COASTAL ENGINEERING CONSULTANTS, INC.

E-COPY

REQUEST FOR PROPOSAL

RFP #2024000131
Ten-Year Beach Management Plan

Prepared For:

Charlotte County Administration Complex
18500 Murdock Circle, Suite 344
Port Charlotte, Florida 33948-1094
Attn: Senior Division Manager - Purchasing

Prepared By:

Michael T. Poff, P.E., President
Coastal Engineering Consultants, Inc.
28421 Bonita Crossings Blvd.
Bonita Springs, FL 34135
(239) 643-2324 Ext. 126 / mpoff@cecifl.com

Proposal Due Date and Time: January 10, 2024 – 3:00 P.M.
CEC File No. 23.401

www.coastalengineering.com

COASTAL ENGINEERING CONSULTANTS INC.

Coastal and Marine Engineering
Environmental and Geological Services
Land and Marine Survey and Mapping
Website: www.coastalengineering.com

January 8, 2024

Carole A. Smith, C.P.M., CPPB
Senior Contract Specialist - Purchasing
Charlotte County Purchasing Department
18500 Murdock Circle
Port Charlotte, Florida 33948-1094

Re: RFP No. 2024000131, Ten-Year Beach Management Plan
CEC File No. 23.401

Dear Ms. Smith:

We appreciate this opportunity to present the qualifications and experience of the Coastal Engineering Consultants, Inc. (CEC) Team (Team) to provide professional services to assist Charlotte County in designing, permitting, mitigation plan development, sand source determination, construction support, and funding program development required for the Ten-Year Beach Management Plan (Plan). CEC will provide project management, subconsultant oversight, client liaison, stakeholder communications, surveying, planning, engineering, permitting, funding technical support, bidding, construction administration, and monitoring services. We propose the same Team to the County currently under contract for the Manasota Key Beach Restoration Management Plan (2016-present) and Stump Pass Ten-Year Management Plan (2012-present) including Coastal Eco-Group (CEG), Ocean Surveys, Inc. (OSI), R. Christopher Goodwin and Associates (RCG), and Athena Technologies Inc. (ATI) (fka AVS).

CEC is uniquely qualified to assist the County implement the Plan having served as the County's lead consultant for their beach and inlet management projects since the late 1970's. Specifically, CEC has provided comprehensive services for Stump Pass Dredging; Stump Pass Terminal Groin; Erosion Control Project initial construction and multiple nourishment events for the State Park Beach, Palm Island, Knight Island, and Don Pedro Island; Manasota Key Beach Restoration initial construction; annual beach and inlet monitoring; post-storm disaster public assistance; and Port Charlotte Beach Park nourishment and shoreline stabilization; as well as dozens of marine engineering, survey, and environmental projects within the County.

Our Team's services have included conceptual restoration plans; alternatives analysis; sand source inventories; sediment searches inclusive of geophysical, cultural resource, and vibracore surveys; construction budgets; funding strategies and technical coordination; stakeholder coordination; innovative cost-sharing opportunities with Sarasota County partnership; design; permitting; environmental assessments; mitigation design; bid phase; construction phase; biological and physical monitoring; shorebird monitoring oversight; and post disaster recovery support.

CEC has the pleasure of teaming with CEG as our biological monitoring subconsultant. CEG has performed all of the mitigation reef and hardbottom surveys in support of the County's beach and inlet program since 2016. CEG will provide environmental planning; marine ecological surveys including hardbottom mapping, monitoring, and impact analysis; mitigation reef monitoring; environmental permitting support services; and environmental peer review of CEC's engineering design.

COASTAL ENGINEERING CONSULTANTS INC.

OSI shall serve as our Team's geophysical surveyor. They will perform bathymetric, magnetometer, subbottom, and sidescan sonar surveys for the offshore sand source searches, and conduct the detailed cultural resources surveys for the borrow areas and pipeline corridors. RCG shall serve as our Team's marine archaeologist. They will perform the analysis and interpretation of the detailed cultural resource surveys of the borrow areas and corridors and serve as the lead consultant for obtaining the State Historic Preservation Office's concurrence on their findings as part of the permit process. ATI shall serve as our Team's vibracore company. They will perform the geotechnical investigations of the sand target areas and borrow areas.

CEC and their partners have teamed on multiple beach, dune, and ecosystem restoration projects throughout the Gulf of Mexico totaling more than 60 million cubic yards of sediment. These projects have restored and nourished over 55 miles of critically eroding shorelines while creating and sustaining 4,700+ acres of beach, dune, marsh, and wetland habitats.

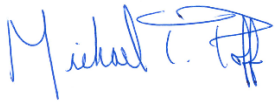
The County, residents, and stakeholders face numerous challenges with their beach and inlet management program over the next ten years. The beaches have experienced over 300,000 cubic yards of erosion over the past few years due to the major storms that have impacted the County. Hurricane recovery through sand placement is the number one priority for all of the beaches. A challenge will be to successfully coordinate the various funding streams to construct the recovery work concurrently to save in mobilization fees. For Manasota Key, the recovery work will be completed via truck haul. Maintenance of traffic will be the number one challenge for this recovery work. The terminal groin at Stump Pass has been effective in reducing the infill rate into the navigation channel and stabilizing the adjacent shorelines. It would be prudent to examine potential improvements to the structure. Continuing to partner with Sarasota County is recommended to maximize the potential State cost sharing, thus reducing the costs to the local governments and residents. Finding cost-effective beach compatible sand sources is always a challenge. Identifying and mapping additional sand resources will be a key task within the Plan.

CEC offers our local presence in Southwest Florida to provide the County with cost-effective and personalized services. We have successfully completed over 50 projects under various Charlotte County annual and project specific contracts for the past 46 years. Currently we are assisting the County on ten active projects including coastal, marine, environmental, survey, and dredging projects.

Throughout CEC's history, we have always put the client first and provided superior service to Charlotte County on a diverse range of engineering, survey, and environmental projects and have developed outstanding working relationships with your staff. Our local knowledge of your beach and inlet systems is unmatched.

We wish to make a positive commitment to the citizens of Charlotte County and to the Board of County Commissioners, that we can apply all of our resources to the timely, aggressive, successful construction of your Project. Thank you for your consideration and we look forward to working with you on the Ten-Year Beach Management Plan.

Respectfully Yours,
COASTAL ENGINEERING CONSULTANTS, INC.



Michael T. Poff, P.E.
President

PART IV - SUBMITTAL FORMS
PROPOSAL SUBMITTAL SIGNATURE FORM

1.	Project Team Name and Title	Years experience	City of office individual will work out of for this project	City individual's office is normally located	City of individual's residence
	Michael T. Poff, P.E., President / Principal Engineer	33	Bonita Springs	Bonita Springs	Naples
	Mark A. Kincaid, P.E., Principal Engineer	36	Bonita Springs	Bonita Springs	Bonita Springs
	Vadim V. Alymov, Ph.D., Coastal Modeler	22	Bonita Springs	Bonita Springs	Naples
	Richard J. Ewing, P.S.M., Principal Surveyor	39	Bonita Springs	Bonita Springs	Naples
	Jeremy B. Herget, P.E., Managing Engineer	14	Bonita Springs	Bonita Springs	Naples
	Samantha Brasher, Senior Technician	18	Bonita Springs	Bonita Springs	Naples
	Grady V. Timmins, P.E., Project Engineer	9	Bonita Springs	Bonita Springs	Naples
	Kyle A. Kincaid, P.E., Staff Engineer	6	Bonita Springs	Bonita Springs	Bonita Springs

2.	Magnitude of Company Operations	
	A) Total professional services fees received within last 24 months:	$ 11,512,303.04
	B) Number of similar projects started within last 24 months:	12
	C) Largest single project to date:	$ 5,000,000.00

3.	Magnitude of Charlotte County Projects	
	A) Number of current or scheduled County Projects	25
	B) Payments received from the County over the past 24 months (based upon executed contracts with the County).	$ 1,765,129.20

4.	Sub-Consultant(s) (if applicable)	Location	% of Work to be Provided	Services to be Provided
	Coastal Eco-Group, Inc.	665 SE 10th St., Ste. 104 Deerfield Beach, FL 33441	10%	Environmental planning and permitting, biological monitoring, marine surveys, hardbottom mitigation
	Ocean Surveys, Inc.	129 Mill Rock Rd. East Old Saybrook, CT 06475	9%	Geophysical - contour surveys; cultural resources-magnetometer
	Athena Technologies, Inc.	PO Box 68 McClellanville, SC 29458	5%	Vibracore and geotechnical reporting services
	R. Christopher Goodwin & Associates, Inc.	241 East 4th Street, Suite 100 Frederick, MD 21701	4%	Marine archaeological and cultural resource assessments

5. Disclosure of interest or involvement: List below all private sector clients with whom you have an active pending contract and who have an interest within the areas affected by this project. Also, include any properties or interests held by your firm, or officers of your firm, within the areas affected by this project.

	Firm N/A	Address
	Phone #	Contact Name
	Start Date	Ending Date
	Project Name/Description	

NAME OF FIRM COASTAL ENGINEERING CONSULTANTS, INC.

(This form must be completed and returned)

6. Minority Business:	**Yes** _____ **No** X
The County will consider the firm's status as an MBE or a certified MBE, and also the status of any sub-contractors or sub-consultants proposed to be utilized by the firm, within the evaluation process.	
Comments or Additional Information:	
CEC is not an MBE firm nor has any MBE sub-consultants proposed for this RFP, however our proposed sub-consultant	
Coastal Eco-Group, Inc. is a State of Florida Certified Women Owned Business.	

The undersigned attests to his/her authority to submit this proposal and to bind the firm herein named to perform as per contract if the firm is awarded the Contract by the County. The undersigned further certifies that he/she has read the Request for Proposal, Terms and Conditions, Insurance Requirements and any other documentation relating to this request and this proposal is submitted with full knowledge and understanding of the requirements and time constraints noted herein.

By signing this form, the proposer hereby declares that this proposal is made without collusion with any other person or entity submitting a proposal pursuant to this RFP.

In accordance with section 287.135, Florida Statutes, the undersigned certifies that the company is not on the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List and does not have business operations in Cuba or Syria (if applicable) or the Scrutinized Companies that Boycott Israel List or is not participating in a boycott of Israel.

As Addenda are considered binding as if contained in the original specifications, it is critical that the Consultant acknowledge receipt of same. The submittal may be considered void if receipt of an addendum is not acknowledged.

Addendum No. 1 Dated 11/30/23 Addendum No._____ Dated_____ Addendum No._____ Dated_____

Addendum No._____ Dated_____ Addendum No._____ Dated_____ Addendum No._____ Dated_____

Type of Organization (please check one): INDIVIDUAL (_) PARTNERSHIP (_) CORPORATION (X) JOINT VENTURE (_)

Coastal Engineering Consultants, Inc.
Firm Name

(239) 643-2324
Telephone

Fictitious or d/b/a Name

59-1728628
Federal Employer Identification Number (FEIN)

28421 Bonita Crossings Blvd.
Home Office Address

Bonita Springs, Florida 34135
City, State, Zip

46
Number of Years in Business

Address: Office Servicing Charlotte County, other than above

Name/Title of your Charlotte County Rep.

Telephone

Michael T. Poff, P.E., President
Name/Title of Individual Binding Firm (Please Print)

Signature of Individual Binding Firm

1/8/24
Date

mpoff@cecifl.com
Email Address

(This form must be completed & returned)

DRUG FREE WORKPLACE FORM

The undersigned vendor in accordance with Florida Statute 287.087 hereby certifies that Coastal Engineering Consultants, Inc. (name of business) does:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).

4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.

5. Impose a sanction on or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.

6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

Proposer's Signature

1/8/24

Date

END OF PART IV

(This form must be completed & returned)

TABLE OF CONTENTS

SECTION I
PROJECT TEAM

I. PROJECT TEAM

A. BACKGROUND OF TEAM

The summary background of the Coastal Engineering Consultant (CEC) Team's key personnel assigned to the Ten-Year Beach Management Plan (Plan) is described below. It familiarizes you with each individual and their related technical and managerial skills, as well as their individual professional experiences. Our Team's organization chart along with detailed resumes and professional licenses are provided on the proceeding pages. The designer and key personnel will not be substituted without express permission of the County.

1. PROJECT MANAGER

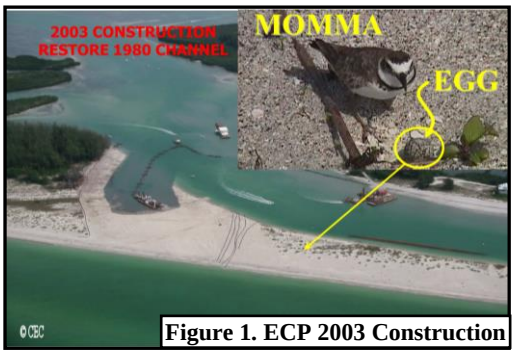


Figure 1. ECP 2003 Construction

Michael T. Poff, P.E. is CEC's President and shall serve as PROJECT MANAGER. Mr. Poff has over 33 years of professional experience in coastal restoration, erosion control, structural stabilization, and environmental design projects along the Gulf Coast. Mr. Poff has served as the Principal Engineer for Charlotte County's beach and inlet management program beginning with the Stump Pass Interim Dredging Project (1998), continuing with five beach nourishment / inlet maintenance dredging projects, Manasota Key Beach Restoration, and Port Charlotte Beach Park (PCBP) Shoreline Stabilization. He has established personal relationships with the County's project managers, engineering supervisor, purchasing managers, and technical support staff. Mr. Poff has gained the trust of the local ambassadors along the beach-front communities as well as the Marine Advisory, Parks and Recreation, and Beaches and Shores Committees (B&SC). He routinely attends community-wide, civic and homeowners' association, and the B&SC meetings to present the benefits and successes of the program and to educate the stakeholders and public in general.

Under his leadership and supervision, CEC has assisted the County accomplish these keystone elements:

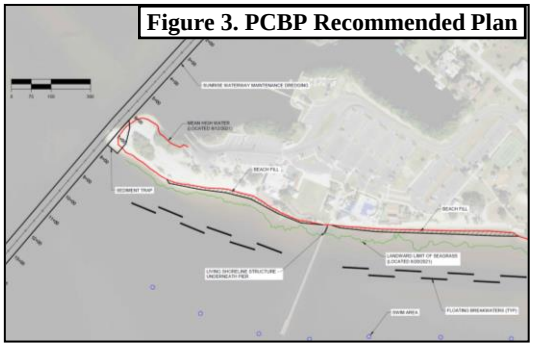
- Negotiated 50% State Cost Sharing for 2001-03 Sarasota-Charlotte Beach Erosion Study ($400K);
- Negotiated Florida State Park acceptance of and FDEP / USACE permit modifications (in two weeks) for shifting borrow alignment to preferred geometry for 2003 ECP that restored 1980 Channel due to the Wilson plover and *the infamous Golden Egg*;
- Represented County's interests before Governor and Cabinet to maintain 2003 ECP Schedule in face of legislative change / constitutional amendment inconsistency that could have delayed construction and kept County from garnering State Cost Sharing;
- Permitted ECP for construction during shorebird and sea turtle nesting seasons;
- Designed, permitted, and constructed first successful man-made shorebird nesting habitat under Florida's Beach Management Program;


Figure 2. MK First Hopper Load

- Qualified the 2006, 2011, 2017, 2020, and 2022 beach project construction events for public assistance and obtained FEMA reimbursement totaling over $9.3 Million;
- Designed, permitted and gained full support from the Florida State Park to install a low-crested permeable rock groin to stabilize the south end of the Key and reduce maintenance dredging needs for Stump Pass yielding $$ Millions of savings;

- Designed and permitted Manasota Key Beach Project including covering acres of hardbottom resources offset by new mitigation reef;
- Obtained State Cost Sharing for ECP and Manasota Key construction events and annual monitoring totaling over $22 Million since 2003;
- Designed and permitted beneficial use of Sunrise Waterway dredge sediment for PCBP nourishment;
- Principal author of the PCBP Erosion and Navigation Channel Study;
- Providing technical support for Hurricanes Ian, Nicole, and Idalia to assist County obtain recovery beach funding totaling over $10 Million (State and FEMA).

Figure 3. PCBP Recommended Plan



Mr. Poff's duties shall include client liaison, subconsultant coordination, stakeholder and agency representation, alternatives analysis, beach fill and borrow area design, funding technical support, permitting, post-disaster public assistance technical support, construction phase, and annual monitoring.

2. KEY PERSONNEL

Mark A. Kincaid, P.E. is CEC's Senior Engineer and has over 36 years of marine-related experience and shall serve as Principal Engineer. Mr. Kincaid has been actively involved with the Stump Pass projects from the first Interim Dredging in 1998 through the five ECP designs and construction events. For the Manasota Key project, he oversaw the field data collection, assisted with alternatives analysis and designs, and prepared the construction budgets. At PCBP, Mr. Kincaid was instrumental in developing an innovative approach to stabilize the shoreline which was selected as the recommended plan. Working closely with FEMA representatives after various hurricanes, he assisted the County to secure federal funding for the ECP and Sunrise Waterway dredging with beneficial use sand placement on the PCBP. Mr. Kincaid's design engineering duties consist of preparing construction plans and technical specifications; cost estimating, design and repair of coastal structures, planning sediment fill, borrow area, and channel maintenance dredging; beach profile and inlet cross-section comparative analyses; and coordinating permit agency requirements. His field engineering responsibilities include marine surveying, sediment sampling, biological surveys and species identification, deployment of hydrographic instrumentation, coastal structure inspections including above and below water, and construction observations including hydraulic fill placement. Mr. Kincaid's duties shall include project management, alternatives analysis, engineering design, engineering support for permitting, construction management and inspections.

Vadim Alymov, Ph.D. is CEC's Coastal Modeler and shall serve as same. He has 22 years of experience in numerical modeling. His expertise is in numerical modeling including assessing the performance and potential impacts of beach and inlet management strategies such as beach fill placement, borrow area mining, inlet dredging, and response to coastal structures. Dr. Alymov performed the Stump Pass tidal inlet hydraulic analysis and modeling, tide gauge and current meter data analysis, sediment transport and erosion/accretion patterns analyses, and reporting in support of the ECP design including the terminal groin. He performed the erosion analysis, alternatives analysis, beach fill design, storm erosion modeling, and permitting for the Manasota Key project. He led the data collection and analysis, coastal processes assessment, concept planning, and alternatives analysis for the PCBP shoreline stabilization study. Dr. Alymov's duties for the Plan shall include hydrologic data collection, processing, and analysis; volumetric change and shoreline change analyses; stakeholder presentations, numerical modeling; project

performance analyses; beach fill design; engineering support for permitting; annual monitoring; and post-disaster assessments.

Richard Ewing, P.S.M. is CEC's Vice-President of Surveying and Mapping and shall serve as Principal Surveyor. He has over 39 years of experience in surveying and has successfully completed numerous projects for Charlotte County. For the ECP and Manasota Key projects he oversaw the data collection and map preparation for the Erosion Control Lines. His responsibilities include establishing survey control, overseeing all supervising survey operations during design and construction. He has actively worked on all of the beach nourishment and Stump Pass dredging project since 1998, responsible for establishing control, coordinating the pre/post construction surveys, conducting pay quantity surveys during construction, annual monitoring, and post-storm surveys. Mr. Ewing's duties shall include coordinating and conducting all survey work required for design, construction, and annual monitoring. He will be responsible for establishing all survey control and reviewing all surveys and plans for accuracy.

Jeremy Herget, P.E. is CEC's Managing Engineer and shall serve as same. Mr. Herget has over 14 years of engineering experience. He has performed the design, construction, annual monitoring, and post-storm surveys of the ECP, Manasota Key, and PCBP projects since 2014. He assisted with the field data collection and hardbottom diver surveys on Manasota Key. His design engineering duties consist of preparing construction plans and technical specifications; coastal structures; channel maintenance dredging; channel and inlet cross-section comparative analyses; and environmental permitting. His field engineering responsibilities include marine surveying, sediment sampling, biological surveys and species identification, deployment of hydrographic instrumentation, coastal structure inspections, and construction observations. The marine survey projects consist of bays, intracoastal waterways, inlets, shoals, navigation channels, beach profiling, and hardbottom mapping. His environmental permitting projects include dredge and fill, coastal construction control, mitigation planning, and beach restoration and maintenance. Mr. Herget's duties shall include sand source search, design, environmental permitting, oversight of shoreline migration and volumetric change rates, and annual monitoring.

Samantha Brasher is CEC's Senior Designer and shall serve as same. She has over 18 years of experience in coastal design and shall serve as Senior Designer. Mrs. Brasher has been producing drawings and performing data calculations for the ECP since 2005. She prepared all of the beach fill concept plans, performed all the volume calculations, and developed all the presentation and report graphics for the ECP and Manasota Key projects. Her responsibilities include calculating design data, preparing layouts, and assisting with preparation of detailed plans and specifications; utilizing survey data to prepare drawings including bathymetric contours, beach profiles and channel cross sections; computing shoreline migration and beach volumetric change analyses; and producing engineering drawings for coastal structures including breakwaters, groins, jetties, bridges, piers, and docks. Mrs. Brasher's duties shall include computing shoreline migration and volumetric change rates; producing preliminary, permitting, and final design drawings for beach fills and borrow areas; preparing construction drawings; and developing annual monitoring report exhibits.

Grady Timmins, P.E. is one of CEC's Project Engineers and shall serve as same. He has over ten years of experience in marine structural design, coastal site planning, construction administration, topographic and bathymetric survey, underwater inspection, and environmental management and monitoring. Much of his experience involves design and development of marina facilities and coastal improvements including piers, seawalls, fixed and floating dock systems, navigation channels, beaches, and shoreline stabilization structures. Mr. Timmins has performed the annual monitoring surveys of the ECP and PCBP since 2014. He assisted with the field data collection and hardbottom diver surveys on Manasota Key. He has served as the Project Engineer/Project Manager on multiple Charlotte County dredge projects including the

Sunrise Waterway Maintenance Dredging with beneficial use on PCBP. Mr. Timmins' duties shall include field operations and surveying, cost estimating, construction observations, and monitoring.

Kyle Kincaid, P.E. is one of CEC's Staff Engineers and shall serve as same. He has over seven years of experience in coastal, marine, and environmental design. He assisted with the construction management, inspections, and surveying for the ECP, Stump Pass terminal groin, Manasota Key beach nourishment and mitigation reef since 2017. His field work experience includes underwater structural inspections, gauge deployment surveys, hydrographic surveys, topographic surveys, geotechnical and jet probe surveys, biological surveys, and construction observations including resident inspection services. His coastal engineering projects include design beach fill, navigation channels, and waterway marking. His environmental permitting projects include boat ramps, marinas, boardwalks and fishing piers, dredge and fill, erosion control, and shoreline stabilization. Mr. Kincaid's duties shall include preliminary and final design, surveying, construction management, construction observations and inspections, and monitoring.

3. SUBCONSULTANTS

A. Introduction

With respect to teaming, while CEC provides a vast number of the required services, we have found it to be most cost effective to partner with peers in the business who provide specialized and complimentary services. When partnering, we interview firms and identify those that share our corporate philosophy and moral and ethical standards. We propose the same Team to the County currently under contract for the Manasota Key (2016-present) and Stump Pass (2012-present) projects including Coastal Eco-Group, Ocean Surveys, Inc., R. Christopher Goodwin and Associates, and Athena Technologies Inc. (fka AVS). We specifically teamed again with these firms to ensure 100% coverage of qualified, appropriately licensed professionals in each of the essential disciplines and experience categories. CEC and our partners have teamed on multiple beach, dune, and ecosystem restoration projects throughout the Gulf of Mexico totaling more than 60 million cubic yards of sediment. These projects have restored and nourished over 55 miles of critically eroding shorelines while creating and sustaining 4,700+ acres of beach, dune, marsh, and wetland habitats. Our prior teaming experience is detailed herein.

B. Coastal Eco-Group, Inc. (CEG) is a woman-owned environmental consulting firm based in Deerfield Beach, Florida. CEG employs twelve staff consisting of senior and junior marine biologists, GIS specialists, and field support staff. CEG has been in business for more than 18 years, and their personnel represent over 150 years of combined professional experience in marine ecological surveys, including coral reef, nearshore hardbottom and seagrass mapping, monitoring, and impact analysis; habitat restoration and success monitoring including coral transplantation and relocation of other reef fauna. CEG staff have extensive experience with National Environmental Policy Act (NEPA) assessments and document preparation; environmental permitting and coordination with regulatory agencies; and mitigation planning and design for various coastal construction projects in Florida.

As a subcontractor to CEC, CEG has provided environmental permitting, nearshore hardbottom monitoring, and mitigation artificial reef monitoring services for the Manasota Key project and ECP since 2015. CEG has conducted permit-required annual monitoring of nearshore hardbottom and mitigation reefs, hardbottom mapping of submerged pipeline corridors for impact avoidance, and diver verification/oversight services during mitigation reef construction. Their core staff of eight senior marine scientists are highly skilled in marine resource assessment with specialized experience in regulatory project permit review, post-project monitoring, and hardbottom and seagrass mitigation development for shore protection projects and navigation projects throughout Florida.

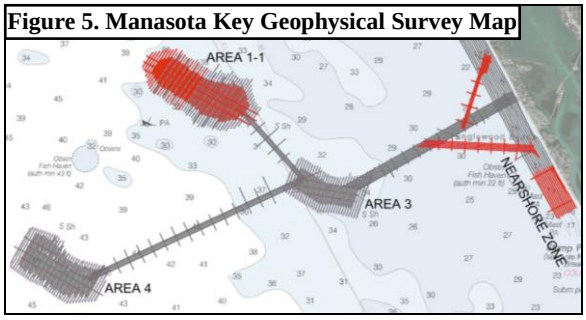
Cheryl Miller is CEG's Company President and Principal Scientist. Ms. Miller has nearly 28 years of professional experience in environmental planning and permitting, project management, NEPA compliance and documentation, benthic habitat mapping, and marine ecological surveys, including seagrass, coral reef, nearshore hardbottom, and artificial reefs. She will oversee hardbottom and mitigation reef site surveys and assist with environmental permitting.

Chip Baumberger is one of CEG's Senor Scientists and has more than 20 years of professional consulting experience. **Melissa Sathe** is one of CEG's Senior Scientists and has more than 16 years of professional experience. Their experience includes benthic habitat characterization and mapping, and marine ecological surveys including coral reef, nearshore hardbottom, artificial reef, and seagrass communities. They will support project management and benthic habitat mapping roles. They both have extensive experience in the management of large ecological databases for beach monitoring projects utilizing Microsoft Access and GIS databases.

Figure 4. Hardbottom Surveys

C. Ocean Surveys, Inc. (OSI) was founded in 1965 and have successfully completed more than 3,700 site investigations in 38 states and 42 countries located throughout six continents. OSI annually conducts more than 100 hydrographic, high-resolution multi-sensor geophysical, oceanographic and sediment sampling projects supporting the marine design, coastal and professional engineering, environmental site assessment, marine archaeological and construction communities worldwide. Collection and evaluation of remote sensing data is their only business. During the past four decades, OSI has supported dozens of coastal restoration projects in the Gulf of Mexico via multi-sensor high-resolution geophysical survey and geotechnical sampling services. As a subcontractor to CEC, OSI performed the geophysical and cultural resource surveys for the offshore borrow areas for the ECP and Manasota Key projects as well as eight major beach/dune/ecosystem restoration projects in the Gulf.

Figure 5. Manasota Key Geophysical Survey Map



John Sullivan, P.G., currently manages OSI's Geophysical Surveys Group. Mr. Sullivan supervises all phases of OSI's marine geophysical survey programs including project planning and logistics, field operations, data analysis, and final data presentations. Projects managed by Mr. Sullivan emphasize use of instrumentation related to marine geology, oceanography, and archaeology supporting coastal planning

and engineering design solutions. His recent project experience includes Manager and/or Principal Investigator for numerous coastal restoration projects in the Gulf of Mexico with a particular focus on southwest Florida. Mr. Sullivan has a master's degree in geology and is a registered professional geologist. Mr. Sullivan's duties shall include overseeing the geophysical and cultural resource field operations, data analysis, and reporting for offshore sand source investigations.

Robert Wallace is OSI's Senior Project Manager involved in the planning, design, and execution of a wide variety of field investigations. He is well versed in all phases of marine surveys, from field acquisition through data processing/analysis and technical report writing. Mr. Wallace has acted in the capacity of senior project manager on several coastal Florida, Texas, and Louisiana restoration project investigations and many of OSI's NOAA-contracted hydrographic survey task orders in the Gulf of Mexico. Mr. Wallace is a Certified Hydrographer.

Dalton Leonhardt is OSI's Lead Hydrographer with a broad academic background in marine geotechnics, specifically in site investigation of soil properties for offshore wind farms; coastal structures; as well as construction including foundation design, production, reporting, harbors maintenance, and navigation. He has participated in hydrographic, geotechnical, geophysical, and oceanographic surveys throughout the nation. Mr. Leonhardt has participated in projects that supported beach nourishment, marine construction, cable laying operations, emergency dredging, diver operations, and obstruction removal. Mr. Leonhardt is a Certified Hydrographer and an ocean engineer.

