

CHANGE ORDER APPROVAL FORM

PROJECT: Phase 1 Field Geotechnical Investigation CHANGE ORDER NUMBER: 1

for Offshore Geologic Model Verification for South DATE: 6-17-15

Amelia Shore Stabilization Project CONTRACT NUMBER: CM1852-TO13

TO CONTRACTOR: Olsen Associates, Inc.

Reason for Change Order: Revise the Scope of Work based upon updated guidance from the Bureau of Ocean Energy Management (BOEM) (see Exhibit A attached). No change is proposed to the fee associated with the Task Order.

Original Contract Sum..... \$ 50,000.00

Net Change by Previous Change Order/Supplemental Agreement. \$.00

Contract Sum Prior to This Change Order..... \$ 50,000.00

Amount of This Change Order (Add/Deduct)..... \$.00

New Contract Sum Including this Change Order..... \$ 50,000.00

The contract for substantial completion will be (~~increased~~) (~~decreased~~) (unchanged) by 0 days;

APPROVED BY: William R Moore DATE: 6-18-15
Project Manager

APPROVED BY: Charlotte Young DATE: 9-10-15
Contract Manager

APPROVED BY: [Signature] DATE: 9-10-15
Director of Office of Management & Budget

APPROVED BY: [Signature] DATE: 9/11/15
County Manager

ACCOUNT NO.: 43600539-531386 7

RECEIVED
OFFICE OF CLERK OF COURSE
MISSISSIPPI COUNTY, FLORIDA
15 SEP 11 PM 4:30

MEMORANDUM



olsen
associates, inc.
Coastal Engineering

Date: 17 June 2015

To: Drew Wallace – President, SAISSA

Cc: Bill Moore – SAISSA

From: Albert E. Browder, Ph.D., P.E.
Senior Engineer *ABS*

Re: OAI Task Order #13 CM-1852: Phase I Field Marine Geotechnical Investigation
Revision #1: Change in Field Work Scope

Attached please find a revised Scope of Work for Task Order #13 for Nassau County Contract CM-1852. The revision represents a no-cost Change Order to the scope of work for the Task, based upon updated guidance from the Bureau of Ocean Energy Management (BOEM).

The original scope of work of Task Order #13 included collection of supplemental bathymetric and sub-bottom sonar data to describe limited areas of the seabed in both State and Federal waters off Amelia Island, Nassau County, FL. The intent was to follow this work with a subsequent Task Order to collect a limited number of investigative sediment Vibracores in the same areas to complete the analyses of those seabed features. Upon review of our draft Notice of Scientific Research and Scope of Work, BOEM personnel have indicated that the existing sub-bottom profile data, collected by the Florida Geologic Survey, will be adequate to allow for the collection of a limited number of sediment Vibracores in the area of interest.

Given this opportunity, and the fact that ultimately it will be necessary to collect Vibracores to truly evaluate the nature of the sediments in those areas, we propose to alter the original Scope of Work to delete the tasks associated with bathymetric and sonar sub-bottom profile data collection, and replace the field work components with the collection of a limited number of shallow seabed Vibracores (6-7m penetration depth).

Thank you.

Att.: Exhibit A (**Rev. 1**) – Scope of Work

SCOPE OF WORK (Rev. 1)**Phase I Field Marine Geotechnical Investigation for
Offshore Geologic Model Verification
South Amelia Island Shore Stabilization Project****FDEP Grant 14NA1 – Task 2.2****17 June 2015 (Rev. 1)**

Overview

The South Amelia Island Shore Stabilization Association (SAISSA) manages 3.0 miles of the Atlantic Ocean shoreline on the south end of Amelia Island, FL, on behalf of Nassau County, FL, through the SAIS-Municipal Services Benefit Unit (SAIS-MSBU). SAISSA partners with the Florida Park Service on behalf of Amelia Island State Park for the adjacent 0.5 miles of Atlantic Ocean shoreline at the tip of the island to coordinate the care of both shoreline segments. The management of the overall South Amelia Island Shore Stabilization Project (FDEP R-59 to R-79) is predicated on a program of comprehensive beach nourishment, supplemented with strategic structural stabilization at the southern tip of the island (**Figure 1**). The project was initially restored via beach nourishment in 1994, and was subsequently renourished in 2002. A stabilizing 1,600-ft terminal groin and 285-ft detached rock breakwater were constructed to stabilize the south end of the project limits in 2005. The project was last renourished in 2011. Plans are ongoing for the next renourishment, presently scheduled for 2019 or 2020. In that regard, the proposed Task relates to the identification of the nearshore geology off Nassau County, FL, with the ultimate purpose of supporting the development of borrow areas containing beach compatible sands.

