



GLYNN COUNTY BOARD OF COMMISSIONERS
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*A Golden Past.
A Shining Future.*

MEMORANDUM

TO: The Honorable Commissioners

FROM: Kathryn Downs, Assistant County Manager

DATE: December 6, 2018

SUBJECT: OneGeorgia Grant – Approve the *Proposal for Coastal Engineering Services* from Applied Technology and Management

STATEMENT OF THE ISSUE:

On September 6th, 2018, the Board of Commissioners approved a Memorandum of Agreement (MOA) with the OneGeorgia Authority, the funding mechanism for the Georgia Department of Community Affairs (DCA), for a one-time grant in an amount up to \$2.5 million in periodic reimbursement payments to Glynn County. Per the MOA, funds allocated to the County may be used for necessary studies, planning/ consulting/ engineering activities, obtaining necessary state and/or federal permits, construction or reconstruction of beaches and/or dunes (including dredging and placement of sand), location-appropriate natural vegetation necessary to maintain dunes, construction/reconstruction of dunes, installation of rock revetments, or other activities deemed appropriate by the OneGeorgia Authority. Per the terms of the agreement, grant funds are available until April 30, 2020, or the County will forfeit the balance of funds not used by that date.

On November 1, 2018, the Board of Commissioners authorized staff to work with a consultant utilizing the professional services exemption (per Purchasing Ordinance 2-2-13(c)2) based on two factors: 1) the highly specialized design acumen that a successful beach restoration project will require in order to make the most of the allotted grant funding, and 2) the limited amount of time we have to complete a project based on the MOA with OneGeorgia. The selected consultant would design and permit the project in addition to conducting public outreach on the scope of the project.

Staff interviewed three coastal engineering firms that expressed interest in the OneGeorgia grant project. Of the three, staff agreed that Applied Technology and Management (ATM) would be best suited for the job given their level of experience as the engineers on the revetment restoration project currently underway on Jekyll Island. Given ATM's experience on Jekyll, they have shown that they have successfully permitted projects through the Coastal Resources Division of the Georgia Department of Natural Resources which will be essential in maintaining the necessary timeline to complete this project. Also, because of the recent experience working in Glynn County, they have improved numbers regarding cost estimates and contractor pricing which will be essential in maintaining the overall budget of the project. Furthermore, through the interview process they expressed an understanding of our ultimate desire to maximize the \$2.5 million that has been awarded by the state.

For the reasons stated above, staff is requesting the BOC, utilizing the professional services exemption, approve the *Proposal for Coastal Engineering Services* from ATM dated ~~November 30~~December 3, 2018 (attached) in an amount not to exceed \$251,500. The proposal includes consulting services for all aspects of the OneGeorgia Grant from Data Collection through Construction Administration.

ALTERNATIVES:

1. Approve the *Proposal for Coastal Engineering Services* from Applied Technology and Management to perform consulting duties prescribed in the Memorandum of Understanding with the OneGeorgia Authority, the funding Mechanism for the Georgia Department of Community Affairs, for beach restoration activities.
2. Suggest other alternatives.

RECOMMENDATION:

Staff recommends alternative 1

FUNDING SOURCES:

The cost for services provided by ATM will be paid for out of the Capital Projects Fund and will be reimbursed by the OneGeorgia authority.

RECOMMENDED MOTION FOR THE BOARD OF COMMISSIONERS:

I move to approve the *Proposal for Coastal Engineering Services* from Applied Technology and Management to perform consulting duties prescribed in the Memorandum of Understanding with the OneGeorgia Authority, the funding Mechanism for the Georgia Department of Community Affairs, for beach restoration activities in an amount not to exceed \$251,500 with funding to be provided by the Capital Projects Fund and reimbursed by the OneGeorgia Authority grant.



December 3, 2018

Paul Andrews
County Engineer
Glynn County, Georgia
1725 Reynolds Street
Suite 200
Brunswick, GA 31520

**RE: Proposal for Coastal Engineering Services
St. Simons Shoreline Restoration
Glynn County, Georgia**

Dear Mr. Andrews,

This scope and cost proposal is provided to you in response to your request for a proposal for coastal engineering services to address erosion issues in St. Simons Island, Glynn County, Georgia. It is our understanding that this area has experienced recent hurricane related impacts as well as longer-term resiliency concerns that the County wishes to address in concert with project specific funding from the State. This proposal addresses this request. As time is of the essence and given that salient elements of the project are yet to be determined, the proposed scope is general in nature but is sufficient to address project need based on our previous experience with similar projects (most notably the Jekyll Island restoration project for which we are currently providing similar services). The scope may thus require revision as the project progresses and more information and details become clarified.

