravley 5/29/18
Signature (Date)

Tim Cravley Property Specialist
Print Name and Title above

Approved as to form by
Andrew J. Meyers
Broward County Attorney
Governmental Center, Suite 423
115 South Andrews Avenue
Fort Lauderdale, Florida 33301
Telephone: (954) 357-7600
Telecopier: (954) 357-7641

By Michael C. Owens 5/30/18
Michael C. Owens (Date)
Senior Assistant County Attorney

By Maite Azcoitia 5/30/18
Maite Azcoitia (Date)
Deputy County Attorney

MCO/gmb
T2112588P1 Segment III Coastal Engineering Agreement.docx
05/16/2018
#17-057.01



AGREEMENT BETWEEN BROWARD COUNTY AND OLSEN ASSOCIATES, INC., FOR COASTAL
ENGINEERING CONSULTANT SERVICES FOR SEGMENT III SHORE PROTECTION
(RFP # T2112588P1)

Consultant

ATTEST:

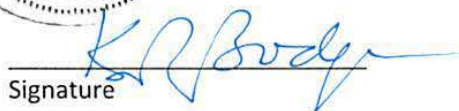

Secretary

Albert E. Browder, Ph.D., P.E.

(Typed Name of Secretary)



WITNESSES:


Signature

Kevin R. Bodge, Ph.D., P.E.

Print/Type Name



Signature

Krista Egan, P.E.

Print/Type Name

Olsen Associates, Inc.

(Typed Name of Consultant/Firm)

By 
~~President~~/Vice President

Christopher G. Creed, P.E.

(Typed Name and Title)

25 day of May, 2018.

INDEX TO EXHIBITS:

Exhibit A	Scope of Services
Exhibit B	Maximum Billing Rates
Exhibit B-1	Reimbursables for Direct Non-Salary Expenses
Exhibit C	Schedule of Subconsultants
Exhibit D	Minimum Insurance Requirements
Exhibit E	Work Authorization Form
Exhibit F	Federally Funded Contracts Requirements
Exhibit G	Port Security Requirements

EXHIBIT A
Scope of Services
Coastal Engineering Consultant Services for Segment III Shore Protection

I. Background

- A. Segment III is the southernmost portion of the Broward County shoreline, between the Port Everglades Inlet south jetty at Florida Department of Environmental Protection ("FDEP") Reference Monument R-85.7 and the Miami-Dade County line at R-128, along the Atlantic Ocean.
- B. The Segment III Shore Protection Project ("Project") consists of two components, each of which will be solicited separately: professional coastal engineering and environmental consulting services for the implementation of the Broward County Segment III Beach Management Plan (services to be provided in phases through this Agreement), and the future construction services of the Segment III Shore Protection Project. The future Segment III construction services will be separately solicited as a construction contract and overseen by Consultant during Phase III of this Agreement.
- C. Segment III is approximately 8.1 miles (42,800 feet) in length and fronts Dr. Von D. Mizell - Eula Johnson State Park ("State Park"), the City of Dania Beach, the City of Hollywood, and the City of Hallandale Beach. As Segment III is located immediately downdrift of the Port Everglades Inlet, it has some of the highest sand loss rates in Broward County.
- D. The overall purpose of this Project is to have Consultant provide the engineering and environmental consulting services, through the Consultant's team of in-house staff and Subconsultants, necessary to assist the County with the future management of the Segment III shoreline.

II. Purpose and General Description of Services

- A. The intent of this Agreement is to procure the professional coastal engineering and environmental consulting services for the implementation of the Project. The services are payable on a lump sum basis.
- B. The Project elements include major and minor ("hot spot") renourishment projects, extension of the State Park, groin field(s), the incorporation of dunes into the managed beach profile section, assistance to the County for the implementation of opportunistic retreat of shorefront development, extending the federal authorization and/or re-authorization of the future Segment III construction project, and coordination with the State Park and the local communities along the Segment III shoreline.

- C. The Consultant shall provide: engineering and biological characterization services and field studies in support of construction for the beach and nearshore environment; sand source development; Project development including submittal and management of required local, state, and federal permit applications; and participation in, and support of, the federal coordination process, including preparation of federal Project logistical documents, National Environmental Policy Act ("NEPA") compliance, and support for a Project Participation Agreement ("PPA") with the USACE.
- D. The term "field studies" refers to activities in support of permitting for the future Segment III construction project including topographic and bathymetric surveys, hardbottom diver investigations, in situ nearshore hardbottom characterization, resource delineation, shore-perpendicular transect surveys and video documentation, sea grass surveys, sidescan sonar survey, beach and nearshore sediment sampling, seismic survey, jet probes, vibracores, ground truthing, and nearshore marine turtle survey.
- E. The Consultant will also be responsible for preparing construction plans and specifications for required Project elements, providing solicitation assistance, construction oversight, and post-Project event monitoring for the construction portion of the Segment III Shore Protection Project which will be solicited at a later date.
- F. It is anticipated that the Consultant's services will be required for the development and implementation of the initial management elements and maintenance activities for a period of five years following completion of the Segment III construction.
- G. The services to be provided by the Consultant consist of Phase I of the following tasks and phases. This Agreement will be amended to delineate the services to be provided by the Consultant for Phases II-IV.
 - 1. Phase I: Engineering, Design and Permitting
 - 2. Phase II: Pre-Construction Services
 - 3. Phase III: Construction Services
 - 4. Phase IV: Post-Construction Services
- H. The Project is planned to be deliberately phased with Notice(s) to Proceed and Work Authorizations issued for each phase.

III. Detailed Scopes of Services to be provided by Consultant

- A. Phase I: Engineering, Design and Permitting

1. The Consultant shall be required to provide field studies, conceptual design, engineering, and cost estimates of the Project.
2. The Consultant shall assist the County in obtaining state and federal permits in order to complete the construction portion of the Segment III Shore Protection Project.
3. The Consultant shall be required to conduct field studies and evaluations necessary to identify a sediment source(s) for the construction portion of the Segment III Shore Protection Project.
4. The Consultant shall assist the County and USACE in preparing a General and/or Limited Revaluation Report for the federally authorized Project.
5. The Consultant shall assist with technical matters in order to obtain a PPA.

B. Phase II: Pre-Construction Services

1. The Consultant shall formulate, submit, and coordinate with FDEP and USACE regarding any and all items which are necessary to receive a Notice to Proceed for the construction portion of the Segment III Shore Protection Project, and shall provide monitoring activities for the construction portion including:
 - a. Pre-construction surveys
 - b. Nearshore environmental monitoring
2. The Consultant shall assist the County in identifying potential sand mines and construction vendors, and providing consulting services during the County's procurement process for the construction portion of the Segment III Shore Protection Project, such as assistance with specifications and participating in pre-bid conferences.

C. Phase III: Construction Services

1. Subsequent to the acquisition of all required permits, as well as award of the construction portion of the Segment III Shore Protection Project, the Consultant shall provide construction observation and assist the County with contract administration.
2. Additionally, the Consultant shall assist the County in compliance with specific terms and conditions included within the Environmental Permits for work that is to be performed.

3. Activities to be provided include the following for the construction portion of the Segment III Shore Protection Project:

- a. Participate in pre-construction conference(s)
- b. Site representation during construction
- c. Sediment quality assurance/quality control ("QA"/"QC")
- d. Water quality monitoring
- e. Assist the County with contract administration, support and coordination

D. Phase IV: Post-Construction Services

1. Following completion of the construction portion of the Segment III Shore Protection Project, the Consultant shall perform all permit-required, post-construction monitoring, analyses, and reporting.
2. Activities which may be required after construction of the Segment II Shore Protection Project include the following:
 - a. Post-construction physical and biological monitoring
 - b. Post-construction reporting
 - c. Federal audit consultation

PHASE I: PRE-DESIGN SURVEYS, SAND SOURCE IDENTIFICATION AND DEVELOPMENT, DESIGN, FEDERAL DOCUMENT FORMULATION, PERMITTING, CONSTRUCTION DOCUMENTS, AND BIDDING

This Agreement phase provides for professional coastal engineering, surveying, permitting support, and environmental surveys to complete Phase I of the Broward County Shore Protection Project, Segment III, described in RFP T2112588P1. Specifically, this Agreement phase provides for surveys, planning, design, sand source investigations, formulation and review of federal planning documents, permitting, preparation of plans and specifications and assistance with bidding and contractor selection for restoration of the Segment III beach. Implicit in this Agreement is the understanding that the County intends to reconstruct the Segment III project as constructed in 2005/06 with only minor changes in the Project scope. That is, the County does not wish to pursue a wholesale reformulation of the Segment III beach fill scope that was identified, approved, permitted and constructed in 2005/06. The only substantive, anticipated changes to the Project may be the sand sources for beach fill.

This Agreement is based upon the assumption that Segment III Project planning will consider two sand sources. These include upland sand and the remaining offshore sand borrow areas in Broward County. The Consultant shall use existing information related to the characteristics of these sand sources for planning study activities. The beach fill along the State Park could be constructed using remaining offshore sand resources located in borrow areas immediately offshore of northern Broward County or using an upland sand source. The beach fill along the Hollywood and Hallandale Beach shorelines will be constructed using sand from upland sand mines in south Florida.

For permitting and contract document development, the Consultant shall assume that only known upland or offshore sand source remaining offshore of Broward County will be used for construction of all reaches of the Segment III Project. Accordingly, it shall be assumed that there will be only one construction contract for completion of the Segment III Project. Should results of investigations provided herein identify other suitable sand sources (i.e., offshore of Broward County), an amendment to this Agreement will be required to provide for the necessary engineering analyses, permitting, NEPA documentation and coordination, and development of plans and specifics suitable for bidding and use for a project constructed by dredge. Pre-construction services (Phase II), construction services (Phase III), and post-construction services (Phase IV) are not included in this Agreement phase. These services will be provided through one or more future amendments to this Agreement.

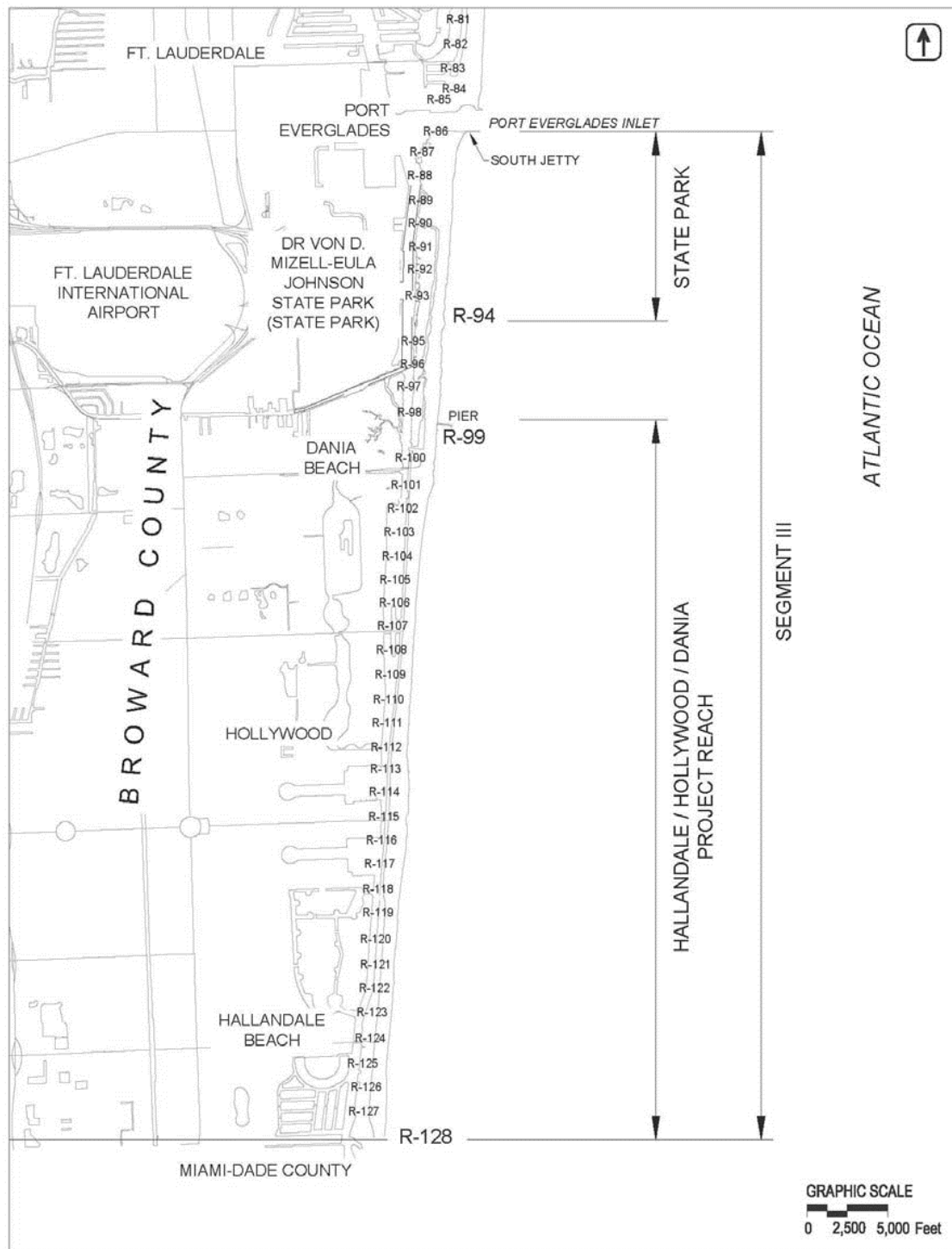


Figure 1: Location of Segment III study and Project areas.

1. BEACH PROFILE SURVEY (Pre-Study)

- 1.1.** The Consultant shall conduct a pre-study beach profile survey following FDEP's Monitoring Standards for Beach Erosion Control Project (October 2014). The survey shall include the Segment III shoreline and FDEP R-monuments, including established intermediate monuments from Broward County R-85.7 to Miami-Dade County R-5, including all established intermediate monuments. The survey will include 47 primary R-monuments and 13 intermediate monuments. The beach profile survey at each primary R-monument shall extend approximately 2,000 feet from the control monument or to -30 feet NAVD, whichever is greater. The beach profile at the intermediate monuments shall only be surveyed to wading depth.
- 1.2.** The Consultant shall provide all necessary materials and equipment to perform the required work activity. The Consultant shall also supply the supervisory, professional, and technical services personnel required to manage, document, and process all data associated with the acquisition and processing of the survey data.
- 1.3.** All required data shall be provided in the following datum: HARN, NAD 83/90 State Plane Coordinates in feet, plus NAVD elevations in U.S. survey feet. Alternative datums will be considered, but must be agreed upon by FDEP prior to commencing survey work.
- 1.4. Deliverables.** All deliverables shall be in accordance with the FDEP Monitoring Plan Technical Specifications 01000-01100. The Consultant, through a qualified Subconsultant licensed pursuant to Chapter 472, F.S., shall prepare a report certifying that the survey meets the technical specifications of FDEP's Monitoring Standards for Beach Erosion Control Project (October 2014). The report may be submitted electronically. If the report is electronically signed and sealed and the report and other products listed below are transmitted electronically, hard copies of these deliverables are not required.
- 1.5.** Deliverables to the County and FDEP shall include the following digital products:

 - a. ACSII file containing raw x, y, z profile data points.

