MARYLAND COASTAL BAYS PROGRAM
REQUEST FOR PROPOSALS TO PROVIDE PROFESSIONAL ENGINEERING AND TECHNICAL SERVICES
FOR TIZZARD ISLAND COASTAL RESILIENCY PLANNING AND DESIGN
(Revised 1/21/19)

Date of Advertisement: *January 14, 2019*
Deadline for Receipt of Qualification Statements and Priced Proposal: *February 12, 2019 5:00 pm.*

The Maryland Coastal Bays Program (MCBP), seeks to receive priced proposals from qualified engineering firms with relevant experience in coastal engineering for the Tizzard Island Coastal Resiliency Planning and Design project. This project will require demonstrated expertise related to coastal resiliency planning and design for shoreline, marsh and near shore coastal areas of Tizzard Island and nearby Johnson Bay in the Chincoteague Bay, Worcester County, MD area.

Project Description

Consulting engineering firm(s) will provide qualification statements including relevant experience for the specific project titled **Tizzard Island Coastal Resiliency Planning and Design** (Scope of Work "SOW" attached), along with a priced proposal, project budget and timeline for meeting project deliverables.

The project is comprised of two parts: development of a general resiliency plan for Tizzard Island; and the complete design of one or more nature-based shoreline stabilization and/or wetland restoration projects that address a component of the resiliency plan.

Deliverable 1 as identified in the SOW includes the development of a resiliency plan that identifies and prioritizes climate-resilient options related to long term climate change vulnerability. It is anticipated that this part of the project will involve the overall assessment of Tizzard Island, historic physical attributes of the island and the surrounding area regarding shoreline erosion, marsh elevation and condition. Proficient utilization of tools such as NOAA Digital Coast, Maryland Coastal Atlas and Maryland Resiliency Assessment will be necessary to complete this plan.

Much of the development of this plan may be accomplished as a desktop GIS and data tools analysis augmented with a site visit, personal interviews, review of pertinent data and a thorough understanding of the possible future scenarios for inundation, rising sea levels, changing weather patterns and the probable impact on Tizzard Island. One or more project options for increasing resiliency of the island will be selected by the team for final design.

The details of the plan will be a collaborative determination by the MD Department of Natural Resources (MD DNR), MCBP, and the selected engineering firm.

Deliverable 2 as identified in the SOW includes final design drawings suitable for permitting, plan sets ready to bid, an engineering estimate of probable cost, and assistance with acquiring applicable permits for one or more nature-based projects. The permitting for this effort will also be collaborative as determined by the MCBP, MD DNR and consultant team. The selected project(s) may be related to shoreline stabilization, marsh or wetland restoration, or another selected project based on the resiliency plan. There may be local hydrologic and hydraulic modeling that needs to be accomplished for the selected project design. DNR will provide topographic and bathymetric survey(s) for the project.

This design project selection is also intended to be a collaborative approach among the MD Department of Natural Resources (MD DNR), MCBP, and the selected engineering firm.

TIZZARD ISLAND COASTAL RESILIENCY PLANNING AND DESIGN

- The MCBP with grant funding through the MD DNR Coastal Services Section will provide for the development of a Tizzard Island Resiliency Plan that identifies and prioritizes climate-resilient restoration options that will increase the ability of the island to adapt to changing climate conditions.

- Design a nature-based shoreline stabilization and/or wetland restoration project based on the Tizzard Island Resiliency Plan to address erosion, sea level rise and storm impacts.

The goal of this project is to increase the resiliency of Tizzard Island to erosion, storm impacts and sea level rise so that it continues to buffer the adjacent mainland community from storm-driven waves while providing critical wildlife habitat. Furthermore, this project will inform future island restoration and protection efforts in the region.

Proposed budget for the Phase I Deliverables 1 and 2 is $57,000.

The engineering consulting firm(s) should have experience associated with planning and design such as:

- Planning and design of coastal shoreline and marsh stabilization projects with a specific application for resiliency related to storms, climate changes and predicted inundation scenarios.

- Preparation of bid documents for construction including complete plan sets with all standards and specifications, including engineering estimate of probable costs.

- Coastal flood models, climate models, Sea Level Rise predictive tools, hydrology, hydraulics, sediment flow patterns, sediment deposition and erosion characteristics, geotechnical investigation, GIS assessment and management of data for historic and future shoreline characterization.