General Approach

This scope includes professional engineering support to address rehabilitation of the existing rock revetment along specific portions of St. Simons Island. Total project area has yet to be determined and will be addressed through this Scope in consultation with County staff. Beyond the revetment structure itself, the solution must incorporate both construction and public access to the beach around/over the structure and address these needs in an environmentally responsible manner. The solution(s) must consider long range needs for protection including major storm events and sea level rise. It is apparent that there are deficiencies in the existing revetment that need to be addressed. Rock substrate has been displaced and/or is too low in elevation and in general is smaller than recommended by current practice.

In terms of regulatory permitting considerations, the project will be designed to allow the permitting effort to be presented as a major rehabilitation of an existing structure. The proposed works will be primarily focused on beach/upland areas above the mean high water (MHW) line to the extent practical, which will seek to minimize the involvement from Federal regulatory agencies during the separate permitting efforts. As the project will focus on rehabilitation, actions seaward of the existing structure toe would not be proposed. In addition, due to the presence of the existing



revetment and end effects on adjacent shoreline areas, ATM's scope does not include any numerical modeling of shoreline changes or erosion rates due to presence of the revetment structure or proposed rehabilitation. It is ATM's opinion that modeling of erosion adjacent to the revetment will not provide meaningful results. The erosion rates of the unprotected areas are historically significant, as evidenced by site observations and documented erosion rates by the USGS (<https://marine.usgs.gov/coastalchangehazardportal/>). The presence of a rehabilitated or raised revetment will not change the existing rates significantly. Under the outside possibility that a detailed erosion assessment and/or modeling of potential impacts is required by the regulatory agencies, this would need to be addressed as additional services.

A properly designed and constructed revetment typically has a service life in excess of 25 years. Given the nature of the structure and region, life cycle is functionally governed by impacts from major storm events. While such events are rare for the region, their impacts to such structures can be significant. Other than post-storm repair, structure maintenance requirements are limited. Minor issues regarding drainage of stormwater through and around the structure will likely occur, though such issues are generally minor and aesthetic in nature and may require some regrading or supplemental sand placement. Specific upland stormwater and civil improvements are not included in ATM's proposed scope.

Access to the beach will be generally considered in the design process. However, specific structural design of crossover or other access structures from the upland to the beach (across over the dunes and/or revetment) is not included in the design. ATM will consult with County staff to identify temporary construction access routes and upland laydown/storage locations that will be required to carry out the work. Once determined, basic design requirements (location, dimensions) will be developed by ATM for incorporation into project State and Federal permit applications. Permanent access points, roadway and/or Right of Way design are not included. It is assumed that the County will obtain any necessary property easements or consents of use required for temporary construction access, construction of the permitted improvements, and staging areas which are not currently under public ownership. Final details of the temporary access improvements and site restoration, including identification and protection of utilities, will be the responsibility of the contractor, in conjunction with the applicable permit conditions.

The project will be developed toward the goal of streamlining permit timeframe and requirements; however, there are few cases of hard coastal structures projects in coastal Georgia in the past 10-15 years, and as such, the level of involvement required due to the potential level of scrutiny that GADNR, USACE, and the various commenting agencies and interests may place on this project is uncertain.

Scope of Services

The following specific Tasks are proposed:

TASK 1. DATA REVIEW, ACQUISITION AND PUBLIC ENGAGEMENT

ATM will initiate the project with the following items:

- Review readily-available aerial photographs and County provided site topographic surveys, design plans for the existing revetment, and any other previous coastal



engineering studies of the St Simons Island beach or revetment (if available from the County). It is understood that the County's GIS department has historic shoreline positions and has collected ~ 10 years of beach profiles. Bathymetry of the nearshore area is not deemed necessary but if required would be taken from NOAA navigation charts unless the County has better quality information.

- Compile latest available hazard information on hurricanes and storm surge for the project area based on FEMA most recent Flood Insurance Studies for Glynn County.
- Acquisition of upland survey data to sufficiently quantify revetment conditions. An allowance has been included for the conduction of this survey which will be contracted to others. Technical details of the survey will be defined in consultation with County staff and it is anticipated that the survey will be conducted utilizing drone/LIDAR technology. This survey effort will include delineation of the jurisdictional SPA line in coordination with GADNR staff either in conjunction with the revetment survey or as a separate mobilization.