D. Athena Technologies, Inc. (ATI) is a HUBZone-certified small business incorporated in South Carolina in 1987. Athena has been providing vibracore and geotechnical reporting services in support of beach nourishment projects throughout the Atlantic and Gulf Coasts for over 30 years. Athena's project experience includes large scale geotechnical investigations performed for private engineering firms or the U.S. Army Corps of Engineers throughout the eastern seaboard, in the Gulf of Mexico or in the Caribbean, as well as numerous smaller studies at inlets and navigation channels. Recently ATI acquired American Vibracore Services who performed vibracore investigations for the ECP as a subcontractor to CEC. ATI and CEC have worked together on Gulf of Mexico projects since the 1990s.

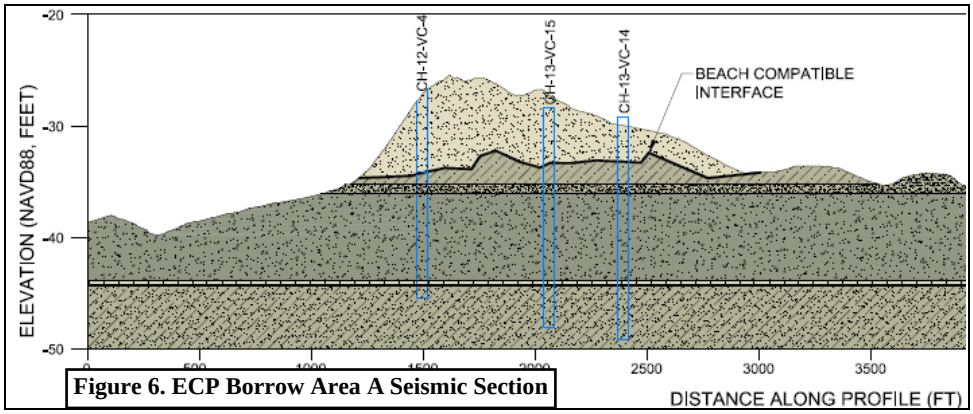


Figure 6. ECP Borrow Area A Seismic Section

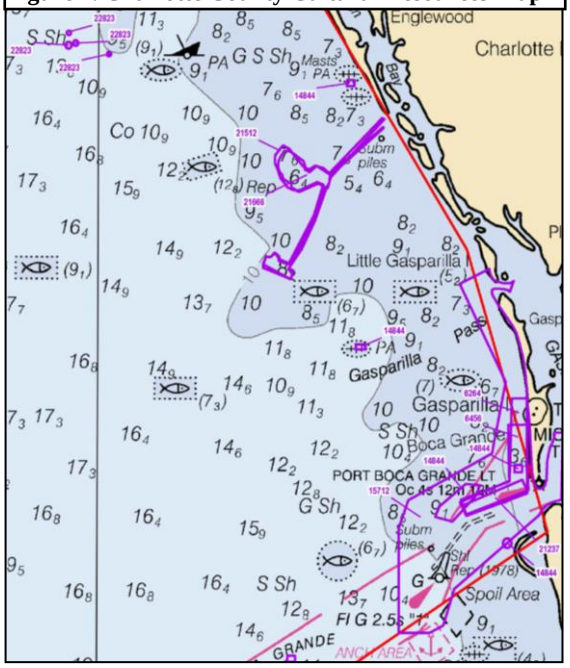
Adam Freeze is ATI's Managing Geologist with 19 years of experience directing and coordinating field crews, ensuring compliance with project-specific health and safety requirements, managing sediment sampling projects with contract values ranging from less than $20,000 to over $400,000, conducting quality assurance reviews of deliverables (e.g., reports, cost proposals, etc.), and geological data evaluation and reporting. Mr. Freeze's project management experience includes projects located throughout the Atlantic and Gulf Coasts, as well as Puerto Rico.

Brian Simmons is ATI's Master Captain with eight years of experience. Mr. Simmons is in charge of vessel operations, including vibracoring, surveying and other support operations. His responsibilities shall include coordination of all vessel activities, crew and any vessel maintenance or repairs. As the vessel's safety officer, he oversees the welfare of the passengers, crew and the vessel itself. Captain Simmons' experience extends throughout the eastern seaboard of the U.S., the Gulf of Mexico and the Caribbean.

Palmer McClellan is ATI's Field Team Leader and is a U.S. Coast Guard-certified, 100-ton Master Captain. Mr. McClellan designs and oversees fabrication of custom equipment and vessels which allows for a high level of operational efficiency. During field events he shall be responsible for leading field operations and supervising vibracoring and will be ultimately responsible for crew and vessel safety.

E. R. Christopher Goodwin & Associates, Inc. (RCG) is a cultural resources management firm that specializes in comprehensive and interdisciplinary cultural resource management services. From the company's beginnings in 1981, their success has been built on a history of elevating the quality of archeological, architectural, and historical practice across the nation. RCG provides the full range of cultural resource management services, including terrestrial archeology, nautical archeology, architectural and historical services, and Geomatics. As a subcontractor to CEC, RCG performed the marine archaeological and cultural resource assessments for the offshore borrow areas for the ECP and Manasota Key projects as well as eight major beach/dune/ecosystem restoration projects in the Gulf.

Figure 7. Charlotte County Cultural Resources Map



James Schmidt, M.A. is RCG's Senior Marine Archaeologist with over 30 years of experience in submerged cultural resources and integrated Section 106/NEPA projects. Mr. Schmidt has directed and managed submerged cultural resources investigations for coastal/beach nourishment and restoration projects, Deepwater Ports, renewable/alternative energy, submarine power cables, and navigation channel deepening and widening. His project experience focuses on the Gulf Coast including Charlotte and Sarasota Counties and Coastal Louisiana. His responsibilities shall include initial consultation with SHPO/BOEM, desktop studies, developing work plans, preliminary assessments, interpreting geophysical survey results, identifying cultural resource targets, clearing proposed vibracore locations for sampling, and coordinating the cultural resource clearance of identified sand bodies.

Ashley Himmelstein, M.A., M.S. is one of RCG's maritime archaeologists and has over five years of experience in historical research and marine and terrestrial archaeology. She possesses specialized training in the identification and characterization of submerged and coastal maritime sites, in interpreting geophysical data, and in conducting marine magnetometer surveys. Ms. Himmelstein is experienced in close analysis of data obtained from remote sensing, high resolution geophysical survey equipment. She also has applied experience conducting submerged site surveys and excavations; analyzing naval artifacts and using GIS to document geospatial data. Her responsibilities shall include data processing and interpretation of geophysical surveys and coordinating approvals with SHPO and BOEM.

COASTAL ENGINEERING CONSULTANTS INC.

Charlotte County, Florida
RFP No. 2024000131

TEN-YEAR BEACH MANAGEMENT PLAN

Project Manager

Michael T. Poff, P.E.

Technical Resources

Coastal Engineering Consultants, Inc.

Michael Poff, P.E. – *Principal Engineer, Bonita Springs*
Mark Kincaid, P.E. – *Principal Engineer*, *Bonita Springs*
Vadim Alymov, Ph.D. – *Coastal Modeler*, *Bonita Springs*
Richard Ewing, P.S.M. – *Principal Surveyor*, *Bonita Springs*
Jeremy Herget, P.E. – *Managing Engineer*, *Bonita Springs*
Samantha Brasher – *Senior Technician*, *Bonita Springs*
Grady Timmins, P.E. – *Project Engineer*, *Bonita Springs*
Kyle Kincaid, P.E. – *Staff Engineer, Bonita Springs*

Coastal Eco-Group, Inc.

Cheryl Miller, M.S. – *Principal Scientist, Deerfield Beach*
Chip Baumberger, M.S. – *Senior Scientist, Deerfield Beach*
Melissa Sathe – *Senior Scientist, Deerfield Beach*

Ocean Surveys, Inc.

John D. Sullivan, P.G. – *Geophysical Section Manager, Saybrook, CT*
Robert M. Wallace, Jr. – Senior *Project Manager, Saybrook, CT*
Dalton Leonhardt – *Lead Hydrographer, Saybrook, CT*

Athena Technologies, Inc.

Adam Freeze – *Managing Geologist, McClellanville, SC*
Brian Simmons – *Master Captain, McClellanville, SC*
Palmer McClellan – *Field Team Leader, McClellanville, SC*

R. Christopher Goodwin & Associates, Inc.

James S. Schmidt, M.A. – *VP Maritime Archaeology, Frederick, MD*
Ashley Goldie Himmelstein, M.A., M.S. – *Maritime Archeologist/Geoarchaeologist, Frederick, MD*

COASTAL ENGINEERING CONSULTANTS INC.

28421 Bonita Crossings Blvd.,
Bonita Springs, FL, 34135
Phone: (239) 643-2324

EDUCATION

- B.S. 1988 University of Delaware, Civil Engineering
- M.S. 1993 University of Delaware, Coastal Engineering

CERTIFICATIONS/ TRAINING

- Licensed Professional Engineer, Florida No. 48218, 1994

YEARS OF EXPERIENCE – 34 TOTAL YEARS

- Coastal Engineering Consultants, Inc.
  - 31 years (1993-Present)
- Burkett Associates, Inc.
  - 3 years (1988-1991)

FUNCTIONAL EXPERIENCE

- Principal Engineer for Gulf of Mexico Barrier Island and Ecosystem Restoration and Beach Renourishment Projects totaling over 60 MCY valued at $800M

PROFESSIONAL AFFILIATIONS

- ASCE
- FSBPA
- ASBPA

MICHAEL T. POFF, P.E.

PRESIDENT, PROJECT DIRECTOR
(239) 643-2324, ext. 126 • mpoff@cecifl.com

PROJECT ROLE – CONTRACT LEAD, QA-QC, DESIGN, PERMITTING, BID AND CONSTRUCTION PHASE OVERSIGHT

Mr. Poff is the President of Coastal Engineering Consultants and is in responsible charge of a team of engineers, geologists, environmental scientists, marine surveyors, designers, technicians, and administrative personnel. He has served as Lead Engineer on integrated consulting teams for plan formulation, design, permitting, and construction administration of major civil works projects with emphasis on storm damage reduction, coastal storm risk management, beach and dune restoration/renourishment, and ecosystem restoration: restoring over 45 miles of coastline, creating/enhancing over 4,500+ acres of marsh, beach, and dune habitats; and utilizing over 50 million cubic yards of sediment (MCY).

His Project responsibilities include performing quality assurance-quality control checks of deliverables; providing contract and subcontract administration; serving as liaison with key stakeholders; overseeing development, evaluation, and selection of holistic restoration strategies and design alternatives; overseeing development and implementation of numerical modeling programs to assess performance of design options; assisting with data collection, analysis and application to develop design criteria; environmental permitting; funding and grant coordination; responsible charge for preparation of design plans, reports, and construction bid documents; bid and construction phase services; and overseeing annual monitoring programs.

COASTAL STORM RISK MANAGEMENT EXPERIENCE

Mr. Poff's responsibilities for alternatives analysis include stakeholder engagement; development of alternatives including no action, restoration strategies and design templates, and complimentary structural features; overseeing development, set-up, and calibration of numerical modeling programs; assessing performance of design alternatives through empirical analyses and numerical modeling; evaluating technical, environmental, fiscal, and societal parameters for selection of preferred alternative; and consensus building to gain acceptance of recommended plan. His design experience includes beach, dune, and marsh fill layouts; borrow area geometry; inlet and navigation channel dredge templates; channel markers; coastal structures such as groins, jetties and revetments; and dune vegetation. His environmental designs include shorebird habitat creation and sea turtle-friendly beach and dune templates to enhance nesting habitat and promote hatching success.

RELEVANT PROJECT EXPERIENCE

- Manasota Key Regional Beach Restoration
- Charlotte County Erosion Control
- Port Charlotte Beach Stabilization
- Sunrise Waterway Maintenance Dredging & Beneficial Use
- Stump Pass Terminal Groin
- Stump Pass Maintenance Dredging
- Lovers Key & Bonita Beach Nourishment
- Lovers Key Sand Source Search
- Lovers Key & Bonita Beach Annual Monitoring
- Estero Island Beach Nourishment
- Blind Pass Dredging & Beach Renourishment
- Hideaway Beach Erosion Control Project, Marco Island
- South Marco Beach Renourishment & Erosion Control Structure Repairs, Marco Island

COASTAL ENGINEERING CONSULTANTS INC.

28421 Bonita Crossings Blvd.,
Bonita Springs, FL, 34135
Phone: (239) 643-2324

EDUCATION

- A.S. 1982 Florida Institute of Technology, Ocean Technology
- B.S. 1985 Florida Atlantic University, Ocean Engineering

CERTIFICATIONS/ TRAINING

- Licensed Professional Engineer, Florida No. 58654, 2002
- USCG Master-100 Tons
- PADI Master Diver

YEARS OF EXPERIENCE – 39 TOTAL YEARS

- Coastal Engineering Consultants, Inc.
  - 26 years (1998-Present)
- Suboceanic Consultants
  - 10 years (1988-1998)
- General Dynamics
  - 3 years (1985-1988)

FUNCTIONAL EXPERIENCE

- Serving as Principal Engineer for Charlotte County coastal, marine, environmental, and survey projects for over 25 years

PROFESSIONAL AFFILIATIONS

- ASCE
- FES
- Association of Diving Contractors
- States Organization for Boating Access

MARK A. KINCAID, P.E.

VICE PRESIDENT, PRINCIPAL ENGINEER
(239) 643-2324, ext. 128 • mkincaid@cecifl.com

PROJECT ROLE – DESIGN, CONSTRUCTION DOCUMENTS, CONSTRUCTION MANAGEMENT, CONTRACTOR COORDINATION

Mr. Kincaid is a Principal Engineer with Coastal Engineering Consultants providing project management, coastal engineering, marine structures, subaqueous utilities, marine surveying, and environmental permitting. His engineering experience includes beach and dune restoration and renourishment design, permitting and construction management; navigation channel, inlet and waterway dredging design, permitting, and monitoring; mooring field design, permitting, anchor testing, construction management, and post-construction monitoring and maintenance; and marine structure and bridge inspections.

His Project responsibilities include performing quality assurance-quality control checks of data collection; assisting with funding and grant coordination; beach fill and borrow area design; environmental permitting; assisting with design plans, reports, technical specification, and construction bid documents; and responsible charge of bid and construction phase services.

COASTAL STORM RISK MANAGEMENT EXPERIENCE

Mr. Kincaid's design engineering duties consist of preparing construction plans and technical specifications; cost estimating; preliminary and final design; and coordinating permit agency requirements. His field engineering responsibilities include marine surveying, underwater inspections, biological surveys and species identification, deployment of hydrographic instrumentation, marine structure inspections including above and below water, and construction oversight. The marine survey projects consist of bays, intracoastal waterways, inlets, shoals, navigation channels, beach profiling, and hardbottom mapping. His environmental permitting projects include dredging, beach fill, endangered species protection, mitigation planning, and shoreline stabilization.

RELEVANT PROJECT EXPERIENCE

- Manasota Key Regional Beach Restoration
- Charlotte County Erosion Control
- Port Charlotte Beach Stabilization
- Sunrise Waterway Maintenance Dredging & Beneficial Use
- Stump Pass Terminal Groin
- Stump Pass Maintenance Dredging
- Charlotte County Post-Storm Recovery
- Lovers Key Sand Source Search
- Lovers Key & Bonita Beach Beach Nourishment
- Estero Island Beach Nourishment
- Blind Pass Dredging & Beach Nourishment
- New Pass Dredging, Beach Renourishment, & Annual Monitoring
- Hideaway Beach Erosion Control Project, Marco Island
- South Marco Beach Renourishment & Erosion Control Structures, Marco Island

COASTAL ENGINEERING CONSULTANTS INC.

28421 Bonita Crossings Blvd.,
Bonita Springs, FL, 34135
Phone: (239) 643-2324

EDUCATION

- B.S. and M.S. 1996 Applied Mathematics, Altai State University, Russia
- M.S. 1999 University of Florida, Coastal Engineering
- Ph.D. 2005 University of Florida, Coastal Engineering

CERTIFICATIONS/ TRAINING

- Delft3D (Deltares, Delft)
- SMS (EMS, CA)
- CMS-Wave (USACE, FL)
- CMS-Flow (USACE, FL)
- ADCIRC (NOAA, MD)
- XBeach (Deltares, Online)

YEARS OF EXPERIENCE – 22 TOTAL YEARS

- Coastal Engineering Consultants, Inc.
  - 18 years (2006-Present)
- University of Florida
  - 3 years (2002-2005)
- Institute for Water and Environmental Problems (Russia)
  - 1 year (1996-1997)

FUNCTIONAL EXPERIENCE

- Coastal Modeler for Multiple Gulf of Mexico Barrier Island, Beach Renourishment, and Ecosystem Restoration Projects

PROFESSIONAL AFFILIATIONS

- ASCE

VADIM V. ALYMOV, PH.D.

COASTAL MODELER

(239) 643-2324, ext. 151 • valymov@cecifl.com

PROJECT ROLE – ENGINEERING SUPPORT FOR PERMITTING, CONSTRUCTION OBSERVATIONS, PERFORMANCE ANALYSIS, ANNUAL MONITORING

Dr. Alymov is the Coastal Modeler for Coastal Engineering Consultants. His responsibilities include numerical modeling of wave refraction, wave dynamics, circulation, hurricane-induced storm surge and inundation, flushing, tidal and channel hydraulics, hydrodynamics, coastal sediment transport, morphologic change, and shoreline change and beach erosion. Dr. Alymov has extensive experience in computer programming and he has implemented a wide variety of numerical models including Delft3D, MIKE21, ADCIRC, SWAN, SBEACH, and GENCADE in support of beach and dune restoration and renourishment projects along the Gulf coast.

His Project responsibilities include compilation and analysis of survey data; coastal processes analyses; shoreline and volume change assessments; development of island-wide sediment budget; development of design criteria; plan formulation; engineering design of beach restoration/renourishment alternatives; funding coordination; environmental permitting; and annual monitoring and performance assessments.

COASTAL STORM RISK MANAGEMENT EXPERIENCE

Dr. Alymov's responsibilities for alternatives analysis include developing alternatives such as no action, hard-structural, soft-structural, and nature based strategies; development, set-up, and calibration of numerical modeling programs; assessing performance of design alternatives through empirical analyses and numerical modeling; evaluating technical parameters for selection of preferred alternative; and preparing recommended plan features and details.

For his Doctorate Degree, he worked with the original developer of the curvilinear-grid finite difference CH3D model, Professor Peter Cheng of the University of Florida, and implemented model improvements including dynamic coupling of CH3D with the SWAN wave model to examine hurricane impacts along the Southwest Florida coast.

RELEVANT PROJECT EXPERIENCE

- Manasota Key Regional Beach Restoration
- Charlotte County Erosion Control
- Port Charlotte Beach Stabilization
- Sunrise Waterway Maintenance Dredging & Beneficial Use
- Stump Pass Terminal Groin
- Stump Pass Maintenance Dredging
- Charlotte County Post-Storm Recovery
- Lovers Key Sand Source Search
- Lovers Key & Bonita Beach Beach Nourishment
- Estero Island Beach Nourishment
- Blind Pass Dredging & Beach Renourishment
- Hideaway Beach Erosion Control Project
- South Marco Beach Renourishment & Erosion Control Structures

COASTAL ENGINEERING CONSULTANTS INC.

28421 Bonita Crossings Blvd.,
Bonita Springs, FL, 34135
Phone: (239) 643-2324

EDUCATION

- Florida Laws of the Profession
- Mean High Water Surveying
- Florida Laws of Surveying

CERTIFICATIONS/ TRAINING

- Licensed Professional Surveyor and Mapper, Florida No. 5295, 1994
- Licensed Professional Surveyor and Mapper, Louisiana No. 5016, 2009

YEARS OF EXPERIENCE – 40 TOTAL YEARS

- Coastal Engineering Consultants, Inc.
  - 34 years (1990-Present)
- Perry Hand & Associates
  - 6 years (1984-1990)

FUNCTIONAL EXPERIENCE

- Principal Surveyor and Mapper for Gulf of Mexico Beach Projects including seven in SW Florida

PROFESSIONAL AFFILIATIONS

- Florida Surveying and Mapping Society

RICHARD J. EWING, P.S.M.

VICE PRESIDENT, PRINCIPAL SURVEYOR AND MAPPER
(239) 643-2324, ext. 127 • rewing@cecifl.com

PROJECT ROLE – DESIGN, PERMIT, AND CONSTRUCTION SURVEYS

Mr. Ewing is the Vice-President of Surveying with Coastal Engineering Consultants. He specializes in surveying services for municipal agencies which include State land boundary acquisition surveys, appraisal mapping using aerial photography, and hydrographic surveys. He coordinates the scheduling of field crews and is the liaison between the field data collection process and reduction of survey data to produce high quality products.

His Project responsibilities include supervising data collection for the beach fill area, borrow area and pipeline corridor design surveys; mean high water line surveys; survey control; pre-construction, pay and post-construction surveys; and surveyor's reports.

COASTAL STORM RISK MANAGEMENT EXPERIENCE

Mr. Ewing is proficient in the use of Global Positioning System – Real Time Kinetics to perform marine survey services. He has personally surveyed over 16 miles of Mean High Water lines and served as lead surveyor for preparing the plats in support of establishing Erosion Control Lines for multiple Florida beach restoration and renourishment projects. He supervised the design, permit and construction surveys for seven major beach restoration and renourishment projects in Southwest Florida totaling over $50 Million.

RELEVANT PROJECT EXPERIENCE

- Manasota Key Regional Beach Restoration
- Charlotte County Erosion Control
- Port Charlotte Beach Stabilization
- Sunrise Waterway Maintenance Dredging & Beneficial Use
- Stump Pass Terminal Groin
- Stump Pass Maintenance Dredging
- Charlotte County Post-Storm Recovery
- Lovers Key - Bonita Beach Nourishment & Annual Monitoring Surveys
- Estero Island Annual Beach Monitoring
- Fort Myers Beach Harbor Maintenance Dredging Construction Surveys
- Big Carlos Pass Monitoring Surveys
- Blind Pass Dredging & Beach Renourishment & Annual Monitoring Surveys
- Spring Creek Dredging Construction Surveys
- New Pass Dredging & Beach Renourishment Construction Surveys
- Ten Mile Canal Sediment Removal Construction Surveys
- South Estero Bay Waterway Dredging Construction Surveys
- South Marco Beach Renourishment & Erosion Control Structures, Marco Island
- Gordon Pass Maintenance Dredging Construction Surveys

COASTAL ENGINEERING CONSULTANTS INC.

28421 Bonita Crossings Blvd.,
Bonita Springs, FL, 34135
Phone: (239) 643-2324

EDUCATION

- B.S. 2009 Florida Atlantic University, Ocean Engineering

CERTIFICATIONS/ TRAINING

- Licensed Professional Engineer, Florida No. 79352, 2015
- PADI Diver

YEARS OF EXPERIENCE – 15 TOTAL YEARS

- Coastal Engineering Consultants, Inc.
  - 10 years (2014-Present)
- US Army Corps of Engineers New Orleans District
  - 5 years (2009-2014)

FUNCTIONAL EXPERIENCE

- Serving as Managing Engineer for Town of Ft. Myers Beach coastal, marine, environmental, and survey project for over 7 years.

PROFESSIONAL AFFILIATIONS

- Society of Naval Architects and Marine Engineers

JEREMY B. HERGET, P.E.

MANAGING ENGINEER

(239) 643-2324, ext. 130 • jherget@cecifl.com

PROJECT ROLE – DESIGN, COST ESTIMATING, CONSTRUCTION SURVEYS

Mr. Herget is a Managing Engineer with Coastal Engineering Consultants. His experience includes providing program and project management, marine engineering, coastal engineering, environmental permitting, cost estimating, and land and marine surveying. His engineering experience includes ecosystem restoration alternative formulation; design and repair design of coastal structures; preparing construction plans and technical specifications; planning sediment fill, borrow area, and channel maintenance dredging; and wetland, marsh, beach profile, and inlet cross-section comparative analyses. His marine survey experience includes hydrographic, topographic, bathymetric, and hydraulic surveys; underwater structural inspections; tide gauge and current meter deployment and recovery; geophysical surveys and sediment sampling; and biological surveys and species identifications.

His Project responsibilities include coastal restoration design, preparing construction plans, technical specifications, and bid documents; cost estimating; environmental permitting; and bid phase services. His construction phase services include submittal review, construction stakeout and progress surveys, project scheduling, on-site construction observations project certification and environmental permitting closeout.

COASTAL STORM RISK MANAGEMENT EXPERIENCE

Mr. Herget has supported the analysis of coastal processes through field data collection including topographic and bathymetric surveying, biological surveying and resource mapping, underwater inspections, and deployment of hydrographic instrumentation to collect wind, wave, tide, and current data. His design experience includes beach and dune layouts; borrow area sediment analysis and geometry; inlet and navigation channel dredge templates; channel markers; coastal structures such as groins, jetties, and revetments; and dune vegetation. His environmental designs include seagrass restoration efforts associated with dredging of inlets and channels.

Mr. Herget was previously employed as a Project Manager for U.S. Army Corps of Engineers New Orleans District for five years. He served as a project manager for multiple ecosystem restoration studies and the Mississippi River Levee Program which included numerous levee enlargement projects covering approximately 512 miles including those within the Hurricane Storm Damage Risk Reduction System. Mr. Herget was invited to participate in development of the Risk Management training program currently in use.

RELEVANT PROJECT EXPERIENCE

- Manasota Key Regional Beach Restoration
- Charlotte County Erosion Control
- Port Charlotte Beach Stabilization
- Sunrise Waterway Maintenance Dredging & Beneficial Use
- Stump Pass Terminal Groin
- Stump Pass Maintenance Dredging
- Charlotte County Post-Storm Recovery
- Lovers Key Sand Source Search
- Lovers Key & Bonita Beach Beach Nourishment
- Estero Island Beach Nourishment
- Blind Pass Dredging & Beach Renourishment
- Hideaway Beach Erosion Control Project
- South Marco Beach Renourishment & Erosion Control Structure Repairs

COASTAL ENGINEERING CONSULTANTS INC.

28421 Bonita Crossings Blvd.,
Bonita Springs, FL, 34135
Phone: (239) 643-2324

EDUCATION

- 1999-2001 Pasco-Hernando State College, Drafting and Design Technology.

YEARS OF EXPERIENCE – 23 TOTAL YEARS

- Coastal Engineering Consultants, Inc.
  - 21 years (2003-Present)
- Emergency One
  - 2 years (2001-2003)

FUNCTIONAL EXPERIENCE

- Developed detailed designs and construction plan drawings for Barrier Island and Ecosystem Restoration and Beach Renourishment Projects valued at $560M

SAMANTHA D. BRASHER

COASTAL ENGINEERING DESIGNER

(239) 643-2324, ext. 129 • sbrasher@cecifl.com

PROJECT ROLE – SENIOR DESIGNER

Mrs. Brasher is a Senior Designer with Coastal Engineering Consultants. Her responsibilities include calculating design data; analysis of reports, maps, drawings, tests and aerial photographs to plan projects; computations and quantity estimates preparation; preparing layouts; assisting with the preparation of detailed plans and specifications, reports, and studies for engineering and environmental projects.

She provides technical support to our engineering and surveying managers; produces engineering drawings for ecosystem restoration, beach nourishment, shoreline stabilization, and environmental mitigation; marine structures including boat ramps, seawalls, revetments, breakwaters, groins, jetties, bridges, piers, and docks; and utilizes survey data to prepare drawings including bathymetric contours, dredge templates, and channel cross-sections.

EXPERIENCE

Mrs. Brasher has extensive experience in AutoCAD Civil 3D using surfaces, alignments, profile and section views, volume reports, and raster imaging. She also has experience in Trimble Sketchup preparing 3D renderings of project sites.

RELEVANT PROJECTS

- Manasota Key Regional Beach Restoration
- Charlotte County Erosion Control
- Port Charlotte Beach Stabilization
- Sunrise Waterway Maintenance Dredging & Beneficial Use
- Stump Pass Terminal Groin
- Stump Pass Maintenance Dredging
- Charlotte County Post-Storm Recovery
- Lovers Key Sand Source Search
- Lovers Key & Bonita Beach Beach Nourishment
- Lee County Offshore Sand Source Search
- Blind Pass Dredging & Beach Renourishment (Beneficial Use)
- Southwest Florida Regional Waterway Management, WCIND
- Hideaway Beach Shoreline Stabilization
- Pirate Harbor Restoration Dredging & Seagrass Mitigation
- Spring Creek Spot Dredging and Oyster Mitigation
- Turner Beach Shoreline Stabilization-Beach Park Improvements
- Big Carlos Pass & New Pass Annual Monitoring
- Matanzas Pass Dredging Construction Surveys

COASTAL ENGINEERING CONSULTANTS INC.

