

**CITY OF NAPLES, FLORIDA  
AGREEMENT  
(PROFESSIONAL SERVICES)**

**Bid/Proposal No.**     15-017

**Clerk Tracking No.**   15-00066

**Project Name:**       **Naples Bay Oyster Beds Creation**

THIS AGREEMENT (the "Agreement") is made and entered into this 6th day of **May 2015**, by and between the City of Naples, a Florida municipal corporation, (the "CITY") and **Scheda Ecological Associates, Incorporated**, a Florida Profit Corporation, authorized to do business in the State of Florida, whose business address is: **6151 Lake Osprey Drive, Suite 320; Sarasota, Florida 34240** (the "CONSULTANT").

WHEREAS, the CITY desires to obtain the services of the CONSULTANT concerning certain services specified in this Agreement (referred to as the "Project"); and

WHEREAS, the CONSULTANT has submitted a proposal for provision of those services; and

WHEREAS, the CONSULTANT represents that it has expertise in the type of professional services that will be required for the Project.

NOW, THEREFORE, in consideration of the mutual covenants and provisions contained herein, the parties hereto agree as follows:

**ARTICLE ONE  
CONSULTANT'S RESPONSIBILITY**

1.1. The Services to be performed by the CONSULTANT are generally described as **Naples Bay Oyster Beds Creation** and may be more fully described in the Scope of Services, attached as **EXHIBIT A** and made a part of this Agreement.

1.2. The CONSULTANT agrees to obtain and maintain throughout the period of this Agreement all such licenses as are required to do business in the State of Florida, the City of Naples, and in Collier County, Florida, including, but not limited to, all licenses required by the respective state boards and other governmental agencies responsible for regulating and licensing the professional services to be provided and performed by the CONSULTANT pursuant to this Agreement.

1.3. The CONSULTANT agrees that, when the services to be provided hereunder relate to a professional service which, under Florida Statutes, requires a license, certificate of authorization or other form of legal entitlement to practice such services, it shall employ or retain only qualified personnel to provide such services.

1.4. The CONSULTANT agrees to employ and designate, in writing, within 5 calendar days after receiving its Notice to Proceed, or other directive from the CITY, a qualified licensed professional to

serve as the CONSULTANT's project manager (the "Project Manager"). The Project Manager shall be authorized and responsible to act on behalf of the CONSULTANT with respect to directing, coordinating and administering all aspects of the services to be provided and performed under this Agreement.

1.5. The CONSULTANT has represented to the CITY that it has expertise in the type of professional services that will be required for the Project. The CONSULTANT agrees that all services to be provided by CONSULTANT pursuant to this Agreement shall be subject to the CITY's review and approval and shall be in accordance with the generally accepted standards of professional practice in the State of Florida, as may be applied to the type of services to be rendered, as well as in accordance with all published laws, statutes, ordinances, codes, rules, regulations and requirements of any governmental agencies which regulate or have jurisdiction over the Project or the services to be provided and performed by the CONSULTANT. In the event of any conflicts in these requirements, the CONSULTANT shall notify the CITY of such conflict and utilize its best professional judgment to advise CITY regarding resolution of the conflict.

1.6. The CONSULTANT agrees not to divulge, furnish or make available to any third person, firm or organization, without CITY's prior written consent, or unless incident to the proper performance of the CONSULTANT's obligations hereunder, or in the course of judicial or legislative proceedings where such information has been properly subpoenaed, any non-public information concerning the services to be rendered by the CONSULTANT hereunder, and the CONSULTANT shall require all of its employees, agents, sub-consultants and sub-contractors to comply with the provisions of this paragraph. However, the CONSULTANT shall comply with the Florida Public Records laws.

1.7 The CONSULTANT agrees not to employ or offer to employ any Elected Officer or City Managerial Employee of the CITY who in any way deals with, coordinates on, or assists with, the professional services provided in this Agreement, for a period of 2 years after termination of all provisions of this Agreement. For purposes of this paragraph, the term "Elected Officer" shall mean any member of the City Council. For purposes of this paragraph, the term "City Managerial Employee" shall mean the City Manager, the Assistant City Manager, the City Clerk, and any City department head or director. If the CONSULTANT violates the provisions of this paragraph, the CONSULTANT shall be required to pay damages to the CITY in an amount equal to any and all compensation which is received by the former Elected Officer or City Managerial Employee of the CITY from or on behalf of the contracting person or entity, or an amount equal to the former Elected Officer's or City Managerial Employee's last 2 years of gross compensation from the CITY, whichever is greater.

1.8 The CONSULTANT agrees not to provide services for compensation to any other party other than the CITY on the same subject matter, same project, or scope of services as set forth in this Agreement without approval from the City Council of the CITY.

1.9. Except as otherwise provided in this Agreement, the CONSULTANT agrees not to disclose or use any information not available to members of the general public and gained by reason of the CONSULTANT's contractual relationship with the CITY for the special gain or benefit of the CONSULTANT or for the special gain or benefit of any other person or entity.

## **ARTICLE TWO CITY'S RESPONSIBILITIES**

2.1. The CITY shall designate in writing a project coordinator to act as the CITY's representative

with respect to the services to be rendered under this Agreement (the "Project Coordinator"). The Project Coordinator shall have authority to transmit instructions, receive information, interpret and define the CITY's policies and decisions with respect to the CONSULTANT's services for the Project. However, the Project Coordinator is not authorized to issue any verbal or written orders or instructions to the CONSULTANT that would have the effect, or be interpreted to have the effect, of modifying or changing in any way whatever:

- (a) The scope of services to be provided and performed by the CONSULTANT;
- (b) The time the CONSULTANT is obligated to commence and complete all such services; or
- (c) The amount of compensation the CITY is obligated or committed to pay the CONSULTANT.

Any such modifications or changes ((a) (b) or (c)) shall only be made by or upon the authorization of the CITY's city manager as authorized by city council in the enabling legislation or in the CITY's procurement policies.