MCBP reserves the right to accept or reject proposals based on the assessment of materials submitted and how best they meet the ranking criteria as listed below in this RFP. MCBP reserves the right to select the best and most responsive firm based on similar project experience and budget. Selection of the best qualified firm does not imply or guarantee that any contract will be awarded. MCBP also reserves the right to re-advertise this RFP if proposals submitted do not meet the criteria for the project scope.

All firms should be familiar with relevant laws, codes, approvals, permits, and regulatory requirements of all federal jurisdictions and authorities, as well as State of Maryland and Worcester County, MD. The consultant(s) selected will work under the direction of MCBP. All firms shall have a registered professional engineer licensed in the State of Maryland. Firms should also demonstrate that they have multi-dimensional service capacity including biological sciences, coastal services, coastal modeling, Geographic Information Services (GIS) expertise, as well as professional planning capabilities.

Any project planned or designed under this RFP may also be subject to design requirements of the MD DNR Coastal Services Section "Specifications for Consulting Engineering Services Relating to Coastal Resiliency Projects" (attached) as applicable.

Instructions for Submitting the RFP for Tizzard Island Coastal Resiliency Planning and Design Project

Proposal Requirements

1. GENERAL

This Request for Proposals (RFP) invites qualified contractors to submit qualifications, experience and a priced proposal for the specific services described in the Phase I Deliverables 1 and 2 of the SOW attachment to this RFP. Because the nature of the SOW involves 2 deliverables that are interdependent, the preferred approach for submitting a proposal is as follows:

- Identify the general experience and qualifications of the firm in conducting similar coastal vulnerability assessments and specific projects designed to provide restoration options for future resiliency to a changing climate.

- Identify how your firm would undertake this project, including knowledge and experience with Geographic Information Systems, climate and weather data and models, and how these tools would be used to assess current and future climate vulnerabilities and how a plan for a more resilient Tizzard Island might be accomplished.

- Identify specific projects that have been planned and designed by your firm for a nature-based solution to climate vulnerability as identified above.

- Identify and provide a resume for all relevant personnel that would be involved in the plan and design of this project.

- Provide a budget derivation that identifies specific personnel, positions, estimated hours and hourly rates for the accomplishment of this project along with other incidental costs. Please identify an estimated budget for each deliverable of the project.

2. PREPARATION OF RFP RESPONSE

The preparation of the RFP Response shall be at the expense of the prospective consultant. It is the sole responsibility of the prospective consultants to fully examine this RFP criteria and referenced documents. Questions shall be addressed to Steve Farr, Maryland Coastal Bays Program, 8219 Stephen Decatur Highway, Berlin, MD, 21811, sfarr@mdcoastalbays.org. All such questions will be responded to in the form of written addenda to the RFP, and these addenda will be electronically mailed to parties that received the RFP.

3. RFP RESPONSE FORMAT AND CONTENTS

Proposals should be prepared simply, providing a straightforward description of the prospective consultant's ability, experience and qualifications to plan and design work of the nature described in the SOW. Emphasis should be on completeness and clarity of contents. Maryland Coastal Bays assumes no responsibility and no liability for costs incurred relevant to the preparation and submission of the RFP by prospective consultants, or any other costs prior to issuance of a contract.

Maryland Coastal Bays may reject any RFP Response that does not meet these requirements.

Content of the RFP shall not exceed ten pages.

RFP RESPONSE CONTENTS:

The prospective contractor's RFP Response shall contain the following information under the indicated headings.

A. LETTER OF TRANSMITTAL

The prospective contractor's Response shall include a letter of transmittal not to exceed one (1) page, signed by an individual(s) authorized to represent the prospective firm contractually. The transmittal letter shall include the name, title, address, and telephone number of one or more individuals who can respond to requests for additional information and, of one or more individuals who are authorized to negotiate and execute a contract on the prospective firm's behalf, if applicable.

B. PROPOSAL FORMAT AND QUALITY

Understand the Scope of Work

Proposals should be no more than ten pages in length. The proposal must describe the prospective contractor's general understanding of the SOW and the key issues associated with performing the required consulting services in the specific disciplines involved.

Approach and Methodology

Please provide a detailed description of your approach to the scope of SOW, including the tasks described in the SOW. Key issues for individualized focus include the areas identified in the ranking criteria described below.