28421 Bonita Crossings Blvd.,
Bonita Springs, FL, 34135
Phone: (239) 643-2324

EDUCATION

- B.S. 2013 University of Central Florida, Civil Engineering

CERTIFICATIONS/ TRAINING

- Licensed Professional Engineer, Florida No. 86500, 2019
- USCG Licensed Captain
- PADI Diver

YEARS OF EXPERIENCE – 12 TOTAL YEARS

- Coastal Engineering Consultants, Inc.
  - 11 years (2013-Present)
- Q. Grady Minor & Associates
  - 1 years (2012-2013)

FUNCTIONAL EXPERIENCE

- Project Engineer for Southwest Florida Beach Renourishment / Inlet Dredging / Beneficial Use Projects totaling over 2MCY valued at $45M.
- Surveyed hundreds of line-miles of coastline, navigation channels and borrow areas.

GRADY V. TIMMINS, P.E.

PROJECT ENGINEER
(239) 643-2324, ext. 135 • grimmins@cecifl.com

PROJECT ROLE – PLANS AND SPECIFICATIONS, CONSTRUCTION INSPECTIONS, CONSTRUCTION AND MONITORING SURVEYS

Mr. Timmins is a Project Engineer for Coastal Engineering Consultants. His engineering duties consist of preparing design plans for beach nourishment, shoreline stabilization, and ecosystem restoration; cost estimating; environmental permitting; and performing construction management. His field responsibilities include marine survey, deployment of hydrographic instrumentation and marine structure inspections above and below water. His marine surveying duties consist of beach profiles, borrow areas, bays, intracoastal waterways, inlets, shoals, navigation channels, and natural resources. His environmental permitting duties include dredge and fill, erosion control, and shoreline stabilization projects.

His Project responsibilities include performing design surveys of beach, borrow area and pipeline corridor; preparing design plans for beach and dune renourishment; and environmental permitting technical support. His construction phase services include contractor submittal review, construction stakeout and progress surveys, project scheduling, and on-site construction observations.

COASTAL STORM RISK MANAGEMENT EXPERIENCE

Mr. Timmins has supported the analysis of coastal processes through field data collection including topographic and bathymetric surveying, biological surveying, underwater inspections, and deployment of hydrographic instrumentation to collect wind, wave, tide and current data. His design experience includes assisting in beach and dune; borrow area geometry; inlet and navigation channel dredge templates; channel markers; and development of construction plans and technical specifications.

RELEVANT PROJECT EXPERIENCE

- Manasota Key Regional Beach Restoration
- Charlotte County Erosion Control
- Port Charlotte Beach Stabilization
- Sunrise Waterway Maintenance Dredging & Beneficial Use
- Stump Pass Terminal Groin
- Stump Pass Maintenance Dredging
- Charlotte County Post-Storm Recovery
- Lovers Key Sand Source Search
- Lovers Key & Bonita Beach Beach Nourishment
- Estero Island Annual Beach Monitoring
- New Pass Dredging and Beach Disposal (Beneficial Use)
- Fort Myers Beach Harbor Maintenance Dredging Construction Surveys
- Blind Pass Maintenance Dredging & Annual Monitoring
- South Estero Bay Waterway Dredging
- Estero Island Post-Irma Hurricane Recovery – Seawall Repairs
- Hideaway Beach Erosion Control Project, Marco Island
- South Marco Beach Renourishment & Erosion Control Structures, Marco Island

COASTAL ENGINEERING CONSULTANTS INC.

28421 Bonita Crossings Blvd.,
Bonita Springs, FL, 34135
Phone: (239) 643-2324

EDUCATION

- B.S. 2016 Florida Gulf Coast University

CERTIFICATIONS/ TRAINING

- Licensed E.I., Year 2016

YEARS OF EXPERIENCE – 8 TOTAL YEARS

- Coastal Engineering Consultants, Inc.
  - 8 years (2016-Present)

FUNCTIONAL EXPERIENCE

- Serving as Staff Engineer for Lee County coastal, marine, and environmental projects.

PROFESSIONAL AFFILIATIONS

- Order of the Engineer, Florida Gulf Coast University Chapter

KYLE A. KINCAID, P.E.

STAFF ENGINEER
(239) 643-2324 Ext 148 • KKincaid@cecifl.com

PROJECT ROLE – CONSTRUCTION INSPECTIONS, CONSTRUCTION SURVEYS, TURBIDITY MONITORING

Mr. Kincaid currently holds the position of Staff Engineer with Coastal Engineering Consultants. His coastal engineering design experience includes beach fill, navigation channel, and waterway marking. His marine engineering design experience includes marine structure repair and replacement plans for boat ramps, docks, piers, boardwalks, dune walkovers, seawalls, shoreline armoring, and access channel dredging. His field work experience includes underwater structural inspections, gauge deployment surveys, hydrographic surveys, topographic surveys, geotechnical and jet probe surveys, biological surveys, structural inspections, and construction observations including resident inspection services. His environmental permitting projects include boat ramps, marinas, boardwalks and fishing piers, dredge and fill, erosion control, and shoreline stabilization.

COASTAL STORM RISK MANAGEMENT EXPERIENCE

Mr. Kincaid has supported the analysis of coastal processes through field data collection including topographic and bathymetric surveying, biological surveying, underwater inspections, and deployment of hydrographic instrumentation to collect wind, wave, tide, and current data. His design experience includes assisting in beach and dune; borrow area geometry; inlet and navigation channel dredge templates; channel markers; and development of construction plans and technical specifications.

RELEVANT PROJECT EXPERIENCE

- Manasota Key Regional Beach Restoration
- Charlotte County Erosion Control
- Port Charlotte Beach Stabilization
- Sunrise Waterway Maintenance Dredging & Beneficial Use
- Stump Pass Terminal Groin
- Stump Pass Maintenance Dredging
- Charlotte County Post-Storm Recovery
- Estero Island Beach Nourishment
- Lovers Key & Bonita Beach Nourishment & Annual Monitoring
- South Estero Bay Waterway Dredging
- Ten-Mile Canal Sediment Removal
- Blind Pass Dredge & Beach Renourishment & Annual Monitoring
- WCIND Regional Inlet & Waterway Management
- Punta Rassa Maintenance Dredging
- Ten Mile Canal Sediment Removal Project
- Blind Pass Annual Monitoring Surveys
- Crescent Beach Park Sand Placement – Post Irma Recovery

Ms. Cheryl Miller

President, Principal Scientist

Coastal Eco-Group, Inc.

EDUCATION

M.S., Biological Sciences, Florida Atlantic University, 2000

B.S., Marine Biology, FAU, 1996

B.A., University of Pennsylvania, 1992

YEARS OF EXPERIENCE

Total: 28

PROFESSIONAL AFFILIATIONS

Southeast Florida Coral Reef Initiative Team Member (SEFCRI), 2003-2020, Vice-Chair (2012-2018)

South Florida Water Management District Water Resources Advisory Commission, 2011-2013

International Coral Reef Society

American Academy of Underwater Sciences

EXPERIENCE RELEVANT TO RFQ

- Biological Surveys- Seagrass, Mangrove, Softbottom and Coral Reef Habitats
- Impact Assessment
- Environmental Permitting and Compliance
- NEPA Documentation & Compliance
- Benthic Habitat Mapping and Characterization
- Mitigation Development- Hardbottom and Seagrass Habitats
- Public Outreach and Presentations
- Project Management and Artificial Reef Construction Oversight

Ms. Cheryl Miller has nearly 28 years of professional experience in environmental planning and permitting, project management, NEPA compliance and documentation, benthic habitat mapping, and marine ecological surveys, including seagrass, coral reef, nearshore hardbottom, and artificial reefs. Prior to establishing Coastal Eco-Group Inc. in 2005, Ms. Miller was employed as an Environmental Specialist with the FDEP, Bureau of Beaches and Coastal Systems, where she conducted the regulatory and ecological review of environmental resource and joint coastal permit applications. Her area of regulatory purview was southwest Florida with project management of the Longboat Key Nourishment Project, Siesta Key Nourishment Project, and Bonita Beach Nourishment Project.

Relevant Project Experience

- Project Manager and Principal Scientist for nearshore hardbottom characterization, impact evaluation, hardbottom mitigation development and success monitoring, and post-construction hardbottom monitoring program for the Manasota Key Erosion Control Project, Charlotte County, FL (2016-present).
- Project Manager and Principal Scientist for the pipeline corridor hardbottom mapping and impact avoidance assessments for the Charlotte County Erosion Control Project, Charlotte County, FL (2015-16).
- Project Manager and Principal Scientist for the nearshore hardbottom monitoring program for the 2016 & 2021 Longboat Pass Navigational Maintenance Dredging Projects, Town of Longboat Key, FL (2015- present).
- Project Manager and Principal Scientist for the nearshore hardbottom monitoring program for the 2016 South Siesta Key Project- Phase II, Sarasota County (2017-present).
- Project Manager for scientific diver verification surveys of benthic habitats adjacent to the proposed borrow area and pipeline corridor for the Estero Island Shore Protection Project, Lee County, FL (2021).
- Project Manager for diver verification survey of the submerged pipeline corridor Lover's Key Beach Nourishment Project, Lee County, FL (2021).
- Project Manager and Principal Author of the NEPA EA and ESA Section 7 BA for the Ponte Vedra Beach Nourishment Project prepared in conjunction with BOEM, St. John's County, FL (2020-21).
- Principal Author of the EA/BA and cumulative effects assessment for overlapping project elements at St. Lucie Inlet, pre/post-construction seagrass mapping and monitoring of the flood shoal, and nearshore hardbottom monitoring for the 2010, 2016, 2017/18 & 2021 Bathtub Beach/Sailfish Point Nourishment Projects, Martin County, FL (2014- present).
- Project Manager and Principal Reviewer of the NEPA EA and ESA Section 7 BA for the Flagler County Beach Nourishment Project, first project coordinated under the 2020 SARBO (2019-21).
- Project Manager and Principal Scientist in charge of environmental permitting, NEPA compliance, nearshore hardbottom monitoring/ impact assessment associated with downdrift sand placement from Boca Raton Inlet ebb tidal shoal; mitigation success determination, and permit-required reporting for the 2010, 2013, 2017 & 2023 South Boca Raton Beach Nourishment Projects (2009- present).
- Principal Author of the Biological Assessment for the New Pass Maintenance Dredging Project, Town of Longboat Key, FL (2014-2015).

Chip Baumberger

Senior Scientist, Dive Safety Officer

Coastal Eco-Group, Inc.

EDUCATION

M.S., Marine Biology, Florida Atlantic University, 2008

B.S., Biology: Marine, Florida Atlantic University, 2001

YEARS OF EXPERIENCE

Total: 21

OFFICE LOCATION

Deerfield Beach, FL

PROFESSIONAL AFFILIATIONS

American Academy of Underwater Sciences

Coastal and Estuarine Research Federation (Past)

EXPERIENCE RELEVANT TO RFP

- Biological Monitoring Surveys- Seagrass, Hardbottom and Coral Reef Habitats, meeting FDEP 2016 SOP
- Benthic Habitat Mapping and Characterization – nearshore hardbottom edge and seagrass communities
- Borrow Area Biological Characterization and Mapping
- Identification of flora and fauna of Collier, Sarasota and Charlotte Counties

Mr. Baumberger is a senior marine biologist with over 21 years of experience in marine environmental science and a strong background in field studies of marine communities and coastal ecosystems including benthic characterization and mapping, fish censuses, nearshore hardbottom monitoring, and coral relocation. He has experience conducting damage assessments and restoration of coral reefs in southeast Florida, the Bahamas, and Oman. Prior to joining Coastal Eco-Group in 2021, Mr. Baumberger managed biological monitoring of nearshore hardbottom for a variety of projects along both Florida coasts for over ten years at a marine environmental consulting firm.

Previous relevant experience in southeast Florida includes hardbottom and seagrass survey protocol development, transect installation, characterization of nearshore hardbottom benthic communities, fish assemblages and seagrass mitigation planning, data analysis of multi-year biological monitoring datasets and technical report development.

Relevant Project Experience

- Senior Scientist for the 2021-2023 Manasota Key Post-construction hardbottom monitoring and mapping. Conduct biological monitoring of natural and artificial reef transects including quadrat assessments, sedimentation and sand/hardbottom line-intercept, fish censuses, macro still photography and transect establishment. Familiar with all biological flora and fauna on nearshore hardbottom in Charlotte and Sarasota counties (2021-present).
- Senior Scientist for the 2021 Longboat Pass Navigational Maintenance Dredging Project, responsible for artificial and natural hardbottom monitoring. Map natural and artificial reefs with diver-towed DGPS, conduct quadrat assessments, measure sediment depths and line intercept transects, and conduct digital video transects (2021-present).
- Project Manager and Lead Scientist for the nearshore hardbottom monitoring program for the 2023 South Siesta Key Project- Phase II, Sarasota County (2023-present)
- Senior Scientist for verification survey of benthic habitats adjacent to the offshore borrow area and submerged pipeline corridor for the Estero Island Shore Protection Project. Mapped previous seagrass areas adjacent to the borrow area, investigated pipeline corridor anomalies, assessed sonar data, and conducted video and biological characterization. Compiled data and co-authored summary report and conclusions (2021)

CSA Ocean Sciences, Inc. Relevant Experience

- Project Manager and Chief Scientist for nearshore hardbottom monitoring program for the Collier County Beach Nourishment Project. Assessed hardbottom and seagrass habitats; coordinated monitoring and planned/executed field surveys; mapped benthic resources with submersible GPS; collected close-up video and benthic quadrat data; and conducted data analyses. Authored annual reports, drafted biological monitoring plans, and performed seagrass habitat mapping assessments (2019 - 2021).
- Project Manager for the South Siesta Key Beach Nourishment Project immediate post-construction monitoring including biological assessment of offshore hardbottom adjacent to the borrow area; mapping and survey of hardbottom habitats before, during, and after construction; permanent transect installation, led field monitoring surveys, mapped resources with submersible GPS, performed scientific data collection including close-up photo, video and in situ quadrat data to characterize hardbottom communities. Acted as HSSE safety officer and authored multiple reports (end client Sarasota County, 2015 - 2016).

Ms. Melissa Sathe

Senior Scientist

Coastal Eco-Group, Inc.

EDUCATION

M.S., Marine Sciences, Nova Southeastern University, 2008

B.S., Ecology and Evolutionary Biology, Tulane University, 2000

YEARS OF EXPERIENCE

Total: 16

OFFICE LOCATION

Deerfield Beach, FL

PROFESSIONAL AFFILIATIONS

Friends of Our Florida Reefs

Southeast Florida Coral Reef Initiative

American Academy of Underwater Sciences

EXPERIENCE RELEVANT TO RFP

- Biological Surveys- Seagrass, Mangrove, Softbottom and Coral Reef Habitats
- Impact Assessment
- Environmental Permitting and Compliance
- NEPA Documentation & Compliance
- Benthic Habitat Mapping and Characterization
- Mitigation Development- Coral and Seagrass Habitats
- GIS Data Analysis and Mapping
- Coral Transplantation and Restoration

Melissa Sathe has more than 16 years of professional experience in offshore project management, benthic habitat characterization and mapping, and marine ecological surveys, including coral reef, nearshore hardbottom, artificial reef, and seagrass. Prior to joining Coastal Eco-Group in 2017, Melissa assisted in the management of biological monitoring and reef injury impact assessments for coral reefs in southeast Florida at the Florida Department of Environmental Protection's Coral Reef Conservation Program (FDEP CRCP) from 2012 through 2017. Prior to FDEP CRCP, Melissa was the field coordinator for the offshore monitoring program at Miami-Dade County's Division of Environmental Resources Management (DERM). Offshore monitoring at DERM included beach nourishment projects and artificial reef permitting projects. From 2004 through 2007, Melissa was a research assistant at Nova Southeastern University and supported the project management for offshore hardbottom monitoring during Segment III beach nourishment activities in Broward County, FL.

Relevant NEPA and ESA Section 7 Project Experience

Senior Scientist and Primary/Contributing Author for the preparation of ESA Section 7 Biological Assessments and NEPA Environmental Assessments and associated environmental permitting support and compliance assistance for the following projects:

- Ponte Vedra Beach, FL Nourishment Project (2020-2021)
- Flagler County Beach and Dune Restoration Project (2019-2021)
- Amelia Island Shore Stabilization Project (2018-2021)
- Flagler County Beach and Dune Restoration Project (2019-2021)
- Broward County Shore Protection Project Segment III (2019-2021)
- Longboat Key North End Structural Stabilization Project (2018-2019)
- Restoration and Periodic Nourishment of Manasota Key, Charlotte County, FL (2017-2018)

Other Relevant Coastal Eco-Group, Inc. Project Experience

- Shipwreck Park Snorkel Trail and Living Shoreline (2017-2023)- Assisted with project design and permitting of an artificial reef snorkel trail at Hillsboro Inlet for Broward County, FL. Managed seagrass and stony coral field activities and mapping.
- Lake Worth Lagoon Fixed Transect Seagrass Monitoring and Mapping Project (2017-2023)- Conduct annual seagrass monitoring at fixed transects throughout the lagoon and manage lagoon-wide mapping data in Microsoft Access and ArcGIS.
- 2016 Broward County Segment II Beach Nourishment Project (2017-2023)- Participate in mapping of nearshore hardbottom habitats, and biological monitoring/assessment of nearshore reef communities including digital video transects and sedimentation surveys. Contributing author of permit-required data analyses and annual reports.
- Bathtub Beach Sailfish Point Beach Nourishment Project, Martin County, Florida (2017-2023)– Conduct biological monitoring and assessment of nearshore hardbottom including digital video transects, sedimentation surveys, and in situ quadrats. Assist with development of annual permit-required hardbottom monitoring reports and GIS maps.
- South Boca Interim Beach Nourishment Project (2017-2023)– Manage data analyses and permit-required report development for the City of Boca Raton in Palm Beach County.
- General GIS Analysis and Support (2017-Present- Perform interpretation and delineation of hardbottom in aerial photography in GIS and develop benthic habitat maps for numerous projects in Florida (Palm Beach Island Beach Management Agreement and Broward County Segment III Beach Nourishment Project).

Florida Department of Environmental Protection Coral Reef Conservation Program Experience

- Manager of the FDEP CRCP's reef restoration project at the Spar Orion and Clipper Lasco Grounding Sites, Broward County, FL (2015).
- Assistant manager for contractor oversight, contract management, environmental permitting review support, and budgets for all associated projects, Miami-Dade –Martin County, Florida (2012-2017).

JOHN D. SULLIVAN, P.G. — Geophysical Section Manager

Summary of Experience:

Mr. Sullivan manages Ocean Surveys (OSI's) geophysical survey department and oversees all phases of OSI's marine geophysical survey programs including, project planning and logistics, field operations, data analysis, and final data presentations. Mr. Sullivan is a marine geologist specializing in the acquisition and interpretation of geophysical data and has a broad base of experience in the full spectrum of services offered by OSI including geophysical, hydrographic, geotechnical, and oceanographic projects. He has managed and provided technical direction for over 300 marine geophysical and geotechnical investigations both domestically and abroad. Mr. Sullivan has Professional Geologist licensure in several states.

Representative Projects:

- Estero Island, Fort Myers Beach, FL – Program Manager for high resolution geophysical survey (HRG) survey of a previously permitted sand borrow area and two potential pipeline conveyance corridors supporting a sand renourishment project on Estero Island. The HRG survey also focused on identification of possible hard bottom exposure offshore of the Island and, due to instrumentation employed and trackline spacing, allowed for archeological review of the study areas.

- Lovers Key, Fort Myers Beach, FL – Program Manager for recon-level and detailed-level HRG survey and geotechnical sampling program supporting identification of a suitable offshore sand resource and pump out area/conveyance corridor to be used in sand renourishment of Lovers Key. The detail-level survey, vibratory coring program, and archeological review was performed in only one of five locations considered during the recon-level survey after results of the recon survey disqualified four of five locations as "viable" sand resources. Given that the "viable" study area lies outside the Florida state line (within BOEM jurisdiction), OSI and the project team secured BOEM authorization for "prospecting for mineral resources on the outer continental shelf."

- Manasota Key, Charlotte and Sarasota Counties, FL – Program Manager for multi-task investigation to assist in evaluating potential sand resource areas for beach restoration projects along Manasota Key. Project tasks included a reconnaissance level HRG survey and vibratory coring, followed by detailed HRG survey and additional vibratory coring in the Gulf of Mexico in the waters offshore of Manasota Key.

Education:

M.S. Geology, Georgia State University – Skidaway Institute of Oceanography, 1988
B.S. Geology, University of North Carolina at Wilmington, 1986
Professional Studies: Oceanography, Sea Education Association, Woods Hole, MA, 1984

Professional History:

Ocean Surveys, Inc.: Geophysical Section Manager, 2006-Present
Ocean Surveys, Inc.: Senior Project Manager, Geology, 1996-2006
Ocean Surveys, Inc.: Project Manager, Geology, 1988-1996
Sea Education Association: Second Scientist, 1988
Georgia State University: Research Assistant, 1986-1988
AT&T Technologies: Oceanographic Survey Technician, 1985-1986

Professional Certifications:

Professional Geologist: State of Louisiana, Texas, Delaware, Wyoming
OSHA 40-hour Health and Safety Certification for Hazardous Materials Activities (29CFR 1910.120)
CT Safe Boating

ROBERT M. WALLACE, JR. — Sr. Hydrographer - Project Manager

Summary of Experience:

Mr. Wallace is a senior hydrographer/project manager involved in the planning, design, and execution of a wide variety of field investigations. He is well versed in all phases of marine surveys, from field acquisition through data processing/analysis and technical report writing. Mr. Wallace has acted in the capacity of senior project manager on several coastal Florida, Texas, and Louisiana restoration project investigations and many of OSI's NOAA-contracted hydrographic survey task orders in the Gulf of Mexico. Mr. Wallace is an ACSM/NSPS Certified Hydrographer.

Representative Projects:

- Pensacola, FL/AL – Field Project Manager for recon-level high resolution geophysical (HRG) survey supporting investigation of "potential offshore mineral resources and their textural characteristics" of two shoal features in the Gulf of Mexico.
- Lovers Key, Fort Myers Beach, FL – Field Project Manager for the recon-level HRG survey and geotechnical sampling program supporting identification of a suitable offshore sand resource and acceptance of a pump out area/conveyance corridor to be used in sand renourishment of Lovers Key.
- Florida Intracoastal Waterway, Palatka to Jensen Beach, FL – Field Project Manager for HRG survey of 12 FPL waterway crossings where existing overhead transmission lines were being considered for replacement by submarine power cables
- Pensacola to Panama City, FL – Field Project Manager for NOAA-contracted multibeam hydrographic and side scan sonar survey of over 200 square nautical miles of Florida and Alabama Safety Fairways.
- Sabine Bank, TX/LA – Field Project Manager for recon-level HRG survey and sediment sampling program providing data needed to document current conditions within the potential sand resource study area.
- Trinity Shoal, Gulf of Mexico, LA – Field Project Manager for NOAA-contracted multibeam hydrographic and side scan sonar survey of over 300 square nautical miles of offshore waters in the Gulf of Mexico approaching Morgan City, LA

Education:

B.S. Fisheries Science and Technology, University of Rhode Island, 1990

Professional History:

Ocean Surveys, Inc.: Senior Hydrographer/Project Manager, 2004-Present
Ocean Surveys, Inc.: Hydrographer/Project Manager, 2000-2004
Ocean Surveys, Inc.: Field Engineer, 1995-2000
Sea Tow, Inc.: Captain, commercial towing vessel, 1994
Science Applications Intl., Inc.: Research vessel captain, 1990-1993
Mate/crew of various sail-training/passenger vessels, 1984-1993

Professional Certifications:

ACSM/NSPS Certified Hydrographer (#242)
USCG - Master of near coastal vessels not more than 100 gross tons also mate of near coastal vessels not more than 200 gross tons. Both with sail and towing endorsement.
OSHA 40-hour Health and Safety Certification for Hazardous Materials Activities (29CFR 1910.120)
CT Safe Boating

DALTON LEONHARDT — Hydrographer - Project Manager

Summary of Experience:

Mr. Leonhardt is an ocean engineer with a broad academic background in marine geotechnics, specifically in site investigation of soil properties for offshore wind farms; coastal structures (near and offshore); as well as construction including foundation design, production, reporting, harbors maintenance, and navigation. During his tenure at Ocean Surveys, he has participated in hydrographic, geotechnical, geophysical, and oceanographic surveys throughout the US for private sector clients, the U.S. Army Corps of Engineers, and the National Oceanic and Atmospheric Administration. During the span of his career, Mr. Leonhardt has participated in projects that supported beach renourishment, marine construction, cable laying operations, emergency dredging, diver operations, and obstruction removal. Mr. Leonhardt is an NSPS Certified Hydrographer.

Representative Projects:

- Estero Island, Fort Myers Beach, FL – Field Project Manager for high resolution geophysical (HRG) survey of a previously permitted sand borrow area and two potential pipeline conveyance corridors supporting a sand renourishment project on Estero Island. The HRG survey also focused on identification of possible hard bottom exposure immediately offshore of the Island and, due to instrumentation employed and trackline spacing, allowed for archeological review of the study areas.

- Vero Beach, FL – Field Project Manager for HRG survey of a proposed water main horizontal directional drill crossing of the Indian River. The objective of this investigation was to document riverbed and subsurface conditions throughout the crossing to support the planning, permitting, and installation of the proposed water main.

- Lovers Key, Fort Myers Beach, FL – Field Project Manager for the detail-level HRG survey and geotechnical sampling program supporting identification of a suitable offshore sand resource to be used in sand renourishment of Lovers Key.

- Sabine Bank, TX/LA – Field Project Manager for detail-level HRG survey and sediment sampling program providing data needed to document current conditions within the potential sand resource study area.

- Corpus Christi, TX – Field Project Manager for NOAA-contracted multibeam hydrographic and side scan sonar survey of over 292 square nautical miles of offshore waters in the Gulf of Mexico and Intracoastal waters approaching the Port of Corpus Christi.

- Miami, FL – Field Project Manager for HRG survey of 10 FPL waterway crossings where existing overhead transmission lines were being considered for replacement by submarine power cables.

Education:

M.S. Ocean Engineering, University of Rhode Island, 2019
B.S. Ocean Engineering, University of Rhode Island, 2013

Professional History:

Ocean Surveys, Inc.: Project Manager, 2017-Present
Great Lakes Dredge and Docks: Project Engineer, 2013-2017

Professional Certifications:

NSPS Certified Hydrographer (#353)
OSHA 40-hour Health and Safety Certification for Hazardous Materials Activities (29CFR 1910.120)
CT Safe Boating

John Adam Freeze, Vice-President / Geologist

Mr. Freeze joined Athena Technologies, Inc. (Athena) as a geologist in 2009. Prior to joining Athena, Mr. Freeze worked for 3 years as a staff geologist for Golder Associates, Inc. and Handex Consulting & Remediation – SE, LLC. Since 2009, Mr. Freeze's role at Athena has evolved from a purely scientific role to a broader role which now includes the following responsibilities: directing and coordinating field crews (which are often comprised of both Athena employees and external clients); ensuring compliance with project-specific health and safety requirements; managing federal and private sediment sampling projects with contract values ranging from less than $20,000 to over $400,000; conducting quality assurance reviews of deliverables (e.g., reports, cost proposals, etc.); and geological data evaluation and reporting. Mr. Freeze's project management experience includes projects located throughout the Atlantic and Gulf Coasts, as well as Puerto Rico.

Mr. Freeze has provided project management and project geologist roles for numerous projects throughout Florida.

Mr. Freeze has exhibited proficiency with regards to the operation of field equipment and subsequent data manipulation using the following instruments and software programs: Trimble and Champion RTK/GNSS Systems, CEE Echo Dual-Frequency Fathometer, Trimble Differential Global Positioning Systems, Hypack Survey, RockWare LogPlot 7, Earthsoft EQuIS Professional, and gINT Professional.

Mr. Freeze also plays a key role in coordinating and facilitating a week-long field course (led by Dr. Walter Sexton) titled Modern Clastic Depositional Environments. The field course, which draws international and domestic professional geoscientists, presents modern analogues to ancient oil and gas reservoirs. During the course, the following geomorphological/depositional environments are visited and discussed: fluvial/floodplain, mixed-energy deltaic, barrier island and back-barrier, cuspate foreland, and estuarine. Mr. Freeze's role during the field course requires an in-depth understanding of coastal and fluvial processes, and the factors that can affect sedimentation in various environments.