2.2. The Project Coordinator shall:

- (a) Review and make appropriate recommendations on all requests submitted by the CONSULTANT for payment for services and work provided and performed in accordance with this Agreement;
- (b) Arrange for access to and make all provisions for the CONSULTANT to enter the Project site to perform the services to be provided by the CONSULTANT under this Agreement; and
- (c) Provide notice to the CONSULTANT of any deficiencies or defects discovered by the CITY with respect to the services to be rendered by the CONSULTANT hereunder.

2.3. The CONSULTANT acknowledges that access to the Project Site, to be arranged by the CITY for the CONSULTANT, may be provided during times that are not the normal business hours of the CONSULTANT.

### **ARTICLE THREE TIME**

3.1. Services to be rendered by the CONSULTANT shall be commenced subsequent to the execution of this Agreement upon written Notice to Proceed from the CITY for all or any designated portion of the Project and shall be performed and completed by **May 31, 2016 with a 30-day Project close out time frame**. Time is of the essence with respect to the performance of this Agreement.

3.2. Should the CONSULTANT be obstructed or delayed in the prosecution or completion of its services as a result of unforeseeable causes beyond the control of the CONSULTANT, and not due to its own fault or neglect, including but not restricted to acts of God or of public enemy, acts of government or of the CITY, fires, floods, epidemics, quarantine regulations, strikes or lock-outs, then the CONSULTANT shall notify the CITY in writing within 5 working days after commencement of such delay, stating the cause or causes thereof, or be deemed to have waived any right which the CONSULTANT may have had to request a time extension.

3.3. No interruption, interference, inefficiency, suspension or delay in the commencement or progress of the CONSULTANT's services from any cause whatsoever, including those for which the CITY may be responsible in whole or in part, shall relieve the CONSULTANT of its duty to perform or give rise to any right to damages or additional compensation from the CITY. The CONSULTANT's sole remedy against the CITY will be the right to seek an extension of time to its schedule. This paragraph shall expressly apply to claims for early completion, as well as claims based on late completion.

3.4. Should the CONSULTANT fail to commence, provide, perform or complete any of the services to be provided hereunder in a timely and reasonable manner, in addition to any other rights or remedies available to the CITY hereunder, the CITY at its sole discretion and option may withhold any and all payments due and owing to the CONSULTANT until such time as the CONSULTANT resumes performance of its obligations hereunder in such a manner so as to reasonably establish to the CITY's satisfaction that the CONSULTANT's performance is or will shortly be back on schedule.

#### **ARTICLE FOUR COMPENSATION**

4.1. The total compensation to be paid the CONSULTANT by the CITY for all Services is not to exceed **\$171,597.04** and shall be paid in the manner set forth in the "Basis of Compensation", which is attached as **EXHIBIT B** and made a part of this Agreement.

#### **ARTICLE FIVE MAINTENANCE OF RECORDS**

5.1. The CONSULTANT will keep adequate records and supporting documentation which concern or reflect its services hereunder. The records and documentation will be retained by the CONSULTANT for a minimum of five 5 years from the date of termination of this Agreement or the date the Project is completed, whichever is later. The CITY, or any duly authorized agents or representatives of the CITY, shall have the right to audit, inspect and copy all such records and documentation as often as they deem necessary during the period of this Agreement and during the 5 year period noted above; provided, however, such activity shall be conducted only during normal business hours. If the CONSULTANT desires to destroy records prior to the minimum period, it shall first obtain permission from the CITY in accordance with the Florida Public Records laws.

#### **ARTICLE SIX INDEMNIFICATION**

6.1. The CONSULTANT agrees to indemnify and hold harmless the CITY from liabilities, damages, losses and costs, including, but not limited to, reasonable attorneys' fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the CONSULTANT and persons employer or utilized by the CONSULTANT in the performance of the Contract.

#### **ARTICLE SEVEN INSURANCE**

7.1. The CONSULTANT shall obtain and carry, at all times during its performance under this Agreement, insurance of the types and in the amounts set forth in the document titled General Insurance Requirements, which is attached as **EXHIBIT C** and made a part of this Agreement.

7.2 In addition to the General Insurance Requirements in Exhibit C the CONSULTANT shall obtain and maintain Professional Liability Insurance to insure its legal liability for claims arising out of the performance of professional services under this Agreement. CONSULTANT waives its right of recovery against OWNER as to any claims under this insurance. Such insurance shall have limits of not less than \$1,000,000 each claim and in the aggregate.

## **ARTICLE EIGHT SERVICES BY CONSULTANT'S OWN STAFF**

8.1. The services to be performed hereunder shall be performed by the CONSULTANT's own staff, unless otherwise authorized in writing by the CITY. The employment of, contract with, or use of the services of any other person or firm by the CONSULTANT, as independent CONSULTANT or otherwise, shall be subject to the prior written approval of the CITY. No provision of this Agreement shall, however, be construed as constituting an agreement between the CITY and any such other person or firm. Nor shall anything contained in this Agreement be deemed to give any such party or any third party any claim or right of action against the CITY beyond such as may otherwise exist without regard to this Agreement.

## **ARTICLE NINE WAIVER OF CLAIMS**

9.1. The CONSULTANT's acceptance of final payment shall constitute a full waiver of any and all claims, except for insurance company subrogation claims, by it against the CITY arising out of this Agreement or otherwise related to the Project, except those previously made in writing and identified by the CONSULTANT as unsettled at the time of the final payment. Neither the acceptance of the CONSULTANT's services nor payment by the CITY shall be deemed to be a waiver of any of the CITY's rights against the CONSULTANT.