- b. ASCII files containing the profile data processed into the FDEP distance and depth format. The FDEP format includes data as well as header records.
- c. Monument Information Report (Given/Used/Found Report) with regard to monumentation that includes a list of provided, found, and used monuments and Temporary Bench Mark ("TBM") identification, stamping, coordinates, elevations, and profile azimuths. The report shall be submitted in Excel format (.xls) or equivalent spreadsheet format.
- d. Complete federally compliant metadata file including methodology of the data collection and processing procedures used in accordance with standards set forth by the Federal Geographic Data Committee. Metadata shall include standard QA/QC procedures utilized to ensure the quality of the data.
- e. Copies of all checked standard field books, computation and reduction files, and abstracted final positions shall be provided to the County and FDEP. Field books shall be scanned pages amassed into a .pdf document for electronic submittal.
- f. Digital copy of cross-section and plan view data plots.

2. NEARSHORE EDGE DELINEATION SURVEY

- 2.1.** The Consultant shall map the position of the Segment III nearshore hardbottom edge from south jetty of Port Everglades Inlet ~R-85.7 (Broward County) to Miami-Dade County R-5. The nearshore edge of exposed hardbottom will be mapped by divers towing a buoy with a 900 MHz radio transmitter and Trimble SP350 Differential GPS ("DGPS") buoy, or equivalent, which transmits corrected positions to a receiving radio on the survey vessel and a laptop interfaced with HYPACK navigation software. Consultant will differentiate between persistently exposed hardbottom and hardbottom patches consisting of sand-covered hardbottom with emergent epibiota. Consultant will collect DGPS targets during the survey to mark major changes in vertical relief along the edge and document these features with georeferenced high-definition video.
- 2.2.** The purpose of the survey is to (1) map the current location of the nearshore hardbottom edge for inclusion in the permit application; (2) compare the location of the nearshore hardbottom edge with the projected equilibrium toe of fill ("ETOF") and the ETOF for the 2005/06 project to determine if any differences exist in impact areas; and (3) compare the mapped location to the County's nearshore hardbottom edge survey database and evaluate the extent of natural

annual variability in the location of the nearshore edge. The latter will be incorporated into an analysis of nearshore hardbottom functions and frequency of hardbottom exposure along the nearshore hardbottom edge.

- 2.3. Deliverable.** Deliverables shall include one (1) hardcopy and one (1) digital copy in PDF format of hardbottom edge maps; digital video files of the nearshore edge; and the nearshore edge data in electronic GIS shape file format in compliance with the FDEP Standard Operation Procedures ("SOP") for Nearshore Hardbottom Monitoring for Beach Nourishment Projects. All deliverables shall be submitted to the County within 90 days after survey completion.

3. NEARSHORE EDGE MULTI-BEAM BATHYMETRIC SURVEY

- 3.1.** The Consultant shall conduct a multi-beam bathymetric survey of the Segment III nearshore edge along the Segment III sand/hardbottom interface. The survey shall extend from the south jetty at Port Everglades Inlet (~R-85.7 (Broward County)) to FDEP R-monument R-5 in Miami-Dade County. The survey will be conducted in such a manner as to achieve total bottom coverage between 50 meters landward of the nearshore edge and 150 meters seaward of the nearshore edge. The purpose of the survey will be to define in detail the seafloor elevations along and adjacent to the nearshore edge to support an evaluation of the ETOF for the planned Project.

- 3.2. Deliverable.** Deliverables shall include one (1) hardcopy and one (1) digital copy in PDF format of contour maps of the data. All deliverables shall be submitted to the County within 90 days after survey completion.

4. NEARSHORE SIDE-SCAN SURVEY

- 4.1.** The Consultant, through a qualified Subconsultant, shall perform a side-scan sonar survey of the Segment III nearshore area to verify the unconsolidated sediment surface and to map bottom features such as hardbottom habitat, artificial reef and other manmade features that will provide information needed to support Project planning, permitting and biological monitoring efforts. The survey shall extend from the south jetty at Port Everglades Inlet (~R-85.7 (Broward County)) to FDEP R-monument R-5 in Miami-Dade County. The survey shall cover the seafloor from 50 meters landward of the nearshore edge to 300 meters seaward of the

nearshore edge. Hardbottom features within the survey area shall be classified as high or low relief, isolated rock outcrops or by equivalent descriptor for use in classification of hardbottom and defining hardbottom borders. Manmade materials, rubble, and debris shall be noted.

- 4.2.** The side-scan shall use an EdgeTech 4200-FS side-scan sonar system, or equivalent. The system shall interface to a Real Time Kinematic Global Positioning System ("RTK GPS") along with navigational input provided by the HYPACK system or equivalent. The 4200-FS side scan sonar, or equivalent, shall use full-spectrum chirp technology to deliver wide band, high energy pulses coupled with high resolution and superb signal to noise ratio echo data. The sonar package shall include a portable configuration with laptop computer running the DISCOVER acquisition software or equivalent and a 300/600 kHz dual frequency tow-fish running in high definition mode. The side-scan sonar shall be towed at a position and depth to isolate interference and to obtain the best record quality. The digital side-scan data shall be merged with positioning data (RTK GPS via HYPACK), video displayed and logged to disk for post-processing and/or replay. The position of the sensor relative to the RTK GPS antenna shall be calculated by the navigation software, interfaced to the sonar topside computer and thoroughly documented to ensure proper positioning of the data. The survey shall be conducted in such a manner to achieve 200% or more total bottom coverage within the survey area. The dual frequency shall be used to provide a differential aid to interpretation.
- 4.3.** The Chesapeake Technology, Inc. SonarWiz.MAP® software, or equivalent, shall be used to post-process the side-scan sonar data in a geographical framework for target interpretation and delineation. The geo-encoded sonar imagery data shall be collected in a *.jsf* file. The *.jsf* files shall be converted to an *.xtf* files for post-processing using the EdgeTech Discover® software or equivalent. The *.xtf* files shall then be imported into the SonarWiz.MAP® 4200MP® software or equivalent to be processed, merged, and exported in the form of geo-referenced side-scan mosaics (geo-tiff files). Morphological features and potential artifacts observed in the sonar displays and records shall be digitized in SonarWiz.MAP® or equivalent, edited in ESRI® ArcMapTM 9.2 or equivalent, and saved as *.shp* files.
- 4.4.** Representative hardbottom features, relief classifications, isolated rock outcrops, and areas of manmade materials, rubble, and debris identified from the side scan sonar survey shall be ground-truthed by divers. The results of the diver verification

survey shall be used to develop a final map of hardbottom distribution from the side-scan mosaics.

- 4.5. Deliverable.** Consultant shall prepare a report discussing the methods and results. The report shall include the final side-scan mosaics. One (1) hardcopy and one (1) PDF copy of the report with the accompanying data shall be provided to the County. The resultant side-scan mosaics shall be exported as georeferenced data NAD 1983 format for incorporation into a GIS such as Arcview.

5. LISTED SPECIES SURVEY

- 5.1.** The Consultant, through a qualified Subconsultant, shall conduct a listed stony coral species survey of the nearshore hardbottom adjacent to the Segment III shoreline. The survey shall extend from the south jetty at Port Everglades Inlet (~R- 85.7 (Broward County)) to FDEP R-monument R-5 in Miami-Dade County. The National Oceanic and Atmospheric Administration's National Marine Fisheries Service ("NMFS") recommended protocol for *Acropora* spp. (NMFS, 2007) will be modified to document the distribution and abundance of all seven federally-listed stony coral species. Each survey site will be 100 m x 100 m and extend from the hardbottom edge offshore 150 m. The survey protocol is a two tiered approach. Tier 1 documents presence and Tier 2 estimates colony densities. A total of 270 Tier 1 and 100 Tier 2 sites are estimated to be required. An allowance will be made for additional Tier 2 sites that may be found to be required following completion of the Tier 1 study.

- 5.2. Deliverable.** The Consultant, through the qualified Subconsultant, shall provide a final report that details the presence of listed species at all Tier 1 sites and estimated colony densities at the tier 2 sites. The report will include a map of the surveyed area along with colony presence data. One hardcopy and one (1) PDF copy of the final report will be submitted to the County.

6. DUNE VEGETATION SURVEY

- 6.1.** The Consultant shall examine existing aerial photographs to determine specific areas of interest along the Project area which may support dune vegetation in order to verify and update Broward County's existing GIS database. These areas will be ground-truthed in the field and the extent of vegetation will be verified

using DGPS survey methods. Dominant species shall be identified and photo-documentation shall be collected for representative species. The presence of the endangered plant species beach jacquemontia (*Jacquemontia reclinata*) shall be documented and locations marked using DGPS.

- 6.2. Deliverable.** The results of the vegetation survey, including edge-of-vegetation and the location of any listed plant species will be overlaid onto Project aerals using GIS using ESRI® ArcMapTM 9.2 or equivalent, and saved as .shp files.

7. CHARACTERIZE NEARSHORE HARDBOTTOM HABITAT

This task shall include development of a nearshore hardbottom benthic habitat map for the Segment III Project area. Benthic habitat map development shall be conducted in two phases: 1) desktop analysis of monitoring program data, remote sensing data, and ArcGIS databases, followed by 2) additional field characterization surveys if any data gaps exist. Nearshore hardbottom within the area of potential secondary impacts (turbidity mixing zone and within 150-m waterward of the ETOF) will be characterized by frequency of exposure, physical relief, dominant benthos, and benthic community composition and cover to evaluate the functions of nearshore hardbottom habitat in the Project area. The specific area of investigation shall include the Broward County coastline between Port Everglades Inlet and Miami Dade County FDEP Control Monument R-5, which is approximately 8.7 miles (~14 km) in length.

- 7.1. Desktop Analysis/Existing Data Research and Evaluation.** This task shall include coordination, review, and evaluation of the existing marine habitat information and GIS databases from the 2005/06 Broward County Segment III beach nourishment project, 2013 Port Everglades Inlet Maintenance Dredging Project, 2011/12 City of Hollywood Interim Beach Nourishment Project, Broward County annual nearshore hardbottom monitoring by NOVA Southeastern University ("NSU"), shallowwater coral reef benthic habitat maps for Broward County by NSU and the FDEP Coral Reef Conservation Program, and the survey data collected as part of this scope of work (Tasks 2.0 through 5.0). Evaluation of existing mapping and imagery shall be performed to determine applicability for this Project and determine if any additional field studies are needed for the benthic habitat map for the Segment III Project.

7.2. Deliverable. The Consultant shall prepare a nearshore hardbottom characterization report and final benthic habitat map using the information and methodologies described above. The characterization survey shall follow the methods of the FDEP SOP for hardbottom surveys to identify visual differences in landscape features (relief, sediment cover, and benthos), classify hardbottom functions, and design ecologically appropriate replacement habitat for impacted hardbottom using Rule 62-345.400. Deliverables shall include the report, maps, and GIS shape files. Three copies of each deliverable and a digital copy (PDF) shall be provided to the County.

7.3. Field Data Collection (Authorization Withheld). If Consultant identifies data gaps during the desktop analysis, Consultant shall conduct field surveys (maximum of 5-day field survey effort) to develop the final benthic habitat map. The characterization survey shall follow the methods of the FDEP SOP for hardbottom surveys to identify visual differences in landscape features (relief, sediment cover, and dominant benthos), classify hardbottom functions, and, if required, design ecologically appropriate artificial reef replacement habitat or suitable alternative mitigation strategies for impacts to hardbottom habitat and biota using Rule 62-345.400. Field survey data (GPS delineations of habitat transitions and benthic habitat assessment data) shall be used to validate the benthic habitat map and prepare updated calculations for each habitat type within 150 m of the Project ETOF.

8. EASEMENTS and RIGHTS-OF-WAY

8.1. The Parties acknowledge that all USACE required Storm Damage Reduction Easements ("SDREs") were acquired and recorded prior to the 2005/06 Segment III project. Accordingly, no additional SDREs will be pursued for the Segment III Project.

8.2. The Consultant shall assist Broward County with securing a Consent-of-Use for construction access to and use of areas within the State Park to support the construction of a beach fill and to repair the three rocks groins at the northern end of the State Park.

- 8.3. Deliverable.** The Consultant shall prepare and submit to FDEP required documentation to support the review of a Consent-of-Use agreement for access and use of areas within the State Park.

9. PROJECT UPDATE AND PERFORMANCE EVALUATION

The Consultant shall evaluate existing beach conditions, update Project sand volume requirements, and assess expected Project performance. The Consultant shall consider available physical and environmental data, results from previous engineering evaluations and physical monitoring investigations of Segment III beach and nearshore in Broward County, the federally authorized Project dimensions, and analyses described herein to reconfirm/update the required beach nourishment needs and Project performance expectations. The Consultant shall evaluate minor fill placement adjustments based on current economic, environmental, and physical conditions, including available sand source material that may improve Project performance and reduce potential adverse effects to adjacent hardbottom areas.

9.1. Beach Condition / Project Requirements Assessment

- 9.1.1. The Consultant shall use existing surveys and engineering assessments and analyses of the Segment III beach and nearshore areas to assess regional erosion/accretion patterns; determine Segment III Project sand volume requirements; and evaluate Project performance expectations. The Consultant shall consider the constructed dimensions of the 2005/06 Segment III project as the Project that will be reconstructed along the Segment III shoreline. For the performance assessment, the Consultant shall consider the documented performance of the 2005/06 project, the Segment III sediment budget developed in "Broward County Structure Feasibility Study" (Olsen Associates, Inc., 2010), and the engineering analyses and modeling tasks described herein. The results of this analysis shall be prepared and presented in a manner that is suitable for use in design and permit application supporting documentation.
- 9.1.2. Consultant shall confirm the beach fill dimensions, volumes, and configurations that will be considered in the evaluation of Project benefits and to satisfy the economic update requirements of the USACE. Evaluation

of beach fill dimensions shall consider avoidance and/or minimization of the equilibrated fill to adjacent nearshore hardbottoms.

- 9.1.3. Deliverable. The Consultant shall prepare an engineering summary memorandum that describes the current beach conditions and anticipated fill sand volume requirements to reconstruct the authorized Project dimensions. One hardcopy and one (1) PDF copy of the final memorandum will be submitted to the County.