Education
B.A., Geology and Environmental Geosciences, College of Charleston (2005)

Certifications
OSHA 40-Hour HAZWOPER Training/ w 8 Hour Refresher
OSHA 30-Hour Construction Safety Training
First Aid/CPR/AED
PADI Open Water Certification

P.O. Box 68, McClellanville, SC 29458
M: (803) 553-1425 | O: (843) 887-3800
www.athenatechnologies.com
neil_wicker@athenatechnologies.com

Brian Simmons
Master Captain

YEARS OF EXPERIENCE
With this firm: 6 (Athena and AVS)
With other firms: 8

CERTIFICATIONS
USCG 100 Ton Master; OSHA; TWIC; STCW; SafeGulf; SafeLand; Rigger Certified; CPR; First Aid; HUET Trained; Life Boat; Hazwoper; Advanced Firefighting; Hazcom; Fall Protection; Atmospheric Testing; Confined Space; Forklift; Asbestos Awareness; Blood Bourne Pathogens Awareness; Offshore Protected Species Observer

CONTACT INFORMATION
Email: brian_simmons@athenatechnologies.com
Office: 843-887-3800

KEY QUALIFICATIONS
Mr. Simmons is the captain aboard our 77' research vessel, M/V Thunderforce. Captain Simmons is in charge of vessel operations, including vibracoring, surveying and other marine support operations. His responsibilities include coordination of all vessel activities, the crew and any vessel maintenance or repairs. As the vessel's safety officer, he oversees the welfare of the passengers, crew and the vessel itself. Captain Simmons' experience extends throughout the eastern seaboard of the U.S., the Gulf of Mexico and the Caribbean.

RELEVANT PROJECT EXPERIENCE

Lovers Key Beach Nourishment Sand Search, Lee County, Florida (2022). Conducted a sand search to identify offshore mineral resources in the Gulf of Mexico compatible with coastal restoration needs to renourish Lovers Key. The vibracoring was performed in two separate phases, the reconnaissance phase and the detailed phase. Research identified six potential sand target areas (LK-P1 to LK-P6) for reconnaissance level investigations to evaluate their sand suitability. LK-P1, located approximately 13 nautical miles southwest of Sanibel Island, Florida, was the only area in federal waters. For safety, all sampling operations were conducted during daylight hours. Collected 30 vibracore samples to depths ranging from 10' to 20' below sea bottom or until refusal.

Stage 2 Oak Island Beach Management Plan – Town of Oak Island, North Carolina (2023). The project's primary objective was to identify appropriate borrow sources for the Beach and Inlet Management Plan being prepared for the Town. A secondary aim was to identify a borrow source and support permitting for a future beach nourishment project. The sampling consisted of 80 vibracores being collected in four investigation areas, in both state and federal waters, as well as in Wilmington Harbor. With BOEM's regulations pertaining to federal waters, Protected Species Observers were assigned to our offshore operations team.

Offshore Vibracores – Area 3A, Flagler County, Florida (2023). For beach renourishment efforts, vibracore sampling was performed offshore of Flagler County. The exploratory area was approximately 10 nautical miles offshore located halfway between St. Augustine Inlet to the north and Ponce Inlet to the south. During the sampling operations, 50 vibracores to 20' below the ocean floor or to refusal were collected.

Jacksonville Harbor Entrance Channel, Duval County, Florida (2022) - On behalf of USACE Jacksonville District. The area was approximately 8 miles in length and 1 mile wide. To characterize the shoaled material in the entrance channel, 37 vibracores to 10' or to refusal were collected to provide necessary data.

L. Palmer McClellan, President/Field Team Leader

Palmer McClellan joined Athena in 1998 and quickly became integral to providing high quality services to our clients. Mr. McClellan is a U.S. Coast Guard-certified, 100-ton Master Captain and serves as Athena's most senior field team leader on nearly every project. Mr. McClellan also designs and oversees fabrication of our custom equipment and vessels, which allows for a high level of operational efficiency during field events. Mr. McClellan has led geotechnical and environmental vibracore sampling projects in inshore and offshore environments ranging from New York to Texas, and the Caribbean. Before starting his career at Athena, Mr. McClellan worked for 15 years in the commercial fishing and shrimping industries, which gives him unique and sharp insights with regards to safe vessel operation in various dynamic marine settings.

Mr. McClellan has led field teams for NAVFAC projects at NS Norfolk, NAS Norfolk, JEB Little Creek, Norfolk Naval Shipyard and NWS Yorktown, as well as projects along the Elizabeth River and offshore of Virginia Beach. These projects were frequently completed ahead of schedule and under budget due to his ability to maximize field time and understanding of the lower Chesapeake area. During 2020, he has led large scale field efforts (100+ vibracore samples) at Mobile, Alabama; Wrightsville Beach, North Carolina; and San Juan, Puerto Rico as well as smaller projects in Illinois, Georgia, Florida, and North Carolina.

Mr. McClellan will be responsible for leading field operations and supervising vibracore operations and will be ultimately responsible for crew and vessel safety. Mr. McClellan has undergone 40-Hour OSHA HAZWOPER Training, OSHA Fall Safety Training, 30-Hour OSHA Construction Supervisor Training, and maintains CPR/First Aid/AED certification.

Mr. McClellan's ingenuity and extensive experience working in a range of marine environments has allowed us to expand our capabilities, improve our sampling equipment, and refine our sample collection methodology to better serve our clients.

Certifications

U.S. Coast Guard Certified 100-ton Master Captain
OSHA 40-Hour HAZWOPER Training/ w 8 Hour Refresher
OSHA 30-Hour Construction Safety Training
First Aid/CPR/AED
PADI Open Water Certification

P.O. Box 68, McClellanville, SC 29458
M: (803) 553-1425 | O: (843) 887-3800
www.athenatechnologies.com
neil_wicker@athenatechnologies.com

JAMES S. SCHMIDT, M.A.

VICE PRESIDENT- MARITIME ARCHAEOLOGY DIVISION

(301) 694-0428, ext. 226 • sschmidt@rcgoodwin.com

ROLE – PRINCIPAL INVESTIGATOR, MARITIME ARCHAEOLOGY

James S. Schmidt has over 30 years of experience in submerged cultural resources and integrated Section 106/NEPA projects. His duties managing the RCG&A Maritime Archaeology Division include the full range of underwater archaeological services; initial consultation and desktop studies; preliminary assessments and feasibility studies; impact assessments; unanticipated discoveries and historic property treatment plans; geophysical survey; and geotechnical investigations: Identification (Phase I); Evaluation (Phase II); and Treatment (Phase III).

Mr. Schmidt meets the Bureau of Ocean Energy Management's requirements for nautical archaeologists established for the U.S. Outer Continental Shelf (OCS), which dictate that a Qualified Marine Archaeologist must meet the Secretary of the Interior's Professional Qualifications Standards (48 CFR 44738- 44739) and have experience in conducting high-resolution marine geophysical (HRG) survey, data processing, and interpretation. His at-sea experience includes surface-supplied diving and dive supervision in extreme environments. He also is experienced at implementing remote-operated vehicle (video/sonar) operations for unmanned diving and archaeological inspections. This experience provides a strong background in hazard analyses, operational planning, and logistics (CONUS/OCONUS).

Mr. Schmidt has directed and managed submerged cultural resources investigations for Deepwater Ports, renewable/alternative energy, damage assessments, submarine power cables, oil, gas, navigation channel deepening and widening, and coastal/beach nourishment and restoration projects.

RELEVANT PROJECTS

- Geophysical/Cultural Resources Survey to Support the Town of Fort Myers Beach Estero Island Beach Nourishment Project, Gulf of Mexico, Florida;
- Phase I Submerged Cultural Resources Analysis for the Lovers Key Beach Nourishment Sand Search, Lee County, Florida;
- Phase I Submerged Cultural Resources Analyses for the Manasota Key 10-Year Beach Management Plan, Charlotte County, Florida;
- Archeological/Cultural Resources Assessment for Florida Department of Transportation Long Key Bridge V-Piers Repairs Project.

R. CHRISTOPHER GOODWIN & ASSOCIATES, INC.

241 East Fourth St., Suite 100
Frederick, MD 21701
Phone: (301) 694-0428

EDUCATION

- M.A., Maritime History & Underwater Research, East Carolina University, 1991
- B.A., History, Towson State Unv., 1986

PROFESSIONAL AFFILIATIONS

- Vice Chair, Marine Archaeology Committee, Marine Technology Society (MTS), 2016-2018

PROFESSIONAL/TECHNICAL CERTIFICATIONS

- TDI/SDI, Dry Suit Diver, #22166, 2018
- American Academy of Underwater Sciences, Scientific Diver (Specialized Diving Mode Endorsement: Surface Supplied Diving), 1987-2022
- Technical Diving International, Surface Supplied Diver, Tender, Air Operator, 2016
- SSI Advanced Open Water Instructor, 1985

TECHNICAL EXPERIENCE

- Maritime/nautical archaeology; geophysical survey; geophysical data processing and interpretation; subsea technical writing; configuration management

FUNCTIONAL EXPERIENCE

Offshore geophysical survey; offshore/nearshore and inland diving operations/supervision; observation/inspection-class ROV operations; OCONUS logistics for marine operations; Phase I/II/III submerged cultural resources investigations (sixteenth-twentieth century sites).

EMPLOYMENT HISTORY

- R. Christopher Goodwin & Associates, Inc., Vice President-Nautical Division, 2010-present
- Phoenix International Holdings, Inc. (Ocean Engineering/Diving Services), Technical Writer, 2007-2010
- Naval History & Heritage Command, Underwater Archeology Branch, Contract Archaeologist, 1999-2007
- PBS&J Corp. (Formerly Espey, Huston & Associates, Inc.), Senior Staff Archaeologist, 1992-1999
- GAI Consultants, Inc., Senior Staff Archaeologist, 1991-1992

YEARS OF EXPERIENCE

- RCG&A, Inc. = 13; Other = 19

ASHLEY GOLDIE HIMMELSTEIN, M.A., M.S.

MARITIME ARCHAEOLOGIST/GEOARCHAEOLOGIST

(301) 694-0428, ext. 208 • ahimmelstein@rcgoodwin.com

ROLE – ASSISTANT PROJECT MANAGER: MARITIME DIVISION, GEOARCHAEOLOGIST

Ashley G. Himmelstein, M.A., M.S. has over five years professional experience in marine and terrestrial archaeology. She possesses specialized training in the identification and characterization of submerged and coastal maritime sites, in interpreting geophysical data, and in conducting marine magnetometer surveys. Ms. Himmelstein meets the Bureau of Ocean Energy Management's requirements for nautical archaeologists established for the OCS, which dictate that a Qualified Marine Archaeologist must meet the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-44739). Ms. Himmelstein has acquired experience in close analysis of data obtained from remote sensing, high resolution geophysical survey equipment. She also has applied experience conducting submerged site surveys and excavations; analyzing naval artifacts and using GIS to document geospatial data. She has conducted archaeological work for power companies and U.S. Department of Defense installations. Her experience spans the Northeast, Mid-Atlantic, Southeastern, and Pacific regions. Her background in nautical archaeology includes training and practical experience in culturally and geologically complex environments of the Atlantic Seaboard, The Gulf of Mexico and eastern Mediterranean, where she participated in both geophysical surveys and excavations. At RCG&A Ms. Himmelstein is an Assistant Project Manager within the Maritime Archaeology Division where she assists with the management of maritime archaeology projects and analyzes high resolution geophysical data collected during offshore surveys. As a Geoarchaeologist at RCG&A, Ms. Himmelstein acts as a specialist in the interpretation of seismic data to recognize preserved paleofeatures which could have supported human habitation. Over the past year alone, Ms. Himmelstein has analyzed approximately 15,000-line miles of high-resolution geophysical data.

EXPERIENCE

Ms. Himmelstein's responsibilities include Phase I and II submerged cultural resources analyses of the geophysical remote sensing survey investigations; geotechnical investigations; processing of geotechnical cores taken for geoarchaeological analysis; assisting clients with stakeholder meetings and coordination with Native American groups; obtaining necessary permits from the state and federal regulatory bodies; and supervision of junior colleagues. Her maritime experience includes the Atlantic Offshore Continental Shelf, The Gulf of Mexico, bayous, lakes, and rivers.

RELEVANT PROJECTS

- Geophysical/Cultural Resources Survey to Support the Town of Fort Myers Beach Estero Island Beach Nourishment Project, Gulf of Mexico, Florida
- Phase I Submerged Cultural Resources Analysis for the Lovers Key Beach Nourishment Sand Search, Lee County, Florida
- Phase I Submerged Cultural Resources Analyses for the Manasota Key 10-Year Beach Management Plan, Charlotte County, Florida

241 East Fourth St., Suite 100
Frederick, MD 21701
Phone: (301) 694-0428

EDUCATION

- M.S., Geological Sciences, Ohio University, 2022
- M.A., Maritime Civilizations, Haifa University, Israel 2019
- B.A., Anthropology (minor in Marine Sciences), SUNY Stony Brook, 2015

TECHNICAL EXPERIENCE

- Maritime/nautical archaeology; geophysical survey;
- Phase I submerged archaeological resources survey
- Terrestrial archaeology, Phase I survey and Phase II testing
- Museum cataloging/database management

FUNCTIONAL EXPERIENCE

- ArcGIS
- Oasis Montaj
- Trimble GeoX data collector
- IHS Kingdom

EMPLOYMENT HISTORY

- R. Christopher Goodwin & Associates, Inc., Maritime Archaeologist, 2020-present
- Great Basin Institute, (Research Associate, 2019-2020
- Marstel Day, Archaeological Technician, 2018-2019
- Louis Berger (a WSP Company), Archaeological Technician I, 2017-2019
- US Naval Heritage and History Command, Intern, 2017
- Haifa University Department of Maritime Studies, Volunteer/Graduate Student Researcher, 2016-2017

YEARS OF EXPERIENCE

- RCG&A, Inc. = 3; Other = 4

SECTION II
MANAGEMENT PLAN

II. MANAGEMENT PLAN

A. TEAM ORGANIZATION

1. COASTAL ENGINEERING CONSULTANTS, INC.

Coastal Engineering Consultants, Inc. (CEC) is proud to state we are in our 46th year of business, providing high quality professional consulting services to the coastal communities of Florida. It is with extreme pleasure that we introduce our Team of professionals to support your project needs. Our consultants include Coastal Eco-Group, Inc. (CEG), Ocean Surveys, Inc. (OSI), Athena Technologies, Inc. (ATI) and R. Christopher Goodwin & Associates, Inc. (RCG).

Firm Introduction: Founded in 1977, Coastal Engineering Consultants, Inc. (CEC) is a diversified engineering and professional services corporation. Our staff comprised of engineers, scientists, permit specialists, and surveyors design workable alternatives to produce timely, cost-effective results in harmony with natural ecosystems and in accordance with applicable laws. We pride ourselves on our innovative designs that avoid and minimize impacts on the environment and the resulting high degree of trust and respect we have for the regulatory agencies. Our experienced professionals possess the knowledge, integrity, and resolve to change our environment and improve our daily lives and the communities in which we live. Our main business units are Coastal and Marine Engineering, Environmental and Geological Services, and Land and Marine Survey and Mapping. CEC's main office is located in Bonita Springs, Florida and our branch office is in Denham Springs, Louisiana. For over 46 years CEC has been providing comprehensive services to local governments and State and Federal agencies in support of their coastal zone management projects and canal dredging programs.

Recognized as one of the premier small American-owned coastal engineering firms, CEC's expertise is assisting their clients restore coastal systems, maintain and improve navigation, make communities more resilient to coastal storm risk, provide recreation benefits, and create and sustain ecosystems to the benefit of threatened and endangered species. CEC's strength lies in their experience with feasibility studies, plan formulation, coastal process and numerical modeling analyses, and engineering design, from preliminary to final plans and specifications. CEC also brings a successful track record in stakeholder coordination and consensus building, cost-benefit studies, permitting, regulatory compliance and monitoring.

During the last 15 years, CEC has led multidiscipline teams to plan, design, permit, and provide services during construction utilizing 60+ million cubic yards of sediment for ecosystem restoration, beach and dune restoration and renourishment, marsh and wetland creation, and other beneficial use projects. These projects have restored and renourished over 55 miles of critically eroding shorelines while creating and sustaining 4,700+ acres of beach, dune, marsh, and wetland habitats. CEC was recognized by the American Society of Civil Engineers for two successful coastal ecosystem restoration projects, receiving two Project of the Year awards. CEC is also the recipient of the 2020 Best Beach Nourishment Project by the American Shore and Beach Preservation Association

Figure 8. Manasota Key Restoration

Corporate Philosophy: First and foremost**,** we are customer service representatives. Our clients have needs, and our priority is to meet those needs. To that end we have a policy to return every phone call and email within one business day. We pride ourselves on this philosophy and our clients express their appreciation of same. Second, we feel truly blessed to be a part of this county's vision to restore and maintain its fragile ecosystems. We are honored to have been selected by various state and federal governmental agencies to provide comprehensive services on projects of national significance. Third, we enjoy the quality of life around us. As such we "give back" to our coastal communities, staying involved in local outreach/charitable causes. One of our most significant contributions is serving on the Naples High School Engineering Advisory Board, helping to train our future engineers, architects, and technicians.

Professional Disciplines: The professional credentials of CEC are based upon the broad foundation provided by the principals and senior project managers who hold advanced degrees in coastal engineering, coastal geology, biology, and survey. Stressing the highest goals of product quality, timely client oriented service, and superior professional training, our superior job performance has led to successful growth and satisfied clientele. Of our total staff, 73% have been with the firm for over 12 years. This is a testimony to the loyalty and dedication of our key personnel and their belief in our corporate philosophy and structure.

Consultant to Subconsultant Approach: As presented in Section I, CEC has identified strategic partners to complement our in-house capabilities and to provide the highest qualified Team to assist the County, residents, and stakeholders implement the Plan in the most cost-effective and timely manner. To that end we manage our subconsultants through a professional and logical process. We require each of the firms to execute an agreement outlining the legal aspects of the contract and defining responsibilities. This subcontract incorporates the master contract we have with the County including insurance requirements. A key component of the relationship is to develop a detailed scope of work that defines each firm's roles and responsibilities along with a project schedule and list of deliverables. Having a clear understanding of these elements leads to success. The single most important subconsultant management technique is communication. We set up routine meetings among the firms' project managers to review project status, deliverables, and budgets. The Team will establish a peer review committee consisting of design professionals who do not work on the daily project tasks, but rather meet at key milestones to review project deliverables. This committee brings a fresh perspective and value-based approach to improve upon our work products. Our subconsultants are reintroduced herein, building upon the credentials and details presented in Section I.

2. COASTAL ECO-GROUP, INC.

Based in Deerfield Beach, CEG is a Small Women Owned Business providing environmental consulting since 2005. CEC requested CEG join our Team in September 2015 recognizing the number one challenge associated with the Manasota Key project was permitting burial of the nearshore hardbottom and offsetting it with a new mitigation reef. CEG's President, Cheryl Miller, formerly worked for FDEP Beaches and Coastal Systems, helping to write policies and procedures for mapping hardbottom and providing guidelines for developing appropriate mitigation. CEG specializes in marine ecological surveys including coral reef, hardbottom, and seagrass mapping, monitoring, and impact analysis; coral transplantation; and permitting. CEG's core staff of marine scientists are highly skilled in resource assessment with specialized experience in regulatory project permit review, monitoring, and hardbottom and seagrass mitigation development

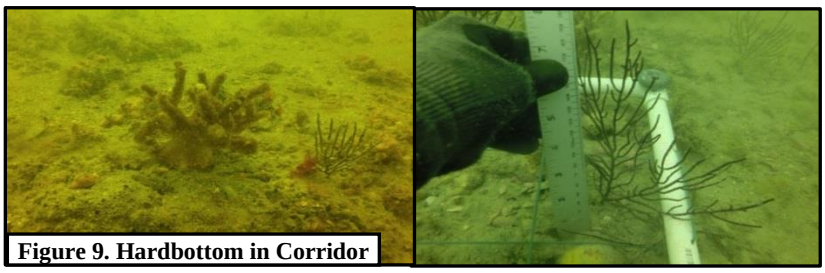


Figure 9. Hardbottom in Corridor

for beach and inlet projects. CEG senior scientists are working with the state and federal agencies on projects to develop innovative and cost-effective alternative mitigation strategies for hardbottom community and seagrass impacts and implement adaptive management techniques to biological monitoring protocols. CEG is highly respected by the regulatory and resource protection agencies by their reputation to provide accurate resource mapping and characterization, proper quantification of project-related impacts, and appropriate mitigation strategies to offset the impacts. CEG continues to provided hardbottom mapping and GIS services to CEC for the beach projects including maps of hardbottom resources and a GIS databases for hardbottom locations and benthic community descriptions.

3. OCEAN SURVEYS, INC.

OSI is a highly responsive geophysical surveying and physical oceanographic company staffed with scientists, engineers, and technicians having a broad range of experience working in both freshwater and marine environments. Headquarters in Old Saybrook, Connecticut, OSI provides specialized geophysical and geotechnical services worldwide. OSI has worked with CEC on numerous successful sand search projects since 2010 including the Manasota Key project. Together we have quantified and described a dozen major sand bodies that will provide over 60 MCY of sediment for major barrier island restoration work around the Gulf of Mexico. With over 50 years of experience, OSI annually conducts more than 100 hydrographic, geophysical, oceanographic, and vibracore projects supporting coastal and marine engineering, environmental site assessment, marine archaeological and construction community worldwide. Types of projects that OSI supports include:

- Port and harbor development
- Submarine cable and pipeline routing
- Environmental remediation
- Navigable waterways
- Dredging and disposal
- Archaeological investigations.

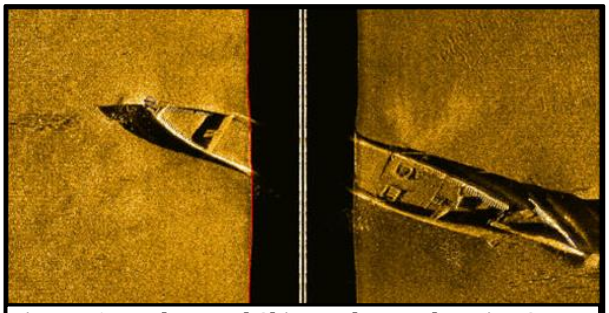


Figure 10. Unchartered Shipwreck Found During Survey

OSI owns, operates, and maintains an extensive inventory of state of the art electronic positioning, oceanographic, geophysical and sediment sampling equipment for supporting domestic and worldwide field data acquisition activities. Data reduction and analytical efforts employ either dedicated in-house computer assisted processing or remote site work station processing systems for analysis of acquired data in the most cost-effective manner.

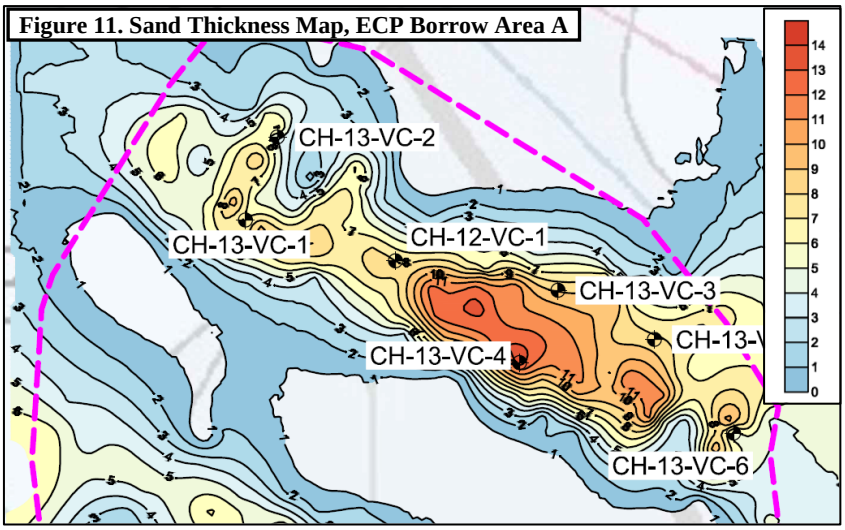
4. ATHENA TECHNOLOGIES, INC.

ATI is a HUBZone-certified small business that has been providing vibracore and geotechnical reporting services in support of beach nourishment projects throughout the Atlantic and Gulf Coasts for over 30 years. ATI's custom-designed and fabricated vibracore system can collect geotechnical or environmental cores up to 20 feet in length in water depths of up to 70 feet. The vibracore system has proven effective in semi-aquatic, shallow near-shore, and offshore environments. ATI's system can be modified to meet a wide range of project specifications. ATI also maintains backup equipment for all vibracore systems to eliminate down time in the event of equipment failure.

ATI has a wide variety of research vessels that can operate in most aquatic environments. ATI's vessel, RV Artemis, has a single day operational range of 90 miles, which allows for rapid access to remote locations. Each of ATI's vessels are equipped with a Differential Global Positioning System, interfaced with Hypack Survey, for safe and accurate navigation. ATI has in-house Real Time Kinematic positioning capabilities, deployable tide gauges, and a CEE Echo dual-frequency fathometer that can be integrated

into Hypack Survey for projects requiring a high level of vertical accuracy. ATI maintains a core processing facility where cores are logged, photographed, sampled, and stored. Core processing typically includes preparation of photo-mosaic core images and data reports using gINT professional software. Athena's project experience includes large scale geotechnical investigations for the following beach and inlet projects in Southwest Florida noting the work was performed by their newly acquired company, American Vibracore Services: Charlotte County Erosion Control with CEC, Lovers Key and Bonita Beach with CEC, Big Carlos Pass for the West Coast Inland Navigation District (WCIND), and five inlets from Passage Key to Big Hickory Pass also for WCIND.

Figure 11. Sand Thickness Map, ECP Borrow Area A



5. R. CHRISTOPHER GOODWIN & ASSOCIATES, INC.

RCG is a 42-year-old cultural resources management firm specializing in the suite of historic preservation disciplines including prehistoric and historic archaeology, architectural and historical services, remote sensing and applied GIS and aerial imagery analyses, resiliency planning, preservation planning, applied cemetery services including exhumation and relocation, marine archaeological services, and Native American consultation. RCG's staff includes specialists in all of the preservation disciplines and subdisciplines. Their primary clients include the Department of Defense agencies, among which are the U.S. Army, Air Force, and Navy. RC has worked on more than 220 military installations nationwide. RCG has special expertise in disaster recovery operations, and extensive experience in post-disaster documentation, technical assistance and resiliency planning in the Gulf Coast region, having worked as a Prime contractor to FEMA following Hurricanes Katrina and Rita. RCG has worked in all 50 states, and possesses strategically located offices in principal regions of the country: the Northeast/Mid-Atlantic (Frederick, Maryland); the Southeast/Gulf Coast (New Orleans, Louisiana, where their largest laboratory facility is located); the Midwest/Great Plains (Lawrence, Kansas); and the Southwest (Albuquerque and Las Cruces, New Mexico). RCG provides analytical services for geophysical survey data and geoarchaeological/geomorphological analysis of geotechnical data. They develop predictive models to aid in project planning and conduct archival research in support of all project stages. Specific the beach projects, RCG as a sub to CEC evaluated the potential effects of the dredging and pipeline corridor usage on submerged cultural resources in the Gulf. Their Maritime Archaeology Division works closely with Native American Tribes and other parties important to developing specific protocols for offshore projects, particularly concerning Ancient Submerged Landforms.

The CEC Team's Proposed Management Plan specific to the Design, Construction, and Monitoring Phases is fully described below.

1. DESIGN PHASE

CEC In-house QA-QC Plan: CEC implements a Quality Assurance and Quality Control Program. The program begins with senior management, who routinely attend training seminars sponsored by professional societies. Our senior staff have participated in local leadership programs sponsored by the chamber of commerce. This investment has paid off in spades as training our key personnel in people management, business practices, human resources, public speaking, and financial management have made them the leaders they are today. CEC senior staff and project managers meet to review internal schedules, project deadlines, staff assignments, and top priorities. A major advantage of our diversity is the ability to allocate personnel within the office to achieve the desired priorities. CEC routinely issues reports to our clients for project updates and key milestones. Effective use of email has allowed us to communicate with clients on a daily basis during construction. Lastly, we provide our cell numbers in the event of an emergency during construction after hours. All of our design plans produced by our CADD designers and technicians are reviewed by a peer designer or technician prior to submittal to the project manager. This allows for a fresh perspective on the plan review, streamlines the review process by catching the "little" things up front and allows the project manager to focus on the true design intent of the project.

Local Presence: We have developed positive relationships with the areas' residents, environmental organizations, and agency staff, and have established a level of trust for which to build on as the Plan develops and advances into the implementation stages. CEC is actively working on significant marine and environmental projects that have far reaching positive affects throughout the County. Our Team has the local presence necessary to provide timely and cost-effective services. Our staff has the capability and enthusiasm necessary to manage and implement your projects within budgetary and timeframe constraints. We are very capable and are dedicated to providing the County personalized service.

Government Agency Coordination: CEC believes this is one of the strengths of our Team, our personal relationships with the government agency staff. Our firms have excellent relationships with the permit agency staff and we encourage the County to contact them in this regard. There is little doubt that some of the most challenging issues with this Project will be the environmental permitting. CEC and CEG have been actively engaged in permitting beach renourishment and erosion control projects. We are familiar with most agency staff and have worked with these agencies longer than most permit specialists have been there. Beyond the less-than-clear-regulations, we recognize the critical human elements of trust, judgment, and discretion in the permitting process. We have an established rapport with supervisors and staff at the State and Federal level including National Marine Fisheries Service, U.S. Fish & Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), Florida Department of Environmental Protection (FDEP), and Florida Fish and Wildlife Conservation Commission (FFWCC).