The purpose of the proposed task is to acquire supplemental shallow seabed sediment Vibracores to describe limited areas of the seabed in Federal waters off Amelia Island, Nassau County, FL. These areas are proposed for investigation to advance prior research by the Florida Geologic Survey (Phelps et al, 2007), and Scientific Environmental Applications, Inc. (SEA, 2009), in order to improve the understanding of the marine geological model for the area. These data are needed to evaluate the potential of these areas to contain beach-compatible sand for upcoming SAISSA nourishment projects. Consultant tasks include the development of the field test plan, submittal of a Notice of Scientific Research to the Bureau of Ocean Energy Management (BOEM), management of subcontractor activities, and final synthesis and reporting of results. Specific subcontractor efforts include the collection of a limited number of sediment Vibracores (12-13) in areas to complement similar data collected by Phelps et al. (2007), to attempt to validate the findings of the research and further refine the geologic model for the area.

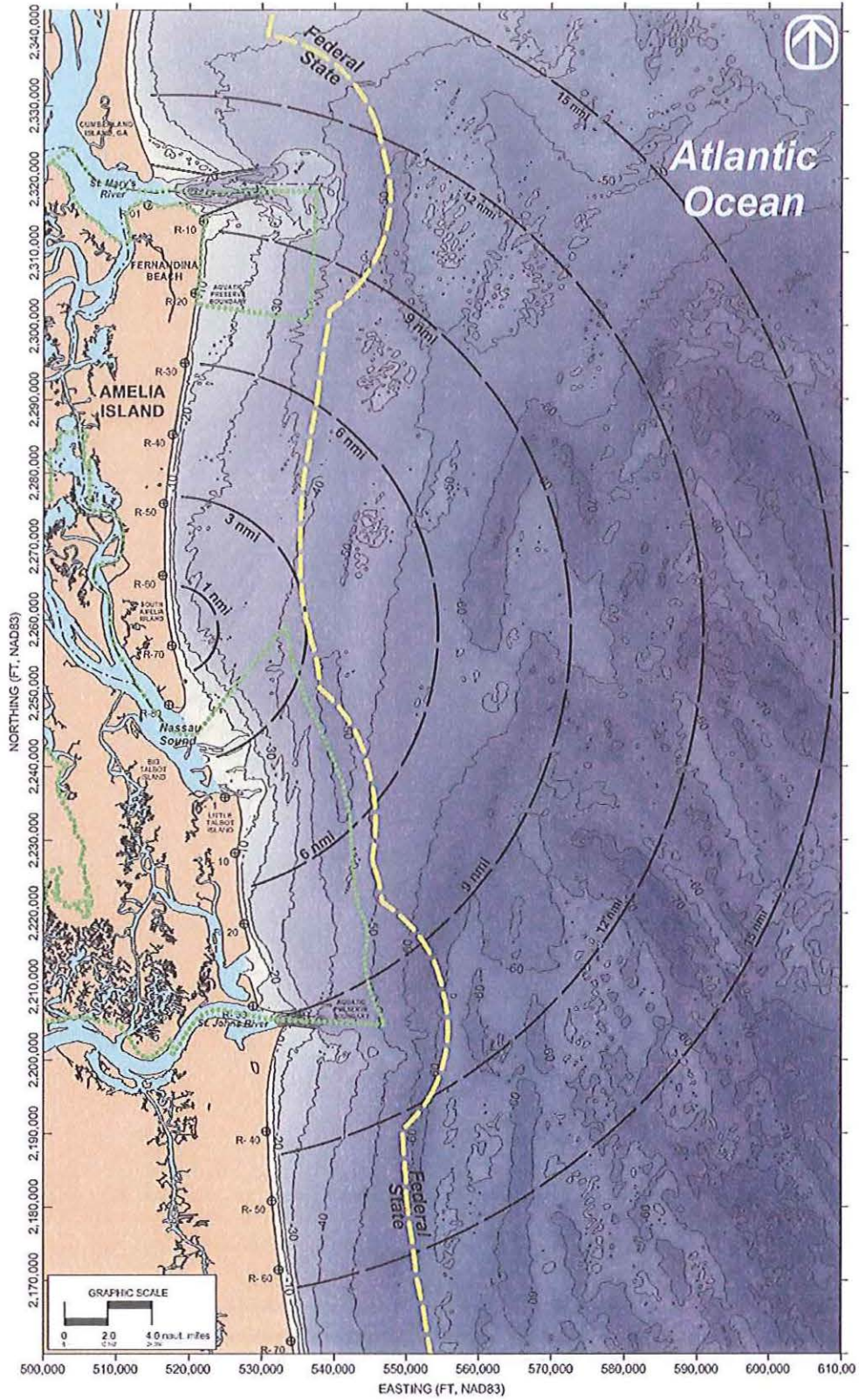


Figure 1 – Location map – South Amelia Island and adjacent bathymetry.