## **ARTICLE TEN TERMINATION OR SUSPENSION**

10.1. The CONSULTANT shall be considered in material default of this Agreement and such default will be considered cause for the CITY to terminate this Agreement, in whole or in part, as further set forth in this section, for any of the following reasons: (a) failure to begin work under the Agreement within the times specified under the Notice(s) to Proceed, or (b) failure to properly and timely perform the services to be provided hereunder or as directed by the CITY, or (c) the bankruptcy or insolvency or a general assignment for the benefit of creditors by the CONSULTANT or by any of the CONSULTANT's principals, officers or directors, or (d) failure to obey laws, ordinances, regulations or other codes of conduct, or (e) failure to perform or abide by the terms or spirit of this Agreement, or (f) for any other just cause. The CITY may so terminate this Agreement, in whole or in part, by giving the CONSULTANT at least 3 calendar days' written notice.

10.2. If, after notice of termination of this Agreement as provided for in paragraph 10.1 above, it is determined for any reason that the CONSULTANT was not in default, or that its default was excusable, or that the CITY otherwise was not entitled to the remedy against the CONSULTANT provided for in paragraph 10.1, then the notice of termination given pursuant to paragraph 10.1 shall be deemed to be the notice of termination provided for in paragraph 10.3 below and the CONSULTANT's remedies against the CITY shall be the same as and limited to those afforded the CONSULTANT under paragraph 10.3 below.

10.3. The CITY shall have the right to terminate this Agreement, in whole or in part, without cause upon 7 calendar day's written notice to the CONSULTANT. In the event of such termination for convenience, the CONSULTANT's recovery against the CITY shall be limited to that portion of the fee earned through the date of termination, together with any retainage withheld and any costs reasonably incurred by the CONSULTANT that are directly attributable to the termination, but the CONSULTANT shall not be entitled to any other or further recovery against the CITY, including, but not limited to, anticipated fees or profits on work not required to be performed.

#### **ARTICLE ELEVEN CONFLICT OF INTEREST**

11.1. The CONSULTANT represents that it presently has no interest and shall acquire no interest, either direct or indirect, which would conflict in any manner with the performance of services required hereunder. The CONSULTANT further represents that no persons having any such interest shall be employed to perform those services.

#### **ARTICLE TWELVE MODIFICATION**

12.1. No modification or change in this Agreement shall be valid or binding upon the parties unless in writing and executed by the party or parties intended to be bound by it.

#### **ARTICLE THIRTEEN NOTICES AND ADDRESS OF RECORD**

13.1. All notices required or made pursuant to this Agreement to be given by the CONSULTANT to the CITY shall be in writing and shall be delivered by hand or by (USPS) United States Postal Service, first class mail service, postage prepaid, return receipt requested, or as otherwise agreed upon and addressed to the following CITY's address of record:

City of Naples  
735 Eighth Street South  
Naples, Florida 34102-3796  
Attention: **A. William Moss**, City Manager

13.2. All notices required or made pursuant to this Agreement to be given by the CITY to the CONSULTANT shall be made in writing and shall be delivered by hand or by the (USPS) United States Postal Service, first class mail service, postage prepaid, return receipt requested, or as agreed upon and addressed to the following CONSULTANT's address of record:

Scheda Ecological Associates, Incorporated  
6151 Lake Osprey Drive, Suite 320  
Sarasota, Florida 34240  
Attention: **Thomas F. Ries**, Vice President/Principal Scientist  
FEI/EIN Number:     On File            (FL)

13.3. Either party may change its address of record by written notice to the other party given in accordance with requirements of this Article.

#### **ARTICLE FOURTEEN MISCELLANEOUS**

14.1. The CONSULTANT, in representing the CITY, shall promote the best interest of the CITY and assume towards the CITY a duty of the highest trust, confidence, and fair dealing.

14.2. No modification, waiver, suspension or termination of the Agreement or of any terms thereof shall impair the rights or liabilities of either party.

14.3. This Agreement is not assignable, in whole or in part, by the CONSULTANT without the prior written consent of the CITY.

14.4. Waiver by either party of a breach of any provision of this Agreement shall not be deemed to be a waiver of any other breach and shall not be construed to be a modification of the terms of this Agreement.

14.5. The headings of the Articles, Exhibits, Parts and Attachments as contained in this Agreement are for the purpose of convenience only and shall not be deemed to expand, limit or change the provisions in such Articles, Exhibits, Parts and Attachments.

14.6. This Agreement constitutes the entire agreement between the parties hereto and shall supersede, replace and nullify any and all prior agreements or understandings, written or oral, relating to the matter set forth herein, and any such prior agreements or understanding shall have no force or effect whatever on this Agreement.

14.7. The CONSULTANT shall comply fully with all provisions of state and federal law, including without limitation all provisions of the Immigration Reform and Control Act of 1986 ("IRCA") as amended, as well as all related immigration laws, rules, and regulations pertaining to proper employee work authorization in the United States. The CONSULTANT shall execute the Certification of Compliance with Immigration Laws, attached hereto as **EXHIBIT D**.

14.8 To the extent that any provision in the Specifications or any other Contract Documents pertaining to this Project conflict with any provision of this Agreement, this Agreement controls.

## **ARTICLE FIFTEEN APPLICABLE LAW**

15.1. Unless otherwise specified, this Agreement shall be governed by the laws, rules, and regulations of the State of Florida, and by the laws, rules and regulations of the United States when providing services funded by the United States government. Any suit or action brought by either party to this Agreement against the other party relating to or arising out of this Agreement must be brought in the appropriate Florida state court in Collier County, Florida.

**END OF ARTICLE PAGE**

IN WITNESS WHEREOF, the parties hereto have executed this Agreement for the day and year first written above.

ATTEST:

CITY:

By: Patricia L. Rambosk  
Patricia L. Rambosk, City Clerk

CITY OF NAPLES, FLORIDA,  
A Municipal Corporation  
By: A. William Moss  
A. William Moss, City Manager

Approved as to form  
and legal sufficiency.