9.2. Evaluate Project Baseline Alternatives for Northern Hollywood

- 9.2.1. The Consultant shall develop conceptual alternatives that include alterations to the baseline upon which the current federal Project definition is based upon along the northern Hollywood area of the Segment III beach. The current configuration of the federal Project baseline, which follows the Erosion Control Line ("ECL"), is located well seaward of the general shoreline and development alignment along the northern Hollywood section of the Segment III shoreline. Historically, the use of the ECL in the area as a federal Project baseline has required an above average sand placement volume along this reach of shoreline that has increased the potential for impacts to offshore hardbottom areas. Further, the beach projects along this area have been only marginally successful in maintaining the required federal Project beach dimensions. The goal of this task will be to investigate the probable cost and benefits of redefining the baseline along this reach of beach.

- 9.2.2. Deliverable. The Consultant shall prepare an engineering summary memorandum that summarizes options for a revised Project shoreline along Northern Hollywood. The analyses shall consider both physical and economic (i.e., cost) effects associated with a revised baseline. One hardcopy and one (1) PDF copy of the memorandum will be submitted to the County.

10. EQUILIBRIUM TOE-OF-FILL ANALYSIS

- 10.1. The Consultant shall evaluate potential impacts to nearshore hardbottom areas due to beach fill placement and associated toe-of-fill equilibration in the

formulation and evaluation of beach fill alternatives. This will include an evaluation of the Project area's nearshore edge to determine areas that may be most susceptible to changes in the location of the nearshore hardbottom edge under existing and proposed Project conditions.

- 10.2.** The Consultant shall develop/verify the equilibrium-toe-of-fill (ETOF) estimate for the Segment III Project plan. The ETOF estimate shall be based upon historical beach and nearshore edge data, recent experience along the Segment III Project shoreline, the mapped bathymetric configuration of the nearshore area (Tasks 2.0, 3.0 and 4.0), and appropriate and applicable desk-top analytical analyses. This analysis will not include the use of a numerical model, such as SBEACH, GenCade, Delft3D, or the equivalent, to develop/verify the ETOF.
- 10.3.** The Consultant shall consider the County's database of historical nearshore edge locations along the Segment III shoreline in the reevaluation of the ETOF and potential effects to nearshore hardbottom areas. It is anticipated that the database of nearshore edge locations will demonstrate temporal fluctuations in the location of the nearshore edge. Using the available data and data collected in Task 2.0 of this scope of services, the Consultant shall evaluate the average location of the nearshore edge, the maximum and minimum distance of the edge from the shoreline, and other applicable statistical descriptions of the edge position. The results of this analysis shall be used to compare the extent of potential Project-related effects to nearshore hardbottom areas within the range of historical edge locations and the Project-related ETOF position.
- 10.4. Secondary Impact Analysis.** The Consultant shall perform a secondary effects analysis to evaluate the potential for sedimentation beyond the ETOF due to potential textural differences between the native beach and imported beach fill sediments. This analysis shall specifically consider the potential for sediment losses from the beach fill and potential for accumulation across the adjacent nearshore hardbottom areas. The Consultant shall apply the methods used for the planning of the Broward County Segment II project that were accepted by state and federal resources agencies as part of the permitting for that project (FDEP Permit Number: 0314535-001-JC/ DOA Permit No: SAJ-1999-05545(SP-GGL)).
- 10.5. Deliverable.** The Consultant shall prepare a memorandum of findings that summarizes the data, methodologies, analyses and results of the ETOF and

Secondary Impact Analysis. A draft memorandum will be prepared for County review and comment prior to incorporating the results into Project planning and design analyses. The memo will also include maps and tables documenting nearshore edge variability including average location, maximum/minimum extent of edge position, standard deviation, and type of relief at each R-monument. One hardcopy and one (1) PDF copy of the final memorandum will be submitted to the County.

11. UPLAND SAND SOURCE CONFIRMATION

The purpose of this task is to confirm the suitability and availability of known existing upland sand sources for use as beach fill along the Segment III shoreline. The task will also investigate access and operational opportunities and constraints for the Segment III shoreline. The Consultant shall apply “lessons learned” from the recently completed Segment II upland truck-haul beach fill project as well as information available from the City of Hollywood related to operational experiences for small truck haul beach fill projects completed by that community.

11.1. Review of Implementation Issues along the Segment III Shoreline for an Upland Sand Source Project

11.1.1. The Consultant shall meet with County staff, State Park staff and representatives from Dania Beach, the City of Hollywood and Hallandale Beach to discuss implementation issues and identify concerns and constraints that may exist within the shorefront interests along the Segment III shoreline. Issues to be discussed include the sand sources, permitting, environmental impacts, and economic impact of construction during winter season. Also discussed will be beach access and staging area requirements, road and bridge impacts, and any other construction difficulties.

11.1.2. Deliverable. Information from these meetings will be summarized in a memorandum of findings to Broward County that likewise discusses how the input from these interests may be integrated into the planning for the Segment III Project.

11.2. Initial Review of Upland Sand Source Providers

11.2.1. A list of known and verified providers of upland sand for beach fill use will be compiled. Each sand source provider on the list will be contacted to determine if they will be able to provide beach-compatible sand in the quantities anticipated to be needed to complete the planned Segment III Project. If so, the quarry will be asked to provide current geotechnical information, including textural sediment sieve analysis reports and curves, and any mineralogical analysis that may have been completed. The provider will also be asked about their ability to wash and/or screen their material if needed. Additionally, each provider will be asked to provide information on historic projects that have utilized their sand source as well as other current and/or future projects that use their product and may be competing with Broward County for sand source availability and production rates.

11.2.2. The available data provided by the quarries will then be analyzed by the Consultant in the form of a “Desktop Study.” This Desktop Study will evaluate the providers in terms of beach compatibility of their available material, as well as engineering/production capability (i.e. their ability to provide the material in Project quantities, including their ability for special handling requirements like washing and/or screening).

11.2.3. Based on the results of the Desktop Study, specific quarries will be selected for a more-detailed geotechnical evaluation and confirmation in order to determine the providers best suited to meet the County’s needs.

11.2.4. Deliverable. The Consultant shall prepare a memorandum of findings to Broward County that summarizes the results of this investigation and identifies those upland sand sources that are mostly likely suitable for consideration for the Segment III Project. The results of these analyses will be used in the USACE required evaluation of Project requirements.

11.3. Detailed Review of Selected Upland Sand Sources

11.3.1. Visit Quarries to Review Sand Deposit and Collect Representative Sediment Samples. Based on the results of the desktop study, quarry visits

will be planned. Each potential upland sand source will be visited to view the mining process, review the overall sand deposit, and collect representative samples of the sand deposit. Care will be taken to ensure that representative samples are collected and remain undisturbed. Any other pertinent geological, operational, or engineering observations will be noted upon visitation of each upland sand source.

11.3.2. Mechanical Sieve Analysis. The samples will be analyzed to determine color and grain size distribution. Prior to sieve analysis, any obvious uncharacteristically large fragments (such as whole shell or large shell fragments) will be removed and the description (weight and size) of the material will be noted. The total visually estimated shell content (bulk shell estimate); roundness of sand and shell; and the wet, dry and washed Munsell colors will be noted. Sieve analysis of the sediment samples will be performed in accordance with the American Society for Testing and Materials ("ASTM") Standard Methods Designation D 422-63 for particle size analysis of soils. This method covers the quantitative determination of the distribution of sand size particles. The sieve stack used for mechanical analysis will conform to the FDEP guidelines provided in **Table 1**.

11.3.3. Weights retained on each sieve will be recorded cumulatively. The amount of shell retained on the #4 sieve and above shall be estimated from visual observations for each sample. Grain size results will be entered into the gINT® software program, which computes the mean and median grain size, sorting, silt/clay percentages for each sample using the moment method.

11.3.4. Carbonate Testing. All of the collected samples will be tested for carbonate content. Carbonate content will be determined by percent weight using the acid leaching methodology described in Twenhofel, W.H. and Tyler, S.A., 1941. *Methods of Study of Sediments*. New York: McGraw-Hill, 183p.

11.3.5. The data will then be evaluated to determine which sand source is the best match for the Segment III Project, including a discussion of both beach compatibility of the sand source as well as operations and engineering capabilities of the providers to supply the material in Project quantities efficiently to the Project area.

Table 1. *Mesh sizes to be used for granularmetric analysis.*

Sieve No.	Size (phi)	Size (mm)
¾	-4.25	19.00
5/8	-4.0	16.00
7/16	-3.5	11.20
5/16	-3.0	8.00
3 ½	-2.5	5.60
4	-2.25	4.75
5	-2.0	4.00
7	-1.5	2.80
10	-1.0	2.00
14	-0.5	1.40
18	0.0	1.00
25	0.5	0.71
35	1.0	0.50
45	1.5	0.36
60	2.0	0.25
80	2.5	0.18
120	3.0	0.13
170	3.5	0.09
200	3.75	0.08
<u>230</u>	<u>4.0</u>	<u>0.06</u>

11.3.6. The results of the study will be provided to Broward County in the form of a letter report with an attached geotechnical appendix. The final report will include sediment sample photographs, granularmetric reports, grain size distribution curves as well as a recommendation to the best possible upland sand source to provide beach compatible sand.

11.3.7. Cost Analysis. The Consultant shall evaluate the anticipated cost for using each of the identified upland sand sources. The Consultant shall consider existing costing models prepared for the Segment II project as well as recent costs associated with other similar projects in south Florida including the recently completed Broward County Segment II project.

11.3.8. Upland Sand Specification Development. The Consultant shall develop a sand specification that complies with appropriate permit requirements and that can be incorporated into bid documents to solicit bids for sand placement along the Broward County Segment III shoreline.

11.3.9. Deliverable. The Consultant shall prepare a memorandum of findings to Broward County that summarizes the results of this investigation and the anticipated characteristics of each upland sand source and the anticipated cost associated with using each. The results of these analyses will be considered as part of the USACE required evaluation of Project requirements.

12. OFFSHORE BORROW SAND SOURCE EVALUATION

12.1. The known remaining available beach compatible sand resources in Broward County are located offshore of the northern County coastline (Figure 12.1). Additional geotechnical work performed by the USACE-Jacksonville District in 2010 confirmed conditions in these borrow areas and proposed modest expansions to two of the areas. The location and general configuration of these borrow areas are shown in **Figure 12.1**.

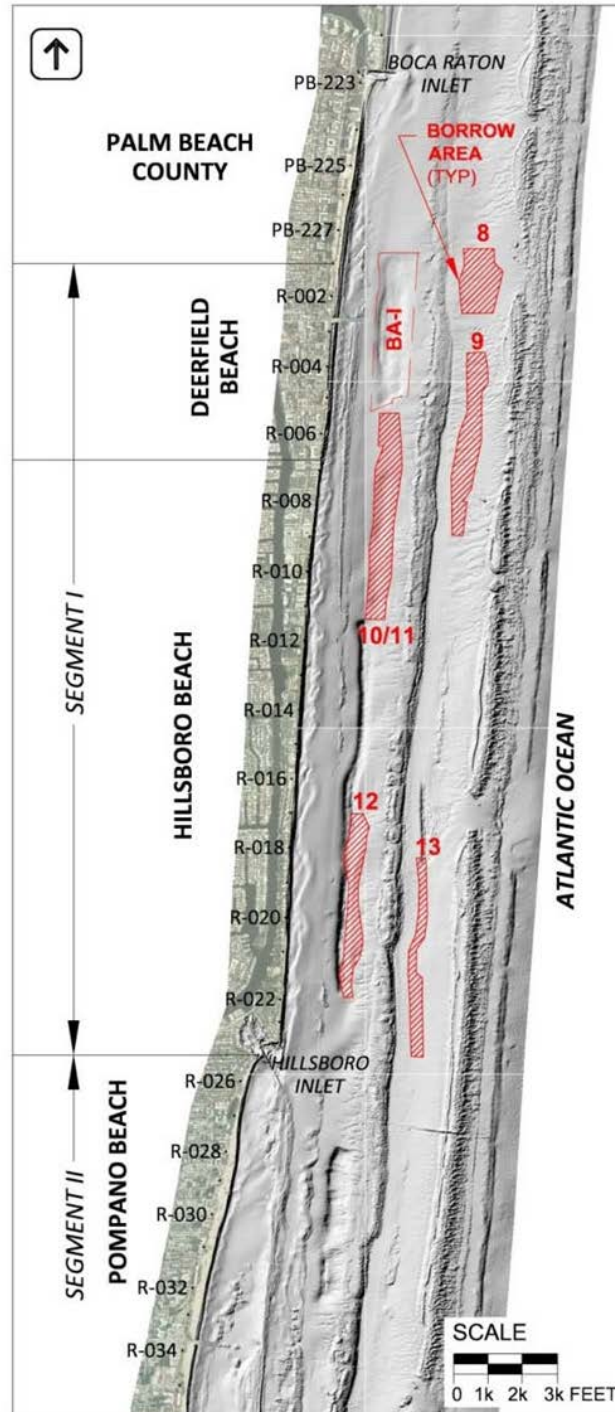


Figure 12.1: Approximate location of known remaining sand borrow areas offshore of northern Broward County, Florida. The limits and extent of each area are subject to change following completion of analyses described herein.

- 12.2.** It is estimated that approximately 1.6 million cubic yards ("Mcy") of material may be located within previously identified remaining borrow areas offshore of the

northern Broward County Segment I shoreline that may be available for use along a portion of the Segment III shoreline. The 1.6 Mcy value is based upon estimate sand volumes in five delineated borrow areas that provide a buffer distance of 600 feet between the borrow area limits and adjacent environmentally sensitive benthic resources. The estimate does not represent the actual, practical volume of available sand for beach fill, rather, it reflects the total volume of material within the geometric limits of the borrow areas, including both beach compatible sand and non-compatible rock rubble and fine sediment. After completion of the 2005/06 Broward County Shore Protection Segment III ("BCSPP-III") project, it was estimated that the borrow areas used for the project included about 5 percent rock rubble and 2 percent fines by volume, on average. The remainder consisted of beach compatible sand used as beach fill. Also, experience from construction of the 2005/06 BCSPP-III project suggests that a hopper dredge can reliably recover only about 60 percent of the material within the defined limits of the Broward County offshore borrow areas, on average, due to geometric and operational constraints. Therefore, not all the sediment identified in the borrow areas is accessible by dredge.