Task 2.2 - Phase I Field Marine Geological Investigation

Description

Numerous investigators have studied the State and Federal waters off Nassau County, FL, dating back to the 1960's and 1970's ICONS studies. Most recently, the Florida Geological Survey (Dan Phelps, principal investigator) took several Vibracores and conducted sonar sub-bottom profiling to develop a geologic model of the seabed in Federal waters off Amelia Island (**Figure 2**). That geologic model describes a prediction of the morphology of the river channel system that existed in the area during lower stands of sea level. Based upon the sub-bottom records and the available Vibracores, Phelps identified predicted channel locations, now-infilled or buried with the higher current level of the ocean. These in-filled channels are typically characterized by finer sediments (i.e. siltier, muddier, etc.) which would not be suitable for beach nourishment.

In a followup discussion of the FGS/Phelps geologic model, Dr. Gary Zarillo opined that the shoal and ridge features adjacent to these infilled channels would be more likely sources of coarser, reworked beach sediments, similar to ebb shoal sediments or reworked nearshore beach sediments. The initial ICONS study identified several areas matching this potential description, labeled as "B" shoals in those early reports. Referring to **Figure 2**, these "B" shoal features close to the present-day shoreline have never been directly sampled. Previous investigators have taken cores either in the bathymetric lows adjacent to the "B" shoals (e.g. the ICONS cores), or in areas of suspected in-filled channels (the FGS/Phelps cores closer to shore).

The primary objective of the current task is to fill out the geologic model proposed by FGS/Phelps to evaluate the sediments along some of the ICONS "B" shoals and the nearshore ridge features AWAY FROM the infilled channels, testing the theory of Zarillo that such areas may contain coarser, re-worked beach sediments. These features lie in Federal waters just outside the 3-mile State/Federal boundary. As such, correspondence with the Bureau of Ocean Energy Management (BOEM) is required to conduct scientific research in those areas.

A secondary objective of the field effort is to acquire a limited number of Vibracore samples upon the ebb shoal of Nassau Sound (likely on the Nassau County side, landward of the previous borrow areas) to test the nature of the sediments lying landward of the prior borrow areas and/or along the northernmost of the natural channels running through the Sound.

Subtask A: Project Management, BOEM coordination, final reporting

Consultant shall coordinate the subconsultant activities associated with Subtask B and shall establish the overall field test plan. Consultant shall prepare and submit a Notice of Scientific Research to BOEM and shall respond to any Requests for Additional Information

(RAIs) that may be generated by BOEM. A BOEM requirement to qualify for the simpler Notice of Scientific Research permission is the submittal of the collected data to the public, including BOEM, the FDEP (via the ROSS database), and SAISSA. Consultant shall prepare a brief report of findings and shall coordinate the submittal of the collected data and report to these agencies (in the appropriate electronic formats).

Deliverable A: Hardcopy and electronic versions of BOEM Notice of Scientific Research and Concurrence Letter, RAI correspondence, brief report of findings.

Total Cost: \$13,300.00 (approx.)

Subtask B: Shallow seabed Vibracore collection

Shallow seabed Vibracore collection

Through a qualified marine subconsultant, it is proposed to collect as many as 12 or 13 sediment Vibracores in selected areas of the 'B' shoal areas and in the vicinity of the previous project borrow areas at Nassau Sound. Vibracores will consist of three-inch galvanized steel tubes, vibrated into the seabed for approximately 20 feet (or to refusal) to extract the sample sediments in the upper seabed. The cores are acquired from a 35-ft open-deck pontoon boat. The Vibracores will be analyzed by a professional geologist, who will slice the tubes longitudinally to photograph and prepare a geologic log to describe the vertical distribution of sediments within the core, before collecting samples of the sediments within the various strata of the core. Samples will be analyzed for grain size distribution, shell content (carbonate content), color, and fines content.