Time of Performance

The contractor selected will enter into a contract with Maryland Coastal Bays Program for the completion of all work necessary to meet the requirements outlined in the scope of services. The selection of the firm will be based upon the professional qualification, past performance records in similar projects, the content of the proposal and consideration of Maryland Coastal Bays' overall needs in terms of the project as well as the ability to provide 30% biddable design within the deadline required by the contract and the ability to work with the community and permitting agencies.

C. RECENT PROJECTS AND REFERENCES

Provide a description of the history, experience and qualifications of individual/firm and any proposed subcontractors to perform the Scope of Services. Please provide:

- Resumes of all principals assigned to the project; (not included in the ten-page limit)
- List of other similar projects undertaken;
- References from three similar projects undertaken.

4. SUBMISSION OF RFP RESPONSES

Please provide one hard copy and one pdf electronic version of your RFP response by 5:00 pm. on February 12, 2019. Please email the electronic version to sfarr@mdcoastalbays.org. The hard copies should be delivered to: Maryland Coastal Bays Foundation, Inc, attention Steve Farr, Project Manager at 8219 Stephen Decatur Highway, Berlin MD 21811

For specific information regarding selection process evaluation criteria, refer to the "Coastal Engineering Services Evaluation Form" at the end of this RFP. The submitted proposals shall be concise, not to exceed 10 pages, 8.5" x 11", printed on one side. Project team principal's resumes should also be included. The minimum font size shall be 11 point. The 10-page limit does not include the cover page, photos, maps or resumes.

Each response shall be ranked by committee based on the evaluation criteria (refer to the "Coastal Engineering Services Evaluation Form"). The list of qualified candidates will then be narrowed to the highest-ranking firms based on the scoring results.

Negotiations will begin with the firm having the highest final ranking and will proceed until a selection or selections are made. All respondents will receive notice of contract award. The

selection of the firms(s) will be made in accordance with Maryland Coastal Bays Procurement Contracting Procedures.

Respondents are reminded that it shall be the responsibility of the Engineering Consulting firm to be current with any professional registration or certification as required by Maryland law. The Professional Engineer for this work must have related experience in shoreline and coastal management engineering and must be registered in the State of Maryland.

MARYLAND COASTAL BAYS PROGRAM
COASTAL ENGINEERING SERVICES EVALUATION FORM

PROJECT NAME: TIZZARD ISLAND COASTAL RESILIENCY PLANNING AND DESIGN
COASTAL ENGINEERING SERVICES TIZZARD ISLAND

FIRM:_____RATER:_____

EVALUATION CRITERIA

1. Experience and Reputation	**0-10 points**
History of organization, general experience, and qualifications of the firm	0-10 points _____
2. Expertise for This Type of Project	**0-50 points**
Technical expertise for providing vulnerability assessment planning for shoreline, wetland and marsh environments. Ability to analyze vulnerability and develop a general plan of coastal resiliency needs and options for shoreline protection, stabilization and marsh adaptation related to future changes in climate, Sea Level Rise and inundation scenarios.	0-20 points _____
Technical expertise for providing resiliency design for shoreline protection, wetland and marsh enhancement. Ability to use predictive models for Sea Level Rise projections, shoreline erosion rates, wave energy and forcing, use of hydraulics, hydrology, biologic indicators, and GIS tools for weighing design options for shoreline and marsh protection.	0-20 points _____
Three references provided.	0-10 points _____
3. Capacity to Meet Requirements of the Contract	**0-30 points**
Proposal demonstrates comprehension of the project goals and understanding of the Scope of Work.	0-10 points _____
Proposal clearly identifies the methodology for accomplishing the Scope of Work	0-10 points _____
Proposal demonstrates ability to complete this project on time and within budget.	0-10 points _____
5. Familiarity With Like Projects	**0-10 points**
Maryland projects successfully completed	0-5 points _____
Other State or Federal Projects successfully completed	0-5 points _____

6. Questions of Interest not to include in scoring

Contractors should address the following questions:

a.	Are there any civil judgments and/or criminal history of the proposing firm or subcontractor's principals?	_____
b.	Has firm ever been debarred or suspended by any governmental agency?	_____
c.	Has firm ever had any revocation or suspension of a license?	_____
d.	Has firm ever been engaged in any bankruptcy filings or proceedings?	_____
e.	Is firm a minority or certified woman-owned business?	_____
f.	Is this firm a veteran-owned business?	_____

TOTAL SCORE (MAXIMUM POSSIBLE 100): _____

PROJECT SPECIFICS and CONSIDERATIONS:

The conditions below may be modified as part of the contract for the purpose of providing a complete and functional project.