- 12.3.** Applying the borrow area sediment parameters noted above and dredging limitations experienced during the 2005/06 project, it is estimated that only about 0.9 Mcy may be ultimately available and accessible for placement along the Segment III shoreline. Consultant's analysis described herein will seek to determine what portion of the sand in these remaining borrow areas may be suitable for placement along the Segment III shoreline.
- 12.4.** The Consultant shall evaluate available and accessible existing physical and geotechnical information that represents conditions in the vicinity of the borrow areas, including bathymetric data, side-scan data, subbottom data, vibracore/jet probe data, and magnetometer data to evaluate if the sediments may be suitable for use along the State Park shoreline. The Consultant shall use relevant information and data available from existing County sponsored studies and information available on the FDEP Regional Offshore Sand Source Inventory to conduct this investigation. The County will be responsible for making available to the Consultant data and information from past studies.
- 12.5.** Available bathymetric data, images of the seafloor produced from the side-scan sonar data, and magnetometer data shall be considered in order to identify

avoidance areas such as existing infrastructure, modern debris or potentially culturally significant resources. The County will provide the Consultant available data and results from the magnetometer and cultural resources survey(s) previously completed by the USACE and others. No new data will be collected as part of this Task.

- 12.6.** Available remote sensing data will also be used to identify natural resources such as offshore reef edges, nearshore hardbottom, or seagrass beds to the extent possible. No new data will be collected as part of this Task.
- 12.7.** To the extent allowed by existing available information, Consultant will assess geophysical and geotechnical data and preliminary borrow area dimensions and will confirm or modify as appropriate. Preliminary design excavation elevations will be estimated considering a variety of factors including (but not limited to) deposit geometry, sediment quality, dredgability (e.g., minimum water depths, minimum swath width and length), volume requirements, potential resource impacts, and relative cost of dredging the material. Any areas identified for avoidance (e.g., cultural resources, infrastructure, hardbottom, etc.) shall be incorporated into the analysis. Borrow areas shall be designed assuming 600 foot buffers from surrounding hardbottom areas are acceptable to the resource agencies.
- 12.8.** Consultant shall develop preliminary dredge plans that consider efficient utilization of the entire volume of borrow area sediments within each area. To the extent that available data allows, the plans shall identify and specify operational requirements to account for the presence of rock as depicted by available information in borrow areas. The plans shall also consider sequence of excavation for the purpose of sand resource conservation.
- 12.9. Deliverable.** The Consultant shall prepare an offshore borrow area summary report. A draft of the report shall be submitted to Broward County in digital format for review and comment. Broward County will identify any revisions that may be necessary and provide recommendations for the final report. Following receipt of comments, the Consultant shall review the draft report accordingly and prepare the final report. The Consultant shall provide the County with one (1) hardcopy and one (1) electronic PDF copy of the final report.

13. BEACH FILL COMPATIBILITY ANALYSIS (Upland Sand Sources)

- 13.1.** The Consultant shall perform a beach fill compatibility analysis for the selected upland sand source(s). This effort will require updated field data collection of in-situ sediment conditions along the Segment III shoreline and laboratory analyses that meet current FDEP Bureau of Beaches and Coastal Systems requirements. The Consultant shall then compare the fill area sand grain parameters, including but not limited to grain size distribution, color, and composition, with sand grain parameters of the proposed borrow source material, using methodologies which are acceptable to applicable state and federal agencies.
- 13.2.** To characterize sediment conditions of the existing beach, a total of one hundred (100) sediment samples shall be collected along ten (10) transects; ten (10) samples along each transect. These transects shall be located at FDEP Range (R) monuments R-87, R-92, R-101, R-105, R-109, R-113, R-117, R-121, R-125, and R-128. Along these transects, the sediment samples shall be collected at the toe of dune, mid-berm, approximate mean high water (MHW) elevation, approximate mean tide level (MTL) elevation, approximate mean low water (MLW) elevation and at the -4 ft, -8 ft, -12 ft, -16 ft and -20 ft elevations. Samples shall be collected from 6 to 12 inches from below the surface. Samples collected across the lower portion of the beach profile may be collected from a boat via a ponar grab, or equivalent method.
- 13.3. Mechanical Sieve Analysis.** The sediment samples will be analyzed to determine color and grain size distribution. Prior to sieve analysis, any obvious uncharacteristically large fragments (such as whole shell or large shell fragments) will be removed and the description (weight and size) of the material will be noted. The total visually estimated shell content (bulk shell estimate); roundness of sand and shell; and the wet, dry and washed Munsell colors will be noted. Sieve analysis of the sediment samples will be performed in accordance with the ASTM Standard Methods Designation D 422-63 for particle size analysis of soils. This method covers the quantitative determination of the distribution of sand size particles. The sieve stack used for mechanical analysis will conform to the FDEP guidelines provided in **Table 1**.

- 13.4.** Weights retained on each sieve will be recorded cumulatively. The amount of shell retained on the #4 sieve and above shall be estimated from visual observations for each sample. Grain size results will be entered into the gINT® software program, which computes the mean and median grain size, sorting, silt/clay percentages for each sample using the moment method.
- 13.5. Carbonate Testing.** Carbonate content shall be determined for all samples by percent weight using the acid leaching (or acceptable equivalent) methodology described in Twenhofel, W.H. and Tyler, S.A., 1941. *Methods of Study of Sediments*. New York: McGraw-Hill, 183p.
- 13.6. Deliverable.** The Consultant shall provide all geotechnical information for the beach data in an electronic format suitable for input to the FDEP Reconnaissance Offshore Sand Search database. The data shall be submitted in Access or gINT files. Deliverables shall include granulometric reports, grain size distribution curves/histograms, and composite statistics.

14. LIMITED REEVALUATION REPORT (LRR)

- 14.1.** It is understood that the USACE-Jacksonville District will require a Limited Reevaluation Report ("LRR") as the decision document to support a PPA with Broward County for the next renourishment of the Segment III shoreline. It is also understood that the USACE-Jacksonville District will require the use of the Beach-*fx* economic model to update the Project economic analysis for the Segment III Project and confirm the eligibility of the Project for continued federal cost-sharing. Accordingly, the scope of services required to development and seek approval of a LRR is described below.
- 14.2.** The Consultant shall prepare a LRR for subsequent review and coordination with the USACE-Jacksonville District. The Consultant shall defer to the June 2003 Broward County, Florida Shore Protection Project Segments II and III, General Reevaluation Report as the basis for the federal Project to be evaluated through the LRR analyses. The LRR shall address the current physical and economic conditions along the Segment III shoreline.
- 14.3.** The Consultant shall formulate the LRR in accordance with the current requirements of the USACE and in a manner acceptable to the USACE. The Consultant shall incorporate into the LRR sufficient analyses and detail to

demonstrate the current Project benefits and costs for areas of beach that have been previously constructed with federal financial assistance. It is noted, however, that continued eligibility of the Segment III Project for federal cost-sharing assistance cannot be determined prior to completion of the requisite analyses.

14.4. The LRR shall be formulated and formatted in accordance with USACE-approved procedures, which may include, but not be limited to, the following elements:

- Syllabus and Pertinent Information
- Main Text
 - Text and Summaries
 - Project Authorization and Background
 - Description of the Authorized/National Economic Development ("NED") and/or Locally Preferred Plan(s) for carrying out the Project
 - Cost-Sharing Analysis
 - Project Plates and Drawings
- Engineering Appendix
 - Evaluation of Physical Environment/Natural Forces
 - Update of Shoreline/Beach Volume Change
 - Update Scope/Fill Requirements for Authorized Plan
 - Beach-*fx* Model Setup
 - o Identification and Layout of Model Domain
 - o Development of Structure Inventory
 - o Identification of Reaches/Lots/Damage Elements
 - o Specification of Damage Element Attributes (Physical)
 - o Specification of Damage Functions
 - o Development of Representative Beach Profiles (Reach)
 - Storm-Induce Beach Response Model Study (SBEACH) (Task 16.1)
 - Shoreline Change Model Study (GenCade/GENESIS) (Task 16.2)
 - Evaluate Performance Expectations for Authorized Plan
 - Overfill Analysis for Sediments Sources
- Geotechnical Appendix
 - Evaluate Native Beach Sediments
 - Evaluate/Confirm Geotechnical Conditions for Upland and Offshore Sand Sources
- Economic Appendix
 - Evaluation of Existing Economic Conditions
 - o Value of Infrastructure/Contents (to be provided by USACE)

- o Value of Land (to be provided by the USACE)
- Coastal Storm Benefit Analysis
 - o Specification of Damage Element Attributes (Economic)
 - o Beach-*fx* Calibration for Existing (Without Project Conditions)
 - o Testing of Future/With Project Conditions
- Loss of Land Benefit Analysis
- Recreational Benefit Analysis
- Cost Engineering and Risk Analysis Appendix (to be completed with USACE)
- Real Estate Appendix

14.5. Deliverable. The LRR shall be prepared in draft form and submitted to the County for review prior to submitting to the USACE. Revisions will be made based on County's comments and the revised document will be submitted to the USACE-Jacksonville District for formal review. It is anticipated that the USACE-Jacksonville District will require further revisions and modifications of the document. The Consultant shall provide to the County one (1) hardcopy and one (1) editable digital copy (MS Word) of the initial draft of the LRR for review and comment by the County.

14.6. The Consultant shall support up to three (3) reviews of the draft LRR by the USACE-Jacksonville District, Agency Technical Review ("ATR") team, and/or higher USACE authority. Subsequent to receipt of all comments from each of the three (3) reviews, the Consultant shall make requested revisions to the draft LRR. For each of the three (3) reviews, the Consultant shall provide five (5) hardcopies and five (5) electronic copies in PDF format on DVD to the County for subsequent distribution to the USACE. The Consultant may provide these copies directly to USACE-Jacksonville District if authorized by the County.

14.7. The Consultant shall attend up to five (5) meetings, as required and as directed by County, with the USACE to review federal policies, principles, guidelines, economic analysis procedures, and cost estimation procedures, and to discuss the progress of the LRR.

15. BEACH-*fx* STORM DAMAGE ANALYSIS (Data Collection and Model Setup)

15.1. The Consultant shall employ the USACE's Beach-*fx* risk-based economic model to update and confirm the Segment III Project economics. The Beach-*fx* model combines a historical storm record, shoreline response information, and damage

estimation based on erosion, flooding, sea level rise, and wave damage, to assist planners with determining the economic feasibility of shore protection projects. Based upon information obtained from the USACE Jacksonville District regarding the use of the Beach-fx model, the Consultant envisions the following general work efforts will be required to complete the task.

15.2. Assumptions. For the purposes of this scope of work, the Consultant shall assume that the USACE will be available to the Consultant for consultations related to the execution of the Beach-fx study. It is noted that Beach-fx is a relatively new model for the USACE. To date, the USACE-Jacksonville District has limited experience with the model especially for project areas as large as the Segment III Project shoreline. Since the application and use of the model is continually evolving, close coordination with USACE staff will be required through the setup and execution of the model. Specially, the Consultant shall assume the following:

- Access to USACE staff will be available for informal consultations;
- USACE will provide to the County and Consultant the tropical and extratropical storm databases required for the Beach-fx input analyses;
- USACE staff will be available to review and provide preliminary approval of model domain, setup, and calibration at strategic points during the Beach-fx study;
- USACE will provide to the County and Consultant a certified real estate appraisal of the land and damage element structures included in the Beach-fx model; and
- The USACE will provide to the County and Consultant information related to damage element damage functions that has been developed and approved by the USACE and others through the development and use of the Beach-fx model.

15.3. Identify Model Domain and Create Model Framework. The Consultant shall identify the alongshore and cross-shore dimensions of the model domain and identify structural elements to be considered as damage elements in the model. It is anticipated that most if not all of the damage elements to be included in the analysis are located between the Segment III mean high water line and A1A. The damage elements will include, but may not be limited to, habitable structures, pools, tennis courts, beach walkover, cabanas, roads, road ends, beach access, utilities and other beach front infrastructure that have measurable value and

could be damaged during a coastal storm event. It is estimated that the model may require the input of approximately 1,900 (+/-250) damage elements for the entire Segment III shoreline. The Consultant shall develop an initial database of damage elements and submit to the County and USACE for review and concurrence regarding scope of the damage elements before initiation of field documentation of damage element characteristics. The damage element database shall be made available to the USACE for the purposes of review and concurrence by the USACE-Jacksonville District prior to pursuing a formal appraisal of damage element structure values and land value that will be required as input to the Segment III Beach-*fx* model.

15.4. Collect and Compile Model Input. The Consultant shall identify and compile damage element attributes required by the Beach-*fx* model. The information will include, but not necessarily be limited to, element identification, structure type, foundation condition, first floor elevation, value, horizontal location, and predicted structure response to storm impacts (i.e., damage function). The latter must be specifically developed using known characteristics of each damage element. It is anticipated that most damage functions developed and approved previously by the USACE-Jacksonville District can be applied in the Segment III study. Information collected through this task will be imported into and managed through a Geographical Information System (GIS) database. This information will be formatted in a manner such that it can be imported directly to the Beach-*fx* model.

15.4.1. Structure value and replacement cost data required for the damage elements and the shorefront land value in Broward County will be provided to the Consultant by the County. It is understood that the USACE-Jacksonville District will perform a Property Value Appraisal and Land Value Determination for the purposes of determining damage element and land values for input to the Beach-*fx* model. The Consultant shall provide the County the proposed BEACH-*fx* model domain limits and the storm damage element database for use by the USACE-Jacksonville District to perform the appraisal.

15.4.2. The Consultant shall collect sufficient physical information necessary to characterize each damage element in the model domain. This will involve coastal engineering field investigations and physical surveys of structures

represented as damage elements in the Beach-fx model. As necessary, the Consultant shall use a qualified professional surveyor Subconsultant to document physical characteristic of structures represented as damage elements.

16. BEACH-fx STORM DAMAGE ANALYSIS (Coastal Morphology Processes Input)

The Consultant shall perform requisite analyses to develop coastal processes information that will be used as input to the Beach-fx model. The task will specifically include the development storm-induced beach change and long-term shoreline change for with and without Project conditions.

The Beach-fx model requires input of a comprehensive matrix of possible storm response scenarios for various storm intensities and beach configurations. This requires development, calibration, and verification of the SBEACH model and simulation of beach profile, beach berm, and storm combinations for with-out and with Project conditions. The Beach-fx model requires the development of a wide array of possible storm and beach response scenarios based upon an historical storm database and Mote-Carlo simulation.

Based upon experience with the BEACH-fx model to-date, it is not unreasonable to expect that more than five hundred thousand (500,000) SBEACH simulations will be required during the Project formulation process.

Long-term shoreline change predictions using the GenCade model, or GENESIS if eventually deemed appropriate, are required as input to the Beach-fx model to estimate future shoreline positions with and without Project conditions. This requires establishment and calibration of the GenCade shoreline change model for the model domain and simulation of without and with Project condition and simulations.