ATM will coordinate with County staff to schedule a kickoff meeting to discuss current site conditions, identify project goals, and obtain critical feedback on community/stakeholder and County preferences related to revetment rehabilitation. It is understood that ATM will coordinate with County staff to identify a list of stakeholders. ATM will participate in, with County lead, a single stakeholder workshop to solicit public input regarding the project. The Workshop will be geared toward obtaining critical input from project stakeholders for advancing into Task 2 with a consensus concept plan. Overall schedule may need to be adjusted depending on meeting final schedules/acceptable meeting dates.

TASK 2. PRELIMINARY DESIGN

ATM will advance preliminary design of the consensus concept plan, to a level sufficient for budgetary costing and permit applications. This task will include the following:

- Perform desktop coastal engineering calculations to determine design wave and water level conditions (typically 50-year return period).
- Determine preliminary required rock armor sizes based on reasonable combinations of water level and breaking wave heights.
- Identify level of protection versus anticipated storm surge and reasonable (25- to 50-year horizon, intermediate projections) sea level rise, and potential wave runoff/overtopping.
- Advance the consensus plan for protection zones based on the Task 1 feedback and desktop calculations, including preliminary design plan view and typical cross sections (i.e., "section by section" design analysis).
- Tabulate preliminary quantity takeoff estimates for the revetment improvements.
- Estimate range of probable construction costs based on available data and previous project experience.

The deliverable for Task 2 will be a summary memorandum, preliminary design plan view (existing and proposed conditions), and 1 representative/typical cross-section sketch for each different revetment section along shore. We will also include a listing of design criteria, preliminary takeoff quantities, budget level construction cost estimate, and preliminary outline of sequence/timeline



for construction activities. It is noted that final project construction costs and schedules will not be fully detailed until bids are received.

ATM will participate in up to three meetings to review the preliminary design. The format of these meetings is at the discretion of County staff and may include public meetings or presentations of the plan to the County Commission. Development of PowerPoint presentations in support of these meetings is included within this task.

TASK 3. STATE AND FEDERAL PERMIT APPLICATIONS

This project will require acquisition of both State and Federal regulatory authorization. It is important to note that ATM cannot guarantee regulatory approval as this is a determination made by the relevant authorities. This task addresses this need based on ATM's experience with projects of similar scope.

Task subtasks are outlined below.

3.1 Pre-Application Meeting

Once the Task 2 preliminary project design is approved, ATM will collate the information and preferred conceptual project plan(s) developed in previous tasks to facilitate a pre-application meeting with representatives from the US Army Corps of Engineers (USACE). Specifically, ATM will complete and submit a Pre-Application request form and supporting information as required by the USACE. It is assumed that GADNR will be informed of the project sufficiently via Task 1 involvement.

The goal of the pre-application meeting will be to describe the basic scope of work and identify any "red flags" that the agencies may have with regard to the permitting of the improvements. This meeting will identify any additional information that may be required by the agencies beyond the anticipated project documentation. ATM will coordinate with the County should staff desire to attend these meetings.

3.2 State and Federal Permit Applications Preparation and Submittal

The project plan will be developed to meet State and Federal permit application standards and be utilized to provide the agency representatives with a clear picture of the proposed project. ATM will compile and submit a permit application to the USACE and a separate Shore Protection Act Permit application to the GADNR Shore Protection Committee (SPC) for the proposed improvements. This shall include but not be limited to the following specific elements:

- Drawings prepared to State and Federal processing guidelines, including:
 - Project Location Map
 - Existing Conditions
 - Proposed Improvements (plan view), including temporary access and staging areas (as required)
 - Typical sections and details



- Application form with supporting information and documentation
- Project description, including alternatives discussion, and general commentary regarding effects on adjacent shoreline (note – no numerical modeling is included in this task)
- Affidavit of Ownership or Control and associated documentation (deed, right to purchase, etc.). ATM will provide the form to the County. The County will be responsible for providing ATM with an executed copy of the form along with all required supporting documentation and the permit fees.
- Coordination of Public Notice (ATM will develop letters/forms but the County will distribute as required)
- Coordination with GADNR for defining the SPA jurisdictional lines will also be required. If the County does not already have this for the project extents, a GADNR representative will need to field flag the location and a professional surveyor will need to survey it according to GADNR standards. ATM will coordinate with the County and GADNR on the jurisdictional line survey. Costs for this survey are included in ATM's scope under Task 1 surveys.
- A copy of the permit application must be sent to the local unit of government to request comments. In addition, the GADNR permit application must include a certificate or letter from the local governing authority or authorities of the political subdivision in which the property is located stating that the applicant's proposal is not violative of any zoning law. It is assumed the County will provide these letter(s).