1. An investigation of opportunities to identify and treat stormwater runoff of the site may be recommended for this project.

2. Topography and bathymetry survey have been completed for this project. However, it is the responsibility of the Design Firm to verify the accuracy of those surveys.

3. Standard soil borings, as necessary, may be required channelward of the existing shoreline.

4. The Design Firm's evaluation of the existing project site should include consideration of, but not be limited to, the following factors: fetch, seasonal wind patterns, wave climate, tidal range, storms frequency, storm tides and surges, near-shore and off-shore depths, sea level rise predictions for the area, erosion history and patterns and natural shoreline profiles.

5. The shoreline should be largely vegetated with the appropriate species of native vegetation.

6. The sand material for this project shall conform to the following minimum specification:

   Sand material shall contain less than 10% passing the number 100 sieve, not more than 10% by weight retained on a number 4 sieve, with no stone having a diameter greater than one-half inch. The material shall consist of rounded or semi-rounded grains with a median diameter of 0.6 mm (+/- 0.25 mm). No frozen material, trash, roots or other organic material will be permitted in the fill.

7. The Design Firm shall determine the finished grade elevations and appropriate slope for any sand fill placement. In general, sand fill should be placed on a gentle slope, such as a 10-ft. horizontal to 1-ft. vertical slope (10:1), and no slope shall be steeper than an 8-ft. horizontal to 1-ft. vertical (8:1) unless otherwise the Firm could provide sound reasoning to the project partners.

8. The Design Firm shall investigate the project area for construction access, staging and stockpile areas, which will minimize the need for disturbance of existing vegetation and other improvements.

9. The Design Firm shall provide "Key Project Data" from the plan on the first (Title) page (i.e.: sq. ft. of marsh created, area of disturbance, etc).

10. The Design Firm shall also provide details on their plans as to how they have incorporated Climate Resiliency within the proposed project.

11. The Design Firm shall provide an overlay of the most recent SAV's map on the design plan (*if SAVs are present in the project area*)

12. Property lines, right-of-ways, easements and community boundaries shall be shown on the Project Drawings for orientation only. A complete property line survey is not required.

    The Engineer shall coordinate all phases of this project with the MCBP, DNR and the project partners.

13. Prior to submitting the Joint Federal/State Permit Application, a pre-application meeting shall be held on-site with the MDE Tidal Wetlands Division Agent, US Army Corps of Engineers, the MCBP, DNR and Worcester County to discuss the proposed project.

Guidelines for Project Drawings and Specifications

For living shoreline projects, it is required that a topographic survey in sufficient detail be conducted so that cross sections of the shoreline can be plotted at approximately 50 foot intervals. The survey notes will be plotted and project Drawings developed to include:

The location of all surveyed elevations in feet relative to 0' Mean Low Water (MLW). The Mean High Water (MHW) line will be shown on the Drawings. The survey will locate any property lines within 50 feet of the site.

The proposed work shall be drawn to scale and shown in the plan view labeled to show: limit of contract; top and bottom of existing bank; existing vegetated areas; area to be vegetated; limit of planting; area of contractor's access; area for stockpiling fill, timber and brush; offshore bottom contours; areas of cut and fill; and location of any proposed fill containment measures, other protective devices, and sediment control practices.

The Drawings (2' x 3' standard size sheets) shall also include the following information: the mean tidal range in feet; the method used to establish horizontal control; the method used to establish vertical control; and the date on which topographic and hydrographic information was collected.

Cross sectional views and profiles, drawn to scale (same scale horizontally and vertically), of any proposed fill containment measures, other protective devices, and sediment control practices.

Typical shoreline cross sections, drawn to scale (same scale horizontally and vertically), showing existing ground and shoreline; limit of fill and grading; limits of proposed marsh plantings; limits of tree clearing and pruning; reseeding and/or stabilization of disturbed areas; any sediment control and stormwater management practices; and the limit of contract.