16.1. Storm-Induce Beach Response Model Study(SBEACH)

16.1.1. The Consultant shall evaluate the vulnerability of existing upland development to coastal storm effects and erosion along areas where shorefront development is closest to the existing shoreline in accordance with prescribed USACE methodologies for federal Project evaluation. The analysis shall consider the effect of storm surge and/or wave impacts for

various storm scenarios and for existing conditions and Project alternatives. The Consultant shall use the SBEACH model calibrated for location beach and storm conditions in this analysis. The findings of this analysis shall be considered in the evaluation of the NED plan.

16.1.2. The Consultant shall use available metocean and storm information as well as existing beach and nearshore topographic data for model setup, input, and execution. The USACE-Jacksonville District is expected to provide to the County and Consultant the necessary metocean and storm information required as input to the Beach-*fx* model analysis.

16.1.3. Deliverable. The Consultant shall prepare an engineering summary memo that summarizes the SBEACH model setup, calibration, verification, and results as utilized for input into the Beach-*fx* model.

16.2. Shoreline Change Model Study (GenCade or GENESIS)

16.2.1. Consultant shall prepare and calibrate a one-line shoreline change model (utilizing GenCade or GENESIS shoreline change models) for the Segment III shoreline. This task will include an evaluation of the average annual offshore USACE Wave Information Studies database and development of representative nearshore wave conditions utilizing the USACE Coastal Modeling System Wave Model ("CMS-Wave").

16.2.2. The Consultant shall calibrate the GenCade (or GENESIS) model to historical shoreline change and past beach project effects. The Consultant shall calibrate and apply the model using practices generally accepted by the coastal engineering community, FDEP, and the USACE until confident about its validity. The calibrated and verified model shall be used to evaluate the anticipated performance of the federal NED plan and for incorporation into the Beach-*fx* model for the Segment III Project.

16.2.3. Deliverable. The Consultant shall prepare an engineering summary memo that summarizes the GenCade (or GENESIS) model setup, calibration, verification, and results as utilized for input into the Beach-*fx* model.

17. BEACH-*fx* STORM DAMAGE ANALYSIS (Calibration and Benefits Analysis)

- 17.1. Calibration/Verification of the Beach-*fx* model.** The Consultant shall calibrate the established Beach-*fx* model to local beach processes, storm, and economic conditions. The Consultant shall prepare a calibration summary report suitable for review by the USACE. It is anticipated that this report will be prepared in advance of the initial submittal of the draft LRR. This task must be completed and approved by the USACE prior to evaluation of Project alternative analyses.
- 17.2. Project Evaluation.** Subsequent to the approval by the USACE, the Consultant shall use the calibrated and approved Segment III Beach-*fx* model to evaluate the currently authorized NED plan with the specific goal of updating the Project economics for the purpose of demonstrating continued qualification for federal participation.
- 17.3. Deliverable.** The Consultant shall prepare a Beach-*fx* summary report that will be incorporated into the LRR.

18. COST ANALYSIS

- 18.1.** The Consultant shall perform a preliminary cost analysis for sand placement from the selected upland and offshore borrow areas. Consultant shall use estimating procedures which are acceptable to the FDEP and USACE and gather sufficient information to facilitate the development of a USACE certified cost estimate for the Project.
- 18.2.** The Consultant shall coordinate with the USACE-Jacksonville District to provide Project scope and cost data for input to the MCACES and cost-risk analyses required for the LRR. The Consultant shall formulate and compile Project-specific information required as input to the MCACES software and provide to the USACE-Jacksonville District for use in completing the MCACES and Cost- Risk analyses. The USACE-Jacksonville District will be responsible for the actual use of the USACE MCACES software, development of the cost-risk analysis and associated documentation, and preparation of the certified cost documentation that will be incorporated into the Cost-Risk Appendix. The Consultant shall be available to consult with the USACE-Jacksonville District during the cost estimate and cost-risk efforts.

- 18.3. Deliverable.** The Consultant shall compile and deliver to the USACE a summary memo of physical and cost data regarding the Project plan that will be represented in the LRR. The Consultant shall also prepare and assemble the Cost Engineering and Cost-Risk Appendix that will be included in the LRR.

19. PROJECT PARTNERSHIP AGREEMENT (PPA) SUPPORT

- 19.1.** The Consultant shall assist the County with the development, negotiation, review, comment, and approval of the PPA as required by County staff. It is anticipated that assistance will include review of past documents, development of suggested language for the agreement, review and comment, participation in negotiation meetings with the County and USACE and production of graphics and other document related materials that may be necessary as part of the PPA.
- 19.2. Deliverable.** The Consultant shall prepare a summary memo or memos of review comments of PPA drafts as may be required to support the County's review and approval of the PPA.

20. FDEP JOINT COASTAL PERMIT (JCP) APPLICATION

- 20.1.** The Consultant shall make a Joint Coastal Permit ("JCP") application for renourishment of the authorized and previously constructed Segment III federal project. The JCP application shall also be submitted to the USACE, Regulatory Division in West Palm Beach to serve as the application for the Department of Army Permit. The JCP application shall reflect the findings of the Segment III Project update analysis (Task 9.0), post-Project monitoring, environmental survey data, and results of other appropriate and applicable existing data and analyses. The JCP application provided for in this scope of services will be formulated to seek the use of an upland sand source that has been used in Broward County in the past and/or is identified through the analyses provided for in the Agreement. Should the use of an alternate source or sources ultimately be preferred by the County, this Agreement will need to be amended.
- 20.2.** The Consultant shall also make or facilitate application to the Board of Trustees of the Internal Improvement Trust Fund for Easements and/or Consent of Use instruments for sand fill along the Segment III shoreline and access and operations within the State Park.

- 20.3.** The County will be the permittee and the Consultant will be the authorized agent for all required state and federal permits.
- 20.4.** The Consultant shall assemble from the County past studies, and studies completed as part of this scope of work, information that can be submitted as part of the permit application for the Segment III permit related to the use of a domestic upland sand source as the primary sand source for the Segment III beach renourishment Project. It is acknowledged that information related to a specific upland sand source(s) will be required by the permitting agencies.
- 20.5. Deliverable.** The Consultant shall prepare the JCP Application with appropriate attachments and submit to FDEP and the USACE, Regulatory Division (West Palm Beach). The Consultant will provide to County, FDEP, and the USACE one hardcopy, if required, and a PDF copy of the application and all attachments.
- 21. RESPONSES TO REQUESTS FOR ADDITIONAL INFORMATION (RAIs)**
- 21.1.** Upon receipt of Requests for Additional Information ("RAIs") from the FDEP or USACE, the Consultant shall coordinate with County personnel to respond to the relevant agency.
- 21.2.** The Consultant shall provide responses for up to three (3) separate RAIs from FDEP and three (3) separate RAIs from the USACE Regulatory Branch.
- 21.3.** For the RAIs, the Consultant shall exercise due diligence in supplying the information necessary to satisfy the various agencies' criteria for a complete application. It is recognized by the County and the Consultant, however, that each agency may request additional information during the application review process.
- 21.4.** Obtaining the information to answer the agencies' questions may entail additional research, numerical model studies, and/or fieldwork. The Consultant agrees to assist the County in responding to RAIs using existing data and data that are developed under this scope of services. Additional studies, numerical modeling, or fieldwork over and above that developed as part of this scope of services will be considered additional work.

- 21.5. Deliverable.** The Consultant shall provide to County, FDEP, and the USACE one hardcopy, if required, and one PDF copy of each response document with attachments.

22. PERMIT COORDINATION MEETINGS

- 22.1.** The Consultant shall attend one (1) pre-application meeting with the FDEP Beaches, Inlets and Ports Program in Tallahassee and one (1) pre-application meeting with the USACE – Regulatory Division in West Palm Beach prior to submittal of the JCP application. The purpose of these meetings will be to discuss the Project scope and key elements associated with Project implementation and answer any immediate questions by the agencies prior to submittal of the application.
- 22.2.** The Consultant shall attend up to a total of eight (8) meetings in Tallahassee, Broward County, West Palm Beach, and/or Jacksonville with state and federal regulatory and resource agencies during the permit application review process to answer questions regarding the Project.
- 22.3. Deliverable.** The Consultant shall prepare a summary memo outlining the discussions, action items, and decisions made at each regulatory meeting.

23. ENVIRONMENTAL ASSESSMENT (EA)

- 23.1.** The Consultant shall prepare an Environmental Assessment ("EA") and submit this document to the County and the USACE for approval. The purpose of the EA is to document potential impacts of the new Project design, new listed species, and designation of critical habitat within the Project area since 2004. The 2004 conditions are described in the Final Environmental Impact Statement ("FEIS") previously approved with a Record of Decision by the USACE on May 11, 2004 for the combined Broward County Segments II and III projects.
- 23.2.** The EA shall include new and/or changed information; an updated Essential Fish Habitat Assessment; and development and examination of alternatives for accomplishing the Project goals along the Segment III Project area and the environmental impacts thereof. The EA will reference the approved FEIS for the 2005/06 project. No new impacts to nearshore hardbottom are expected.

Mitigation development shall only be required if the results of the Project ETOF analysis differ from the ETOF for the 2005/06 Segment III project.

- 23.3.** The Consultant shall notice, prepare for, and provide oversight services for a public scoping meeting to request public input on the Draft Environmental Assessment for the Project. All comments received during the public meeting will be addressed in the Final Environmental Assessment for the Project. The public meeting shall occur within the Broward County Segment III Project area.
- 23.4. Deliverables.** The Consultant shall provide to the County one (1) hardcopy and one (1) editable digital copy (MS Word) of the initial draft EA for review and comment by the County.
- 23.5.** Upon completion of revisions to the EA based on comments by the County and public comments on the Draft EA, the Consultant shall prepare and provide to the County distribution to the USACE, five (5) hardcopies of the draft EA and five (5) DVD's containing a PDF version of the same document for initial review and comment by the USACE-Jacksonville District.
- 23.6.** The Consultant shall support up to three (3) reviews of the EA by the USACE-Jacksonville District, ATR team, and/or higher USACE authority. The Consultant shall make requested revisions to the EA for resubmittal to the USACE. For each of the three (3) reviews, the Consultant shall provide five (5) hardcopies and five (5) electronic copies in PDF format on DVD to the County. The Consultant may provide these copies directly to USACE-Jacksonville District if authorized by the County.
- 24. BIOLOGICAL ASSESSMENT (BA)**
- 24.1.** In support of the Section 7 Consultation of the Endangered Species Act ("ESA"), the Consultant shall complete a Biological Assessment ("BA") to provide NMFS and/or U.S. Fish and Wildlife Service ("USFWS") with the information required to consult on potential impacts from the proposed Project to protected resources. There have been several new listings under the ESA since the FEIS for the 2005/06 Segment III project. The BA shall address Project effects to the seven scleractinian coral species listed under the ESA; critical habitat for Acroporid corals; critical nearshore reproductive, breeding and migratory habitat for threatened loggerhead sea turtle; and the threatened rufa red knot.

- 24.2. Deliverables.** The Consultant shall provide to the County one (1) hardcopy and one (1) editable digital copy (MS Word format) of the initial draft BA for review and comment by the County.
- 24.3.** Upon completion of revisions to the BA based upon comments by the County, the Consultant shall prepare and provide to the County for distribution to the USACE, five (5) hardcopies of the draft BA and five (5) DVD's containing a PDF version of the same document for initial review and comment by the USACE-Jacksonville District.
- 24.4.** The Consultant shall support up to three (3) reviews of the BA by the USACE-Jacksonville District, ATR team, and/or higher USACE authority. The Consultant shall make requested revisions to the BA for resubmittal to the USACE. For each of the three (3) reviews, the Consultant shall provide five (5) hardcopies and five (5) electronic copies in PDF format on DVD to the County. The Consultant may provide these copies directly to USACE-Jacksonville District if authorized by the County.

25. SUBMITTALS REQUIRED BY PERMIT

- 25.1.** The Consultant shall formulate and submit to the FDEP the following items which may be required to receive a permit and Notice-to-Proceed for construction of the Segment III Broward County Shore Protection Project:
- a. Sediment quality assurance/quality control plan
 - b. Physical monitoring plan
 - c. Turbidity control/monitoring plan
 - d. Biological monitoring plan
 - e. Mitigation plan
 - f. Turbidity monitoring personnel qualifications
 - g. Listed species observer personnel qualifications
 - h. Biological monitoring personnel qualifications
- 25.2. Sediment Quality Assurance/Quality Control ("QA/QC") Plan.** The Consultant shall prepare and submit a draft Sediment QA/QC Plan to FDEP for review. Thereafter, the Consultant shall work with the County and FDEP to negotiate terms of the Plan that are acceptable to the County.

- 25.3. Physical Monitoring Plan.** The Consultant shall prepare a physical monitoring plan for the beach fill and offshore borrow areas elements of the Project. The Plan shall be submitted to FDEP for approval prior to a Notice to Proceed being issued.
- 25.4. Turbidity Control/Monitoring Plan.** The Consultant shall develop a plan for monitoring and controlling turbidity for the purposes of minimizing Project effects to the nearshore natural hardbottom habitat.
- 25.5. Mitigation Plan.** The Consultant shall submit to appropriate agencies for review and approval the mitigation plan described in Task 27.0.
- 25.6. Biological Monitoring Plan.** The Consultant shall prepare a biological monitoring plan ("BMP"). It is possible that the Consultant will change/revise methodologies described in the Broward County Segment III Biological Monitoring Plan and offer updated recommendations and procedures for the monitoring. Changes to the plan and recommendations and procedure shall consider findings from the 2005/06 Segment III project post-construction monitoring; the 2011/12 City of Hollywood Interim Beach Nourishment Project; and the FDEP SOP for hardbottom monitoring. A draft BMP will be prepared for review by the County. A Final Draft will be prepared which addresses the County's comments. Revisions to the Final Draft will be made after receipt of comments on the BMP from the FDEP and federal commenting agencies.
- 25.7. Personnel Qualifications.** The Consultant shall submit the qualifications of personnel involved in physical and biological monitoring for Segment III for each new group of consultants and sub-contractors involved in different Phases of the Project.
- 26. DUNE DESIGN & PUBLIC OUTREACH**
- 26.1.** The Consultant shall develop a typical dune design for incorporation into the Project permits and construction plans. The Consultant shall work with County staff to determine the location and limits of dunes to be added to the Segment III Project.
- 26.2.** The Consultant shall prepare for and participate in a public outreach program regarding the incorporation of dunes along the Segment III shoreline. This will

include preparation and participation in up to three (3) community meetings and up to five (5) meetings in Broward County with specific individuals who may have specific questions and concerns regarding their particular property. Efforts will be made to focus on group meetings rather than meetings with individuals.

26.3. The Consultant shall be available to assist staff with additional community and owner coordination with the preparation of graphics and other information material that will facilitate communication and education with owners along the Segment III shoreline.