The GADNR-SPC also requires a presentation of the project to the committee during the permitting process. ATM will coordinate with GADNR staff to schedule and present the project to the SPC (assumed 1 full day meeting based on experience, and PowerPoint type presentation).

Note: It is assumed that appropriate signatures, proof of Ownership/control, plats and/or deeds, permit application fee(s), etc. will be provided by the County. Detailed design is not included herein. Permit drawings will not be suitable for construction. This task only includes development and submittal of the permit applications.

TASK 4. REGULATORY PERMIT COORDINATION

Due to the inherent uncertainties in the permitting of projects of this type, this Task is included to address additional effort required beyond the application preparation and submittal to complete regulatory review of the project. Potential, additional requirements could include: additional coordination/meetings with USACE, GADNR/SPC, and/or other commenting agencies, additional natural resource evaluations, detailed responses to Requests for Additional Information (RAI), appearance at public hearings, numerical modeling, etc.

Specifically, the Agencies will require a public notice to allow affected parties as well as other State and Federal resource agencies to review and comment on the application. When the public comment periods have expired, the agencies will forward copies of the comments received and ATM will coordinate with the County to develop responses to these comments as required.



Since it is not possible to provide a fixed fee for this phase of the permitting process, ATM proposes to provide services associated with the Regulatory Permit Coordination on a time and materials basis within initial budgetary allowance (see Project Engineering Cost Estimate). ATM will keep the County apprised of efforts on this task and should additional effort be required above and beyond the stipulated allowance amount, ATM will notify the County in writing and proceed only upon written approval.

TASK 5. DETAILED DESIGN

Following County notice to proceed and any County feedback on the Task 2 deliverable, ATM will prepare a detailed design package inclusive of project plans, technical specifications, and an updated project cost estimate. The detailed plans will be sufficient for the County to proceed with project bidding and construction.

- ATM will perform additional analysis and calculations to determine final revetment alongshore extents (of each type of treatment where treatment varies spatially), armor layer rock size, cross-section geometry, filter and/or underlayer requirements, geotextile, backfill, and related details based on the design wave height and water levels approved in Task 2.
- Demolition and reworking of existing revetment materials will be specified. It is noted that the quantities of available materials, existing rock sizes, etc. will be limited to estimates made from the existing conditions survey site observations, so variations in final quantities and materials will need to be expected and unit pricing included in any future construction contract.
- Allowable access points and upland laydown/storage areas will be identified via coordination with the County. Input from Task 1 on potential access and staging areas will also be incorporated. Basic requirements for the accessways (locations, dimensions, footprint) will be identified in the design plans for the contractor's information. It will be the contractor's responsibility to improve the accesses during construction and for restoration of the same following completion.
- Technical specifications will be provided on the drawings to the extent practical. Additional written technical specifications will be provided in PDF format.
- Construction sequencing or phasing, if any, will be indicated based on input from the County.

The deliverable for Task 5 will be final design plan views (existing and proposed conditions), and typical cross-section details for each different revetment section along shore. We will also include a summary listing of design criteria and assumptions, preliminary takeoff quantities, and updated construction cost estimate. Final documents will be provided in Adobe PDF format. Any necessary written technical specifications will be provided in PDF format.

ATM will participate in 1 meeting to informally review our final design with County staff following submittal of the final design documents.



TASK 6. BIDDING SUPPORT

In an effort to facilitate solicitation and evaluation of competitive, qualified bids for the proposed works, ATM will assist the County with bidding support services, including:

- Coordination with the County on preparation of bid documents and bid package (assumed County procurement provides required “front end” documents, including instructions to bidders, form of contract, special/supplementary conditions, bonding and insurance requirements, liquidated damage provisions, County-required timelines, access/staging areas, etc.). Plans and specifications from Task 5 will be included in the bid package.
- Development of bid forms and bid alternates for the bid package
- Assist the County in compiling a list of qualified potential bidders
- Transmittal of digital (PDF and Word) files of the bid documents to County procurement. It is assumed the County will reproduce, distribute, coordinate the receipt of bids, and issue a tabulated summary according to their procurement requirements.
- Participate in one pre-bid meeting with the County.
- Respond to bidder Requests for Additional Information (RFI's) (assumed up to 2 addenda).
- Following County opening of bids, ATM will provide a technical evaluation of bids and provide our comments and recommendations to the County.
- The County will conduct final contracting with the selected Bidder and have their legal counsel review the final contract and any supplementary conditions.