Deliverable B: Map product of results, brief report of findings, hardcopy and electronic data submittal, including PDF and gINT formats consistent with the FDEP ROSS database.

Total Cost: \$36,700.00 (approx.)

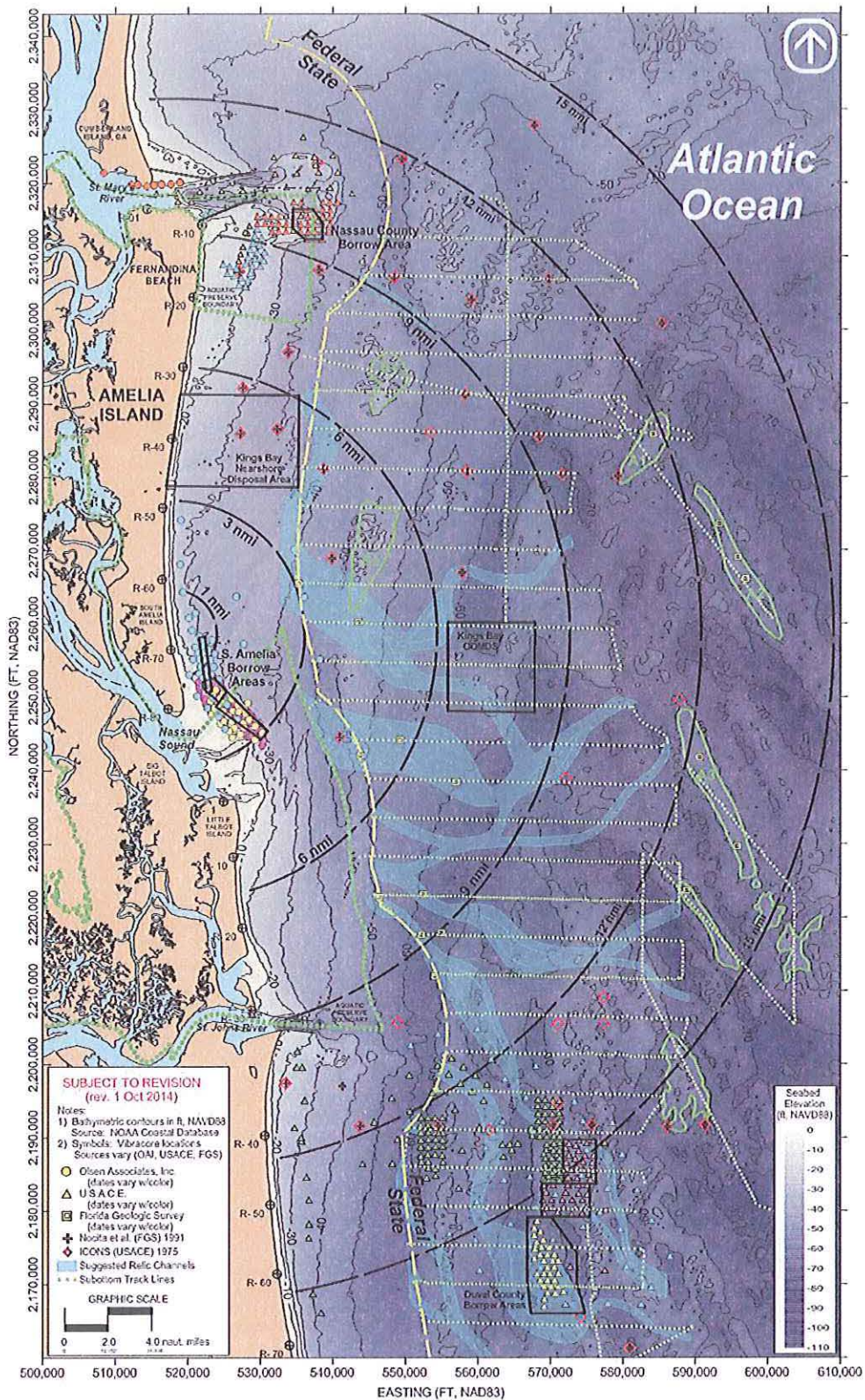


Figure 2 Compilation of available geotechnical data, and predicted buried channel locations from the geologic model of FGS/Phelps. Areas in green represent “A&B” shoals identified in the ICONS study.

REFERENCES


Meisburger, E.P. and M.E. Field, 1975. Geomorphology, Shallow Structure, and Sediments of the Florida Inner Continental Shelf - Cape Canaveral to Georgia. U.S. Army Corps of Engineers, Coastal Engineering Research Center Tech. Memo. No. 54. Vicksburg, Mississippi.