By: Robert D. Pritt  
Robert D. Pritt, City Attorney

**CONSULTANT:**

Scheda Ecological Associates, Incorporated  
6151 Lake Osprey Drive, Suite 320  
Sarasota, Florida 34240  
Attention: **Thomas F. Ries**, Vice President/Principal Scientist  
FEI/EIN Number: On File (FL)  
A Florida Profit Corporation

Dianne Rosensweig  
Witness

By: Thomas F. Ries  
Its: Vice President

Dianne Rosensweig  
Witness Printed Name

(CORPORATE SEAL)



## EXHIBIT A

### SCOPE OF SERVICES

**The Scope of Services to be provided under this Agreement is stated below and is included in Attachment A-1 which is attached and made a part of this Agreement.**

#### **OVERVIEW**

The City of Naples is seeking Proposals from experienced firms for design, engineering, permitting, and construction engineering-inspection/closeout services in conjunction with the creation of up to 15 acres of oyster beds and a suitability analysis for future seagrass restoration in Naples Bay.

#### **BACKGROUND**

##### Oysters

Oysters were once a healthy, edible, dominant species in Naples Bay, but over the past few decades they have experienced an 80% decline and become unsafe to eat. Prior to the 1950's, there were approximately 50 acres of oyster habitat extending along both sides of the bay; however, benthic sampling in 2005 revealed approximately 10 acres of oyster habitat remaining.

Oyster reefs protect the shoreline from erosion, provide food for other animals, and harbor many estuarine organisms in their nooks and crannies. They also eat and strain bacteria, nutrients, and fine particulate matter from the water. One oyster can filter 50 gallons of water in a day. With about 1,000 oysters in a square meter of oyster reef, that means 50,000 gallons of water filtered per day per square meter of reef. Thus, the results of increasing oyster reefs in the bay would be:

- More protection for shorelines because oyster reefs reduce wave energy,
- increased habitat for the numerous estuarine organisms that live in or on oyster reefs, and
- Improved water quality due to the filter feeding ability of oysters.

The City of Naples Natural Resources Division has created small scale artificial oyster reefs in the bay and needs to establish many more acres to restore a significant quantity of the losses incurred. In 2005, the City partnered with Florida Gulf Coast University on a project to build the first artificial oyster reefs in Naples Bay. With the help of community volunteers, two small reefs were established using 400 mesh bags filled with oyster shells approximately 2 feet by 1 foot in size. Since that time City staff have successfully built three more 400 square foot reefs and carried out a shellfish restoration project involving resident volunteers who live on the shoreline of Naples Bay.

In 2011, staff conducted a study of the health of oysters in the bay. Oyster recruitment, living densities, condition index, and the presence of disease were measured and

correlated to water quality parameters in an effort to determine the optimal location for the construction of additional reefs. The study led to a conclusion that the southern portion of Naples Bay is best suited for oyster restoration given current water quality. This area experiences less extreme swings in salinity caused by freshwater flowing from the Golden Gate Canal in the wet season, which stresses oysters. In addition, larval recruitment and living densities were highest in the southern portion of the bay along the natural mangrove shoreline. By providing additional substrate in the southern portion of the bay, oyster larval settlement can be facilitated.

Now that the ability to create artificial oyster reefs in Naples Bay has been established, the purpose of this work is to build several large oyster reefs in the bay at locations deemed optimal through the work recently completed by staff on the health of oysters in the bay. Based on the estimate of 50 acres of oysters in the bay pre-development, and with only 10 acres remaining, the goal of this work is to restore several acres of oyster beds based on the previous determination of suitable locations.

Since construction of the oyster reefs will occur on sovereign submerged lands of the State of Florida, the City will need to obtain both a state environmental resource permit because of potential impacts to the environment (even though the impacts are beneficial) and permission to utilize state lands. Further, a Clean Water Act dredge and fill permit must be obtained from the US Army Corps of Engineers as the reefs will be located in navigable waters of the United States.

### Seagrasses

One of the most damaged and most important ecosystems in Naples Bay is that comprised of seagrasses. A single acre of seagrass can support up to 4,000 fish and 50,000,000 invertebrates. Seagrass beds provide food, protection, and nursery grounds for many species of fish and shellfish prized by commercial and recreational fishermen; they are vital to a healthy marine ecosystem. Yet, most of the seagrasses that once existed in the bay are gone. They have been impacted by the freshwater discharges from the Golden Gate Canal, high nutrient levels, low water clarity, dredging for navigation and development, boat wakes, and high sediment loads.

While there are several locations in the bay where small amounts of seagrasses can be found, overall expansion of these areas will only be possible after the water quality of the bay improves and freshwater flows into the bay are reduced. When that happens, it will provide conditions for seagrasses to spread and opportunities for supplemental plantings to be attempted. In the meantime, staff have established transects in the two remaining areas where seagrasses grow to monitor their abundance and health. Along the transects, species, abundance, sediment type, water depth, epiphyte coverage, blade lengths, and shoot counts are recorded at 10 meter intervals. Transect monitoring occurs once (or sometimes twice) a year.

With 90% of the bay's seagrasses lost over the last 50 years, and suitable habitat being greatly reduced, assessments based on appropriate substrate, water clarity, and depth need to occur to identify any remaining locations that could support seagrass. Tools

including optical models, sediment cores, depth profiling, freshwater reduction scenarios, and past studies could be used to map any potential seagrass restoration sites. This effort could assist in laying the groundwork for restoration once the stressor of excessive freshwater inflow is abated.

## **TASKS**

**Task 1:** Locate and map appropriate sites for seagrass and oyster beds taking into account the City's research into water quality, oyster health, and seagrass mapping, as well as substrate, depth, navigability, and visual aspects.

**Task 2:** Design oyster and seagrass beds that will remain stable with respect to both physical and biological factors such as tides, currents, boat wakes, and predation. Determine the construction materials (e.g. oyster shells, clam shells, limestone boulders, mats, plugs, etc.) and retention system (e.g. mesh bags, restraining containers, walls, direct plants, rhizomes, etc.).