26.4. Deliverables. The Consultant shall provide education graphics and information for use by the County and attend outreach meetings as described above.

27. NEARSHORE HARDBOTTOM MITIGATION (Authorization Withheld)

Should additional nearshore hardbottom mitigation be required, the Consultant shall develop a nearshore mitigation plan, modify Project permits and NEPA documents, and prepare a Uniform Mitigation Assessment Method ("UMAM") assessment of ecological function. Should the additional mitigation take the form of mitigation structures placed in the offshore waters of Broward County, the Consultant shall work to identify mitigation sites, prepare concept structure designs, perform engineering analyses for the structures, prepare technical specifications and construction drawings, and assist the County with bidding and contractor selection. The Consultant shall assume that any required mitigation structure will be constructed of limestone boulders.

27.1. Mitigation Plan. The Consultant shall analyze and apply the data collected during the proposed field investigations to the evaluation of ecologically appropriate mitigation for Project impacts to nearshore hardbottom habitat. It is assumed that mitigation will include the placement of limestone boulders somewhere in the nearshore area along the Segment III shoreline. This task shall include a Project UMAM assessment for impacts not mitigated during the 2005/06 Segment III project, the review and evaluation of permitted mitigation plans and artificial reefs constructed as mitigation for beach nourishment impacts in Florida, specifically in Segment III, as well as review of scientific literature on the colonization of artificial reef habitats in Florida. Consultant shall assist Broward County in refining the County mitigation plan to address the functionality of the proposed mitigation artificial reef and its habitat suitability for species displaced

by the beach Project. The habitat suitability of the mitigation artificial reefs shall be evaluated to predict whether impacts to nearshore hardbottom resources are mitigated appropriately. Alternative mitigation strategies may be pursued in the UMAM assessment if the results of the ETOF analysis suggest temporary impacts or impacts to hardbottom biota and/or recruitment opportunities.

27.2. Permitting

27.2.1. The Consultant shall assist the County with state and federal permitting of additional mitigation structures, if required, to compensate for anticipated impacts that may extend beyond those identified and mitigated for in 2005/06. The Consultant shall prepare/amend permit applications and provide applicable available information and data to the agencies to support the review of permit application requests for offshore mitigation structures.

27.2.2. The Consultant, along with a qualified Subconsultant, shall prepare and coordinate a UMAM assessment of ecological function necessary to support the review of a mitigation plan.

27.3. Design and Engineering Analysis

27.3.1. The Consultant shall develop preliminary mitigation structure concepts for review and coordination with the County as well as state and federal agencies as appropriate. The mitigation structure concepts shall consider other recently permitted and constructed mitigation projects in southeast Florida.

27.3.2. The Consultant shall perform a hydraulic stability and shoreline impact analysis of proposed mitigation structures, if applicable. The analyses shall include an evaluation of potential changes to the nearshore wave climate due to the deployment of the mitigation structures. A specific sediment transport and shoreline change model will not be used in this analysis. The results from the nearshore wave analysis will be used to infer likely effects to the beach.

27.3.3. Deliverable. The Consultant shall prepare an engineering summary report with summary of findings from the hydraulic stability and shoreline impact analysis. The Consultant shall provide to the County one (1) hardcopy, if requested and one (1) digital copy (PDF) of the final report.

27.3.4. Detailed Modeling of Nearshore Circulation and Shoreline Effects. Should the results presented in Task 27.3.3 not be sufficient to meet regulatory requirements for FDEP or USACE review of a mitigation project, the Consultant shall use the sediment transport and morphological model, Delft3D, developed for the County-wide structure study (Olsen, 2010). The Consultant shall refine the model as appropriate and simulate representative waves and currents to determine the potential effects the mitigation structure may have upon the Segment III beach.

27.3.5. Deliverable for Task 27.3.4. If required by FDEP or USACE, the Consultant shall prepare an engineering summary report with summary of findings from the more detailed shoreline effects investigation. The Consultant shall provide to the County one (1) hardcopy, if requested and one (1) digital copy (PDF) of the final report.

27.4. Site Selection

27.4.1. Review of Existing Information. The Consultant shall use existing aerial photography and bathymetric data to identify up to ten (10) acres of candidate sites for the placement of mitigation structures. It is assumed that the candidate sites will be sand and void of hardbottom resources. This preliminary assessment will be the basis for the collection of more detailed site information including multi-beam hydrographic data, side-scan data, sub-bottom data, and hardbottom edge and hardbottom resource occurrence information in the vicinity of the candidate sites.

27.4.2. Surveys. The Consultant, through qualified Subconsultants, shall collect hydrographic, side-scan, sub-bottom, and environmental data within up to 10 acres of nearshore areas offshore of the Segment III shorelines. The Subconsultant(s) shall use survey methods consistent with those described in Tasks 2, 3, and 4. For the sub-bottom survey, the Subconsultant(s) shall

use equipment and survey methods consistent with industry standards to map sand thickness and sub-surface rock elevations across the candidate sites.

27.4.3. Deliverable. The Consultant shall prepare a summary memo with maps of the candidate sites that includes water depth, surface conditions, sand thicknesses, and the location of adjacent hardbottom resources. The Consultant shall provide to the County one (1) hardcopy, if requested and one (1) digital copy (PDF) of the final report.

27.5. Final Design, Plans And Specifications – Beach Fill (Mitigation)

27.5.1. The Consultant shall prepare design plans and technical specifications for required Segment III mitigation structures.

27.5.2. The Consultant shall incorporate the most current information from the available surveys in order to formulate a final design for the mitigation and mitigation location. Such information will include, as appropriate, the latest aerials and surveys, agencies comments, and permit conditions. The final design shall be consistent with County direction, and shall reflect the most current federal and state requirements with respect to the LRR, the NEPA documents, and the applicable Project permits.

27.5.3. The Consultant shall prepare construction plans for the Segment III mitigation consistent with the requirements of the USACE and the FDEP. Construction plans shall include the Project aerials, beach and bathymetric survey conditions, control information, plan views, and cross-sections. Consultant shall provide County with reproducible electronic files (i.e., DWG and PDF format) of the final plans.

27.5.4. The Consultant shall prepare elements of the Project Manual/Specifications that include the Bid Schedule, Supplemental General Conditions, Technical Provisions, and Environmental Protection Requirements for the Segment III Project as they relate to the mitigation.

27.5.5. The Consultant shall conduct up to three (total) revised versions of the documents following review and comments by the County, FDEP and the USACE. The Consultant shall support up to three (3) reviews of the plans and technical specification following review and comments by the County, FDEP and/or USACE. The Consultant shall make requested revisions for resubmittal to the County. For each of the three (3) reviews, the Consultant shall provide electronic copies in PDF format to the County.

27.5.6. The Consultant shall provide to the County an electronic version of the Bid Schedule, Supplemental General Conditions, Technical Provisions, and Environmental Protection Requirements for incorporation into the County's final bid documents. The Consultant shall be available to assist the County with final QA/QC review of the bid documents prior to bid.

27.6. Bidding Assistance And Contractor Selection – Mitigation

27.6.1. Prior to the initiation of the bid process, Consultant shall provide the County with a list of contractors and subcontractors which have the experience, qualifications, and expertise to carry out the various elements of mitigation construction.

27.6.2. The Consultant shall assist the County in conducting one (1) pre-bid conference and one (1) field visit to the Project locations, as possible, at which Consultant shall be available to answer technical and engineering questions related to the Project. The Consultant shall prepare and distribute a technical summary of the Project to each attendee at the pre-bid meeting and walk-through within three (3) days of the events.

27.6.3. The Consultant shall provide timely responses to the inquiries of prospective bidders by using written addenda, as required. Queries and responses shall be documented and a record of each shall be transmitted to the Contract Administrator.

27.6.4. Within seven (7) days of bid opening the Consultant shall provide to County an evaluation of the bids for technical completeness, full responsiveness to technical requirements and price, including alternative prices and unit

prices, and shall make a written recommendation to the Contract Administrator with respect to award of the contract. Non-technical bid issues shall be evaluated by the County.

27.6.5. The Consultant shall be available to appear before the Broward County Board of County Commissioners or other County body in order to answer questions regarding the submitted bid information and the recommendation of the Consultant.

28. BEACH PROFILE SURVEY (Final Design)

- 28.1.** The Consultant, through a qualified Subconsultant licensed pursuant to Chapter 472, F.S., shall conduct a final design beach profile survey following FDEP's Monitoring Standards for Beach Erosion Control Project (October 2014). The survey shall include the Segment III shoreline and FDEP R-monuments, including established intermediate monuments from Broward County R-85.7 to Miami-Dade County R-5, including all established intermediate monuments. The survey shall also include the survey of the beach profile at intermediate construction baseline stations between Broward County R-98 and R-128, described in Task 29.2. As such the final design survey will include 47 primary R-monuments and 42 intermediate monuments. The beach profile survey at each primary R-monument shall extend approximately 2,000 feet from the control monument or to -30 feet NAVD, whichever is greater. The beach profile at the intermediate monuments shall only be surveyed to wading depth.
- 28.2.** The final design beach profile survey shall be performed in accordance with the survey requirements included in Task 1.0. The Consultant shall utilize the results of the final design survey to compare beach conditions with the conditions measured by the preliminary design survey and determine the differences in required fill quantities and configuration necessary to maintain the permitted beach dimensions.
- 28.3.** The Consultant shall provide all necessary materials and equipment to perform the required work activity. The Consultant shall also supply the supervisory, professional, and technical services personnel required to manage, document, and process all data associated with the acquisition and processing of the survey data.

- 28.4.** All required data shall be provided in the following datum: HARN, NAD 83/90 State Plane Coordinates in feet, plus NAVD elevations in U.S. survey feet. Alternative datums will be considered, but must be agreed upon by FDEP prior to commencing survey work.
- 28.5. Deliverables.** The Consultant, through a qualified Subconsultant licensed pursuant to Chapter 472, F.S., shall prepare a report certifying that the survey meets the technical specifications of FDEP's Monitoring Standards for Beach Erosion Control Project (October 2014). The report may be submitted electronically. If the report is electronically signed and sealed and the report and other products listed below are transmitted electronically, hard copies of these deliverables are not required.
- 28.6.** Deliverables to the County and FDEP shall also include two copies of the following digital products:
- a. ASCII file containing raw x, y, z profile data points.
 - b. ASCII files containing the profile data processed into the FDEP distance and depth format. The FDEP format includes data as well as header records.
 - c. Monument Information Report (Given/Used/Found Report) with regard to monumentation that includes a list of provided, found, and used monuments and TBM identification, stamping, coordinates, elevations, and profile azimuths. The report shall be submitted in Excel format (.xls) or equivalent spreadsheet format.
 - d. Complete federally compliant metadata file including methodology of the data collection and processing procedures used in accordance with standards set forth by the federal Geographic Data Committee. Metadata shall include standard QA/QC procedures utilized to ensure the quality of the data.
 - e. Copies of all checked, standard field books, computation and reduction files, and abstracted final positions shall be provided to the County and FDEP. Field books shall be scanned pages amassed into a .pdf document for electronic submittal.
 - f. Digital copy of cross-section and plan view data plots.
- 29. FINAL DESIGN, PLANS and SPECIFICATIONS – BEACH FILL (Upland Sand Source)**
- 29.1.** The Consultant shall prepare design plans and technical specifications for the Segment III Project. The Consultant shall assume that beach fill projects along both

the State Park and Dania/Hollywood/ Hallandale Beach shoreline reaches will be constructed using an upland sand source.

- 29.2.** The Consultant shall establish a construction baseline utilizing the FDEP Range (R) monumentation along the Project shoreline. Establishment of the construction baseline shall also include the creation of intermediate baseline points roughly halfway between the existing FDEP R-monuments R-98 and R-128 (Broward County). This will consist of 29 intermediate monument locations.
- 29.3.** The Consultant shall incorporate the most current information from the final design survey in order to formulate a final design for the Segment III Project. Current information shall include, as appropriate, the latest aerials and surveys, agencies comments, permit conditions, and the latest available engineering analyses described in the scope of services. The final design shall be developed consistent with County direction, and shall reflect the most current state and federal requirements with respect to the federally authorized plan as identified in the LRR, the EA, BA, and the applicable Project permits.
- 29.4.** The Consultant shall prepare construction plans for the Segment III Project consistent with the requirements of the USACE and the FDEP. Construction plans shall include, but not be limited to, the Project aerials, beach and bathymetric survey conditions, sediment requirements, beach profile cross-sections, beach fill construction templates, beach access details, work corridors, and other information required for complete plans. Consultant shall provide County with reproducible electronic files (i.e., DWG and PDF format) of the final plans.
- 29.5.** The Consultant shall prepare elements of the Project Manual/Specifications that include, but may not be limited to, the Bid Schedule, Supplemental General Conditions, Technical Provisions, and Environmental Protection Requirements for the Segment III Project as they relate to the beach fill assuming the use of an upland sand source(s).
- 29.6.** The Consultant shall support up to three (3) reviews of the plans and technical specification following review and comments by the County, FDEP and/or USACE. The Consultant shall make requested revisions for resubmittal to the County. For each of the three (3) reviews, the Consultant shall provide electronic copies in PDF format to the County.

- 29.7.** The Consultant shall provide to the County an electronic version of the Bid Schedule, Supplemental General Conditions, Technical Provisions, and Environmental Protection Requirements for incorporation in to the County's final bid documents. The Consultant shall be available to assist the County with final QA/QC review of the bid documents prior to bid.

**30. BIDDING ASSISTANCE and CONTRACTOR SELECTION – BEACH FILL
(Upland Sand Source)**

- 30.1.** Prior to the initiation of the bid process, Consultant shall provide the County with a list of contractors and subcontractors which have the experience, qualifications, and expertise to carry out the various elements of Project construction.
- 30.2.** The Consultant shall assist the County in conducting one (1) pre-bid conference and one (1) field visit to the Project locations, at which Consultant shall be available to answer technical and engineering questions related to the Project. The Consultant shall prepare and distribute a technical summary of the Project to each attendee at the pre-bid meeting and walk-through within three (3) days of the events.
- 30.3.** The Consultant shall provide timely responses to the inquiries of prospective bidders by using written addenda, as required. Queries and responses shall be documented and a record of each shall be transmitted to the Contract Administrator.
- 30.4.** Within seven (7) days of bid opening the Consultant shall provide to County an evaluation of the bids for technical completeness, full responsiveness to technical requirements and price, including alternative prices and unit prices, and shall make a written recommendation to the Contract Administrator with respect to award of the contract. Non-technical bid issues shall be evaluated by the County.
- 30.5.** The Consultant shall be available to appear before the Broward County Board of County Commissioners or other County body in order to answer questions regarding the submitted bid information and the recommendation of the Consultant.