Report series is known as the "ICONS" study

Phelps, D.C., Sparr, J., Lachance M., and Dabous A., 2007, A geological investigation of the offshore area along Florida's northeast coast, Year Four annual report to the United States Department of Interior, Minerals Management Service: 2005-2006: Florida Geological Survey unpublished report (on DVD).

Zarillo, G.A., Zarillo, K.A., Reidenauer, J.A., Reyier, E.A., Shinsky, T., Barkaszi, M.J., Shenker, J.M., Verdugo, M., and N. Hodges, 2009. Final Biological Characterization and Numerical Wave Model Analysis within Borrow Sites Offshore of Florida's Northeast Coast Report – Volume I: Main Text pp. + Volume II: Appendices A-D 488 pp. Contract No. 1435-01-05-CT-39075-M05PC00005 MMS Study 2008-060.

MEMORANDUM

TO: SAISSA Trustees
FROM: Bill Moore 
CC: Al Browder
DATE: May 6, 2015
RE: No Cost Change Order -Task Order #13 (Agenda Item V.C.)

Following the February Trustee meeting, A \$50,000 budget Amendment and Task Order #13 (Phase I Field Geotechnical Investigation for Offshore Geologic Model Verification) for Olsen Associates were subsequently submitted and approved by the Nassau County Board of County Commissioners (See attached).

Olsen Associates (OA) proposes to revise the Scope of Work related to Task Order # 13, based upon updated guidance from the Bureau of Ocean Energy Management (BOEM). No change is proposed to the fee associated with the Task Order.

The original purpose of Task Order #13 was to collect supplemental bathymetric and sub-bottom sonar data to describe limited areas of the seabed in both State and Federal waters off Amelia Island, Nassau County, FL. The intent was to then follow this work with a subsequent Task Order to perform additional field work to collect a limited number of investigative sediment Vibracores in the same areas to complete the analyses of those seabed features.

Upon review of our draft Notice of Scientific Research and Scope of Work, BOEM personnel have indicated that the existing sub-bottom profile data, collected by the Florida Geologic Survey, will be adequate to allow for the collection of a limited number of sediment Vibracores in the area of interest.

Given this opportunity, and the fact that ultimately it will be necessary to collect Vibracores to evaluate the nature of the sediments in those areas, Olsen Associates proposes to alter the original Scope of Work to delete the tasks associated with bathymetric and sonar sub-bottom profile data collection, and replace the field work components with the collection of a limited number of shallow seabed (6-7m penetration depth) Vibracores. OA believe this can be accomplished without an adjustment in Task Order fee (due to the per-Vibracore and per-sample nature of a portion of the field work and subsequent laboratory analyses).

With the Board's concurrence, and a finalized approval of this plan from BOEM, we will submit a revised Scope of Work and a No Cost Change Order to Task Order #13 for County approval. Al Browder, who has been handling the negotiations with BOEM, will provide an update on this evolving issue at the Board meeting.

Recommend Motion:

1. Recommend BOCC approval of No Cost Change Order to Task Order #13.

CS-14-146

NASSAU COUNTY - SAISSA
Task Order Memorandum
Contract CM1852

To: Olsen Associates, Inc.
2618 Herschel St.
Jacksonville, FL 32204

Date: 25 February 2015
Contract: Coastal Engineering
Request Made By: SAISSA
Request Received By: Albert E. Browder, Ph.D., P.E.
Task Order No: CM 1852-TO #13


Task Order: Phase I Field Geotechnical Investigation for Offshore Geologic Model Verification
South Amelia Island Shore Stabilization Project

The Consultant, aided by qualified subcontractors, shall collect supplemental bathymetric and sub-bottom sonar data to describe limited areas of the seabed in both State and Federal waters off Amelia Island, Nassau County, FL. These areas are proposed for investigation to advance prior research by the Florida Geologic Survey, Scientific Environmental Applications, Inc., and OAI to improve the understanding of the marine geological model for the area. These data are needed to evaluate the potential of these areas to contain beach-compatible sand for upcoming SAISSA nourishment projects. Consultant tasks include the development of the field test plan, submittal of a Notice of Scientific Research to the Bureau of Ocean Energy Management (BOEM), management of subcontractor activities, and final synthesis and reporting of results. Specific subcontractor efforts include an expansion of the hydrographic surveying component authorized under Task Order CM 1852-TO #12, collection of sub-bottom sonar data across these same offshore areas, and the synthesis of these collected data, including the formulation of a larger-scale Phase II Field Geotechnical Investigation. These Services are potentially eligible for State cost-sharing, pending FDEP approval.