**Task 3:** Complete and submit a Joint Coastal Permit Application to the Florida Department of Environmental Protection and U.S. Army Corps of Engineers on behalf of the City for the work described in Task 2. This task includes providing all permit application-related activities, provision of all field surveying, modeling and other information required by the permitting agencies. The application should include the City's request to acquire mitigation or water quality credit for the project for its use with NPDES, TMDL, or other project related needs.

**Task 4:** Prepare 30%, 60% and final construction plans and technical construction specifications for the creation and installation of new oyster beds along with a suitability assessment for seagrass restoration, and provide construction bidding oversight for all components of the process.

**END OF EXHIBIT A**



April 4, 2015

Mike Bauer, Ph.D.  
 Natural Resource Manager  
 City of Naples  
 735 8<sup>th</sup> Street South  
 Naples, Florida 34102

**RE: SCOPE OF SERVICES AND ASSOCIATED FEE ESTIMATE**  
 Bid Title: 15-017 - Naples Bay Oyster Beds Creation  
 Collier County, Florida  
*Scheda Proposal Number 003112.30.P*

Dear Dr. Bauer:

Scheda Ecological Associates, Inc. (Scheda) is pleased to provide the following revised Scope and Cost Proposal specifying anticipated tasks for analyzing existing data, design, engineering, permitting, and construction engineering in conjunction with the creation of up to 5-7 acres of oyster beds in Naples Bay. In addition, a suitability analysis for future seagrass restoration will be performed. We have assembled a team of professionals who have collaborated on similar projects; this team includes Taylor Engineering, Mote Marine Laboratory, Forge Engineering, Inc. and D & W Surveyors. Upon receiving official authorization from you the Scheda Team can begin work immediately.

### SCOPE OF SERVICES

#### Task Description

##### **1.0 EXISTING DATA ANALYSIS**

The Scheda Team will research the availability of existing data that will provide the means of analysis the siting and design of oyster bed habitat within Naples Bay. The proposed datasets required for such an analysis shall include bathymetric, sediment and substrate, water quality, and hydrodynamic data.

##### **1.1 Bathymetric Data**

Historic oyster locations will be mapped using available aerial photography within the targeted area. The Scheda Team will research the publically accessible archives of federal and state agencies for sources of bathymetric data in the Naples Bay area. This includes reviewing available data from the NOAA Digital Coast Bathymetric data site, which can be used to create a rough Digital Elevation Model (DEM) in ArcGIS.

***Deliverables:** Digital Elevation Model (EM) in ArcGIS grid format and a PDF map illustrating the bathymetry in Naples Bay, plus a graphic of historic oyster beds.*

Mike Bauer, PhD  
April 4, 2015  
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### 1.2 Review Previous Studies

The Scheda Team will review and summarize the methods and outcomes presented in previous oyster bed restoration studies in Naples Bay including the Florida Gulf Coast University (FGCU) Masters of Science Thesis, *Effects of Salinity and Other Stressors on Eastern Oyster Health and a Determination of Restoration Potential in Naples Bay, Florida* and the *Oyster Reef Restoration Demonstration Project* performed in Naples Bay by the FGCU and Florida Department of Environmental Protection (FDEP).

Deliverables: *A section in the Letter Report summarizing the methods and outcomes of the previous studies.*

### 1.3 Water Quality Data

The Scheda Team will look at the published water quality data for Naples Bay by the USGS. We will also review stage, salinity, and temperature information.

Deliverables: *A section in the letter report summarizing the available water quality data.*

### 1.4 Hydrodynamic Models

There are two existing hydrodynamic models that cover Naples Bay – the first was developed in 2007 by the University of South Florida (USF) using the FVCOM model; the second is currently under development by the University of Florida (UF) using the CH3D model. The accessibility of either of these models is questionable. Taylor Engineering will draft a letter for the City of Naples to request model input and output from previously executed model simulations. Assuming the City is successful in obtaining access to any of the models data, Scheda Team engineers will extract any available and pertinent data (such as location, water level, velocity, salinity) from the model format to EXCEL tabular and graphical formats. If spatial model data is available, Scheda Team engineers will create ArcGIS shapefiles to define spatial extent and location of the model data. Scheda Team engineers will use the data from existing models and sources instead of running any of the models as part of this effort.

Deliverables: *EXCEL spreadsheet containing pertinent model data such as water level, velocity, and salinity time-series in tabular and graphical form. If spatial model data is available, Scheda Team engineers will create ArcGIS shape files and generate PDF maps to present the spatial components of the model data.*

**The fee estimate total for TASK 1 totals \$7,848.00**

Mike Bauer, PhD  
April 4, 2015  
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## 2.0 PROJECT COORDINATION AND INITIAL MEETINGS

### 2.1 Field Review with City Staff

Scheda team will accompany City of Naples staff to assess existing and potential sites and collect any GPS data required to identify the proposed habitat restoration sites. Utilizing the information gleaned from Task 1.0 and from the field review, Scheda will develop CAD concept that will be presented to the client.

Deliverables: *Meeting Minutes*

### 2.2 Pre-Application Meeting

Scheda staff will meet with both the FDEP and the US Army Corps of Engineers (USACE) to present the preliminary concept for the proposed restoration project. The conceptual design will be overlaid on a raster image and proposed locations and potential construction methodologies will be discussed.

Deliverables: *Pre-application meeting minutes*

**The fee estimate total for TASK 2 totals \$4,760.00**

## 3.0 CONCEPTUAL DESIGN AND OYSTER SITING PROCESS

The Scheda Team will develop a conceptual design for submission to the regulatory permitting agencies using information gleaned from Tasks 1 and 2. We will use information published in previous studies coupled with information from the field trip and from the team meetings to determine areas in Naples Bay most suitable for sustaining oyster habitat, given the physical and biological constrains.