2. CONSTRUCTION PHASE

There are three components of Construction Phase Philosophy: Bid Process, Contract Documents, and Construction Observations and Inspections.

Bid Process: The first is to take action early and begin construction management during the Bid Process. Specifically, we have assisted our client's conduct successful Bid Processes including prepare Bid Packages & Schedules, attend the pre-bid meeting, respond to contractor questions, assist the County prepare addendum, review the bids and render a professional recommendation for the lowest responsive

bidder. CEC uses bidder pre-qualification and mandatory pre-bid site visits and contractor meetings to answer questions and reduce bid document uncertainty. This helps firm up and lower bid costs.

Contract Documents: The second is the Contract documents' technical specifications that the contractor must adhere to. Our standard language, used in several County projects successfully, is presented below.

> *The CONTRACTOR's resident superintendent shall provide to the COUNTY and DESIGN PROFESSIONAL, on a daily basis, the "Daily Construction" and "Turbidity" Quality Control Reports. Sample forms are contained in the Technical Specifications. These reports shall be completed and submitted to the DESIGN PROFESSIONAL by 1:00 p.m. on the day after the WORK covered by the report. CONTRACTOR shall provide COUNTY and DESIGN PROFESSIONAL with access to the site, including transportation to and from the plant. In the event that the environmental monitoring reveals a violation of standards set forth in the permit conditions and CONTRACT Documents, the CONTRACTOR shall describe the violation in the daily report in the usual manner and notify the COUNTY and DESIGN PROFESSIONAL immediately upon detection of the violation.*
>
> *The CONTRACTOR has the sole responsibility for quality control and shall provide and maintain such an effective program. The CONTRACTOR shall have qualified personnel to provide and maintain control for continual dredging operations. The CONTRACTOR shall be solely responsible for providing survey equipment for all surveys. The CONTRACTOR shall establish and implement a quality control program to inspect and test the CONTRACTOR's and any SUBCONTRACTOR's equipment used in completing the WORK. The CONTRACTOR shall furnish to the COUNTY and DESIGN PROFESSIONAL within five (5) calendar days after receiving the "Notice to Proceed" a quality control plan outlining the procedures, instructions and reports that will be used. This document shall include structure of the quality control organization, number and qualifications of the responsible personnel, methods and documentation to assure quality control, safety inspection procedures, copy of example daily quality control report forms and inspection documents, and Storm Emergency Plan. No WORK shall commence until the CONTRACTOR's quality control program is approved by the COUNTY and DESIGN PROFESSIONAL. If, during the WORK process the quality control system is deemed by the COUNTY and DESIGN PROFESSIONAL to be inadequate, the COUNTY and DESIGN PROFESSIONAL may require corrective actions to rectify said deficiencies. The CONTRACTOR's quality control program shall be part of control supervision as field overhead costs and shall not be allowed to be submitted for separate payment.*

Construction Observations and Inspections: The third is our approach to construction observations and inspections. We recommend to all of our clients that they hire us to provide the construction management, survey control, and construction stake-out for public projects. Too often this step is not followed through properly and mistakes occur. Next, we include in all of our technical specifications example forms for the contractor to use in complying with the agency required monitoring and reporting. Our construction observers fill out these same reports for consistency. The key is to hold contractor accountable for their daily activities and reporting. Each of our staff is trained in the necessary monitoring protocols and we weekly issue the required reports to the permit agencies. CEC routinely issues reports to our clients for project updates and key milestones. Effective use of email has allowed us to communicate with client staff on a daily basis during construction. Since we are so active in the areas we work, we routinely drop by and meet with client staff to personally provide project reports. Lastly, we provide our cell and home numbers in the event of an emergency during construction after hours.

3. MONITORING PHASE

Physical Monitoring: One of our Team's strengths is performing physical monitoring programs for many of Florida's coastal communities including those required by their JCP Specific Conditions. The program includes measuring beach profiles and channel cross sections to document shoreline migration trends and beach volumetric accretion and erosion trends, endangered species surveys, sea grass and hardbottom monitoring plans, and inlet hydraulics consisting of tidal and current velocity measurements and tidal prism analyses. The surveys are complimented by the acquisition of scale rectified aerial photography. These photographs are essential in each sponsor's coastal zone management program for many reasons including documenting the trends measured in the surveys, depicting nearshore habitat features, depicting inlet channel and shoal features, and serving as base maps for project permit drawings and construction plans. The purpose and benefits of physical monitoring are described below.

- **Define Sediment Budget.** The measurement of surveys on the dry beach and underwater to over 2,500 feet offshore provides a definition of where sediment losses and gains occur. It answers the questions of what are the patterns of erosion and deposition.
- **Structures.** Surveys and photographs obtained allow for assessment of the performance of the structures located along the shoreline including revetments and groins.
- **Storm Impacts.** The surveys allow for the determination and measurement of the impact of storms when they occur along the shoreline to answer some of the following questions. Did erosion occur? Are revetments impacted during storms? Are they accelerating erosion?
- **Hot Spots.** Survey monitoring allows for the identification of beach hot spots. Hot spots are areas where unusual circumstances occur, more rapid than normal or unexpected erosion, or deposition. The understanding and inclusion of hot spots in the planning of future projects is a critical element throughout the State of Florida for beach maintenance.
- **Long Term Planning.** Without a budget, you cannot plan finances, save for the future, or build and progress. Annual surveys allow creation and utilization of a sediment budget, provide opportunity for long range planning, and assist scheduling maintenance of the beach resources.
- **Saving Money.** Monitoring allows for saving money as a result of allowing long range planning and documenting the adequate performance of structures. Through monitoring and documentation, it is possible to permit structures that provide for stabilization of the beach, holding sand in place longer at a lower cost than pumping or trucking in new sand. It allows identification of cost-effective areas to place sand to feed adjacent beaches when necessary.
- **Agency Coordination.** Monitoring data reported to the State and Federal agencies provide for coordination with those agencies and allow for planning of larger regional scale efforts. Monitoring data collection facilitates future permits. When permittees perform and report quality-monitoring data to the State of Florida, permit time frames are shortened. This provides additional front-end dollar savings.
- **Environmental Protection.** Monitoring includes such things as air and ground photography. The monitoring includes surveys to document T&E species nesting and is **essential to monitor hardbottom protection along the nearshore and offshore areas.**

Sea Turtle Monitoring Technical Support: Permits require the permittee to conduct a Sea Turtle Monitoring Program consisting of sea turtle nesting, compaction, and escarpment monitoring. Monitoring surveys of sea turtle nesting are crucial to the success of each sponsor's coastal zone management program. The primary goal of the agencies' environmental focus is the preservation and protection of endangered species. These surveys allow for the environmental specialists to determine trends in nesting and false crawls as well as hatching success, allowing for assessment of beach conditions, sand characteristics, and compaction. Without this data, permitting beach and inlet management projects would be near impossible. Technical support to be provided by our team includes

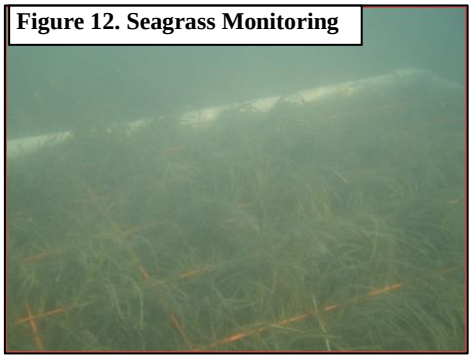
monumentation, sediment grain size analysis, compaction testing, and most importantly, production of sea turtle nesting maps using the scale rectified aerial photographs. These maps served as exhibits for depicting nest and false crawl locations as well as field maps for reference during their daily surveys. Between 1997 and today, CEC has had the privilege of working with the County and local monitors to provide the annual monitoring requirements under the County's beach projects. We are proud of the program that is performed annually and the work products associated with the report that we help to produce and provide to the County and agencies that leads to agency confidence that future projects will be successful.

Shorebird Monitoring and Habitat Evaluation: More and more the environmental community is examining the effects of beach renourishment and coastal structure installation on shore birds and their habitats. Working with the USFWS and FFWCC, members of our Team developed the first set of shore bird monitoring protocols and protection conditions during construction of the 2003 ECP. As there are no Incidental Take Provisions in the Migratory Bird Treaty Act of 1918, dredge and fill activities during shore bird nesting season may be impacted and establishment of this type of program is now required for successful and timely project completion. We have developed unique friendships and relationships with local shore bird experts. Since 2003 CEC has overseen the shorebird monitoring program for the County, and designed and permitted the mitigation area to offset impacts to shorebird habitat from the Stump Pass dredging and subsequent ECP.

Hardbottom Monitoring: The permits will require post-construction monitoring of the reef site to confirm it colonizes over time in accordance with the design goals to mimic the existing resources. CEG will conduct the annual monitoring following DEP's protocols. Monitoring methods include quadrat-based assessments of the benthic community along natural hardbottom and artificial reef habitats; in situ diver mapping of the reef edge along the entire perimeter of the artificial mitigation reef using a towed DGPS buoy; sediment depth and sand cover measurements at permanent transects; and video/photographic documentation at each transect. A detailed hardbottom resource map is developed in ArcGIS 10.1 with permanent transects and acreage calculations of each habitat type. All raw field data undergo a rigorous QA/QC process and are saved to a Microsoft Access project database. All post-construction data deliverables are provided to the FDEP and USACE pursuant to their Standard Operation Procedures for nearshore hardbottom monitoring. CEG will utilize the results of the surveys to verify the continued functionality of the mitigation reef replacement habitat.

Seagrass Monitoring: Since 2003, CEC has overseen and conducted the pre- and post-construction seagrass surveys and annual monitoring surveys to track the conditions of the seagrass beds inside Stump Pass and observe impacts to these habitat areas as a result of Project construction. Due to the ephemeral nature of these beds, their health and condition varies from year to year and season to season. While there were limited impacts associated with initial construction, recovery was observed and for past projects the changes in the seagrass beds is within the expected natural variability of the resource. The data collected for the long-term monitoring do not indicate any causal relationship between the dredging and seagrasses inside Stump Pass. The seagrasses have changed in extent, coverage, and species over time influenced by response to dynamic physical parameters (e.g. erosion or shoaling), storm impacts, and anthropogenic activities (recreational).

Figure 12. Seagrass Monitoring



SECTION III
PREVIOUS TEAM EXPERIENCE

III. PREVIOUS EXPERIENCE OF TEAM

A. PROJECT DESCRIPTIONS

1. MANASOTA KEY BEACH RESTORATION PROJECT (CEC, CEG, OSI, RCG): CEC served as the prime consultant providing comprehensive engineering services for design and permitting of this two-County Regional Project constructed in 2020. The Project restored the eroded beach along Manasota Key to provide storm damage reduction benefits for the upland development, infrastructure, and hurricane evacuation route; restore critical habitat for nesting sea turtles and shorebirds; and restore recreational sandy beach for the enjoyment of the residents and visitors. Manasota Key was one of a few "developed" beaches in Florida that had never received beach nourishment. All phases of engineering design analysis and documentation were completed: topographic and bathymetric surveys; regional offshore sand search; geophysical and geotechnical surveys (OSI); hardbottom mapping and mitigation reef surveys (CEG); cultural resources analyses (RCG); and coastal process analyses (CEC). Engineering tasks included plan formulation; development of sediment budget; numerical modeling; alternatives analysis; beach fill, borrow area, and conveyance corridor designs; and cost estimating using MCACES MII.

CEC led the evaluation of the design alternatives, in addition to the No-Action alternative, comparing and contrasting the design alternatives for performance, longevity, benefits, impacts, and economic constraints along with the order of magnitude construction costs, rendering a recommendation for the preferred design alternative. CEC included multiple methods for transporting sediment from offshore borrow areas including cutterhead and spider barge with scow barge transport and hopper dredging with direct pump-out from nearshore sites adjacent to the Key. Due to unavoidable impacts to nearshore resources from beach fill placement, a detailed mitigation plan was designed to offset the impacts to these resources (CEC, CEG). The borrow area design incorporated the results of detailed geophysical and geotechnical investigations to establish the limits of available sand resources along with a compatibility analysis

CEC developed bid document package and processed the state and federal permits including the mitigation reef and addition of hopper dredges. Construction administration and oversight services were provided by CEC including construction surveys, inspections, project certifications, and development of completion reports. Construction was successfully completed during the COVID-19 pandemic. The $37 Million project came in just under budget prepared by CEC. State and cost sharing has provided over $14 Million to date.

Figure 13. 2020 Manasota Key Restoration Before and After

2. CHARLOTTE COUNTY EROSION CONTROL PROJECT (CEC, CEG, ATI): CEC has provided comprehensive services for the Stump Pass inlet management plan to Charlotte County since 1997. The services have included: evaluating site conditions; evaluating economical and technical feasibility; coastal processes; modeling storm damage reduction benefits; designing beach fill templates; designing and analyzing potential adverse effects of utilizing channel borrow area including enhancing safe navigation and providing improved hydrodynamics for circulation within the bay system; assisting with permitting; and providing state/federal funding coordination including FEMA Post-Storm Recovery Funds; developing mitigation and monitoring plans. The initial channel restoration (2003) and four maintenance dredging events (2006, 2011, 2017, 2022) have been completed. State and federal cost sharing have provided over $17 Million.

Figure 14. Stump Pass Dredging

When the County has embarked on their next 10-year management plan, they turned to the CEC Team to conduct the consulting services. Two new components were included in the plan. First, a regional sand source search was completed to locate and define beach compatible sand bodies to address the sand needs of the County's program for the next decade (CEC, ATI). Second, a detailed numerical model study evaluated coastal structures to reduce end losses and improve project performance by stabilizing the erosional shorelines adjacent to Stump Pass (CEC). Structural complements that were considered included terminal groin and permeable groin field (updrift), t-groin field (downdrift), and Stump Pass inlet throat armoring. A numerical modeling program and alternatives analysis was performed. Permeable structures were analyzed through application of Delft3D's porous plate feature. The modeled alternatives were evaluated based on acre and volume changes, borrow area infilling, downdrift effects, impacts to navigation, and construction budgets. The results were utilized to develop design criteria including groin length, permeability, and alignment. The recommendations included beach nourishment, maintenance dredging, and a low-crested permeable rock terminal groin immediately updrift of the inlet. CEC worked closely with FDEP and USACE to improve the groin design while minimizing downdrift impacts.

Figure 15. Terminal Groin at Stump

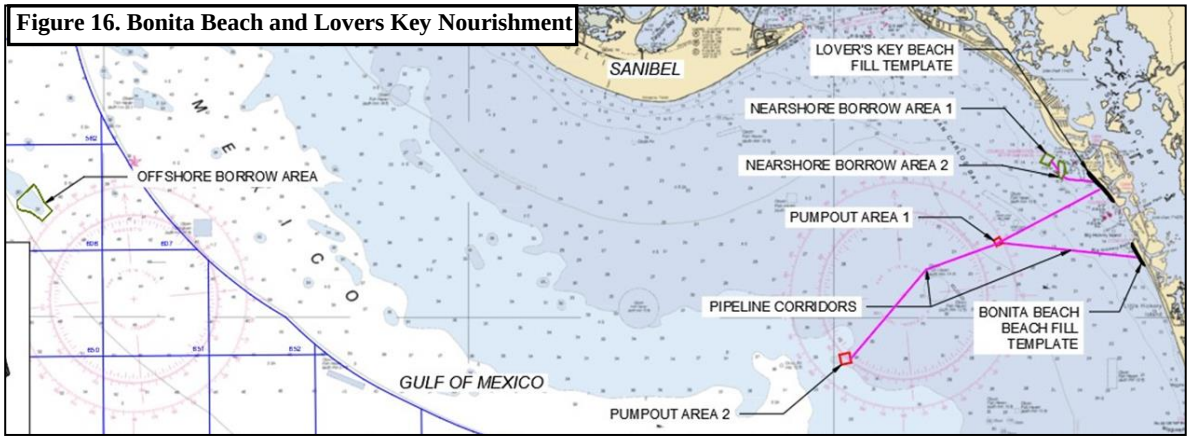
CEC enlisted the services of CEG to conduct the pre-construction survey of the pipeline corridor. Locations of hardbottom resources within the corridor were identified. Due to the presence of two large areas of hardbottom within the pipeline corridor, an alternative location for the pipeline corridor was identified to the south of the permitted corridor to avoid potential impacts to the larger, persistent hardbottom formation.

CEC has conducted the annual monitoring and project performance assessment since 2004. The terminal groin has stabilized the updrift shoreline and reduced infill rate by 38%. Within weeks of each major storm's passage, CEC had responded by surveying the beaches and channel and computing the damage to each segment for seeking public assistance from FEMA for recovery funding. A week after Hurricane Ian struck the Project, CEC had completed the surveys. Further, CEC documented erosion to the natural beach segments and quantified the full impact of the hurricane in support of the County seeking funding assistance from the State of Florida under their Hurricanes Ian and Nicole Recovery Plan. CEC is currently performing the Hurricane Idalia assessment in support of the County's request for post-disaster assistance.

3. BONITA BEACH – LOVERS KEY NOURISHMENT, Lee County (CEC, CEG, OSI, RCG, ATI): The CEC Team provided professional services to assist Lee County design and permit the Bonita Beach and Lovers Key Nourishment Project. The CEC Team conducted reconnaissance and detailed level geophysical and geotechnical investigations to map, design, and permit sand sources for the 50-year nourishment needs and identify pipeline corridors. The combined geophysical surveys included bathymetric survey to obtain sounding data, seismic survey to collect sub-bottom profile data and analyze for acoustic reflectors and anomalies that can indicate presence and quantities of sand resources, side-scan sonar survey to collect sonar imagery and analyzing it for surficial bottom features that can indicate presence of bottom features that may interfere with dredging process, and magnetometer survey to identify anomalies along tracklines related to both surface and subsurface features (OSI). Based on results geophysical survey results, core locations were established and cleared (RCG) through coordination with SHPO and BOEM. The geotechnical investigations included vibracore collection (ATI), core logging and photographing, and sediment sampling and testing. CEG conducted diver transects to confirm the absence of biological resources within the pipeline corridors. CEC performed the following. Computed 50-year sand needs Performed compatibility analysis. Designed horizontal and vertical excavation limits. Prepared "geologic" cross-sections and maps with core locations, bathymetry, and dredge limits. Prepared isopach maps. Determined sand volumes. Prepared Sand Source Search Report. Designed and permitted 8 million cubic yards borrow area in federal waters.

CEC has conducted the annual monitoring and reporting on behalf of the County from 2014 to the present. In addition to the beach fills, the County has CEC conduct bathymetric surveys of the inlet systems to provide the County with existing condition and morphological change maps from year to year to assist them with their navigation improvement and maintenance dredge program. Lastly, the County embarked on a regional inlet management study. CEC performed supplemental surveys to aid the County in this effort.

Figure 16. Bonita Beach and Lovers Key Nourishment



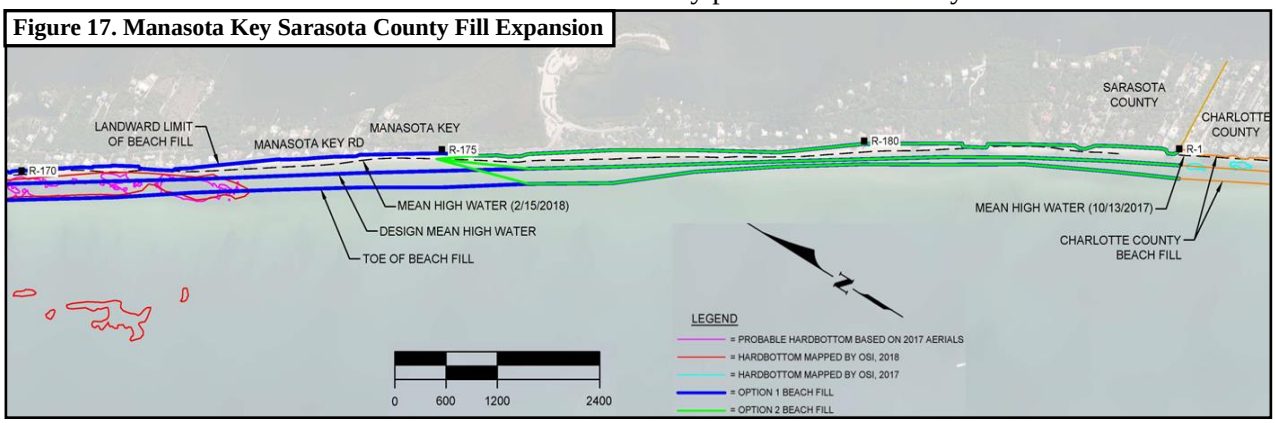
Hurricane Ian struck the Southwest Florida coast and devastated the beaches. Within weeks of the storm, CEC had responded by surveying the beaches and computing the damages for seeking public assistance from FEMA for recovery funding. As the Lovers Key segment is within a CBRA Zone, the USFWS service must be consulted with respect to federal funding on this barrier island. CEC provided documentation to FEMA for seeking the exemption from CBRA which FEMA pursued and obtained. Further, CEC documented erosion to the natural beach segments and quantified the full impact of the hurricane in support of the County seeking funding assistance from the State of Florida under their Hurricanes Ian and Nicole Recovery Plan.

CEC is currently providing the surveying, bid, and construction phase services. The Project budget is $27,650,000 and the projected placement volume is 970,100 cubic yards. The permitting has been complicated by Hurricane Ian and need to add additional beach segments into the Project scope and collaborate with federal resource agencies to expedite approvals. CEC authored the Environmental Assessment which has been adopted by the USACE, BOEM, and FEMA.

4. MANASOTA KEY-SARASOTA COUNTY EXPANSION (CEC): CEC provided comprehensive engineering services for the expansion of the project into Sarasota County. CEC developed two (2) beach fill design plans, Option 1 and 2, quantified potential nearshore hardbottom impacts, and calculated preliminary opinion of probable construction costs. Option 1 extended the Beach Restoration template 4,000 feet which would have resulted in significant hardbottom impacts of over 20 acres. Option 2 was developed to avoid both direct and indirect hardbottom impacts. The fill limit was reduced incrementally, noting that it was derived based on lateral fill spreading over the 8-year nourishment cycle calculated by numerical modeling.

In discussion with Sarasota County additional design plans were explored to achieve some limited beach fill placement along the northernmost segment to address some percentage of the significant erosion experienced over time especially on the upper beach. CEC undertook the modeling plan again to predict lateral spreading and estimate impacts to nearshore hardbottom as well as develop a preliminary opinion of probable construction cost. Ultimately the County selected the plan that avoided direct and indirect impacts. CEC then prepared and submitted requests to the FDEP and USACE for minor modifications to their respective permits to extend the beach fill northward. CEC assisted the County process the necessary modifications.

Figure 17. Manasota Key Sarasota County Fill Expansion



5. REGIONAL WATERWAY MANAGEMENT (CEC, ATI): For 13 years CEC has assisted the West Coast Inland Navigation District (WCIND) design, permit and oversee the construction of dozens of channel dredging projects to improve navigation; conduct feasibility studies and environmental assessments of waterway improvement projects; and design, permit and oversee construction of marine waterfront amenities for recreational benefits to the local communities. CEC is providing dredge management services to WCIND to design and construct dredging projects under the Noticed General Permits, a regional initiative overseen by the WCIND. ATI has conducted dozens of vibracores for WCIND in support of their dredge programs.

Figure 18. New Pass and Big Carlos Pass

In one study, CEC examined all of the coastal inlets, 32 in all, from Pinellas to Collier Counties to determine the feasibility of regional inlet management. The scope of services for each inlet included determining existing inlet management responsibilities, funding sources, and regional management feasibility. The project goals were to analyze the management needs for each inlet, including environmental and hydrographic monitoring, navigational dredging/sand bypassing needs, beach nourishment, and navigational aids. The study outlined permitting guidelines for implementation of a regional approach to inlet management; analyzed costs of needed equipment and compared purchase, lease, or rent of such equipment to contracted services; and management authority for the regional approach.

Subsequent to the inlet study, WCIND tasked CEC with assembling USACE condition surveys of the federally maintained inlet channels and conducting condition surveys of the non-federal inlet channels and analyzing the surveys to ascertain shoaling rates and evaluate dredging needs. By comparing the measured surveys to historical surveys, CEC computed morphological change maps that depicted areas of deposition and infill as well as scouring patterns. In some instances, recommendations were proffered to relocate navigation aids to improve channel marking. CEC has conducted GIWW bathymetric surveys to identify hot-spot areas subject to shoaling. These areas require maintenance dredging to restore safe navigation. WCIND and their consulting team that included CEC sponsored a federal initiative to acquire funds for maintaining the region's waterways. CEC assisted WCIND in preparing disposal site and channel dredging permit drawings, construction plans, and specifications.

6. LONGBOAT PASS BIOLOGICAL MONITORING PROGRAM (CEG): CEG provided biological monitoring services to Longboat Key for the maintenance dredging of the inlet navigation channel with sediment placement along the adjacent shorelines at the south end of Anna Maria Island and north end of Longboat Key. Three natural hardbottom formations are located in the nearshore along the northern portion of Longboat Key. Three mitigation artificial reefs were placed between the natural hardbottom formations, totaling 1.5 acres of replacement habitat for unmitigated impacts to the natural hardbottom from previous Longboat Key Beach Nourishment Projects. The Town developed a Hardbottom Biological Monitoring Plan to address potential direct and/or indirect impacts to natural hardbottom and mitigation artificial reefs within areas of project influence. CEG conducted the pre-construction hardbottom monitoring survey for the fill placement portion of the project. Monitoring methods included quadrat-based assessments of the benthic community along natural hardbottom and artificial reef habitats; *in situ* diver mapping of the reef edge along the entire perimeter of the three natural hardbottom formations and the three artificial mitigation reefs using a towed DGPS buoy; sediment depth and sand cover measurements at permanent transects; and video/photographic documentation at each transect. A detailed hardbottom resource map with the permanent transects was developed in ArcGIS 10.1 with acreage calculations of each habitat type. All raw field data underwent a rigorous QA/QC process and was saved to a Microsoft Access project database. All pre-construction data deliverables were provided to the FDEP pursuant to their Standard Operation Procedures for nearshore hardbottom monitoring. CEG will conduct all permit-required post-construction monitoring according and assess potential project-related impacts to nearshore hardbottom habitat and verify the continued functionality of the artificial reef replacement habitat.

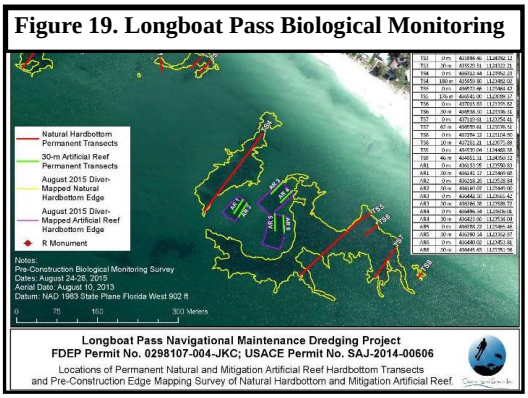


Figure 19. Longboat Pass Biological Monitoring

7. SOUTH MARCO BEACH NOURISHMENT & STRUCTURAL ENHANCEMENTS, Collier County (CEC): As Collier County embarked on the nourishment cycle of Marco Island's South Beach, they considered an additional structural alternative that could complement the existing erosion control structures and upcoming renourishment and future projects by cost-effectively extending the project life and addressing the localized erosion of the dry beach along the southern segment corresponding to the public access parking area. The County contracted CEC to perform an alternatives analysis and evaluate structural measures for the purpose of restoring storm protection, natural resource habitats, and recreational beach areas to offset the storm damage caused by Tropical Storm Fay. CEC was responsible for (1) performing historic shoreline and volumetric change analyses and borrow

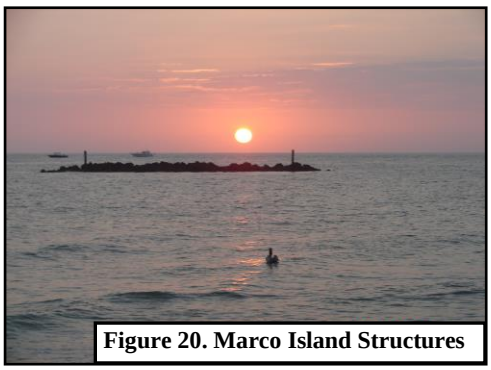


Figure 20. Marco Island Structures

area screening, (2) utilizing DHI's MIKE21 model and collecting survey, hydrographic, and wave data for model calibration and validation, (3) formulation, preliminary design, and numerical modeling of four erosion control alternatives including no new structural action, additional rock breakwater, additional rock groin, and feeder beach, (4) comparison of modeled volumetric and shoreline changes to the historic trends, and (5) developing construction budgets and performing a cost to benefit comparison to identify the preferred alternative.