Subtask A	Project Management, BOEM Coordination, Final Reporting	\$ 11,300.00
Subtask B	Bathymetric Data Collection	\$ 7,800.00
Subtask C	Sub-bottom Sonar Data Collection and Analysis	\$ 30,900.00
	TOTAL	\$ 50,000.00

Olsen Associates, Inc.

SAISSA


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


Mr. Drew Wallace, SAISSA President

Date: 5 August 2014

Date: 3/5/2015

Nassau County, Board of County
Commissioners

Attest to Chair
Signature


Pat Edwards
Its: Chair

John A. Crawford
Its: Ex-Officio Clerk

Date: 3-23-15

Date: 3-25-15

Approved As To Form and Legal Sufficiency:

Date:


Michael S. Mullin

Date: 3-23-15

MES
03-25-15

SCOPE OF WORK

Phase I Field Marine Geotechnical Investigation for Offshore Geologic Model Verification South Amelia Island Shore Stabilization Project

FDEP Grant 14NA1 – Task 2.2

25 February 2015

Overview

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The purpose of the proposed task is to collect supplemental bathymetric and sub-bottom sonar data to describe limited areas of the seabed in both State and Federal waters off Amelia Island, Nassau County, FL. These areas are proposed for investigation to advance prior research by the Florida Geologic Survey, Scientific Environmental Applications, Inc., and OAI to improve the understanding of the marine geological model for the area. These data are needed to evaluate the potential of these areas to contain beach-compatible sand for upcoming SAISSA nourishment projects. Consultant tasks include the development of the field test plan, submittal of a Notice of Scientific Research to the Bureau of Ocean Energy Management (BOEM), management of subcontractor activities, and final synthesis and reporting of results. Specific subcontractor efforts include an expansion of the hydrographic surveying component authorized under Task Order CM 1852-TO #12, collection of sub-bottom sonar data across these same offshore areas, and the synthesis of these collected data, including the formulation of a larger-scale Phase II Field Geotechnical Investigation.