Using this information, the Scheda Team will develop a conceptual design alternative for the oyster bed restoration. During design development, we will leverage any previous work to evaluate restoration/stabilization design alternatives for the City. We will work closely with the City during the development of a conceptual design to achieve project goals. The conceptual design will include various details such as oyster reef stabilization alternatives (riprap, geotextiles, bags, etc), material types, and wave attenuation options. When developing the conceptual design, we will weigh the benefits in terms of regulatory constraints, environmental impacts, and cost. We will attempt, where possible, to reuse any existing materials and will try to incorporate sustainable design aspects. We will evaluate the proposed designs in terms of existing conditions to assess the increased habitat functionality.

Following this evaluation, the Scheda Team engineers will develop a letter report summarizing the site design considerations inclusive of a conceptual design and project feasibility. The report will summarize the data collection results, engineering assessments, and environmental criteria such as impacts, benefits and permit requirements, which play a role in feasibility design development. The report will outline the advantages and disadvantages of each conceptual

Mike Bauer, PhD  
April 4, 2015  
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design. The report will conclude recommendations and include drawings and general specifications of the preferred oyster bed restoration alternative.

Deliverables: *A conceptual design alternative for engineered portions of the oyster bed restoration in hard copy and digital format (PDF).*

### 3.1 Evaluation of Bay Bottom Soil Conditions

Six core soil samples will be obtained in areas that appear to have been historic oyster beds based on the aerial photography. The samples will extend approximately four feet below the mud-line where possible (no rock). The sediment will be analyzed in a lab to ascertain the physical properties of the sediments and a technical memorandum will be provided to summarize the results

Deliverables: *Copy of Geotechnical Report*

### 3.2 Survey Data

Scheda's surveyor will conduct survey work to support the project's design work. The surveyor will prepare a topographic and bathymetric survey around and including approximately 100 feet (ft) east and west of the proposed project sites. The survey will document the general site features and elevations, substrate conditions, and bathymetric contours, and the mean high water line. The survey will also document the extent of the existing shore protection structures (concrete riprap), shoreline vegetation, potential offshore resources (seagrass beds, oyster beds, etc.), and any debris within the project site or offshore.

Deliverables: *Signed and Sealed Bathymetric Survey*

### 3.3 Wave and Boat Wake Modeling

The Scheda Team engineers will estimate wind generated wave heights and periods based on well-known formulas for wave height as a function of wind speed, fetch, and water depth. We will consider formulas found in the Coastal Engineering Manual, the Shore Protection Manual, and the Automated Coastal Engineering System. We will estimate boat wake waves using methods found in Sorensen (1973), Sorensen and Weggel (1984), and the Coastal Engineering Manual (2011).

Deliverables: *Data required for input in design of wave attenuation features and section in the Letter Report.*

The Scheda Team engineers will apply methodology for low crested or submerged breakwaters found in the Coastal Engineering Manual (2011) to estimate the height of the wave transmitted over the barrier (i.e., the attenuated wave height). We will determine the stability of the oyster bags under attenuated

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wave action and estimate the effectiveness of the barrier. The conceptual design will be updated to include engineered wave attenuation features.

Deliverables: *A section in the Letter Report summarizing the design requirements for wave attenuation features and associated drawings.*

### 3.4 Post Design Field Data Collection

The Scheda team will utilize the data collected to go back and specifically identify the areas best suited for restoration utilizing GPS. Biologists will confirm that no environmental resources exist within the proposed project footprint.

Members of the Scheda Team will measure current velocities and muck depths near the potential sites for oyster habitat restoration. This includes measurement of current velocities at 3 sites within close proximity to the area of interest during a spring tide. In addition, staff will collect sediment muck depths using a muck probe at predefined locations within the area of interest. Measurements of muck will assist with design of oyster beds, but will not replace geotechnical borings for wave attenuation structures, which will be performed by the Team's geotechnical experts.

Deliverables: *EXCEL spreadsheets with tabular and graphical representation of the current velocity data. Sediment muck probe locations will be mapped with ArcGIS shapefiles and muck depths summarized in EXCEL spreadsheet.*

### 3.5 Preliminary Design

The Scheda team will develop various construction options and will coordinate with the City to formulate the project design. The preliminary design will also be presented to the regulatory agency personnel and if necessary a site visit will be scheduled with regulatory personnel. The Scheda Team will meet face-to-face with City of Naples staff and project team members as a knowledge transfer and brainstorming session. The meeting will steer the project team to select the final oyster habitat restoration areas. Scheda will coordinate a follow-up regulatory agency meeting to discuss the preliminary design.

Deliverables: *Meeting minutes and the ArcGIS shapefiles and PDF maps illustrating areas most suitable for sustaining oyster bed*

### 3.6 Opinion of Probable Costs and Summary of Project Options

The Scheda Team will develop an engineer's opinion of probable cost for project construction as documented on the conceptual site plan. This estimate will provide a rough determination of project cost for the owner's budgeting use. Final costs may vary significantly depending on the outcome of future project phases.



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Specifically permit preparation and processing fees will not be included in this cost.

Deliverables: *Opinion of probable cost in digital format (PDF).*

**Summary Letter Report**

The Scheda Team will develop a letter report summarizing the site design considerations, the agreed upon design and a project feasibility report. The report will summarize the data collection results, engineering assessments, and environmental criteria such as impacts, benefits and permit requirements, which play a role in feasibility design development.