31. OPTIONAL SERVICES (Authorization Withheld).

This Optional Services task shall provide for consulting services related to the survey, planning, engineering, design, permitting, and construction document preparation that may be required to complete this work described herein but have not been anticipated during the development of this scope of work and are not specifically provided for herein.

Broward County Shore Protection Project - Segment III
RFP-T2112588P1 : Phase I
TOTAL SUMMARY

Task		Labor	Reimbursables	SubConsultants	Total
TASK 1:	BEACH PROFILE SURVEY (Pre-Study) (2018)	\$6,077.24	\$-	\$36,000.00	\$42,077.24
TASK 2:	NEARSHORE EDGE DELINEATION SURVEY (2018)	\$5,456.80	\$-	\$25,209.00	\$30,665.80
TASK 3:	NEARSHORE EDGE MULTI-BEAM BATHYMETRIC SURVEY (2018)	\$7,355.68	\$-	\$71,400.00	\$78,755.68
TASK 4:	NEARSHORE SIDE-SCAN SURVEY (2018)	\$10,128.72	\$-	\$48,312.00	\$58,440.72
TASK 5:	LISTED SPECIES SURVEY (2018)	\$9,588.08	\$-	\$227,850.00	\$237,438.08
TASK 6:	DUNE VEGETATION SURVEY (2018)	\$6,077.24	\$-	\$27,952.00	\$34,029.24
TASK 7:	CHARACTERIZE NEARSHORE HARDBOTTOM HABITAT (2018)				
7.1	Desktop Analysis/Existing Data Research and Evaluation	\$6,077.24	\$-	\$34,980.00	\$41,057.24
7.2	Field Data Collection (Authorization Withheld: Specific Notice to Proceed Required)	\$3,374.64	\$-	\$34,526.00	\$37,900.64
TASK 8:	EASEMENTS and RIGHTS-OF-WAY (2020)	\$20,242.02	\$3,600.00	\$8,500.00	\$32,342.02
TASK 9:	PROJECT UPDATE AND PRELIMINARY PERFORMANCE EVALUATION (2018/19)				
9.1	Beach Condition / Project Requirement Assessment	\$28,428.88	\$1,800.00	\$-	\$30,228.88
9.2	Evaluate Project Baseline Alternatives for Northern Hollywood	\$21,247.88	\$-	\$-	\$21,247.88
	Subtotal	\$49,676.76	\$1,800.00	\$-	\$51,476.76
TASK 10:	EQUILIBRIUM TOE-OF-FILL ANALYSIS (2019)	\$31,622.52	\$-	\$9,743.00	\$41,365.52
TASK 11:	UPLAND SAND SOURCE CONFIRMATION (2019)				
11.1	Review Implementation Issues for an Upland Sand Source Project (Segment III)	\$18,067.12	\$1,800.00	\$-	\$19,867.12
11.2	Initial Review of Upland Sand Source Providers	\$10,011.44	\$-	\$-	\$10,011.44
11.3	Detailed Review of Selected Upland Sand Source Providers	\$15,089.72	\$3,600.00	\$11,595.00	\$30,284.72
	Subtotal	\$43,168.28	\$5,400.00	\$11,595.00	\$60,163.28
TASK 12:	OFFSHORE SAND SOURCE EVALUATION (2019)	\$43,797.64	\$-	\$-	\$43,797.64
TASK 13:	BEACH FILL COMPATIBILITY ANALYSIS (2019)	\$22,317.60	\$3,600.00	\$28,797.64	\$54,715.24
TASK 14:	LIMITED REEVALUATION REPORT (LRR) (2018-20)	\$283,473.84	\$9,000.00	\$-	\$292,473.84
TASK 15:	BEACH-FX STORM DAMAGE ANALYSIS (Data Collection and Model Setup) (2018)	\$81,499.56	\$7,200.00	\$127,561.20	\$216,260.76
TASK 16:	BEACH-FX STORM DAMAGE ANALYSIS (Coastal Morphology Processes Input) (2019)				

Task		Labor	Reimbursables	SubConsultants	Total
16.1	Storm-Induced Beach Response Model Study (SBEACH)	\$67,321.48	\$-	\$-	\$67,321.48
16.2	Shoreline Change Model Study (GenCade/GENESIS)	\$61,574.44	\$2,500.00	\$-	\$64,074.44
	Subtotal	\$128,895.92	\$2,500.00	\$-	\$131,395.92
TASK 17:	BEACH-Fx STORM DAMAGE ANALYSIS (Calibration and Benefits Analysis) (2019-20)	\$153,573.84	\$-	\$-	\$153,573.84
TASK 18:	COST ANALYSIS (2019-20)	\$37,959.60	\$-	\$-	\$37,959.60
TASK 19:	PROJECT PARTNERSHIP AGREEMENT (PPA) SUPPORT (2021)	\$17,359.84	\$-	\$-	\$17,359.84
TASK 20:	JOINT COASTAL PERMIT APPLICATION (JCP) APPLICATION (2019)	\$47,239.92	\$3,600.00	\$9,581.00	\$60,420.92
TASK 21:	RESPONSES TO REQUESTS FOR ADDITIONAL INFORMATION (2019-20)	\$56,890.00	\$-	\$9,400.00	\$66,290.00
TASK 22:	COORDINATION MEETINGS (PERMITTING) (2019-20)	\$23,215.80	\$9,000.00	\$11,238.00	\$43,453.80
TASK 23:	ENVIRONMENTAL ASSESSMENT (EA) (2019)	\$33,481.12	\$3,600.00	\$78,920.00	\$116,001.12
TASK 24:	BIOLOGICAL ASSESSMENT (BA) (2019)	\$15,029.22	\$1,800.00	\$55,937.00	\$72,766.22
TASK 25:	SUBMITTALS REQUIRED BY PERMIT (2021)	\$18,643.70	\$-	\$21,799.00	\$40,442.70
TASK 26:	DUNE DESIGN and PUBLIC OUTREACH (2020)	\$28,177.44	\$7,200.00	\$-	\$35,377.44
TASK 27:	NEARSHORE HARDBOTTOM MITIGATION (Authorization Withheld: Specific Notice to Proceed Required) (2020)				
27.1	Mitigation Plan**	\$6,492.20	\$-	\$85,792.00	\$92,284.20
27.2	Permitting	\$15,552.48	\$-	\$-	\$15,552.48
27.3	Design and Engineering Analysis	\$37,433.84	\$-	\$-	\$37,433.84
27.3.4	Detailed Modeling of Nearshore Circulation and Shoreline Effects	\$47,176.88	\$-	\$-	\$47,176.88
27.4	Site Selection	\$12,880.00	\$-	\$16,845.04	\$29,725.04
27.5	Final Design, Plans and Specifications	\$31,937.76	\$-	\$-	\$31,937.76
27.6	Bidding Assistance and Contractor Selection	\$22,259.20	\$3,600.00	\$-	\$25,859.20
	Subtotal	\$173,732.36	\$3,600.00	\$102,637.04	\$279,969.40
	** Subconsultant cost listed for 27.1 applies to subtasks 27.1 - 27.5.				
TASK 28:	BEACH PROFILE SURVEY (Final Design) (2020)	\$6,447.44	\$-	\$56,700.00	\$63,147.44
TASK 29:	FINAL DESIGN, DESIGN PLANS and SPECIFICATIONS - BEACH FILL (Upland Sand Source) (2020)	\$123,481.32	\$-	\$-	\$123,481.32
TASK 30:	BIDDING ASSISTANCE and CONTRACTOR SELECTION - BEACH FILL (Upland Sand Source) (2021)	\$29,385.98	\$5,400.00	\$-	\$34,785.98
TASK 31:	OPTIONAL SERVICES (Authorization Withheld: Specific Notice to Proceed Required)	\$-	\$-	\$-	\$100,000.00
	subTOTAL (Base)	\$1,346,340.36	\$63,700.00	\$901,474.84	\$2,311,515.20

Task		Labor	Reimbursables	SubConsultants	Total
	subTOTAL (Authorization Withheld: Subject to Specific Notices to Proceed)	\$177,107.00	\$3,600.00	\$137,163.04	\$417,870.04
	TOTAL	\$1,523,447.36	\$67,300.00	\$1,038,637.88	\$2,729,385.24

EXHIBIT B
MAXIMUM BILLING RATES

Project No: T2112588P1
Project Title: Coastal Engineering Consultant Services for Segment III Shore Protection
Consultant Name: Olsen Associates, Inc.

TITLE	MAXIMUM HOURLY RATE (\$/HR)	X	MULTIPLIER 2.35	=	MAXIMUM BILLING RATE (\$/HR)
Principal	\$70.00				\$164.50
Senior Engineer	\$57.00				\$133.95
Coastal Engineer I	\$50.50				\$118.68
Coastal Engineer II	\$36.50				\$85.78
Coastal Engineer III	\$33.00				\$77.55
Draftsman/CAD Tech	\$27.00				\$63.45
Administrative Assistant	\$28.50				\$66.98

Multiplier of **2.35** is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (100)%

FRINGE = HOURLY RATE X FRINGE (10)%

OPERATING MARGIN = (HOURLY RATE + OVERHEAD + FRINGE) X OPERATING MARGIN (12)%
(1.00 + 1.00 + 0.10) x 0.12 = 0.25

MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + OPERATING MARGIN) / HOURLY RATE
(1.00 + 1.00 + 0.10 + .0.25) / 1.00 = 2.35

EXHIBIT B
MAXIMUM BILLING RATES

Project No: T2112588P1
Project Title: Coastal Engineering Consultant Services for Segment III Shore Protection
Subconsultant Name: Coastal Eco-Group, Inc.

	MAXIMUM HOURLY RATE (\$/HR)		MULTIPLIER		MAXIMUM BILLING RATE (\$/HR)
TITLE		X	2.35	=	
President, Principal Scientist	\$50.00				\$117.50
Senior Scientist	\$39.42				\$92.64
Staff Scientist	\$27.00				\$63.45
Boat Captain	\$25.00				\$58.75

Multiplier of 2.35 is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (100)%

FRINGE = HOURLY RATE X FRINGE (10)%

OPERATING MARGIN = (HOURLY RATE + OVERHEAD + FRINGE) X OPERATING MARGIN (12)%
(1.00 + 1.00 + 0.10) x 0.12 = 0.25

MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + OPERATING MARGIN) / HOURLY RATE
(1.00 + 1.00 + 0.10 + .0.25) / 1.00 = 2.35

EXHIBIT B
MAXIMUM BILLING RATES

Project No: T2112588P1
Project Title: Coastal Engineering Consultant Services for Segment III Shore Protection
Subconsultant Name: The Chappell Group

TITLE	MAXIMUM HOURLY RATE (\$/HR)	X	MULTIPLIER 3.0	=	MAXIMUM BILLING RATE (\$/HR)
Principal	\$83.34				\$250.02
Project Manager	\$53.00				\$159.00
Senior Project Biologist	\$40.00				\$120.00
Compliance Inspector	\$38.00				\$114.00
Certified Arborist	\$35.00				\$105.00
Project Biologist	\$30.00				\$90.00
CAD Technician	\$25.00				\$75.00
Secretary	\$17.00				\$51.00

Multiplier of **3.0** is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (127.04)%

FRINGE = HOURLY RATE X FRINGE (45.60) %

OPERATING MARGIN = (HOURLY RATE + OVERHEAD + FRINGE) X OPERATING MARGIN (10)%
(1.00 + 1.2704 + 0.4560) x 0.10 = 0.27

MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + OPERATING MARGIN) / HOURLY RATE
(1.00 + 1.2704 + 0.4560 + .0.27) / 1.00 = 3.0

**EXHIBIT B
MAXIMUM BILLING RATES**

Project No: T2112588P1
Project Title: Coastal Engineering Consultant Services for Segment III Shore Protection
Subconsultant Name: Down-to-Earth Geotechnical Consulting, Inc. (D2E)

	MAXIMUM HOURLY RATE (\$/HR)		MULTIPLIER		MAXIMUM BILLING RATE (\$/HR)
TITLE		X	2.31	=	
Professional Engineer	\$64.90				\$149.92
Technician	\$22.00				\$50.82

Multiplier of **2.31** is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (100)%

FRINGE = HOURLY RATE X FRINGE (10) %

OPERATING MARGIN = (HOURLY RATE + OVERHEAD + FRINGE) X OPERATING MARGIN (10)%
 $(1.00 + 1.00 + 0.10) \times 0.10 = 0.21$

MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + OPERATING MARGIN) / HOURLY RATE
 $(1.00 + 1.00 + 0.10 + 0.21) / 1.00 = 2.31$

Notes:

Consultant has elected to use "Safe Harbor" combined fringe benefit and overhead rate of 110% in accordance with Section 5.2.5.

**EXHIBIT B
MAXIMUM BILLING RATES**

Project No: T2112588P1
Project Title: Coastal Engineering Consultant Services for Segment III Shore Protection
Subconsultant Name: Morgan & Eklund, Inc.

	MAXIMUM HOURLY RATE (\$/HR)		MULTIPLIER		MAXIMUM BILLING RATE (\$/HR)
TITLE		X	2.31	=	
Chief Surveyor	\$48.80				\$112.73
Project Surveyor	\$39.04				\$90.18
Hydrographic Project Surveyor	\$29.28				\$67.64
Computer Technician	\$30.50				\$70.46
Party Chief	\$21.32				\$49.25
Three Man Survey Crew	\$59.45				\$137.33

Multiplier of **2.31** is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (100)%

FRINGE = HOURLY RATE X FRINGE (10) %

OPERATING MARGIN = (HOURLY RATE + OVERHEAD + FRINGE) X OPERATING MARGIN (10)%
(1.00 + 1.00 + 0.10) x 0.10 = 0.21

MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + OPERATING MARGIN) / HOURLY RATE
(1.00 + 1.00 + 0.10 + 0.21) / 1.00 = 2.31

Notes:

Consultant has elected to use "Safe Harbor" combined fringe benefit and overhead rate of 110% in accordance with Section 5.2.5.

EXHIBIT B
MAXIMUM BILLING RATES

Project No: T2112588P1
Project Title: Coastal Engineering Consultant Services for Segment III Shore Protection
Subconsultant Name: Keith and Associates, Inc.