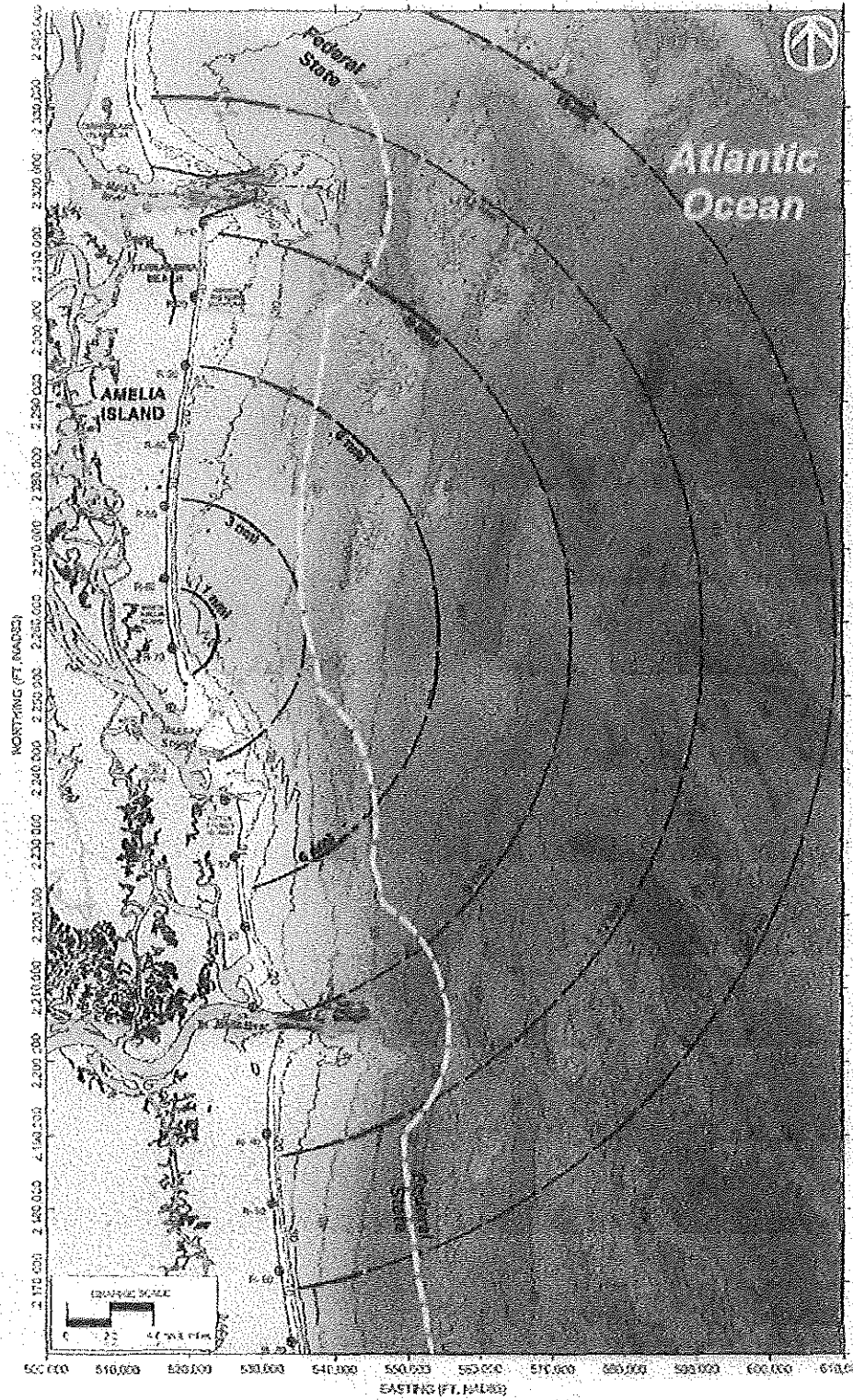


Figure 1 -- Location map -- South Amelia Island and adjacent bathymetry.

Task 2.2 - Phase I Field Marine Geological Investigation

Description

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The objective of the current task is to fill out the geologic model proposed by FGS/Phelps to evaluate the sediments along some of the ICONS "B" shoals and the nearshore ridge features AWAY FROM the infilled channels, testing the theory of Zarillo that such areas may contain coarser, re-worked beach sediments. These features lie in Federal waters just outside the 3-mile State/Federal boundary. As such, correspondence with the Bureau of Ocean Energy Management (BOEM) is required to conduct scientific research in those areas.

Future work to be conducted from the results of this scientific research task will include limited probing of the selected shoal areas by Vibracore (under separate Task Order) to verify sediment characteristics, and if found to be warranted, the future development of borrow areas for beach nourishment.

Subtask A: Project Management, BOEM coordination, final reporting

Consultant shall coordinate all activities of subconsultants associated with Subtasks B and C and shall establish the overall field test plan. Consultant shall prepare and submit a Notice of Scientific Research to BOEM and shall respond to any Requests for Additional Information

(RAIs) that may be generated by BOEM. A BOEM requirement to qualify for the simpler Notice of Scientific Research permission is the submittal of the collected data to the public, including BOEM, the FDEP (via the ROSS database), and SAISSA. Consultant shall prepare a brief report of findings and shall coordinate the submittal of the collected data and report to these agencies (in the appropriate electronic formats).

Deliverable A: Final report of findings, electronic data submittal to Client and agencies.
Total Cost: \$11,300.00

Subtask B: Updated hydrographic data collection

Consultant shall coordinate the collection of updated controlled hydrographic survey data for selected areas associated with the ICONS "B" shoals and nearshore ridge features of interest. These data shall be used to update or calibrate the bathymetry shown in Figures 1 and 2, which were collected by NOAA in the 1970s. The new data will provide increased detail in the vicinity of the areas of interest. Task includes three days of data acquisition, up to approximately 60 line miles of single-beam survey data. Data shall be collected by a Certified Hydrographic Surveyor (subconsultant), and shall be referenced to the local horizontal and vertical datums (NAD83, State Plane Coordinates, FL East Zone, and NAVD88, all units in feet).

Deliverable B: Map product of results, electronic data submittal
Total Cost: \$7,800.00

Subtask C: Supplemental sub-bottom sonar profiling

Consultant shall coordinate the collection of high-resolution sub-bottom sonar profile data across the selected areas associated with the "B" shoals and nearshore ridge features of interest. The focus shall be on the upper 20 to 30 ft of sediment in these selected areas. Up to three days of field data collection are planned. These data will be used to compare the sonar records of the sediments in these target shoal features to those in the bathymetric lows and in the infilled channel areas (Figure 2), with the objective of identifying areas of potentially coarse reworked clean sands. A geological subconsultant, Dr. Gary Zarillo, will lead the field data collection and will interpret the sonar results. Field work consists of conducting survey transects with an EdgeTech SB-512i X-Star Sub-bottom Profiler System.