Deliverables: *The report will include the Teams' recommended oyster habitat design, and include drawings and general specifications of the preferred oyster bed restoration alternative in PDF format.*

**The fee estimate total for TASK 3 totals \$48,374.00**

**4.0 FINAL DESIGN AND ENVIRONMENTAL PERMITTING**

Once the city agrees to the final conceptual design and authorizes preparation of construction and permitting documents, the Scheda Team will prepare permit drawings and required support information to apply for applicable state and federal agency permits. The permit drawings will serve as the base for the construction drawings. We will closely coordinate with regulatory agencies and the city to expedite the permitting process. We will provide the City with copies of all regulatory permit applications, permitting correspondence, submittals, and issued permits. We will also develop the construction drawings and specification documents, including opinions of probable cost, coincident with the environmental permitting services to meet the City's project schedule. We will submit two copies of 60% construction drawings to the City during the permitting process for review and comment. Once we have received all regulatory permits, we will submit two copies of 90% construction drawing to the City for review and comment. Once we have received comments from the City, we will submit two copies of the final (100%) signed and sealed construction drawings and specifications along with a final opinion of probable cost.

**4.1 Construction Plan Set**

The Scheda Team will develop drawings for permit related submissions, which will be developed with ArcGIS or CADD and exported in PDF format for inclusion in permit applications.

Deliverables: *Signed and Sealed Permit related drawings in PDF format.*

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**4.2 Environmental Resource Permitting (ERP)**

Scheda will prepare and submit the appropriate permit applications for the ERP submittal. This will include coordination with FDEP's Submerged Lands Department.

Deliverables: *Permit Applications*

**4.3 Request for Additional Information (RAI)**

The Scheda Team will address up to two (2) Request for Additional Information (RAI) per agency (FDEP & USACE).

Deliverables: *Copies of RAI responses*

**The fee estimate total for TASK 4 totals \$14,080.00**

**5.0 BIDDING SPECIFICATION SERVICES**

**5.1 Development of Bid Specifications**

Once the construction documents and the necessary permit approvals are secured, we will prepare the construction bid documents. Construction bid documents will include a copy of the final construction drawings, list of quantities, and a brief narrative of the project

Deliverables: *The Scheda Team engineers will provide specific technical specifications for the selected engineered design.*

**The fee estimate total for TASK 5 totals \$48,190.00**

**6.0 SUB-AQUATIC VEGETATION (SAV) RESTORATION ANALYSIS**

**6.1 Review Existing Data**

The Scheda Team will research the availability of historic seagrass data that will provide the means of analyses for the siting and design of potential seagrass habitat within Naples Bay.

Deliverables: *Seagrass Summary Memo*

**6.2 Optical Model**

The Scheda Team scientists will analyze existing data and use this to formulate an optical model. With existing data, we perform a regression based model with secchi as a dependent variable (instead of attenuation coefficient) as a function of color, chlorophyll, turbidity or TSS. The scatter in this approach is typically high as the effects of the various parameters are not linear; however, the critical secchi

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depth needed to support seagrass would be assumed from the median annual secchi at the closest station to present day seagrass.

Deliverables: *Summary of Optical Model Results and SAV Recommendations*

**The fee estimate total for TASK 6 totals \$16,832.64**

**7.0 PROJECT MEETINGS & QUALITY ASSURANCE**

**7.1 Meetings**

Communication within the Team will play a key role in meeting the City's objectives. In addition to keeping the City abreast of Team activities, meetings will serve to communicate findings, challenges, and results so that the team can adapt to the needs of the project.

This scope assumes the team will attend 6 1-hour meetings on-line (by video or conference call) and one face-to-face meeting at the City's offices in Naples, Florida. This meeting is in addition to the field trip and preliminary design meeting identified in early tasks.

Deliverables: *Meeting summary notes.*

**7.2 Quality Assurance**

All documents will reviewed by the Team's Quality Control (QC) officer.

**The fee estimate total for TASK 7 totals \$12,224.00**

**The fee estimate total for Direct Expenses \$18,928.40**

**Project Total \$171,597.04**

Please note that the following assumptions were used in developing the fee estimate. If additional work time is required due to the inaccuracy of these assumptions, or future changes in scope, additional fees will be billed on an hourly basis in accordance with Scheda's standard billing rates. Written authorization will be obtained from the City prior to incurring additional fees.

1. Sceda Team scientists will attend up to 2 meetings with USACE representatives and 2 meetings with FDEP regulatory staff to facilitate the potential of obtaining a permit that authorizes several oyster habitat restoration projects simultaneously.

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2. Permitting through the ERP joint application process will be accomplished in local offices (i.e., no travel to Tallahassee or Jacksonville).
3. A maximum of 7 (6 phone and 1 in Naples) coordination meetings, with staff from the City of Naples is estimated for this scope.
4. The City will provide the boat for field reviews. If that is not feasible, the Scheda Team will provide their boat at the standard rates.
5. Secchi data will be made available by the City.
6. The scope does not include the development of a spectral optical model.
7. The Wave Attenuation Model will be based upon utilizing existing available data, no specific field investigations will be necessary.
8. The City will request model data output from the two existing hydrodynamic models (USF's FVCOM model and UF's CH3D model).

#### **FEE ESTIMATE**

This is a lump sum contract, the work performed above will be billed monthly based upon percent complete of the total budget. However, a not-to-exceed limit of **\$171,597.00** has been established, which will not be exceeded without prior written authorization from City of Naples.

The Scheda Team can begin work immediately upon receiving authorization from the City. If these terms and conditions are satisfactory, please provide us with a written purchase order. If you have any questions or require additional information, please do not hesitate to call. We look forward to working with you on this project.

Sincerely,

**Scheda Ecological Associates, Inc.**



Thomas F. Ries  
Executive Vice President/Principal Scientist

**EXHIBIT B**

**BASIS OF COMPENSATION**

**As consideration for providing the Services as set forth in the Agreement, the CITY agrees to pay, and the CONSULTANT agrees to accept payment on a monthly basis on the percentage of work completed and as indicated below. A completed breakdown of the Basis of Compensation is stated in Attachment B-1 that is attached and made a part of this Agreement.**

**FEE ESTIMATE**

This is a lump sum contract, the work performed above will be billed monthly based upon percent complete of the total budget. However, a not-to-exceed limit of **\$171,597.00** has been established, which will not be exceeded without prior written authorization from City of Naples.

