MDOT MPA Plan for Coastal Resiliency with Dredged Material Innovative Reuse/Beneficial Use FY20 BRIC

Status: Submitted to recipient

Scope of work

The project Scope of Work (SOW) identifies the eligible activity, describes what will be accomplished and explains how the mitigation activity will be implemented. The mitigation activity must be described in sufficient detail to verify the cost estimate. All activities for which funding is requested must be identified in the SOW prior to the close of the application period. FEMA has different requirements for project, planning and management cost SOWs.

Subapplication title (include type of activity and location)	**MDOT MPA Plan for Coastal Resiliency with Dredged Material Innovative Reuse/Beneficial Use FY20 BRIC**

Activities

Primary activity type	**Develop or conduct engineering, environmental, feasibility and/or benefit cost analyses**
Secondary activity type (Optional)	**Conduct meetings, outreach and coordination with subapplicants and community residents**
Tertiary activity type (Optional)	
Geographic areas description	**Coastal areas including infrastructure, communities and natural resources adjacent to the Chesapeake Bay with proximity to the MDOT MPA existing Harbor Dredged Material Containment Facilities (DMCF) and existing transportation infrastructure.**

Community lifelines

Primary community lifeline	**Transportation**
Primary sub-community lifeline	**Maritime**
Secondary community lifeline (optional)	**Safety and security**

Secondary sub-community lifeline	**Community safety**
Tertiary community lifeline (optional)	

Hazard sources

Primary hazard source	**Flooding**
Secondary hazard source (optional)	**Tropical cyclone (Hurricane/Typhoon)**
Tertiary hazard source (optional)	**Severe storm**
How will the mitigation activity be implemented?	**As waters continue to rise, planning for Chesapeake Bay-wide resiliency for critical infrastructure and adjacent communities vulnerable to coastal and storm impacts is imperative. The need for resiliency projects utilizing nature-based and engineered solutions to sea-level rise is increasing, leading to a heightened need for materials. Sourcing material for these projects is often logistically and economically difficult. The Maryland Department of Natural Resources recently released data to help spatially align sources of dredged material with resiliency projects. This project proposes to build upon those efforts by providing temporal relief with dredged material sourced from Baltimore Harbor Dredged Material Containment Facilities (DMCF) for resiliency project implementation. This will be achieved through the development of a regional strategy where Beneficial Use of Dredged Material from Harbor DMCFs will be available for resiliency projects to benefit critical State of Maryland infrastructure as well as adjacent communities. Proposed activities for the project are listed below: Task 1 – Background Research - Inventory existing data, local and regional studies, and recently completed engineering evaluations of possible MDOT MPA facilities and possible restoration activities. Identify local government stakeholders who meet CRS and NFIP requirements and are at high risk of coastal and storm impacts within proximity to MDOT MPA facilities. Task 2 – Stakeholder Communication - Establish frequent stakeholder communication events/workshops to ensure project objectives meet stakeholder needs. Open and maintain communications with regulatory agencies**

	regarding use of dredged material and timing of resiliency projects. Task 3 – Technology Evaluation - Based on data gaps identified under Task 1 and through recommendations produced by convening a workshop of thin layer placement experts, coastal engineers, and marsh scientists to evaluate Nature-Based technologies as well as more traditional coastal engineering techniques utilizing dredged material. Task 4 –Risk and Threat Analysis - Data will be examined, and an analysis of risks and threats will be developed through the compilation of a matrix table. As part of identifying and describing design opportunities, a detailed narrative and description of what the opportunity entails, including the opportunity objectives, challenges, obstacles, and costs/benefits likely faced during implementation will also be developed. Task 5 – Evaluation and Modeling - Combine existing information with Nature-Based Solutions utilizing dredged material from Baltimore Harbor DMCFs. These data will be used for a more robust modeling effort to inform conceptual design of resiliency project locations and to further refine and execute potential models such as hydrodynamic models and geotechnical calculations/models to predict material consolidation and compression rates. Task 6 – Develop Conceptual Designs - Develop the conceptual design documents, suitable for regulatory pre-application discussions. These documents will provide information on transfer of the dredged material to the resiliency project sites, placement activities, and proper monitoring and adaptation methods. Particular attention will be paid to additional benefits of reducing nutrient impacts to surface water from the considered project options as well as constructability issues, such as consolidation of sediment and the marsh surface, pH/sulfides, access/egress, and other related issues. As appropriate, future condition projections (sea-level rise) will be considered.
What is the scope of work of the proposal? Will it result in a complete project application for future funding opportunities?	**Planning to mitigate risk to sea-level rise and storm surge flooding using nature-based adaptation options in concert with engineered solutions utilizing maintenance dredged material from the Inner Harbor Federal Channels placed in existing MDOT MPA's DMCFs. Proposed activities for the project include Inventory of existing data; Establish frequent stakeholder communication events/workshops; Evaluate technologies utilizing dredged material; analysis of flooding risks and**

	threats; Evaluate Nature-Based Solutions utilizing dredged material from Baltimore Harbor DMCFs; Develop a prioritized matrix of resiliency options; Develop the conceptual design documents.
Who will manage and complete the mitigation activity?	**Maryland Department of Transportation Maryland Port Administration (MDOT MPA)**
What are you doing to consider other risks in the project area?	**Increasing/improving habitat restoration along poor quality or degraded shorelines.**
Is there an estimate for when the mitigation activity will take place?	**From July 2021 to December 2022**
What alternatives will be considered?	**A no action option will be considered.**
Do activities being considered align with hazard mitigation plan?	**Yes, prevention of flooding due to sea level rise and storm surge impacts.**

Additional comments (optional)

Attachments

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