TITLE	MAXIMUM HOURLY RATE (\$/HR)	X	MULTIPLIER 2.77	=	MAXIMUM BILLING RATE (\$/HR)
Senior Project Manager	\$100.00				\$277.00
Project Manager I	\$62.00				\$171.74
Project Manager II	\$75.00				\$207.75
Project Manager III	\$80.00				\$221.60
Surveyor I	\$29.00				\$80.33
Surveyor II	\$40.00				\$110.80
Surveyor III (PSM)	\$55.00				\$152.35
CADD Technician	\$30.00				\$83.10
GIS Specialist I	\$37.00				\$102.49
GIS Specialist II	\$55.00				\$152.35

Multiplier of **2.77** is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (117.64)%

FRINGE = HOURLY RATE X FRINGE (34.12) %

OPERATING MARGIN = (HOURLY RATE + OVERHEAD + FRINGE) X OPERATING MARGIN (10)%
(1.00 + 1.1764 + 0.3412) x 0.10 = 0.25

MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + OPERATING MARGIN) / HOURLY RATE
(1.00 + 1.1764 + 0.3412 + .0.25) / 1.00 = 2.77

**EXHIBIT B
MAXIMUM BILLING RATES**

Project No: T2112588P1
Project Title: Coastal Engineering Consultant Services for Segment III Shore Protection
Subconsultant Name: Sonographics, Inc.

TITLE	MAXIMUM HOURLY RATE (\$/HR)	X	MULTIPLIER	=	MAXIMUM BILLING RATE
			2.31		(\$/HR)
Marine Geophysicist	\$54.11				\$124.99

Multiplier of **2.31** is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (100)%

FRINGE = HOURLY RATE X FRINGE (10) %

OPERATING MARGIN = (HOURLY RATE + OVERHEAD + FRINGE) X OPERATING MARGIN (10)%
(1.00 + 1.00 + 0.10) x 0.10 = 0.21

MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + OPERATING MARGIN) / HOURLY RATE
(1.00 + 1.00 + 0.10 + 0.21) / 1.00 = 2.31

Notes:

Consultant has elected to use "Safe Harbor" combined fringe benefit and overhead rate of 110% in accordance with Section 5.2.5.

EXHIBIT B
MAXIMUM BILLING RATES

Project No: T2112588P1
Project Title: Coastal Engineering Consultant Services for Segment III Shore Protection
Subconsultant Name: Nova Southeastern University

	MAXIMUM HOURLY RATE		MULTIPLIER		MAXIMUM BILLING RATE
TITLE	(\$/HR)	X	1.95	=	(\$/HR)
Principal Investigator	\$49.00				\$95.55
Project Manager	\$24.00				\$46.80
Research Assistant	\$13.00				\$25.35

Multiplier of **1.95** is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (68.7)%

FRINGE = HOURLY RATE X FRINGE (26.5) %

OPERATING MARGIN = (HOURLY RATE + OVERHEAD + FRINGE) X OPERATING MARGIN (0.00)%

MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + OPERATING MARGIN) / HOURLY RATE

Notes:

NOVA Southeastern University (NSU) is a not-for-profit institution. NSU has an overhead rate of 68.7% and a fringe rate of 26.5% on all salaries. They do not have an operating margin

EXHIBIT B-1
REIMBURSABLES FOR DIRECT NON-SALARY EXPENSES

Reimbursable	Maximum Reimbursable
Total Maximum Reimbursables:	*\$67,300

* Reimbursables are detailed within Exhibit A's Total Summary of Costs

EXHIBIT C
SCHEDULE OF SUBCONSULTANTS

Project No: T2112588P1
Project Title: Coastal Engineering Consultant Services for Segment III Shore Protection
Consultant: Olsen Associates, Inc. (Prime)
Facility Name: Facility Name

No.	Firm Name	Discipline
1.	Coastal Eco-Group, Inc.	Environmental Surveys, Permitting, and Consulting
2	NOVA Southeastern University, Inc.	Biological Surveys
3	Down-to-Earth Geotechnical Consulting, Inc.	Geotechnical Engineering and Laboratory
4	Morgan and Eklund, Inc.	Beach and Hydrographic Surveys
5.	Sonographics, Inc.	Geophysical Surveys
6.	Keith and Associates, Inc.	Land and Upland Structure Surveys/GIS
7	The Chappell Group, Inc.	Environmental/Water Quality Consulting
8		
9.		
10.		

EXHIBIT D

MINIMUM INSURANCE REQUIREMENTS

Insurance Requirement Form for Professional Engineering Consultant Services

The following coverage is deemed the minimum insurance required for this project. The selected firm must be prepared to provide proof of insurance commensurate with or in excess of this requirement. Any deviation is subject to the approval of Risk Management.


TYPE OF INSURANCE	Limits on Liability in Thousands of Dollars		
		Each Occurrence	Aggregate
GENERAL LIABILITY - Broad form <input checked="" type="checkbox"/> Commercial General Liability <input checked="" type="checkbox"/> Premises-Operations <input checked="" type="checkbox"/> Explosion & Collapse Hazard <input checked="" type="checkbox"/> Underground Hazard <input checked="" type="checkbox"/> Products/Completed Operations Hazard <input checked="" type="checkbox"/> Contractual Insurance <input checked="" type="checkbox"/> Broad Form Property Damage <input checked="" type="checkbox"/> Independent Contractors <input checked="" type="checkbox"/> Personal Injury	Bodily Injury		
	Property Damage		
	Bodily Injury and Property Damage Combined	\$ 2 mil	\$ 4 mil
	Personal Injury		
AUTO LIABILITY <input checked="" type="checkbox"/> Comprehensive Form <input checked="" type="checkbox"/> Owned <input checked="" type="checkbox"/> Hired <input checked="" type="checkbox"/> Non-owned <input checked="" type="checkbox"/> Any Auto If applicable	Bodily Injury (each person)		
	Bodily Injury (each accident)		
	Property Damage		
	Bodily Injury and Property Damage Combined	\$1 mil	
EXCESS LIABILITY <input checked="" type="checkbox"/> Umbrella Form <input type="checkbox"/> Other than Umbrella Form	Bodily Injury and Property Damage Combined	May be used to supplement minimum liability coverage requirements	\$
<input checked="" type="checkbox"/> WORKER'S COMPENSATION	(each accident)	STATUTORY	
<input checked="" type="checkbox"/> EMPLOYER'S LIABILITY		\$ 1 mil	
<input checked="" type="checkbox"/> PROFESSIONAL LIABILITY (E & O)	(each accident)	\$3 mil	
	Extended Reporting Period – 3 years		
<input type="checkbox"/> PROPERTY COVERAGE /BUILDER'S RISK "ALL RISK" WITH WIND AND FLOOD Coverage must remain in force until written final acceptance by County.	Maximum Deductible: \$10 k		Completed Value
	DED for WIND or WIND & FLOOD not to exceed 5% of completed value		
	CONTRACTOR IS RESPONSIBLE FOR DEDUCTIBLE		
<input type="checkbox"/> Installation floater is required if Builder's Risk or Property are not carried. Coverage must be "All Risk", completed value. Coverage must remain in force until written final acceptance by County.	CONTRACTOR IS RESPONSIBLE FOR DEDUCTIBLE	Maximum deductible: \$ 10 k	Completed Value
Description "Broward County" must be listed as an additional insured on the commercial general liability and business automobile liability policies. Waiver of subrogation in favor of Certificate Holder applies to general liability, automobile liability, and workers compensation. Thirty (30) Day written notice of cancellation is required to the Certificate Holder.			
Certificate Holder: Broward County 201 NW 84 th Ave Plantation, FL 33324			ELIZABETH PLASKA dc=cty, dc=broward, dc=bc, ou=Organization, ou=BCC, ou=RM, ou=Users, cn=ELIZABETH PLASKA

EXHIBIT E
WORK AUTHORIZATION FORM FOR AGREEMENT RFP # T2112588P1

Contract Number: _____

Work Authorization No. _____

This Work Authorization is between Broward County and _____ ("Provider") pursuant to the Agreement, executed on _____. In the event of any inconsistency between this Work Authorization and the Agreement, the provisions of the Agreement shall govern and control.

Services to be provided: [DESCRIBE IN DETAIL]

Agreement at issue is ___ Lump Sum/ ___ Not-to-Exceed for amount: \$ _____

The time period for this Work Authorization will be from the date of complete execution until ____ (___) days after County's Notice to Proceed for the Services to be provided under this Work Authorization, unless otherwise extended or terminated by the Contract Administrator.

Fee Determination: Payment for services under this Work Authorization is as follows:

Professional Services	\$ _____
General Services	\$ _____
Goods/Equipment	\$ _____
Total Cost of this Work Authorization	\$ _____

The foregoing amounts shall be invoiced by Provider upon written acceptance by County of all goods and services provided under this Work Authorization.

County

Contract Administrator (Date)

Project Manager (Date)

Board or Designee (Date)

Provider

Signed (Date)

Attest

Typed Name

Title

EXHIBIT F
FEDERALLY FUNDED CONTRACTS REQUIREMENTS

- 1. Additional Terms for Federally Funded Contracts. Contractor shall comply with the following additional obligations to the extent applicable:**

A. EQUAL EMPLOYMENT OPPORTUNITY CLAUSE (2 CFR §200.326 Appendix II to Part 200 (C))

During the performance of the contract, Consultant shall comply with the Equal Employment Opportunity Clause (41 CFR 60-1.4(b)):

- 1. Consultant will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. Consultant will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.*
- 2. Consultant will, in all solicitations or advertisements for employees placed by or on behalf of the Consultant, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.*
- 3. Consultant will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Consultant's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.*
- 4. Consultant will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.*
- 5. Consultant will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor for purpose of investigation to ascertain compliance with such rules, regulations, and orders.*
- 6. In the event of the Consultant's noncompliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Consultant may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.*

7. *Consultant will include the portion of the sentence immediately preceding paragraph 1 and the provisions of paragraph 1 through 7 in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each Subconsultant. The Consultant will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: provided, however, that in the event a Consultant becomes involved in, or is threatened with, litigation with a Subconsultant as a result of such direction by the administering agency the Consultant may request the United States to enter into such litigation to protect the interest of the United States.*

B. DAVIS-BACON ACT (2 CFR §200.326 Appendix II to Part 200 (D))

(Applicable to prime construction contracts in excess of \$2,000.) Consultant shall pay wages to laborers and mechanics at a rate not less than those in the attached Davis-Bacon Act Wage Rate Table(s) as made by the Secretary of Labor. Consultant shall pay wages not less than once per week.

C. COPELAND "ANTI-KICKBACK" ACT (2 CFR §200.326 Appendix II to Part 200 (D))

(Applicable to prime construction contracts in excess of \$2,000.) Consultant shall comply with the Copeland "Anti-Kickback" Act (40 U.S.C. §3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Consultants and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that the Consultant and County is prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The County must report all suspected or reported violations to the appropriate federal agency.

1. *Consultant. The Consultant shall comply with 18 U.S.C. § 874, 40 U.S. C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this Contract.*
2. *Subcontracts. The Consultant or Subconsultant shall insert in any subcontracts the clause above and such other clauses as the FEMA may by appropriate instructions require, and also a clause requiring the Subconsultants to include these clauses in any lower tier subcontracts. The prime Consultant shall be responsible for the compliance by any Subconsultant or lower tier Subconsultant with all of these contract clauses.*
3. *Breach. A breach of the contract clause above may be grounds for termination of the Contract, and for debarment as a contractor and Subconsultant as provided in 29 C.F.R. §5.12.*

D. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT (2 CFR §200.326 Appendix II to Part 200 (E)) (40 U.S.C. 3701-3708)

(Not applicable to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.)

Contracts in excess of \$100,000 that involve the employment of mechanics or laborers shall comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each Consultant and its Subconsultants shall compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous.

E. RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT (2 CFR §200.326 Appendix II to Part 200 (F))

(Not applicable to this Contract.) If the federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

F. CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (2 CFR §200.326 Appendix II to Part 200 (G))

Consultant shall comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

G. DEBARMENT AND SUSPENSION (2 CFR §200.326 Appendix II to Part 200 (H))

A contract cannot be awarded to parties listed on the government-wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." The Excluded Parties List System in SAM contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549. The Consultant agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The Consultant further agrees to include a provision requiring such compliance in its lower tier covered transactions.

H. PROCUREMENT OF RECOVERED MATERIALS (2 CFR §200.322)

Consultant must comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired by the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

I. CONTRACTING WITH SMALL AND MINORITY BUSINESSES, WOMEN'S BUSINESS ENTERPRISES, AND LABOR SURPLUS AREA FIRMS (2 CFR §200.321)

Should the Consultant subcontract any of the work under this Contract, Consultant shall take the following affirmative steps: place qualified small and minority businesses and women's business enterprises on solicitation lists; assure that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources; divide total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises; establish delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; and use the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce. Their websites and contact information can be found at www.SBA.gov and www.MBDA.gov.

J. ENERGY EFFICIENCY AND CONSERVATION

Consultant shall comply with the mandatory standards and policies of the Florida Energy Efficiency and Conservation Act issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. § 6201).

K. BYRD ANTI-LOBBYING AMENDMENT (2 CFR §200.326 Appendix II to Part 200 (I))

Consultants that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier up to the non-federal award. If not provided with the bid response, Consultant must complete and submit the **Certification Regarding Lobbying Form** within three business days of County's request.

EXHIBIT G
PORT EVERGLADES SECURITY REQUIREMENTS

- A. The Port Everglades Department requires persons to present, at port entry, a valid driver's license, and valid reason for wishing to be granted port access in order to obtain a temporary/visitor ID badge. For persons who will visit the Port more than 15 times in a 90 day period, a permanent identification badge must be obtained and paid for by the contractor for all employees, Subconsultants, agents and servants visiting or working on the port project. A restricted access badge application process will include fingerprints and a comprehensive background check. Badges must be renewed annually and the fees paid pursuant to Broward County Administrative Code, Section 42.6. For further information, please call 954-765-4225.
- B. All vehicles that are used regularly on the dock apron must have a Dockside Parking Permit. Only a limited number of permits will be issued per business entity. The fee is \$100.00 per permit/vehicle. Individuals requesting a permit must possess a valid Port-issued Restricted Access Area badge with a "Dock" destination. Requests for Dockside Parking Permits must be submitted in writing, on company letterhead, to the ID Badge Office. Applicants must demonstrate a need for access to the dock apron. Requests shall be investigated, and approved, if appropriate justification is provided. Supporting documentation must be supplied, if requested. Dock permits are not transferable and must be affixed to the lower left corner of the permitted vehicle's windshield. Should the permit holder wish to transfer the permit to another vehicle during the term of issuance, the permit will be removed and exchanged at no charge for a new permit. Only one business entity representative will be permitted on the dock at a time at the vessel location.
- C. The federal Government has instituted requirements for a Transportation Worker Identification Credential (TWIC) for all personnel requiring unescorted access to designated secure areas within Port Everglades. The contractor will be responsible for complying with the applicable TWIC requirements. For further information, please call 1-855-347-8371, or go on line to <https://www.tsa.gov/for-industry/twic>.