8. HIDEAWAY BEACH EROSION CONTROL, Marco Island (CEC): The City of Marco Island contracted CEC for professional services to assist the Hideaway Beach District design a long term alternative to address the erosion loss along the North Beach Project area adjacent to the 5000 and 6000 buildings on Royal Marco Way, Marco Island, Florida. The comprehensive services include conceptual plan, preliminary design, permitting, final design, bidding, and construction management. Plan Formulation was comprised of performing historic shoreline and volumetric change analyses, borrow area screening, structural desktop analysis, construction budget development, and preparing a sediment budget; along with stakeholder presentations. Detailed design responsibilities collecting survey, hydrographic, and wave data for model calibration and validation; and preliminary and final design of the beach fill templates, borrow area dredge templates, and coastal structure details. The alternatives analysis consisted of applying DHI's MIKE21 model suite to analyze the no action scenario and three erosion control alternatives including three T-groins complemented by a beach fill, beach fill placement with extension of the existing jetty, three T-groins complemented by a beach fill and relocation of the existing jetty; comparing the modeled results to the historic trends; and developing construction budgets and performing a cost to benefit comparison to identify the preferred alternative. CEC led the permit process. The USACE issued their permit in 15 months. During the study, an emergency project was declared to dredge a sand shoal adjacent to the Project reach to restore and provide for safe navigation. CEC provided turn-key design, permit and construction management services for the City and County. The emergency project was completed from start to finish in 11 months.

Figure 21. Hideaway Beach Fill Placement

9. VIBRACORING SERVICES, Southwest Florida (ATI): On behalf of the USACE, ATI conducted geotechnical sampling investigations off of Sarasota and Manatee Counties to help identify and map new sand sources. Cores were acquired at 120 locations. During the investigations the following tasks were accomplished: vibratory coring attempting to acquire core samples up to 20 feet in length or until refusal; core logging to visually describe and log sediment contained within the acquired cores; and photography to preserve a visual record of sediment characteristics within the cores. Vibracores were collected utilizing the Thunderforce and Alpine style, pneumatic vertical hammer drilling apparatus Positioning of the coring was accomplished employing DGPS units interfaced with a HYPACK navigation computer.

Figure 22. ATI Vibracoring in SW FL

10. HYDROGRAPHIC SURVEY MAPPING, Mayport Entrance Channel (OSI): OSI performed an integrated hydrographic and magnetic survey to support the upgrade of an existing Navy Magnetic Measurement Range (MMR) at NAVSTA Mayport located within the entrance channel to Mayport Basin in the St. John's River. The survey was conducted under subcontract to Childs Engineering Corp. working under contract for the US Navy. The US Navy planned to upgrade the existing Type 5 MMR at NAVSTA

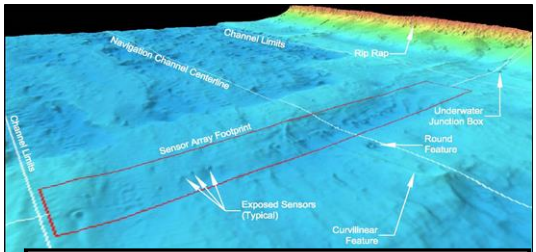


Figure 23. OSI Hydrographic Survey Mapping

Mayport, Florida, to a Type 6 Electro-Magnetic Measurement Range (EMMR) which included upgrading the existing underwater instrument array. OSI conducted a hydrographic and marine magnetic survey in a rectangular shaped area (approximately 1,800 by 880 foot) centered on the existing MMR array which includes 22-magnetometer sensors. The survey was designed and conducted in accordance with specifications outlined in the Navy scope of work (SOW). The principal objectives of the investigation were to document hydrography and identify and locate ferrous objects that exist within the survey area around the array. Field surveys were conducted aboard the *RV Echo* equipped with a Geometrics G-882 Cesium magnetometer (which includes an altimeter and depth sensor) and sounding system composed of a Reson 8125 multibeam echosounder, Applanix POS MV sensors, and Sea-Bird 19 CTD profiler.

B. REFERENCE LIST

Per the RFP, CEC is providing a list of references for each firm. Note we opted to select non-Charlotte County projects.

1. COASTAL ENGINEERING CONSULTANTS

- Bonita Beach – Lovers Key Nourishment: Lee County, Stephen Boutelle, (239)533-8128
- Regional Waterway Management: WCIND, Justin McBride, (941)485-9402
- Hideaway Beach Erosion Control: City of Marco Island, Mike Daniel, (239)825-9554

2. COASTAL ECO-GROUP

- Siesta Key Beach Project Hardbottom Monitoring, Sarasota County, Joseph Kraus (941)726-4061
- Bathtub Beach/Sailfish Point Beach Nourishment: Martin County, Kathy Fitzpatrick, (772)228-5429
- Port Everglades Sand Bypass/Segment 2 Beach Nourishment: Broward County, Ken Banks, (954)519-1207

3. OCEAN SURVEYS

- Caminada Headland Sand Search: Louisiana CPRA, Brad Miller (225)342-4122
- Offshore Bogue Island Sand Search: US Army Corps of Engineers, Ben Lackey, (910)251-4546
- Bonita Beach – Lovers Key Sand Search: Lee County, Stephen Boutelle, (239)533-8128

4. ATHENA TECHNOLOGIES

- Regional Waterway Management, Vibracoring Services: WCIND, Justin McBride, (941)485-9402
- Vibracoring Sampling Services, Southwest Florida: Taylor Engineering, Ken Craig, (904)731-7040
- Big Carlos Pass Channel Dredging, Humiston and Moore Engineers, Brett Moore, (239)594-2021

5. R. CHRISTOPHER GOODWIN & ASSOCIATES

- Caminada Headland Sand Search: Louisiana CPRA, Brad Miller (225)342-4122
- Bonita Beach – Lovers Key Sand Search: Lee County, Stephen Boutelle, (239)533-8128
- Hurricane Sandy Planning and Recovery Program, Connecticut SHPO, Douglas Royalty, (203)675-0919

SECTION IV
PROJECT CONTROL

IV. PROJECT CONTROL

A. SCHEDULE CONTROLS

1. PROJECT SCHEDULING

CEC utilizes commercially available software to develop a work breakdown structure that is visually represented by Gantt chart, and tracks the project by monitoring the project progress by means of the critical path method. Once the critical path is identified, CEC can develop a resource-leveled schedule which enables us to apply resources exactly when and where they are required. Once the resources are applied to the schedule, CEC then sets up milestones to ensure progress is ongoing. CEC has aggressively defined goals and established schedule projections through internal staff meetings. Personnel are allocated to ensure commitments are met. Internally, we have the ability to reallocate our diverse staff and resources to add extra horsepower, if needed, to meet budgetary or timeframe constraints. It is essential to maintain the schedule so that public meetings can be advertised and keep stakeholders informed as work progresses. An example Project Schedule for our Proposed Approach (Section V) is presented below.

PROJECTS	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
HURRICANE RECOVERY										
Funding Approvals										
Construction										
STUMP PASS MAINTENANCE DREDGING										
Design and Permitting										
Construction										
Monitoring										
MANASOTA KEY BEACH NOURISHMENT										
Design and Permitting										
Construction										
Monitoring										
SOUTH BEACH FILL NOURISHMENT										
Design and Permitting										
Construction										
Monitoring										
OFFSHORE SAND SOURCE SEARCH										
Reconnaisance Level										
Detailed Level										
Permit Modifications										
STUMP PASS TERMINAL GROIN MODS										
Alternatvies Analysis										
Design and Permitting										

2. MINIMIZE PERMITTING TIME

CEC is well known for successful time and cost-effective permit coordination. The primary steps in minimizing permitting time are to have a pre-application meeting with the reviewing agencies and subsequent follow-up meetings at issuance of their requests for additional information. Meeting face to face with the reviewing agency personnel allows us to openly discuss the proposed project and hear and see their reactions. We identify potential problems immediately that enables us to advise our clients on

how to proceed. We believe there is considerable benefit to be gained by having staff attend meetings or have "ambassadors" attend agency meetings. This allows reviewers to put a "face" with a "name" and gain an understanding of the concerns. We perceive our strength is the personal relationships with agency staff. We can rely on these relationships to save time during permitting as the reviewers trust our work.

3. FISCAL MANAGEMENT

Michael Poff will ensure schedules will be met in a timely manner. CEC has successfully managed and completed projects utilizing subconsultants under multiple engineering and related disciplines. CEC has invested in one of the most sophisticated project management and cost tracking programs available for consultants. We have put into place an Executive Information System that allows our managers to quickly obtain summary information concerning client history, client and project billing, accounts receivables, project profitability, budgets, vendor history, accounts payable, purchase orders, and cash position.

B. COST CONTROLS

1. DATA COLLECTION

CEC is using the latest in field data collection technology including DGPS and RTK stations. For remote locations, we typically install duplicate instrumentation to ensure collection of the required data to avoid remobilization costs and time delays. Our field crew and office staff have worked together to standardize the data collection procedure, nomenclature, and symbols. That data is then directly linked to hardware and internal software such that the data is transferred to provide documentation, plan views, and digital files with a minimum of human intervention. Our up-to-date drafting software is standardized in the Survey and Engineering departments for whom Survey acts as a conduit of data gathering. Survey's main responsibility is to gather data and to prepare the survey plans, cross-sections, legal descriptions, and survey plats. Those documents are then transferred or forwarded to the various design groups so that that data is then utilized in design software to provide up-to-date modern optimized design plan results.

2. DESIGN

Our Senior Personnel, Michael Poff and Mark Kincaid, shall be responsible for overseeing each facet of the project to ensure cost control compliance is maintained. All of our design plans produced by our designers and technicians are peer reviewed. This allows for fresh perspectives, streamlines reviews by catching "little" things up front, and allows engineers to focus on true design intent. Further, our staff is committed to cost control compliance. We communicate routinely with contractors and apply industry knowledge to stay aware of issues and constraints that affect cost. Construction access, construction workload, material availability, mobilization, trucking costs, fuel costs, and site experience or familiarity can all affect construction cost. We are willing and able to comply with the customary submittals of Opinion of Cost. Upon client review, if such cost exceeds the client's budget and jeopardizes completion of the project, we shall, in conjunction with the client, evaluate the design, identify areas to be changed to reduce costs, and/or provide technical support data to justify increasing the budget.

3. BIDDING

We have dutifully assisted our clients conduct successful Bid Processes including prepare Bid Packages and Schedules, attend the pre-bid meeting, respond to contractor questions, assist with addendum, review bids, and render recommendation for lowest responsive bidder. We pro-actively contact qualified contractors to address questions of bidders, solicit recommendations by prospective bidders for addenda or alternatives to reduce costs or improve the Project design, and encourage submission of competitive

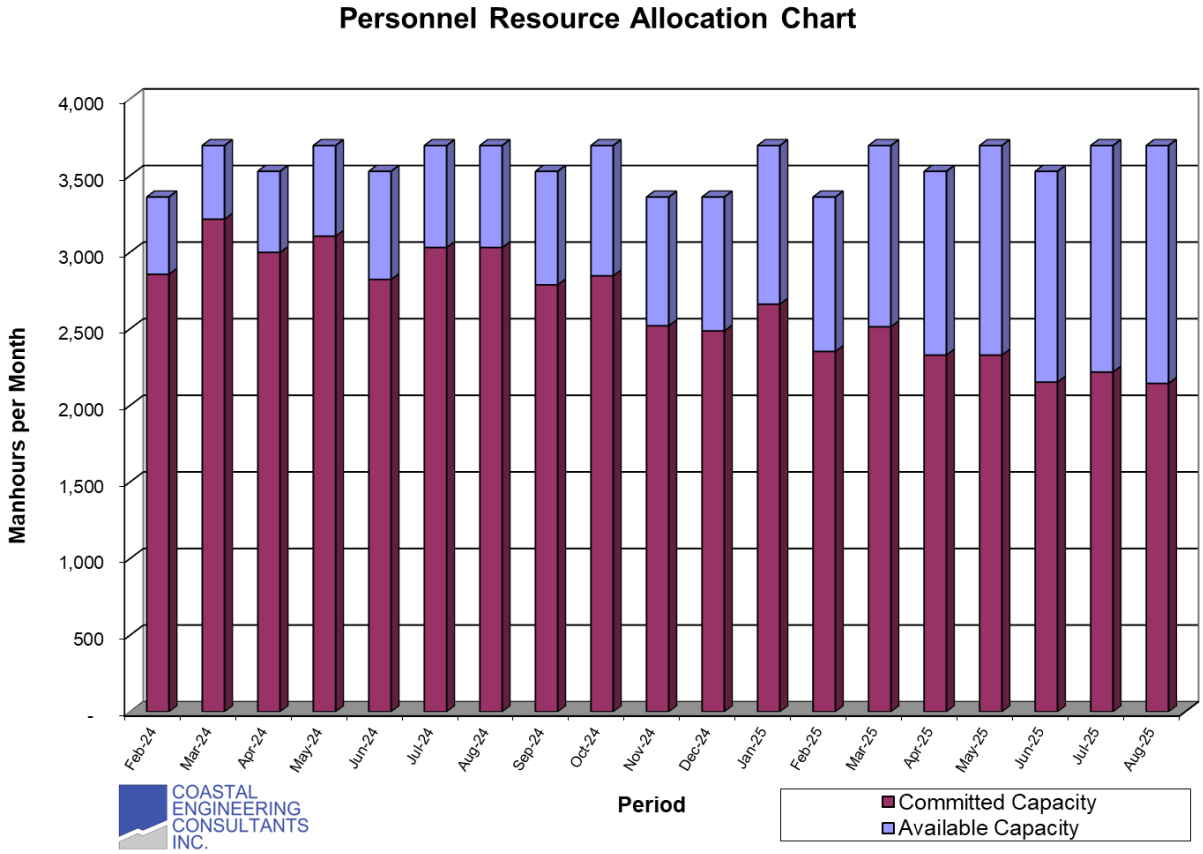
bids. We use bidder pre-qualification and mandatory pre-bid site visits and contractor meetings to answer questions and reduce bid document uncertainty. This helps firm up and lower bid costs.

4. CONSTRUCTION

Once the client approves a final schedule, we will approach the project in a manner that will accomplish construction as scheduled, changing the schedule only with client approval. We shall ensure the Contract Documents clearly identify the construction window and identify liquidated damages for contractor delay. Upon contract award, prior to the start of construction, we shall confer with the contractor to establish their construction schedule. During construction, the schedule is monitored daily and updated monthly to coordinate inspections and acceptance of work. We recommend to our clients that they hire us to provide the construction management, survey control, and construction stake-out for public projects. During construction, the delivery of materials, contractor's activities, progress of work, and weather are closely monitored and documented to provide a basis for evaluation of contractor delays and liquidated damages. Such vigilance is recognized by the contractor and provides incentive for them to complete the work on time. We include in our technical specifications example forms for the contractor to use to comply with agency required reporting. The key is to hold contractors accountable for their activities and reporting.

C. WORKLOAD PROJECTIONS

Below is CEC's projected workload for the foreseeable future. The graph depicts the staff hours available per month (Maximum Capacity), hours assigned to current contracts (Committed Capacity), and anticipated hours to be assigned. We can dedicate hundreds of personnel hours per month. CEC and its partners have more than sufficient resources to handle the Project timely and effectively.



SECTION V
DESIGN APPROACH

V. PROPOSED APPROACH

A. PROJECT APPROACH

1. HURRICANE RECOVERY

Manasota Key

Hurricanes Ian and Nicole (2022) and Idalia (2023) impacted parts of Florida's western coast, bringing intense winds, heavy rainfall, and storm surge that overtopped dunes and inundated many barrier islands along the Southwest Florida coast. CEC conducted post-storm surveys of Manasota Key, performed storm impact analyses, and submitted two storm recovery FEMA claims: 1) Category G post-Ian claim to import 10,890 cubic yards of beach compatible sand and place it within the permitted fill template; and 2) Category B post-Idalia claim to build an emergency berm that would offset some of the losses due to Idalia equal to 39,422 cubic yards of beach compatible sand. The impacts from Hurricane Nicole were included in the State's Recovery Plan. The sand source will be from one of the County's permitted inland sand mines: Stewart Mining Industries' Immokalee Mine, Vulcan Materials Company's Witherspoon Mine, E.R. Jahna Industries' Ortona Mine, and CEMEX Lake Wales Mine.

The total impact is on the order of 70,000 cubic yards with a budget of $7.67 Million. The County is seeking the FEMA share equal to $4.14 Million. FDEP has approved $1.60 Million and the County should pursue an additional $1.23 Million under the State's Recovery Plan or the annual funding request through the beach program. No work may occur on Manasota Key during nesting season. The County may wish to consider constructing the recovery work in phases aligned with the funding and environmental window. The advantages of phasing include managing the trucking and impacts to traffic on smaller scales and avoiding work during nesting season.

The construction method includes the following. The sand will be transported from a permitted upland source and offloaded at the existing beach access at the County's Englewood Beach Park via trucks. A conveyor system may be used to transport sand to the beach. Sand will be delivered along the fill sections utilizing loaders, dozers, graders, and trucks. To minimize impact to beach use, the fill placement work will begin at the staging area and construction access and work toward the fill segment end, then shift back to the access and work to the other end. Beach sections that are completed and accepted will be turned over for public use. The general description of the tasks associated with the recovery project(s) include the following:

- Mobilization/staging
- Set up MOT
- Establish temporary pedestrian routes
- Install temporary fencing
- Install protection for upland dunes
- Initial grade stake out
- Fill placement
- Grading
- Post fill survey
- Restore access and staging area
- Demobilization
- Project and permit closeout.

Figure 24. Ft. Myers Beach Emergency Berm Example

Erosion Control Project

CEC conducted post-Ian and post-Idalia surveys of ECP beaches including the Updrift Beach Fill (UBF), North Beach Fill (NBF), and South Beach Fill (SBF); performed storm impact analyses; and submitted two storm recovery FEMA claims: 1) Category G post-Ian claim to place 77,688 cubic yards of beach compatible sand and place it within the permitted fill template; and 2) Category B post-Idalia claim to build an emergency berm that would offset some of the losses due to Idalia equal to 59,414 cubic yards of beach compatible sand. The sand source will be the Stump Pass Borrow Area.

The construction method to be employed includes excavation of the Borrow Area by a hydraulic cutterhead dredge. The dredged sediment will be transported through the submerged sediment pipeline that rests on the bottom and will exit the Gulf and come onto the dry beach, then discharged into the fill template, where it will be graded using conventional earth moving equipment. Work will be conducted 24 hours per day, seven days per week. Work is proposed to be conducted during sea turtle nesting season on the NBF and SBF, which is an allowable activity under the State of Florida's Programmatic Biological Opinion. No work will be conducted on the UBF during sea turtle nesting season.

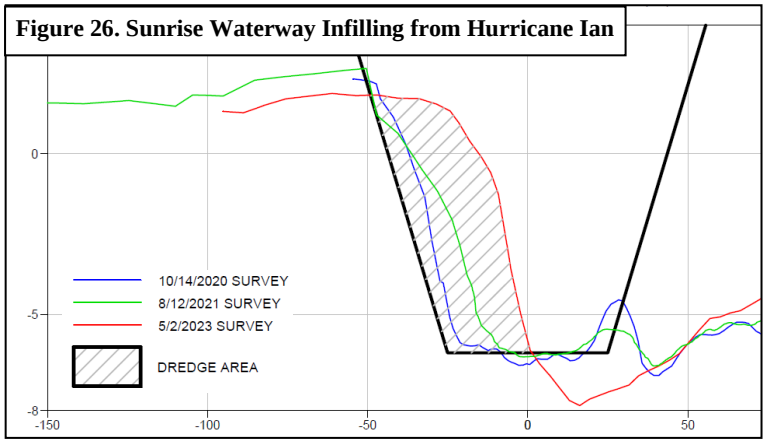
Figure 25. Post Idalia Dune Loss on SBF

The total impact is on the order of 235,000 cubic yards with a budget of $7.05 Million. The County is seeking the FEMA share equal to $3.11 Million. FDEP has approved $1.11 Million and the County should pursue an additional $2.3 Million under the Recovery Plan or annual funding request through the beach program. Due to the significant cost of mobilization, the County should continue to work diligently to align funding for one concurrent construction project with work on UBF scheduled outside of nesting season.

Port-Charlotte Beach Park

CEC conducted post-Ian surveys of the Sunrise Waterway; performed a storm impact analysis; and assisting the County with their FEMA claim for 1,697 cubic yards to offset the hurricane impact along with 753 cubic yards of regular maintenance. The sand will be dredged from the channel and placed within the Beach Park's permitted fill template. Maintenance dredging includes the following. A barge mounted excavator or hydraulic dredge will remove sediment from within the permitted channel template. Sediment is transported and offloaded at the upland spoil/disposal area where it is dewatered. Once dewatered, the sediment will be hauled off for legal disposal. The construction budget is on the order of $2.6 Million.

Figure 26. Sunrise Waterway Infilling from Hurricane Ian



2. STUMP PASS MAINTENANCE DREDGING

Based upon the Stump Pass Ten-Year Management Plan, the County schedules the maintenance dredging on a 4 to 5 year cycle. The pass was dredged in 2017 when the terminal groin was installed and then again in 2022 for its regular maintenance along with post-hurricane recovery work on the UBF and NBF. Consistent with the County's annual funding request to the State which includes long-term projections, the design and permitting is scheduled for 2026 and the next dredge cycle is scheduled for 2027.

The construction method to be employed includes excavation of the channel by a hydraulic cutterhead dredge. The dredged sediment will be transported through the submerged sediment pipeline that rests on the bottom and will exit the Gulf and come onto the dry beach, then discharged into the fill template, where it will be graded using conventional earth moving equipment.

The County has historically installed buoys and moved them after CEC conducts condition surveys and renders recommendations. The Aids to Navigation for the channel including the lighted aid which was destroyed by Hurricane Ian are in need of attention.

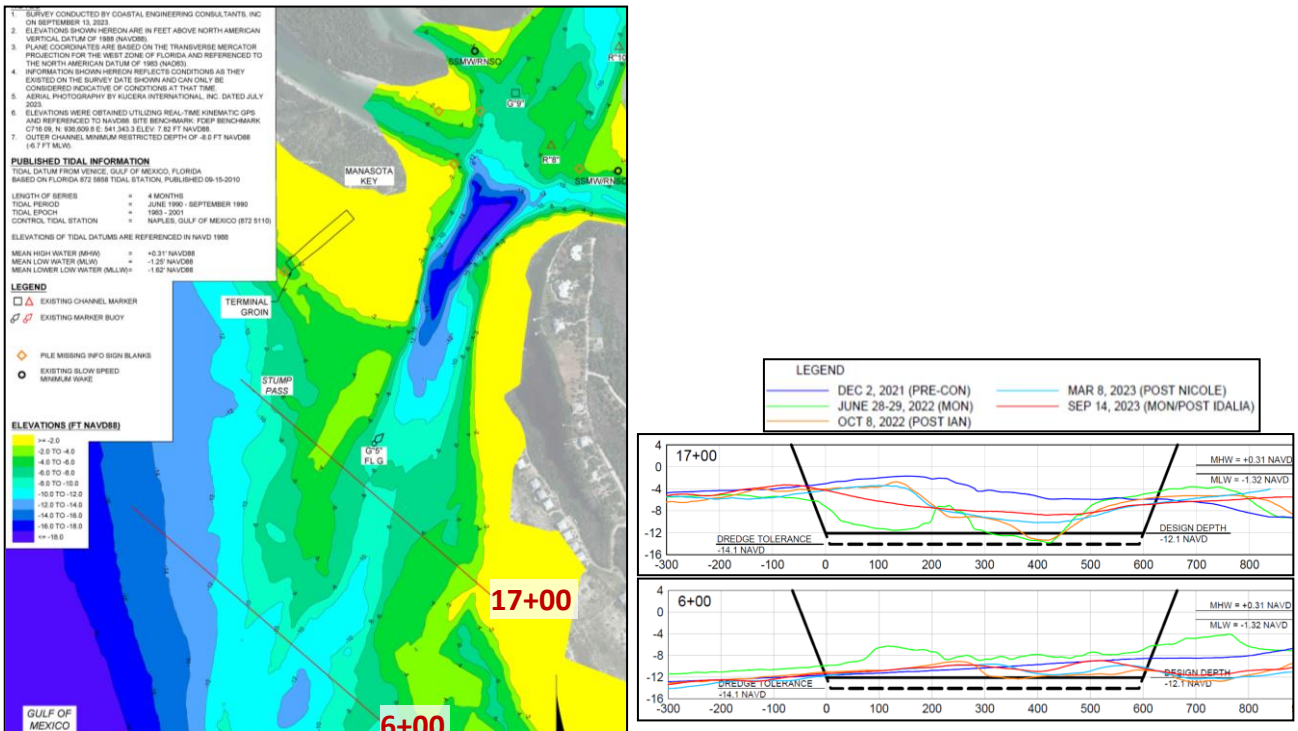


Figure 27. Post-Idalia Condition Survey

3. MANASOTA KEY BEACH NOURISHMENT

Based upon the Manasota Key Ten-Year Management Plan, the County has scheduled the nourishment of Manasota Key on an 8 year cycle. The initial project was completed in 2020 concurrent with the SBF nourishment. Consistent with the County's annual funding request to the State which includes long-term projections, the design and permitting is scheduled for 2027-28 and next nourishment event is scheduled for 2028-29. Due to the significant storm impacts since construction was completed (e.g. Cristobal, Elsa, Eta, Ian, Nicole, and Idalia), as presented in our Project Schedule (Section IV), CEC recommends moving the construction window forward one year to be prepared for continued heightened storm impacts (i.e. initiate construction Fall of 2027 and complete in Spring of 2028 outside of nesting season).

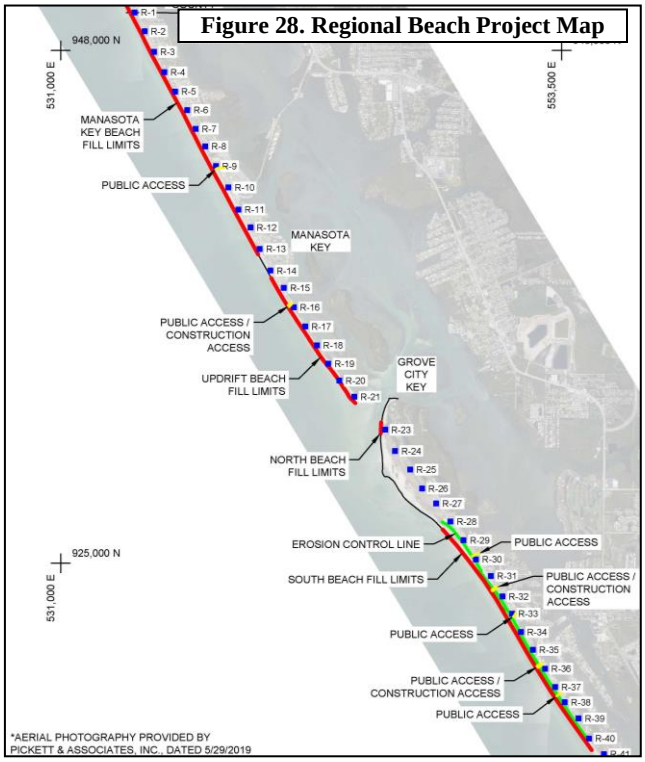


Figure 28. Regional Beach Project Map

Construction methods to be employed for excavation of the Borrow Area include the hydraulic cutterhead dredge and scow barge method and the hopper dredge method. For the two methods the dredged sediment will be transported to one of the pump-out areas and transferred through the submerged sediment pipeline which will exit the Gulf and come onto the dry beach and discharged into the fill template, where it will be graded using conventional earth moving equipment. Multiple booster pumps may be required.

Due to the profile adjustments observed after construction and these significant storms, CEC recommends the County and residents pursue a permit modification to widen the beach in the next event. All of the nearshore hardbottom has been mitigated so there would be no negative impacts. The loss of dry beach width and elevation are more than sufficient justification to the agencies to provide the additional sand at the time of construction as advanced nourishment. As the mobilization costs are significant fixed costs, the costs to add sand incrementally decrease as the quantities increase.

4. SOUTH BEACH FILL NOURISHMENT

Hand in hand with Manasota Key, the South Beach Fill is planned on an 8 year cycle and will be ready for construction concurrent with Manasota Key. Constructing these segments together will again save $Millions. The SBF has also been severely impacted by storms. The construction methods are the same. It may be prudent to also look at adjusting the template to provide the opportunity to add advanced nourishment if the bids are favorable.

One key element that is underway is renewing the public access easements with WCIND, the Beach Place, and Colony Don Pedro in order to maximize the opportunity for state cost sharing. The County needs to be diligent with maintaining the parking within the rights-of-way and properly signing each access. With these three accesses, maintained parking, and proper signage, the SBF is 90% eligible for cost sharing.

5. OFFSHORE SAND SOURCE SEARCH

Between 2013 and 2020, the CEC Team conducted multiple reconnaissance level which included side-scan sonar, seismic subbottom, bathymetry, cultural resource, magnetometer and vibracores to explore over 20 target areas followed by detailed level surveys to map and design five (5) primary areas that total over 3.9 million cubic yards. There were no potential hard bottom areas identified within these areas.