Deliverable C: Interpretive report from subconsultant, electronic submittal of sonar sub-bottom profile imagery (additional discussion included in report associated with sub-task A).
Total Cost: \$30,900.00

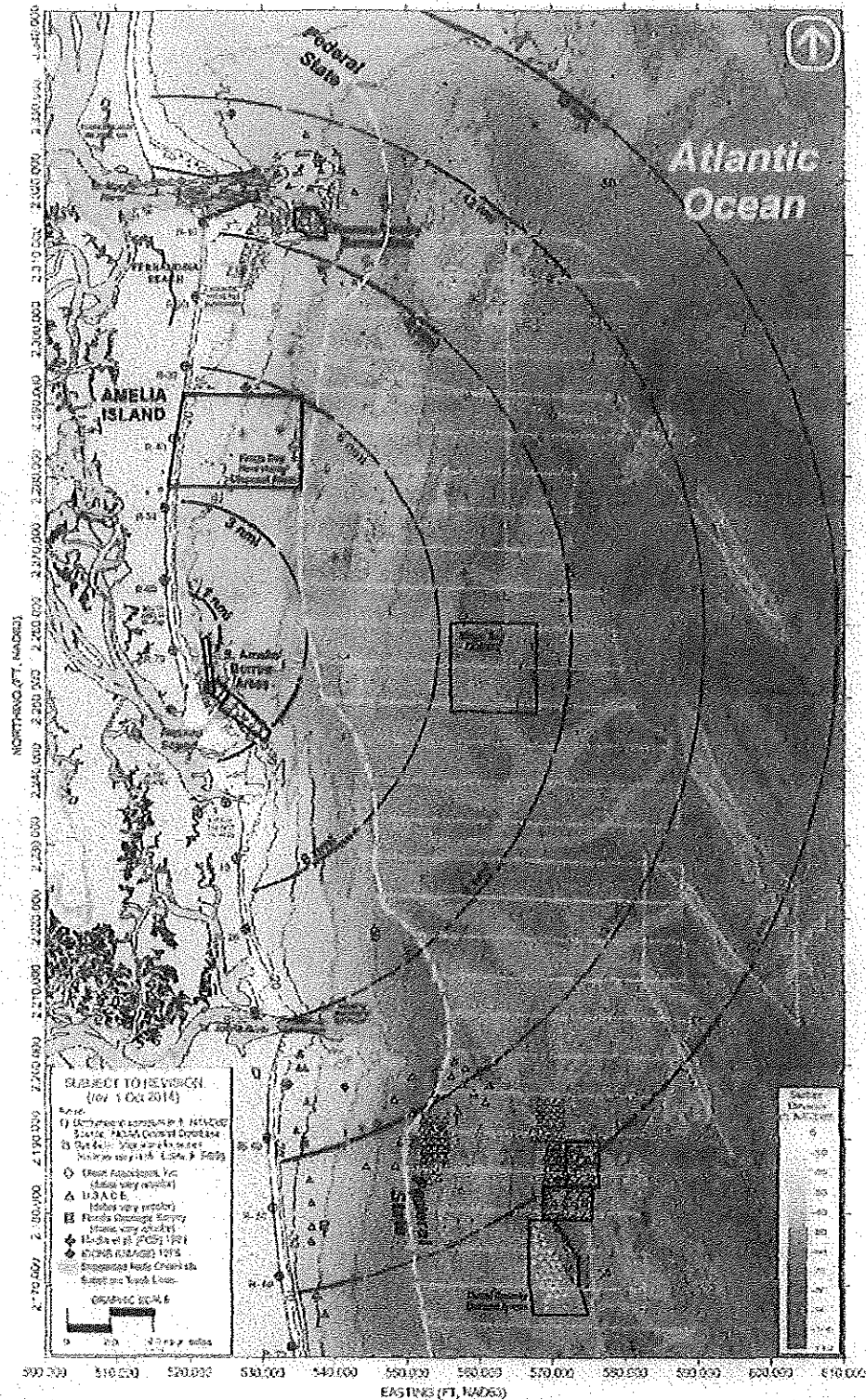


Figure 2 Compilation of available geotechnical data, and predicted buried channel locations from the geologic model of FGS/Phelps. Areas in green represent "A&B" shoals identified in the ICONS study.