ENDORSEMENTS: Approvals and concurrence must be obtained from the following entities:

U.S. Army Corps of Engineers	X
MDE Tidal Wetlands Division	X
MDE Non-Tidal Wetlands Division	X
MDE-Water Quality Certification	X
MDE-Sediment & Stormwater Admin.	X
State Critical Area Comm. Approval	X
Maryland Historical Trust	
DNR-Shoreline Conservation Service	X
DNR-Heritage Service	
DOT-Maryland Port Administration	
Soil Conservation District	X
County Permit (s)	X
Local Critical Area Certification	X
City/Town Permit Division	
Community Association	
Project Property Owners	X
Adjacent Property Owner (s)	X
Other:	

Attachment A

SCOPE OF WORK

Project Title: Tizzard Island Shoreline and Marsh Design

Project Abstract & Metrics

The Maryland Coastal Bays Program (MCBP) will develop a holistic Island Resiliency Plan for Tizzard Island in Chincoteague Bay, Worcester County (approximately 38° 4' 34.32" N, -75° 20' 3.84" W). This plan will identify climate-resilient restoration strategies to be implemented across the island. Following plan completion, MCBP will design a nature-based shoreline and wetland restoration project based on plan priorities. Practices will be designed to holistically address erosion, storm impacts and sea level rise. This project will serve as a demonstration project for protecting the broader network of near-shore bay islands that provide wildlife habitat while buffering mainland coastal communities from coastal storm impacts.

Background

The Maryland Coastal Bays Program (MCBP) is a National Estuary Program which exists to protect and conserve the waters and surrounding watershed of Maryland's coastal bays to enhance their ecological values and sustainable use for both present and future generations. Through education and outreach programs, restoration projects and involvement with partners, MCBP works to improve water quality, protect habitat, and enhance forests and wetlands. The MCBP's Comprehensive Conservation Plan and Worcester County's Land Preservation, Parks and Recreation Plan acknowledge the importance of coastal resilience and call out actions to strengthen coastal resiliency. Both plans discuss the importance of coastal bays islands in protecting mainland resources and recognize the threats associated with shoreline erosion and island loss.

Tizzard Island is a 165-acre near-shore island in southern Chincoteague Bay of Worcester County. This privately-owned island helps protect a section of mainland along Johnson Bay, which is dominated by fragile marshland with three boat landings. By buffering storm-driven wave action, Tizzard Island helps protect these ecological and economically important resources while also providing critical wildlife habitat in the form of salt marshes, small ponds, small dispersed pockets of forested uplands, and adjacent submerged aquatic vegetation. Unfortunately, Tizzard Island is threatened by increasingly strong and frequent storm events and sea level rise, which will be exacerbated by climate change. Over the past 20 years, the Coastal Bays have lost almost 300 acres of islands, and adaptation strategies are needed to ensure that the remaining island network can adapt with changing climate conditions. Tizzard Island's vulnerability is representative of the broader network of near-shore islands within the Coastal Bays and climate-resilient restoration and protection techniques at this site may be transferable across the island network.

Natural and nature-based solutions are needed to enhance island resilience in the face of sea level rise, coastal storms, and other climate impacts. The goal of this project is to increase the resilience of Tizzard Island to erosion, storm impacts and sea level rise so that it continues to buffer the adjacent mainland community from storm-driven waves while providing critical

wildlife habitat. Furthermore, this project will inform future island restoration and protection efforts in the region.

Objectives & Responsibilities

The objectives of this project include:

1. Develop a Tizzard Island Resiliency Plan that identifies and prioritizes climate-resilient restoration options that will increase the ability of the island to adapt to changing climate conditions.
2. Design a nature-based shoreline stabilization and wetland restoration project based on the Tizzard Island Resiliency Plan to address erosion, sea level rise and storm impacts.
3. Engage stakeholders in discussions about long-term island restoration and protection opportunities. Stakeholders may include Tizzard Island property owners, other small island property owners in the region, Lower Shore Land Trust, EA Vaughn Wildlife Management Area and Maryland Department of Natural Resources (DNR), among others.
4. Engage and educate mainland and island stakeholders about climate resilience challenges and opportunities, including nature-based solutions.