The Scheda Team can begin work immediately upon receiving authorization from the City. If these terms and conditions are satisfactory, please provide us with a written purchase order. If you have any questions or require additional information, please do not hesitate to call. We look forward to working with you on this project.

**END OF EXHIBIT B**



## EXHIBIT C

### GENERAL INSURANCE REQUIREMENTS

The CONSULTANT shall not commence work until he has obtained all the insurance required under this heading, and until such insurance has been approved by the Owner, nor shall the CONSULTANT allow any sub-consultant to commence work until all similar insurance required of the sub-consultant as also been obtained and approved by the Owner.

Certificates of insurance must be issued by an authorized representative of the insurance company at the request and direction of the policyholder and must include sufficient information so as to identify the coverage and the contract for Owner's improvements for which they are issued. Certificates of insurance must be issued by a nationally recognized insurance company with a Best's Rating of no less than B+VII, satisfactory to the Owner, and duly licensed to do business in the state of said Contract.

The CONSULTANT shall procure and maintain, during the life of this Contract, Workmen's Compensation Insurance for all of his employees to be engaged in work under this Contract, and he shall require any sub-consultant similarly to provide Workmen's Compensation Insurance for all of the latter's employees to be engaged in such work, unless such employees are covered by the protection afforded by the CONSULTANT's insurance. In case any employees are to be engaged in hazardous work under this Contract, and are not protected under this Workmen's Compensation statute, the CONSULTANT shall provide, and shall cause each sub-consultant to provide, adequate coverage for the protection of such employees. It is acceptable to use a State-approved Workmen's Compensation Self-Insurance fund.

Except for Worker's Compensation coverage, or unless waived by the City in writing, the CONSULTANT shall take out and maintain during the life of this Contract, Public Liability and Property Damage and shall include Contractual Liability, Personal Injury, Libel, Slander, False Arrest, Malicious Prosecution, Wrongful Entry or Eviction, Broad Form Property Damage, Products, Completed Operations and XCU Coverage to be included on an occurrence basis, and to the full extent of the Contract to protect him, the Owner, and any sub-consultant performing work covered by this Contract from damages for personal injury, including accidental death, as well as from claims for property damage, which may arise from operations under this contract, whether such operations be by himself or by a sub-consultant, or by anyone directly or indirectly employed by either of them. The CONSULTANT shall also maintain automobile liability insurance including "non-owned and hired" coverage. The entire cost of this insurance shall be borne by the CONSULTANT.

The amount of such insurance shall be no less than \$1,000,000 annual aggregate for bodily injury and property damage combined per occurrence.

The City of Naples must be named as Additional Insured on the insurance certificate and the following must also be stated on the certificate. "These coverage's are primary to all other coverage's the City possesses for this contract only." The City of Naples shall be named as the Certificate Holder. The Certificate Holder shall read as follows:

The City of Naples  
735 Eighth Street South  
Naples, Florida 34102

No City Division, Department, or individual name should appear on the Certificate.  
No other format will be acceptable.

The Certificate must state the bid number and title.

When using the ACORD 25 – Certificate of Insurance only the most current version will be accepted.

The City of Naples requires a copy of a cancellation notice in the event the policy is cancelled. The City of Naples shall be expressly endorsed onto the policy as a cancellation notice recipient.

*[If other insurance or insurance requirements or any waivers, attach as Exhibit C-1through C-\_\_ ]*

**EXHIBIT D**

**CERTIFICATION OF COMPLIANCE WITH IMMIGRATION LAWS**

The undersigned is the **Vice President/Principal Scientist of the Scheda Ecological Associates, Incorporated** company ("the CONSULTANT"), and hereby certifies to the following:

1. The CONSULTANT is in full compliance with all provisions of the Immigration Reform and Control Act of 1986 ("IRCA"), as well as all related immigration laws, rules, regulations pertaining to proper employee work authorization in the United States.

2. The undersigned has verified that the CONSULTANT has obtained and maintains on file, and will continue to obtain and maintain on file, all documentation required by law, including but not limited to, Form I-9, Employment Eligibility Verification, for all persons employed by or working for the CONSULTANT in any capacity on any project for the City of Naples (CITY). All such persons have provided evidence of identity and eligibility to work to the CONSULTANT in accordance with the IRCA and related law. The undersigned hereby affirms that no person has been or will be employed by the CONSULTANT to work on projects for the CITY who is not authorized to work under law. The undersigned further affirms that the CONSULTANT's files will be updated by written notice any time that additional employees work on projects for the CITY.

3. The CONSULTANT will have its consultants, sub-consultants, suppliers and vendors who are involved in projects for the CITY to sign a written acknowledgment that they too are in compliance with immigration law. It is understood that failure to do so could result in the CONSULTANT being liable for any violation of the law by such third parties.

4. The CONSULTANT will fully cooperate with and have its consultants, sub-consultants, suppliers and vendors to fully cooperate with, all inquiries and investigations conducted by any governmental agency in connection with proper compliance with the laws pertaining to appropriate work authorization in the United States.

5. The undersigned, on behalf of the CONSULTANT, acknowledges that this Certification may be relied upon by the CITY, its officers, directors, employees, and affiliates or related persons and entities.

6. If it is found that the CONSULTANT has not complied with the laws pertaining to proper employment authorization, and any legal and administrative action ensues against the CITY, the CONSULTANT will indemnify, defend and hold the CITY harmless along with their officers, directors, employees, and affiliated or related persons and entities.

7. The CONSULTANT acknowledges that the CITY by their authorized representatives shall have the right, at any time, upon 24 hours notice, to examine the CONSULTANT's books and records to confirm that the CONSULTANT is in compliance with the terms of this certification.

Executed this 13<sup>th</sup> day of April, 2015.

By: 