Borrow Area A is comprised of three sub-areas with a total volume of approximately 1.15 million cubic yards:

Sub-area A1 contains approximately 550,000 cubic yards
Sub-area A2 contains approximately 360,000 cubic yards
Sub-area A3 contains approximately 240,000 cubic yards

Either cutterhead or hopper dredge can be used for Areas A1, A2, and A3.

Borrow Area B is comprised of two sub-areas with a total volume of approximately 395,000 cubic yards:

Sub-area B1 contains approximately 205,000 cubic yards
Sub-area B2 contains approximately 190,000 cubic yards

Hopper dredge is the preferred dredging method for Areas B1 and B2.

Borrow Area 1-1 contains approximately 1.375 million cubic yards. Borrow Area 3 contains approximately 330,000 cubic yards. Borrow Area 4 contains approximately 650,000 cubic yards. Hopper dredge is the preferred dredging method for Areas 1-1, 3 and 4.

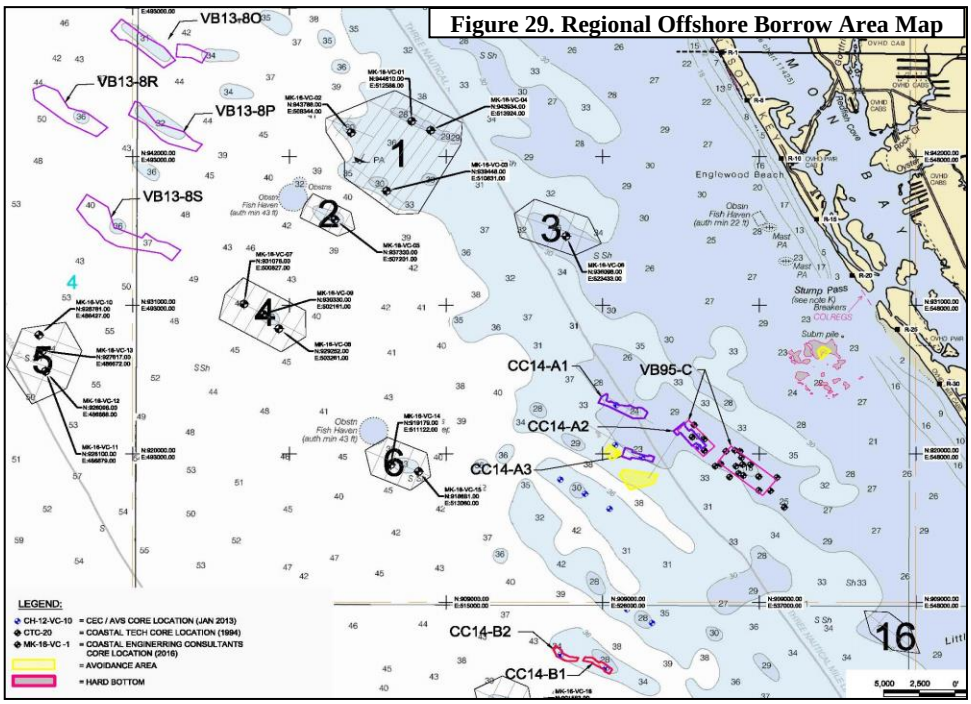


Figure 29. Regional Offshore Borrow Area Map

CEC recommends the County partner with Sarasota County and conduct a sand source search to identify additional sand sources for future regional beach project nourishment events. The premise is the two major offshore sand source searches managed by Charlotte County did not target the Sarasota County portion of Manasota Key for long-term sand needs.

6. STUMP PASS TERMINAL GROIN MODIFICATIONS

During the development of the Ten-Year Management Plan for Stump Pass CEC conducted a detailed numerical model study to examine structural complements to the beach and inlet management activities. The goal of the study was to develop, assess, and evaluate various coastal structures that could reduce end losses and improve project performance by stabilizing the erosional shorelines adjacent to Stump Pass. Historic shoreline change and volumetric change analyses were performed and five (5) alternatives were formulated including 1) no new action, 2) a terminal groin on the south end of Manasota Key, a permeable groin field on the south end of Manasota Key, 3) a combination of the terminal groin on the south end of Manasota Key, and 5) a T-groin field along the northern shoreline of Palm Island, and Stump Pass ebb shoal restoration.

The fully coupled three-dimensional Delft3D model was utilized to conduct hydrodynamic and morphologic change modeling to evaluate the structural complements. The model was calibrated for a 35-day period to reproduce as accurately as possible the waves, tides, currents, and morphologic changes that were specifically collected by CEC through a deployment of multiple wave and tide gauges and current meters, and by performing two (2) hydrographic/topographic surveys. The calibrated model was then validated for a 1-year period to predict morphologic changes that occurred between the annual monitoring surveys. An alternatives analysis was performed by conducting 4-year long simulations for each alternative which was achieved through application of Delft3D's morphological scale factor feature. The longer term simulations were validated through comparison of the "no new action" alternative model results to historical trends documented by the physical monitoring surveys. Permeable structures were analyzed through application of Delft3D's porous plate feature. The modeled alternatives were evaluated based on a variety of criteria including acreage changes, volumetric changes, borrow area infilling, downdrift effects, impacts to controlling depth for navigation, and construction budgets. The results of the modeling were also utilized to develop design criteria: groin length, permeability, and alignment.

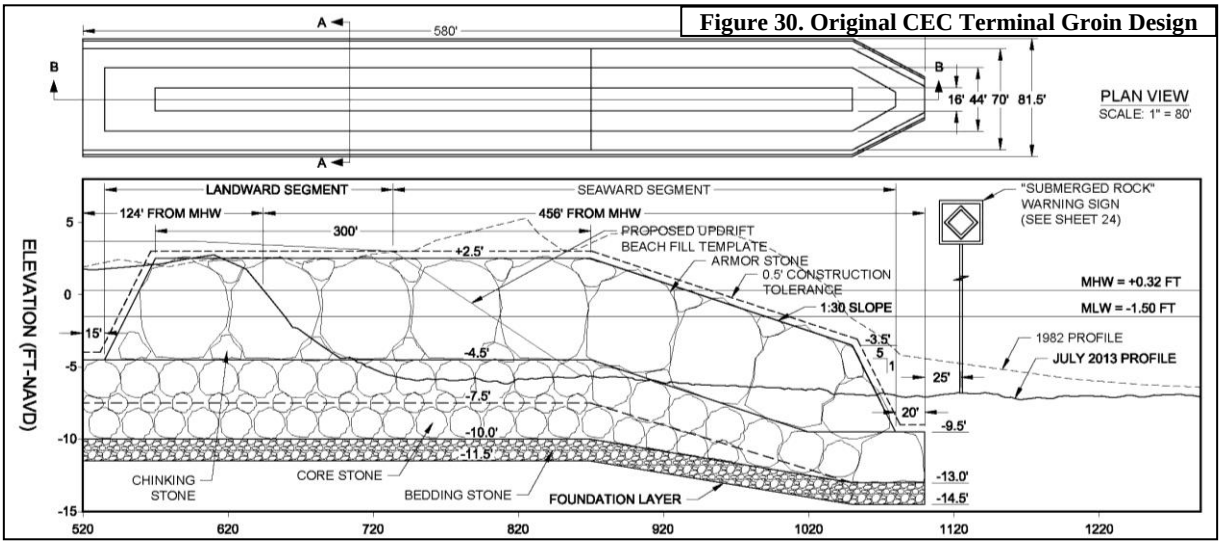


Figure 30. Original CEC Terminal Groin Design

Based on the annual monitoring, project performance assessment, and post-storm condition surveys conducted by CEC, the terminal groin has stabilized the updrift shoreline and reduced the infill rate into Stump Pass by 30-40%. The controlling depth for the Pass has remained deeper than -5 ft MLW. It would be prudent to dust off the model study and look at the original recommendations by CEC for groin length noting the structure was shortened at the bequest of the State during the permit process. Now that success has been achieved, could groin modifications improve the project and benefit the system, leading to continued success.

7. ANNUAL MONITORING

The Charlotte County Erosion Control Project permits require annual physical and biological monitoring. Physical monitoring includes beach monitoring surveys of the FDEP reference monuments, inlet monitoring of the navigation channel, and aerial photography of the beach concurrently with the beach survey and during approximate low water tide on that date. Biological monitoring includes shorebird, sea turtle, escarpment, compaction, and seagrasses. The Manasota Key Project includes the same physical and biological requirements (less the seagrasses) along with monitoring of the hardbottom resources offshore of the beach fill to document the adjustment of the beach profile does not encroach onto the resources, and monitoring of the mitigation reef to evaluate success of the artificially created structure to replicate the hardbottom resources that were covered by the beach fill.

8. PORT CHARLOTTE BEACH PARK

On behalf of the County, CEC conducted a study to develop restoration plans and strategies to reduce sand transport into the Sunrise Waterway navigation channel and restore the Port Charlotte Beach Park's sandy shoreline. Significant beach erosion and localized channel infilling were documented. While periodic maintenance dredging provides for improved navigation, the sand placement has been insufficient to maintain the recreational beach areas. It was concluded shoaling will continue and periodic maintenance dredging will be required on a one to two year cycle and the beach will continue to erode with future upland infrastructure impacted due to beach erosion over time. Multiple alternatives were developed and evaluated. Common to the alternatives was the navigation channel will need to be dredged on a periodic basis and the sediment dredged should be placed on the beach east of the pier to reduce immediate infill into the channel. The recommended features included a floating breakwater system, living shoreline unit under the pier, maintenance dredging and sediment trap excavation with sand placement on the park beach areas, and importing beach compatible sand. The combination of these features is the optimal alternative for achieving the goals of reclaiming recreational beach and stabilizing the shoreline while reducing channel infilling to increase the time cycle between maintenance dredge events. CEC recommended developing an Adaptive Management Plan to address adjustments to the floating breakwater system for the regattas or similar local boating events, and to address the future plans for redevelopment of Port Charlotte Beach Park. The County is pursuing funding for advancing the project to preliminary design and permitting.

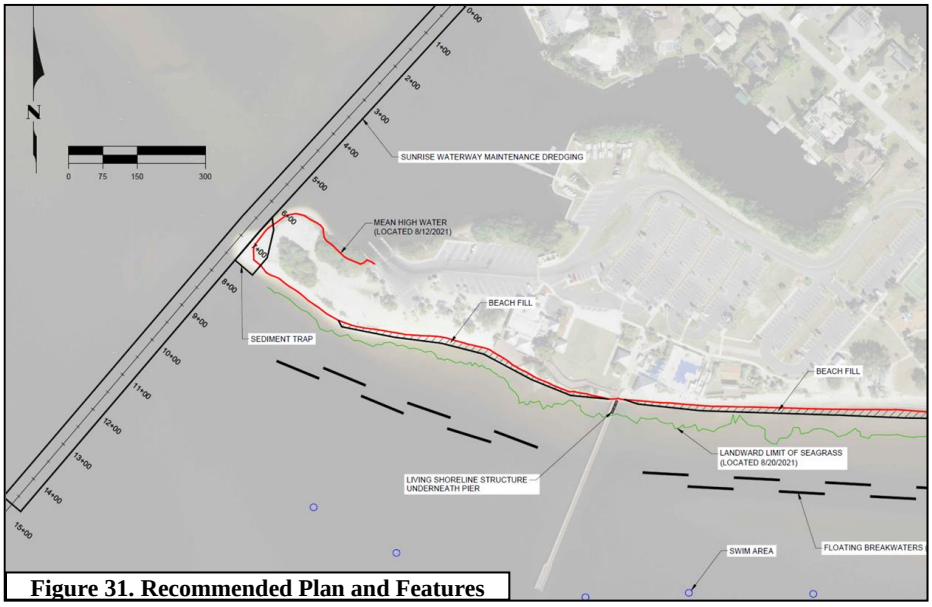


Figure 31. Recommended Plan and Features

B. ANTICIPATED CHALLENGES

1. FUNDING COORDINATION FOR HURRICANE RECOVERY

A major challenge for the County's Hurricane Recovery will be to successfully coordinate the various funding streams to construct the various beach fill segments concurrently to save on mobilization fees. They include FEMA Category G for Hurricane Ian, State Recovery Funds for Hurricanes Ian and Nicole, and FEMA Category B Emergency Berm Funding for Hurricane Idalia (pending approvals). In order for the FEMA funded projects to be constructed with additional funding, the County has to request an Improved Project whereby "maintenance sand" is placed concurrently with the federal eligible sand quantity under single mobilization to save money. FEMA then pays the prorated share of the fixed costs (e.g., engineering, mobilization, environmental protection) computed by diving the federal eligible quantity by the total quantity to be placed. CEC's Opinion of Probable Project Cost for the combined Erosion Control Project recovery projects is presented below.

CHARLOTTE COUNTY ECP HURRICANE RECOVERY PRELIMINARY OPINION OF PROBABLE PROJECT COSTS ANTICIPATED YEAR OF CONSTRUCTION: 2024-25							FEMA/FDEM	FDEP	FEMA/FDEM
Item	**Description**	**Unit**	**Quantity**	**Unit Price**	**Extended Price**	**Subtotals**	**IAN CAT G**	**IAN/NICOLE**	**IDALIA**
E-1	Storm Impact Assessments	LS	1	$88,800	$88,800	$88,800	$29,304	$36,408	$23,088
C-1	Mobilization / Demobilization	LS	1	$1,800,000	$1,800,000	$1,800,000	$594,000	$738,000	$468,000
C-2	Beach Fills	CY				$3,033,878			
C-2	UBF		59,218	$10.25	$606,985		$252,970	$252,970	$101,045
C-3	NBF		34,326	$8.50	$291,771		$123,080	$123,080	$45,611
C-4	SBF		140,008	$15.25	$2,135,122		$587,552	$873,673	$673,898
C-5	Environmental Protection	Days	180	$350	$63,000	$63,000	$20,790	$25,830	$16,380
C-6	Shorebird Protection & Abatement	Days	190	$450	$85,500	$85,500	$28,215	$35,055	$22,230
C-7	Turbidity Monitoring	Days	180	$600	$108,000	$108,000	$35,640	$44,280	$28,080
D-1	Dune Vegetation	SY	26,800	$12	$321,600	$321,600	$106,128	$131,856	$83,616
CM-1	T&E Species Monitoring	LS	1	$250,000	$250,000	$250,000	$82,500	$102,500	$65,000
CP-1	Construction Phase Services	LS	1	$375,000	$375,000	$375,000	$123,750	$153,750	$97,500
M-1	Post-Const Biological Monitoring	LS	1	$90,000	$90,000		$29,700	$36,900	$23,400
M-2	Post-Const Physical Monitoring	LS	1	$140,000	$140,000		$46,200	$57,400	$36,400
M-3	Post-Const Beach Tilling	LS	1	$50,000	$50,000	$280,000	$16,500	$20,500	$13,000
					Subtotal	$6,405,778	$2,076,329	$2,632,202	$1,697,247
					10% Cntngncy	$640,578	$207,633	$263,220	$169,725
					Grand Total	**$7,046,355**	**$2,283,962**	**$2,895,422**	**$1,866,972**

2. TRUCK HAUL CHALLENGES

For Manasota Key, the recovery work will be completed via truck haul. Due to the pre-existing traffic situation on the Key, and the environmental window which does not allow beach fill construction between May 1 and October 31 (sea turtle nesting season), maintenance of traffic (MOT) will be the number one challenge for this recovery work. The County, residents, and stakeholders will have to work diligently with the contractor to develop an acceptable MOT Plan endorsed by everyone. Education will be instrumental in achieving success. The other challenge before the County is the severe storms in 2020 and 2021 that were not declared federal disasters caused major erosion and the County will need to decide how much additional funding the local sources are willing to provide towards the recovery work concurrent with truck hauls versus waiting for the next nourishment cycle with the dredge project.

C. INNOVATIVE APPROACHES

1. REGIONAL PARTNERING

Building upon the success of the Manasota Key Regional Beach Project, Charlotte County may wish to continue working with Sarasota County. Future nourishment on Manasota Key could be constructed concurrently with the South Beach Fill nourishment and split mobilization / demobilization costs noting these costs will be on the order of $10-$15 Million for the next event, thus savings could equate to $8-$12 Million for a combined project. The ambassadors and CEC led the charge for having the two counties work together to fast track permitting and keep the project on schedule.

2. MANASOTA KEY TRUCK HAULS

Due to the challenges as outlined above, the County may seek to conduct the truck hauls in small projects aligned with the various funding sources. This would lead to three small scale projects that may be more palatable to the residents and stakeholders. A more innovative approach would be to purchase the sand directly from the mine and have it trucked to the Project area and stockpiled during the offseason noting the stockpile could not be on the active nesting beach (dry sand). Then bid the sand placement from the stockpile during the available construction window (November 1 through April 30) at a pace that was acceptable to everyone.

3. FEDERAL SAND SOURCES

While not necessarily innovative, the CEC team has conducted six major sand searches in the Gulf of Mexico on the Outer Continental Shelf identifying over 100 million cubic yards of sand at the reconnaissance level, and over 40 million cubic yards of sand at the detailed level leading to borrow area designs and permits. We have earned the trust of the USACE and BOEM leading to expedited authorizations to conduct the geophysical and geotechnical surveys, a combined Environmental Assessment for streamlined permitting for post-Ian recovery for your neighbors in Lee County, and quality projects that have created thousands of acres of ecosystem habitats for the Gulf States.

SECTION VI
RECENT SIMILAR PROJECT EXAMPLES

VI. RECENTLY ACCOMPLISHED SIMILAR PROJECTS

1. REGIONAL MANASOTA KEY BEACH RESTORATION PROJECT

A. Description: Charlotte and Sarasota Counties completed initial nourishment event along 4.5 miles of critically eroding beaches on Manasota Key to provide storm damage reduction benefits for the upland development, infrastructure, and hurricane evacuation route; restore critical habitat for nesting sea turtles and shorebirds; and restore recreational sandy beach for the enjoyment of the residents and visitors. Manasota Key was one of a few "developed" beaches in Florida that had never received beach nourishment. Approximately 301,680 cubic yards of sand were placed within the permitted fill limits in Sarasota County and approximately 578,600 cubic yards of sand were placed within the permitted fill limits in Charlotte County, for a total of approximately 880,280 cubic yards placed. An approximate 4-acre mitigation reef was constructed to offset the impacts to nearshore hardbottom.

All phases of engineering design analysis and documentation were completed by CEC: topographic and bathymetric surveys; geophysical and geotechnical surveys; regional offshore sand search; and coastal process analyses. Engineering tasks included plan formulation; development of sediment budget; numerical modeling; alternatives analysis; beach fill, borrow area, and conveyance corridor designs; and cost estimating using MCACES MII.

CEC developed bid document package. CEC processed the state and federal permits in compliance with NEPA, ESA, NHPA, MPRSA, and CAA. Construction administration and oversight services were provided, including construction surveys, inspections, project certifications, and development of completion reports. Construction was successfully completed during the COVID-19 pandemic.

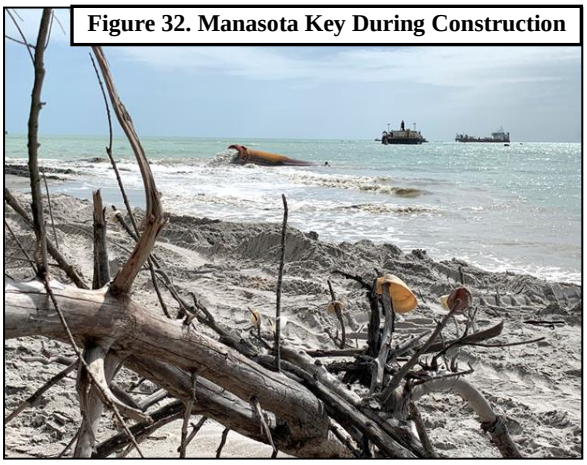
1. Schedule Control: Due to environmental restrictions, no work may occur on Manasota Key during sea turtle nesting season. In order to meet this schedule CEC recommended to the County to bid the project prior to receiving the USACE federal permit. CEC worked diligently with the agencies to complete the permit process and allow the contractor to mobilize and complete the work on April 30th.

2. Cost Control: CEC's Final Opinion of Construction Cost was $37,507,320. The two contractors, GLDD and Cayo Marine, bids totaled $37,268,950; equal to $238,370 below budget.

3. Construction Issues & Solutions: Beachfront residents along discrete segments in both Charlotte and Sarasota Counties opposed the Project. CEC had to create *gaps* in the beach fill plans and Erosion Control Line and create No Work Zones to respect the wishes of the *gappers*.

4. Additional Construction Costs: There were no additional costs due to design deficiencies. Due to the gappers in Sarasota and the County opting not to put the gap in the fill segment at time of bid, Sarasota County had to pay an additional mobilization costs for GLDD to lay the pipeline below Mean High Water and avoid impacts to private property. These costs were offset by the reduction in fill quantity through the gap. Charlotte County executed a small change order to have the contractor place extra fill along the rock revetment to fill the void spaces. Final cost was $29,207,734 equal to a net decrease of over $1.24 Million.

Figure 32. Manasota Key During Construction



2. CHARLOTTE COUNTY EROSION CONTROL PROJECT

A. Description: Charlotte County completed the second renourishment event along three miles of critically eroding beaches adjacent to Stump Pass. This dual purpose Project included beach restoration and navigation components. The beach restoration component consisted of placing 120,000 cubic yards of sand on Knight-Don Pedro Islands' gulf-front shoreline to restore recreational beach, create new habitat for nesting turtles and shore birds, and provide storm protection for upland development; placing 70,000 cubic yards of sand along the northern shoreline of Knight Island to assist in the closure of the existing Stump Pass channel; and placing 140,000 cubic yards of sand on the inlet's updrift beach, Manasota Key, along the State Park beach to serve as advanced mitigation for potential inlet impacts. The navigation component involved dredging the Stump Pass 1980 channel. Permit requirements include the County taking over the management activities on new land created by the Project such as comprehensive monitoring that includes sea turtle and shore bird nesting and implementing shore bird protection measures such as fencing off and creating buffer areas for documented nests. One of the unique requirements was to mitigate impacts to shorebird habitat. It included creating 4 acres of shorebird habitat through vegetation removal, clearing, and grubbing, placing approximately 12,000 cy of sand and appropriate grading for bird "view" corridors.

1. Schedule Control: The County elected to rebid the Project as described below. While this yielded a favorable bid, it placed the construction window during winter months noting that winter was unseasonable windy due to numerous strong cold fronts. The Contractor was able to maintain production and ultimately completed the dredge and fill activities prior to the Contract Final Completion date.

2. Cost Control: The Engineer's Opinion of Project Cost was $4 Million. The first round of bids yielded two bidders within the County's budget; however, these bidders were deemed non-responsive and the bid process was canceled. CEC and the County staff did a value engineering review, linked the shorebird creation area with the North Beach Fill and Resweep Bid Items to reduce volume and cost, and the County elected to wait to complete construction outside nesting season; thus reducing monitoring and construction costs related to protection plan best management practices. The second bid process yielded an average bid of $4.8 Million and a responsive low bid of $3.8 Million. There were no change orders.

3. Construction Issues & Solutions: Because the Project was constructed during the height of tourist season, multiple calls a week were fielded by the County, contractor and CEC from those affected by the construction equipment in their "back yards." Through diligent communication and education of the locals, we successfully addressed their complaints. The contractor responded timely and often had to relocate their equipment and portable facilities to accommodate a weekend guest or even a wedding.

Figure 33. Stump Pass Beach State Park Before and After Construction

One issue arose after construction. FDEP compliance staff contacted CEC to question whether or not the contractor had overdredged the borrow area by excavating to elevations of -20 ft NAVD88 or deeper. The May 2011 survey of the Borrow Area existing grade to -20 ft and deeper within the permitted dredge cut, thus the rationale for their request. What they did not realize was these deep depths were due to natural scour within the channel which was "designed." That is, CEC designed the North Beach Fill extension to place sand within an existing scour hole along the beach area. By placing enough sand in this short segment, tidal flow was redirected through the new channel cut by the contractor. These flows are what scoured out the bottom causing it to go deeper than what was dredged by the contractor. Fortunately the contractor maintained detailed records during this component of the dredging. Further, on behalf of the County and in recognition of the issue of overdredging in the 2006 project, CEC conducted additional progress surveys in Stump Pass during the excavation to confirm that the contractor was meeting the permitted dredge template and not overdredging. FDEP confirmed that no overdredging occurred.

4. Additional Construction Costs: None. Project completed on time and on budget.

3. BLIND PASS DREDGING AND BEACH RESTORATION, LEE COUNTY

A. Description: CEC provided comprehensive services for the Blind Pass Ecosystem Restoration Project. The Project reopened the pass via maintenance dredging of the Blind Pass Channel and connection to Roosevelt Channel through the historic pass and under the bridge located between Sanibel and Captiva Island. In the initial maintenance dredging event, approximately 150,000 cubic yards of material were removed from the Pass and interior system. Beach compatible sand was placed on downdrift beaches, suitable material was placed in the nearshore, and non-beach compatible material was temporarily dewatered in a beach containment cell site then transported to an upland disposal site.

Our specific duties include value engineering the project design completed by Lee County and their prior consultant and redesigning the containment cell resulting in ~ $500K in cost savings; mapping seagrasses within dredge footprint and back-bay; assisting County obtain DEP Notice to Proceed; establishing survey control; conducting physical monitoring consisting of beach profiles, ebb/flood shoal cross sections, inlet hydraulic measurements, sediment sampling, and reporting; performing construction administration services consisting of bi-weekly meetings, contractor coordination, and certifications; resident inspection services; implementing mitigation plans; and future monitoring to assess performance.

Figure 34. Blind Pass Before and After-Construction

1. Schedule Control: The County and Contractor along with CEC worked closely together to execute the work timely and construction was completed within the desired time frame.

2. Cost Control: The Engineer's Opinion of Project Cost was $3 Million prepared by Lee County. Project construction was completed significantly under budget, under $2.5 Million, primarily due to the value engineering analysis performed by CEC on the permit required structural containment system for dewatering non-compatible sediments. Lee County has in-house experienced personnel that manage their beach and inlet management program. Our Senior Staff have worked cooperatively with Lee County on numerous projects to render construction inspections on an on-call basis, filling in at a moment's notice when schedules required so. Our construction management personnel live in North Naples and South Lee County thus they could be on site within an hour, and did so at the least cost due to this close proximity.

3. Construction Issues & Solutions: As the contractor was excavating under the bridge, they encountered timber piles that were the remnant of the old bridge between Sanibel and Captiva. In total about a dozen were found. A local marine contractor was called in to remove the piles or at least cut them off below the permitted dredge depth to enable completion of the dredging to the design depth.

4. Additional Construction Costs: There were no additional costs due to design deficiencies. A $30,000 change order was issued to address the pile removal.

4. CAMINADA HEADLAND BEACH AND DUNE RESTORATION, LOUISIANA

A. Description: The focus of the project is to restore dune and beach features within the western portion of the Caminada Headland. The project was critical due to the greatly degraded state of the shoreline and its key role in protecting and preserving larger inland wetland areas and bays and critical infrastructure such as Louisiana Highway 1 and Port Fourchon. CEC provided comprehensive services for design, permitting, and construction management: topographic, magnetometer, and bathymetric surveys; geophysical and geotechnical surveys to define the sand source; performing sand suitability assessment; coastal processes, regional wave and storm statistics, sediment budget and sediment transport modeling, sea level rise, subsidence, and consolidation studies; development of design criteria; performance analyses; beach fill, borrow area, and conveyance corridor design; and cost estimating. The total construction cost was $62.8 Million Dollars.

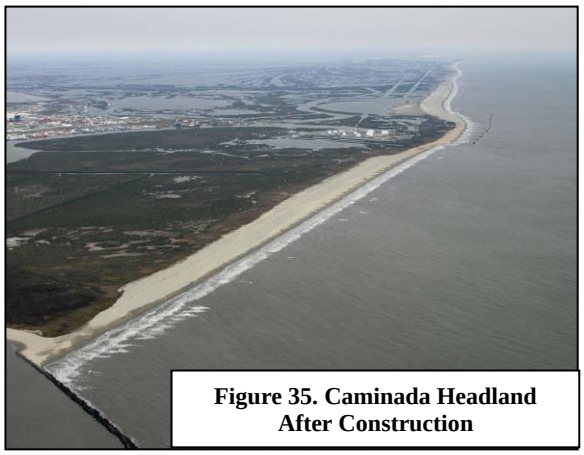


Figure 35. Caminada Headland After Construction

1. Schedule Control: In order to achieve a remarkable schedule, CEC and the State approached the regulatory agencies including USACE, USFWS, NMFS, and BOEM with a unique approach. The agencies were requested to process the permit application in advance of preliminary and final design using existing data and the conceptual design footprint. In return the State agreed that the final footprint would fall within the conceptual footprint so as to not increase the Area of Potential Effect, thus enabling the Environmental Assessment Document to be all encompassing. Bi-weekly conference call and routine face-to-face meetings were held resulting in a level of cooperation never seen before.