TASK 7. CONSTRUCTION ADMINISTRATION AND ENGINEER OF RECORD SUPPORT

ATM will serve as the Engineer of Record for project construction. ATM will provide limited construction support services for the project, including the following.

7.1. Pre-Construction Support

- Provide limited technical support during Owner/Contractor construction contract negotiations. This assumes the County will conduct any legal construction contract review (final terms and conditions) and make a selection of the final project extents and elements to include.
- Two ATM staff will participate in one on-site pre-construction meeting with the County and selected Contractor. Appropriate regulatory agencies will be invited per terms of the permits. It is assumed that the County's appointed construction manager will also participate as the Owner's representative.
- Review initial Contractor submittal package of proposed means and methods, materials, testing plan(s), regulatory submittals, and other required submittals; provide comments; and review a finalized submittal. Additional submittal reviews would require additional services.



7.2. Construction Phase Support

- Provide ATM representatives on-site periodically during construction to observe progress, constructed project elements, and address any technical project issues/concerns. For the basis of this scope, we have assumed following site visits as provided below, plus limited office administrative and senior support time:

Construction Site Observations – Site Visit Program (after pre-construction meeting)

Principal Engineer	Staff Engineer	Engineering Technician
1 every other month	2 per month for first 2 months; 1 per month thereafter	1 per week for first month; 2 per month thereafter

Note: the site visits assume ATM staff will visit together when more than 1 staff is scheduled

- One ATM staff will participate in one weekly construction conference call (as required by the County’s on-site construction manager).
- Review and certify monthly pay applications (including review of surveys and quantities).
- Attend a final on-site project close-out meeting with the County after substantial completion and provide “punch list” of remaining items to be addressed by contractor before project is considered complete.

It is assumed that the County’s construction manager will provide daily contract administration, contractor coordination, public relations, and site observations. The assumed maximum duration for construction is 6 months. The deliverables for this task include: Contractor submittal review comments, pay application certifications, post-site visit project updates, close-out “punch list” memo and final project certification.



Project Engineering Cost Estimate

The cost proposal for engineering services is provided below by task. Engineering services will be invoiced on a *Time and Materials Not to Exceed Basis* at monthly intervals based on ATM's standard rates. Expenses will be invoiced at cost plus 10% and a 5% technology fee will be applied to invoiced amounts.

Project Engineering Cost Estimate

Task	Description	Task Budget
1	Data Review, Acquisition and Public Engagement	\$52,000
2	Preliminary Design	\$37,500
3	State and Federal Permit Applications	\$25,000
4	Regulatory Permit Coordination (allowance)	\$15,000
5	Detailed Design	\$25,000
6	Bidding Support	\$17,000
7	Construction Administration Support	\$80,000
	TOTAL	\$251,500

Note: Task 1 includes a \$32,000 allowance for a pre-design survey and SPA line survey, which will be sub-contracted by ATM.

Assumptions/Exclusions

- Our proposal assumes all existing investigations, data, surveys, reports, and work by others not under ATM's direct management are made available to ATM at no cost and are suitable for immediate use. This includes protected species survey data (sea turtles, shorebirds, etc.), beach profiles, surveys, previous project site reports, and property maps which are assumed available from Glynn County.
- All deliverables will be in electronic PDF format unless otherwise noted.
- Site visits and meetings are limited to those identified herein.
- Seismic design, tsunami, and related geotechnical stability analysis are not included for the rock revetment structures. It shall be understood that following a seismic or tsunami event, repairs may be necessary.
- Surveying services, if required for permitting and establishment of vegetation boundaries, jurisdictional and property lines, utilities, etc. are not included beyond the allowance indicated for Task 1.
- Permit application fees and any/all easements or other property rights issues required to obtain the temporary construction access and staging areas are not included. Design of any permanent upland access points to the beach, including paths, overwalks, or roads, and related utilities and property issues are not included.
- The County may terminate services at any time on the condition that compensation is provided for work completed prior to the date of termination.



- ATM will provide proof of relevant corporate insurance under separate cover.
- ATM will notify the County of any circumstances that would require effort beyond the \$251,500 Not to Exceed budget authorized by this proposal and will not proceed beyond this amount without prior approval by the County.

Should you have any questions regarding this proposal, please feel free to contact me at your convenience.

Sincerely,

Applied Technology & Management, Inc.

A handwritten signature in blue ink, appearing to read "M. G. Jenkins".

Michael G. Jenkins, Ph.D., P.E.
Coastal Engineering Team Principal