This project supports Phase I of the Tizzard Island Shoreline and Marsh Project, as outlined below. Phases II and III are expected once Phase I deliverables are complete, pending Capital Budget allocations and approval by the Board of Public Works.

Phase I: Design, Permit Acquisition, and Baseline Monitoring (FY19-20)
Phase II: Construction (FY21)
Phase III: Monitoring and Maintenance for Adaptive Management (FY21)

The MCBP will contract with an experienced environmental design firm to develop a Tizzard Island Resiliency Plan that identifies and prioritizes climate-resilient restoration options to increase island resiliency. DNR and MCBP will work collaboratively with the engineer to produce a holistic plan. Following plan completion, the engineer will design one or more nature-based shoreline stabilization and wetland restoration project on Tizzard Island as agreed upon by the project team. Climate resilient features, such as a shingle beach, will be included within the design to ensure that the project is regenerative and able to recover or readjust following natural disturbance from extreme weather and climate-related events. DNR will provide bathymetric and topographic survey services based on the selected project site. The contractor will work in close coordination with MCBP and the DNR Technical Project Manager (Claudia Donegan, claudia.donegan@maryland.gov; 410-260-8768) to review the existing concept designs, participate in pre-permit application meeting(s), address permitting and/or community concerns, prepare project drawings and specifications, and obtain all necessary State, Federal, and local government permits, licenses or approvals as applicable. The selected contractor will follow any applicable specifications outlined in DNR's "Specifications for Consulting Engineering Services relating to Living Shoreline Projects." The resulting design specifications and permits will support construction of the selected nature-based resiliency practices (expected FY21).

DNR personnel will work with MCBP to plan and conduct any necessary pre-project monitoring. Tizzard Island property owners (Mr. Brainard H.Warner, IV and Mr. Howard W. Smith, III) will provide MCBP, DNR and the selected engineer with an orientation of the island's geological, biological and hydrologic characteristics, as well as historical impacts of tides, waves, storms, and other impacts. MCBP, DNR, and Lower Shore Land Trust will work together to engage and

educate local stakeholders about climate resilience and long-term property protection. Findings from community engagement will be summarized to inform and catalyze similar activities in the region.

Monitoring, Maintenance & Adaptive Management
MCBP and DNR personnel will evaluate the monitoring potential of the project and determine if MCBP and/or DNR staff will conduct pre- and post-construction monitoring. Based on findings, the project team will develop a monitoring protocol, with pre-construction monitoring occurring during Phase I to serve as a baseline for restoration activities. If the project team moves forward with baseline monitoring, then it is understood that post-construction monitoring will be planned for Phase III based on timelines outlined in the developed monitoring protocol. Post-construction maintenance will also be conducted as needed by MCBP during Phase III and tracked in accordance with permit requirements to inform future project success.

Education, Communication & Outreach Activities
The general public will have access to the project site for education, communication, and outreach purposes if accompanied by MCBP or DNR personnel with sufficient notification as to date, time, number, and affiliation. DNR personnel will work with MCBP to engage local stakeholders about this nature-based approach to resiliency throughout all phases of the project. Stakeholders will include island owners, mainland residents and visitors, Worcester County officials, Lower Shore Land Trust and EA Vaughn Wildlife Management Area, among others. MCBP will utilize the project as a pilot for development of a comprehensive resilience planning approach for island restoration and protection in Maryland's Coastal Bays.

Deliverables

Deliverable 1: Tizzard Island Resiliency Plan.
A holistic island resiliency plan that identifies and prioritizes climate-resilient restoration options. May 2019.

Deliverable 2: Design & Permitting
Final design drawings and specifications with applicable permit approvals. Designs and permits will expand on one or more options outlined in deliverable 1. July 2020.

Deliverable 3: Community Engagement Report
A report that summarizes opportunities, challenges, and recommendations for regional long-term island restoration and protection based on community engagement. This deliverable will form the basis for a larger comprehensive resilience planning effort to restore and protect bay islands.

Revised Timeline for Design Elements (Tentative)

- Bid Selection – February 2019
- Engineer Selected and Contracted – March 2019
- Tizzard Island Resiliency Plan – June 2019
- Design Site Selection – June 2019
- Engineering Survey Review – July 2019
- 60% Design and Permit Pre-Approval – October 2019
- Construction Plans and Permitting / Bid Solicitation Package – July 2020