2. Cost Control: At the design stage, one change order was requested to conduct a Phase II Cultural Resource Survey and Investigation as human remains have been discovered on the Headland that are emanating from a native Indian burial ground, which has been recently uncovered due to severe erosion along the Headland. State Historic Preservation Office and the local tribe are requiring the site be surveyed and mapped prior to it being covered with 3 million cubic yards of sand during the restoration project. The original consulting fee was $1.4 Million. The change order was for $180,000. To address

other tasks that arose during the project design, we worked together to transfer funds from one task to another to avoid cost increases and maintain aggressive schedule.

3. Construction Issues & Solutions: As the contractor was mobilizing but prior to excavation of the pump-out area adjacent to the jetty, the USACE notified the State they were proposing to extend this jetty to address a localized area of erosion. CEC formulated options and provided the USACE with the associated costs that could be incurred by the State due to delays or changes in construction methods. One of the options recommended was for the USACE to postpone their jetty extension project until completion of beach fill construction. The project would thus incur no increase in cost as opposed to the other proposed options. After coordination with the USACE it was determined they would postpone their jetty extension project if the State would have the construction contractor place fill material north of the jetty in the hot-spot area of erosion. The purpose of this fill would be to temporarily bolster the area to reduce overwashing and gapping of the Headland in the event of a major storm. All agreed that this would reach the objectives for both entities. CEC promptly applied for a permit modification to add this additional material in the hot-spot area. Coordination with USFWS was conducted to determine construction procedures to minimize disturbance of a rookery in the nearby area. The permit modification was granted and construction commenced with little delay and no cost increase for this "remedy."

4. Additional Construction Costs: There were no additional costs due to design deficiencies. During the course of construction four cost change orders were executed. The project was awarded to the construction contractor with a bid amount ($55.6 Million) less than the available construction funding ($65 Million). With the remaining budgeted funds the State executed a change order to increase the project footprint by adding a western extension. This western segment was originally considered for a second phase of construction with the goal of this project to restore the most critically eroded segment of the Headland. The increase in construction costs, equal to 13%, was primarily due to the addition of beach and dune fill to construct the extension. The other three change orders totaled less than 0.2% of the original bid for additional surveys and signage.

5. COLLIER BAY ENTRANCE CHANNEL EMERGENCY DREDGING, MARCO ISLAND

A. Description: This project was to conduct emergency dredging of the entrance channel to Collier Bay. The project included excavating approximately 10,000 cubic yards of beach compatible sand from the previously permitted borrow area and placing the sand along the previously permitted beach fill. The purpose of the project is to restore safe navigation by removing the shoal that has created hazardous conditions for the boating community. It is located at the intersection of the entrance channel to Collier Bay with the Big Marco River. CEC was retained by the City of Marco Island to design and permit the project. Services included marine surveys, shoreline and volume change analysis along the beach segment, channel shoaling and depositional analysis, Joint Coastal Permit Application preparation and submittal, permit processing, stakeholder meetings, and funding technical support. The project was permitted in less than 7 months: FDEP, FFWCC, USACE, USFWS, and NMFS; modification of the Biological Opinion (BO) by USFWS, and three permit modifications issued by the FDEP and USACE. CEC provided bid and construction administration services to assist Collier County, who is a co-permittee with the City, manage the dredge construction. Services included construction plans and specifications, bid process, construction meetings, routine construction observations, pay requests, project certifications, and physical monitoring report.

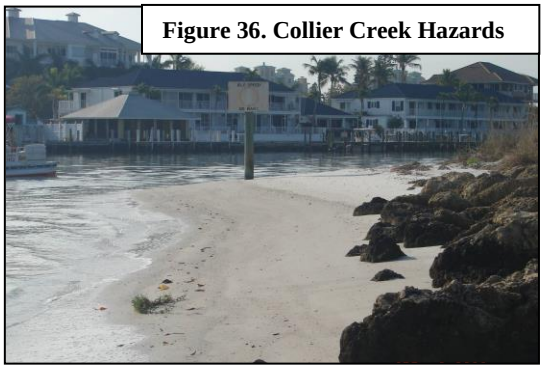


Figure 36. Collier Creek Hazards

1. Schedule Control: Due to CEC and the stakeholders' perseverance, and the unbelievable cooperation of the permit agencies, the full permit process was completed in less than 7 months. The former FDEP Bureau Chief commented, *"The primary reason for the reduced schedule and a minor RAI was the thoroughness of the JCP Application Submittal prepared by CEC."*

2. Cost Control: CEC was originally hired to complete a long-term management plan for Hideaway Beach. During the initial review and plan formulation the critical conditions within the inlet channel were identified along with the need for sand along the one segment of beach experiencing significant erosion. Working with the City and the District, CEC is performing these services within the contingencies established in the original budget for the long-term plan.

3. Construction Issues & Solutions: None. Projected completed on time and on budget.

4. Additional Construction Costs: None. Projected completed on time and on budget.

6. BONITA BEACH – LOVERS KEY NOURISHMENT, LEE COUNTY

A. Description: For over 18 years CEC has assisted Lee County for their beach program on Bonita Beach and Lovers Key. Upon completion of the design and permitting, CEC was hired by the County as the prime consultant to assist the County oversee construction and perform the required construction and physical monitoring surveys. Approximately 140,000 cubic yards and 342,000 cubic yards were excavated from the Big Carlos Pass ebb shoal borrow area and placed within the permitted limits of the Bonita Beach and Lovers Key beach fills, respectfully.

1. Schedule Control: Due to equipment problems (described below) the contractor fell behind. While this was not a concern for the Bonita Beach segment, it has major implications to the Lovers Key State Park as they are a destination spot for summer and fall weddings. The Park Service had turned away multiple wedding reception requests due to the time frame and had booked weddings to follow the original completion date by the contractor. As construction moved to the Park, CEC, County, contractor and Park Service closely communicated to address schedule delays that would potentially affect the booked weddings the Park Service had booked. This included shutting down construction during the wedding event and reception hour and moving equipment off the beach to avoid having the dozers in the wedding scrapbook. A positive note is one of the blessed couples enjoyed having the contractor there as she posed for her wedding pictures on the equipment (not working at the time of course).

2. Cost Control: Lee County has in-house experienced personnel that manage their program. Our Senior Staff have worked cooperatively with Lee County professionals on numerous coastal projects to render construction inspections on an on-call basis, filling in at a moment's notice when schedules required so. Our construction management personnel live in North Naples and Bonita Springs thus they could be on site within an hour, and did so at the least cost due to this close proximity.

3. Construction Issues & Solutions: The contractor experienced multiple delays due to poor condition of the pipeline that was mobilized to the job site. After initial installation and identification of pipeline leaks, they brought in new pipeline and swapped it out. However, the second installation did not fare any better. The County and CEC held the contractor's feet to fire in terms of production and schedule requirements, thus the contractor purchased new pipe and installed it to cure the problem.

4. Additional Construction Costs: None. Projected completed on budget.

7. BAY JOE WISE HEADLAND BARRIER SHORELINE RESTORATION, LOUISIANA

A. Description: Wetland, beach, dune, and marsh habitats had undergone substantial loss due to oil and gas activities, subsidence, sea level rise, and storms. Development of fragmentary islands caused by breaches and subsequent inlet formations resulted from increased tidal prism and storm impacts. CEC led the integrated consulting team through the design, permitting, and construction of the project. The CEC team provided resident inspection and construction management services. The features included creation of a 1000 foot wide marsh platform using 1 million cubic yards of mixed sediment. The seaward beach-dune platform was expanded and the breaches filled to address the severity of erosion using 2 million cubic yards of sand placed along the 2.7 mile long gulf shoreline. The project benefit includes over 420 created acres, which will maintain and mature to approximately 160 acres of barrier island and wetland habitats at year 20 of the design life.

1. Schedule Control: Project construction was halted twice due to the passage of two named storm events. To address the schedule impacts, that is, construction delays and loss of sediment from within the template, CEC worked the necessary hours to redesign the fill templates after each event to maintain the budget while balancing available sediment and achieving the desired habitat goals for acres created.

2. Cost Control: Throughout the project the contractor informally advised the State they would be issuing a claim on the order of $5 Million for additional costs attributed to their computed loss of production to sediment quality less than what was presented in the contract documents. CEC represented the State throughout construction to address the contractor assertions in a positive and professional manner. At the end of the project the contractor filed a claim for $2.5 Million. CEC and the State developed a claim response that was upheld by the State Contracting Office, thus the claim was denied.

Figure 37. Bay Joe Wise Before and After Construction

3. Construction Issues & Solutions: Challenges included addressing significant background erosion and episodic losses attributed to hurricanes that led to template redesign. The State, CEC, and contractor worked together to determine a solution. The borrow area was redesigned to isolate sections of marsh cut layer comprised of mixed sediments that contained sufficient sand for use in beach fill construction, then used to close the breach and providing enough sand to complete the template.

4. Additional Construction Costs: There were no additional costs due to design deficiencies. The original construction contract was $34.7 Million. There were multiple change orders including additions (extra work for hurricane damage response) and deductions (redesign of fill segments) as noted above. The final contract amount was $35.0 Million, a 1% difference.

SECTION VII
EXPERIENCE AND CAPABILITIES

VII. EXPERIENCE AND CAPABILITIES IN THE FOLLOWING AREAS

A. VALUE ENGINEERING

We have conducted value engineering on multiple projects for our clients. For one example, the Blind Pass Restoration project described in Section VI of our Proposal, our value engineering study saved the client over $500,000 (of a $3 Million project). The agencies required a steel sheet pile containment cell be constructed on the beach to contain non-compatible material for dewatering and then removal to an upland disposal site. The original design called for an unrealistic sized steel section over a significant beach area. We redesigned the cell using a more common steel section readily available, allowed for used steel to be installed, and reduced the cell size to a more applicable area.

For a Charlotte County project, the Manchester Lock removal project, the County hired CEC to assume the EOR. We conducted a value engineer analysis that led to multiple design changes. While several permit modifications had to be obtained, the net cost savings from the original engineer's opinion of cost was on the order of several hundred thousand dollars. For example, installation of a simple pile cluster was employed to achieve the goal of preventing boater access to an environmentally sensitive area versus a costly shoreline armoring approach in the original design.

B. FDEP PERMITTING

We are familiar with most FDEP staff and have worked with these agencies longer than most staff have been there. Beyond the less-than-clear-regulations, we recognize the critical human elements of trust, judgment, and discretion in the permitting process. We cross-train our engineering staff to improve the depth of permitting expertise to most effectively work with the regulatory agencies consistent with regulations. We meet routinely to review the status of all current permit applications and issued permit compliance. We track permits and proactively manage the work to obtain the desired permit on time and within budget. We expeditiously prepare applications and/or "RAI" responses and send it to the agencies. When action by an agency staff member is needed, we strive to persistently but graciously, prompt the needed action via emails, phone calls, or a personal appearance in the agency office, where we'll appeal up the chain of command until we receive an acceptable or reasonable agency response. Ultimately, many projects will boil down to differences in judgment and opinion between the applicant and agency staff. Our approach fosters understanding, trust, favorable discretion in the permitting process, and ultimately favorable final agency action. Our Team's permitting approach has been successful for major beach and inlet projects totaling over 60 million cubic yards of sediment emplacement. CEC routinely meets with FDEP to review the projects we have in permitting at any one time. For major projects we attend pre-application meetings to present the conceptual plan and get their feedback. Then we prepare the permit application and documents and have pre-submittal meeting to review the draft deliverables and again get their feedback. After submittal we meet for a third time to try and iron out issues prior to an RAI being issued. Further, we conduct joint field work with their biologists to confirm resource mapping.

C. ACOE PERMITTING

The significant majority of the information presented above for the FDEP permitting is applicable to the USACE staff as well, and not repeated in full for brevity. The coastal permitting has shifted to the local Ft. Myers office. One hurdle faced by all the projects in Southwest Florida for many years has been the permitting delays attributed to insufficient staff to handle their workload. CEC attempts to reach out to USACE staff to hear their concerns and address the questions they have in a more timely fashion. The good news is USFWS and NMFS have issued Regional or Statewide Biological Opinions that eliminates

the need to seek formal consultation. It is anticipated the permit process at the federal level will improve in the next few years once the backlog is processed.

D. ENVIRONMENTAL ASSESSMENT

We have experience in every phase of resource management from designing and assisting in implementing major programs, for example the Louisiana's Coastal Area Ecosystem Plan and Florida's Beach Erosion Control Program, along the Gulf Coast. Our staff include specialists in geology, hydrogeology, wetland resources, aquatic and terrestrial biology, engineering, toxicology, archaeology, and land use planning. We have prepared a wide variety of documents in compliance with federal laws including NEPA, Endangered Species Act, and Essential Fish Habitat consultation. Examples are Environmental Assessments, Environmental Site Assessments, Wetland Delineations, Threatened and Endangered Species Assessment Reports, and Cultural Resource Survey Reports.

Figure 38. The Golden Egg

1. ENVIRONMENTAL STUDIES

Our top scientists are some of the most experienced coastal policy analysts in the Gulf Coast area. Our expertise is well established in the areas of project planning and management, public sector involvement and project financing, and community and government relations. Our environmental experience has proven valuable in preparing and reviewing National Environmental Policy Act documents for compliance with state and federal laws. Our scientists have completed wetland delineation, environmental assessment and mitigation evaluations, endangered species surveys, and cultural resources surveys for a military, civil, and transportation projects. We have completed comprehensive planning and engineering for erosion protection projects. We have conducted surveys, evaluations, and hydraulic modeling of inlets and waterways to assess flow patterns along project reaches and develop conceptual-level designs to stabilize/restore the shorelines.

2. ENVIRONMENTAL DESIGN AND PROTECTION

Our design and construction projects are conducted in accordance with laws governing coastal construction. One of our primary focuses is the protection of the environment. We pride ourselves on our innovative designs to avoid impacts to the environment. Where appropriate, we design and implement mitigation plans to offset impacts to the environment. We have conducted offshore surveys, coordinating the detailed mapping, characterization and quantification of flora, fauna, and quality and character of the sensitive environmental habitat adjacent to offshore borrow areas and parallel to the beach. Directly relevant to the success of beach restoration projects, our Team members developed and published a series of models that describe the physical migration and adjustment of the toe of fill after construction. Based upon this analysis, we were successful in the design of the project in their prediction that the toe of fill migration would fall short of the edge of environmentally sensitive shore parallel hardbottom. Fill widths were adjusted in the design in order to eliminate any hardbottom impacts and thereby saved hundreds of thousands of dollars to the client by avoiding any expensive mitigation efforts. This also helped streamline the permit process.

3. NATIONAL ENVIRONMENTAL POLICY ACT

The CEC Team has prepared Environmental Assessments and Biological Assessments (BAs) to support State Water Quality Certification, Federal Section 10 (Rivers and Harbors Act) and Section 404 (Clean Water Act), and BOEM Outer Continental Shelf Lease permit processes. Our BAs include reasonable and prudent measures during construction to protect key threatened and endangered species including marine mammals, sea turtles, shorebirds. Tremendous outreach by the project team reduced the potential for conflict among the client, construction contractor and natural resource agencies, to achieve consensus, and result in successful implementation. CEC's project designs are prepared in compliance with CWA, ESA, NHPA, MPRSA, and CAA. CEC prepares the permit drawings, permit narrative, and cut and fill tables in support of the permitting process.

4. BIOLOGICAL AND PHYSICAL MONITORING

One of our strengths is performing monitoring programs for coastal communities including those required by JCP permits. The program includes measuring beach profiles and channel cross sections to document shoreline migration trends and beach volumetric accretion and erosion trends, endangered species surveys, sea grass monitoring plans, and inlet hydraulics consisting of tidal and current velocity measurements and tidal prism analyses. The surveys are complimented by the acquisition of scale rectified aerial photography. These photographs are essential in each sponsor's coastal zone management program for many reasons including documenting the trends measured in the surveys, depicting nearshore habitat features, depicting inlet channel and shoal features, and serving as base maps for project permit drawings and construction plans.

5. DUNE RESTORATION

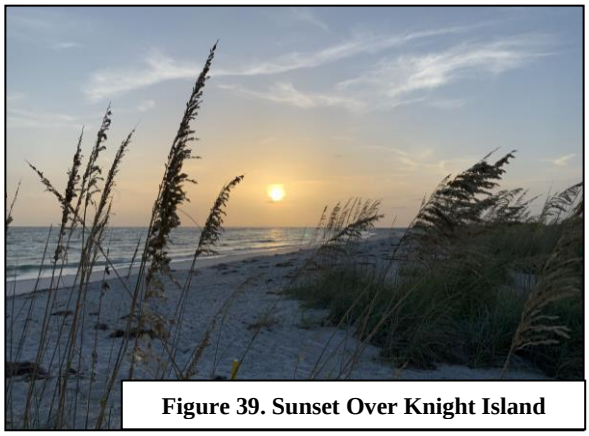


Figure 39. Sunset Over Knight Island

A primary component of our coastal project designs includes dune restoration. Our planting designs have included native species such as sea oat, sea grape, cord grass, beach elder, and dune sunflower. Our technical specifications have included plant characteristics, planting cycles, watering, fertilizing, installation methods, product guarantees, fencing, and signage. We have designed, permitted, and overseen construction of temporary irrigation systems to ensure the planting success. Once in place, the dunes act to trap and accumulate wind blown sand, on the order of several feet in elevation, providing increased storm damage reduction benefits.

6. ENVIRONMENTAL SURVEYING AND MAPPING

Our scientists have conducted well over 100 environmental monitoring programs that have withstood scientific scrutiny. Many of these monitoring programs were multidisciplinary, multiyear, and multimillion dollar projects. In our combined histories, we have collected hundreds of sediment samples using many different types of samplers, depending on the type of bottom and required application, conducted dozens of current flow and tidal measurement studies and completed over two dozen cultural resource surveys. Our field capabilities and experience are coupled with a reputation for performing extensive literature and data search and synthesis studies, conducting rigorous analyses of field data, and preparing easily understood multidisciplinary environmental impact reports in an unbiased, time-efficient, and cost-effective manner for informed resource decisions.

SECTION VIII
VOLUME OF WORK

VIII. VOLUME OF WORK

The total amount of payments received from Charlotte County within twenty-four months is $1,765,129.20.

SECTION IX
LOCATION / LICENSES

IX. LOCATION

A. OFFICE LOCATION

Coastal Engineering Consultants, Inc.
28421 Bonita Crossings Blvd.
Bonita Springs, Florida 34135
Telephone: (239) 643-2324
Fax: (239) 643-1143
Website: *http://www.coastalengineering.com*

Contact: Michael T. Poff, P.E., President *mpoff@cecifl.com*

B. RESPONSIVENESS

CEC's office is located in Bonita Springs Florida. While we are not "local" by our address, Charlotte County is our firm's number one client in Florida. We are actively working for the County on seventeen (17) coastal, marine and environmental projects on your behalf, and we consider ourselves "local."

We have developed positive relationships with the areas' residents, environmental organizations, and agency staff, and have established a level of trust for which to build on as the projects develop and advance into the implementation stages. CEC has the local presence by virtue of our active projects with the County necessary to provide timely and cost-effective services. CEC has an excellent track record of completing tasks on schedule and within budget.

As the County staff are aware, in the wake of Hurricane Ian CEC was on site within days conducting post-storm surveys and assessments in support of the County's recovery efforts through FEMA. We have worked with your project managers to tackle the highest priority projects first while continuing to maintain high quality service and deliverables.

CEC has kept its Team together for the Plan. CEG, OSI, ATI and RCG have partnered with CEC for the current Manasota Key and Charlotte County Erosion Control Projects and their respective Ten-Year Management Plans for many years; providing high quality services timely and on budget.

As presented in Section IV, CEC implements Schedule Controls to ensure that the beach and inlet surveys, monitoring, post-storm assessments, beach designs, and permitting are all completed timely. As demonstrated in our Personnel Resource Allocation Chart in Section IV, the CEC Team can dedicate hundreds of personnel hours towards Plan implementation.

Presented on the following page are the licenses of our key professional staff.

Ron DeSantis, Governor — Melanie S. Griffin, Secretary — FBPE Florida Board of Professional Engineers

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

POFF, MICHAEL T
28421 BONITA CROSSINGS BOULEVARD
BONITA SPRINGS FL 34135

LICENSE NUMBER: PE48218
EXPIRATION DATE: FEBRUARY 28, 2025
Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.
This is your license. It is unlawful for anyone other than the licensee to use this document.

Ron DeSantis, Governor — Melanie S. Griffin, Secretary — FBPE Florida Board of Professional Engineers

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

KINCAID, MARK A.
28421 BONITA CROSSINGS BOULEVARD
BONITA SPRINGS FL 34135

LICENSE NUMBER: PE58654
EXPIRATION DATE: FEBRUARY 28, 2025
Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.
This is your license. It is unlawful for anyone other than the licensee to use this document.

Ron DeSantis, Governor — Melanie S. Griffin, Secretary — FBPE Florida Board of Professional Engineers

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

HERGET, JEREMY BENNETT
28421 BONITA CROSSINGS BLVD
BONITA SPRINGS FL 34135

LICENSE NUMBER: PE79352
EXPIRATION DATE: FEBRUARY 28, 2025
Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.
This is your license. It is unlawful for anyone other than the licensee to use this document.

Ron DeSantis, Governor — Melanie S. Griffin, Secretary — FBPE Florida Board of Professional Engineers

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

TIMMINS, GRADY VAN HORN
28421 BONITA CROSSINGS BLVD
BONITA SPRINGS FL 34135

LICENSE NUMBER: PE86500
EXPIRATION DATE: FEBRUARY 28, 2025
Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.
This is your license. It is unlawful for anyone other than the licensee to use this document.

Ron DeSantis, Governor — Melanie S. Griffin, Secretary — FBPE Florida Board of Professional Engineers

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

KINCAID, KYLE ALAN
20845 PARK PLACE
ESTERO FL 33928

LICENSE NUMBER: PE96121
EXPIRATION DATE: FEBRUARY 28, 2025
Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.
This is your license. It is unlawful for anyone other than the licensee to use this document.

Florida Department of Agriculture and Consumer Services
Division of Consumer Services
Board of Professional Surveyors and Mappers
2005 Apalachee Pkway Tallahassee, Florida 32399-6500

License No.: **LS5295**
Expiration Date February 28, 2025

Professional Surveyor and Mapper License

Under the provisions of Chapter 472, Florida Statutes

RICHARD J EWING
28421 BONITA CROSSINGS BLVD
BONITA SPRINGS, FL 34135-3201

WILTON SIMPSON
COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.

SECTION X
LITIGATION

X. STATEMENT OF LITIGATION

CEC has not been involved in any litigation in the last five years.

SECTION XI
MINORITY BUSINESS

XI. MINORITY BUSINESS

Although CEC and our proposed sub-consultants are not a Minority Business, we strongly support equal opportunity employment. We have included on our Team, Coastal Eco-Group, Inc., (CEG) a State of Florida Certified Women Owned Business. CEG will perform over 10% of the work as they specialize in biological monitoring and permitting.

PART IV - SUBMITTAL FORMS
PROPOSAL SUBMITTAL SIGNATURE FORM

1. Project Team Name and Title	Years experience	City of office individual will work out of for this project	City individual's office is normally located	City of individual's residence
Michael T. Poff, P.E., President / Principal Engineer	33	Bonita Springs	Bonita Springs	Naples
Mark A. Kincaid, P.E., Principal Engineer	36	Bonita Springs	Bonita Springs	Bonita Springs
Vadim V. Alymov, Ph.D., Coastal Modeler	22	Bonita Springs	Bonita Springs	Naples
Richard J. Ewing, P.S.M., Principal Surveyor	39	Bonita Springs	Bonita Springs	Naples
Jeremy B. Herget, P.E., Managing Engineer	14	Bonita Springs	Bonita Springs	Naples
Samantha Brasher, Senior Technician	18	Bonita Springs	Bonita Springs	Naples
Grady V. Timmins, P.E., Project Engineer	9	Bonita Springs	Bonita Springs	Naples
Kyle A. Kincaid, P.E., Staff Engineer	6	Bonita Springs	Bonita Springs	Bonita Springs

2.	Magnitude of Company Operations	
	A) Total professional services fees received within last 24 months:	$ 11,512,303.04
	B) Number of similar projects started within last 24 months:	12
	C) Largest single project to date:	$ 5,000,000.00

3.	Magnitude of Charlotte County Projects	
	A) Number of current or scheduled County Projects	25
	B) Payments received from the County over the past 24 months (based upon executed contracts with the County).	$ 1,765,129.20

4.	Sub-Consultant(s) (if applicable)	Location	% of Work to be Provided	Services to be Provided
	Coastal Eco-Group, Inc.	665 SE 10th St., Ste. 104 Deerfield Beach, FL 33441	10%	Environmental planning and permitting, biological monitoring, marine surveys, hardbottom mitigation
	Ocean Surveys, Inc.	129 Mill Rock Rd. East Old Saybrook, CT 06475	9%	Geophysical - contour surveys; cultural resources-magnetometer
	Athena Technologies, Inc.	PO Box 68 McClellanville, SC 29458	5%	Vibracore and geotechnical reporting services
	R. Christopher Goodwin & Associates, Inc.	241 East 4th Street, Suite 100 Frederick, MD 21701	4%	Marine archaeological and cultural resource assessments

5. Disclosure of interest or involvement: List below all private sector clients with whom you have an active pending contract and who have an interest within the areas affected by this project. Also, include any properties or interests held by your firm, or officers of your firm, within the areas affected by this project.

	Firm N/A	Address
	Phone #	Contact Name
	Start Date	Ending Date
	Project Name/Description	

NAME OF FIRM COASTAL ENGINEERING CONSULTANTS, INC.

(This form must be completed and returned)

6. Minority Business:	**Yes** _____ **No** X
The County will consider the firm's status as an MBE or a certified MBE, and also the status of any sub-contractors or sub-consultants proposed to be utilized by the firm, within the evaluation process.	
Comments or Additional Information:	
CEC is not an MBS firm nor has any MBE sub-consultants proposed for this RFP, however our proposed sub-consultant	
Coastal Eco-Group, Inc. is a State of Florida Certified Women Owned Business.	

The undersigned attests to his/her authority to submit this proposal and to bind the firm herein named to perform as per contract if the firm is awarded the Contract by the County. The undersigned further certifies that he/she has read the Request for Proposal, Terms and Conditions, Insurance Requirements and any other documentation relating to this request and this proposal is submitted with full knowledge and understanding of the requirements and time constraints noted herein.

By signing this form, the proposer hereby declares that this proposal is made without collusion with any other person or entity submitting a proposal pursuant to this RFP.

In accordance with section 287.135, Florida Statutes, the undersigned certifies that the company is not on the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List and does not have business operations in Cuba or Syria (if applicable) or the Scrutinized Companies that Boycott Israel List or is not participating in a boycott of Israel.

As Addenda are considered binding as if contained in the original specifications, it is critical that the Consultant acknowledge receipt of same. The submittal may be considered void if receipt of an addendum is not acknowledged.

Addendum No. 1 Dated 11/30/23 Addendum No._____ Dated____ Addendum No._____ Dated_____

Addendum No. 2 Dated 1/10/24 Addendum No._____ Dated____ Addendum No._____ Dated_____

Type of Organization (please check one): INDIVIDUAL (_) PARTNERSHIP (_)
CORPORATION (X) JOINT VENTURE (_)

Coastal Engineering Consultants, Inc.
Firm Name

(239) 643-2324
Telephone

Fictitious or d/b/a Name

59-1728628
Federal Employer Identification Number (FEIN)

28421 Bonita Crossings Blvd.
Home Office Address

Bonita Springs, Florida 34135
City, State, Zip

46
Number of Years in Business

Address: Office Servicing Charlotte County, other than above

Name/Title of your Charlotte County Rep.

Telephone

Michael T. Poff, P.E., President
Name/Title of Individual Binding Firm (Please Print)

Signature of Individual Binding Firm

1/10/24
Date

mpoff@cecifl.com
Email Address

(This form must be completed & returned)

PURCHASING DIVISION

Charlotte County Administration Center
18500 Murdock Circle, Suite 344
Port Charlotte, Florida 33948-1094

Phone 941.743.1378
Fax 941.743.1384

TO: PROSPECTIVE PROPOSERS

DATE: January 10, 2024

RE: ADDENDUM #2, RFP NO. 2024000131
TEN-YEAR BEACH MANAGEMENT PLAN

PROPOSAL DUE DATE: 3:00 p.m. (EST), JANUARY 12, 2024

Firms are hereby notified that this addendum shall be made a part of the above-named proposal and contract documents. The following is issued to revise/clarify the proposal and contract documents, and these items shall have the same force and effect as the original proposal and contract documents. Proposals to be submitted on the above-specified date at Purchasing shall conform to the revision/clarification as listed herein.

ITEM # 1 REVISIONS

1) Change the proposal due date from January 10, 2024, to **3:00 p.m., January 12, 2024.**

This addendum is binding and is to be considered as if contained within the original proposal documents of RFP No. 2024000131. Firms are required to acknowledge receipt of this addendum on their proposal forms.

MTP 1/10/24

Kimberly Corbett

Kimberly A. Corbett, C.P.M., CPPB
Senior Division Manager - Purchasing

KAC/kml

cc: Professional Services Committee
Clerk
File