Middle Branch Resiliency Initiative - Phase I

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)	**Middle Branch Resiliency Initiative - Phase I**

Activities

Primary activity type	**Flood control**
Primary sub-activity type	**Low impact development/nature based solutions**
Secondary activity type (Optional)	**Flood control**
Secondary sub-activity type	**Wetland restoration/creation**
Tertiary activity type (Optional)	**Flood control**
Tertiary sub-activity type	**Berm**
Geographic areas description	**The Middle Branch Resiliency Initiative (MBRI) is a comprehensive implementation strategy for mitigating flood risks to public utilities, hospitals, transportation infrastructure, and communities surrounding the Middle Branch of the Patapsco River in Baltimore, Maryland. The two sites protected in Phase I of the MBRI include a major Liquified Natural Gas facility serving the region and a major regional medical center. This regional customer base for both facilities means that the impact of the project includes the specific properties; the surrounding neighborhoods; the City of Baltimore; and the adjacent jurisdictions of Baltimore County and Anne Arundel County.**

Community lifelines

Primary community lifeline	**Energy**

Primary sub-community lifeline	**Fuel**
Secondary community lifeline (optional)	**Health and medical**
Secondary sub-community lifeline	**Patient movement**
Tertiary community lifeline (optional)	**Hazardous material**
Tertiary sub-community lifeline	**Facilities**

Hazard sources

Primary hazard source	**Flooding**
Secondary hazard source (optional)	**Severe storm**
Tertiary hazard source (optional)	**Infrastructure failure**

Is this a phased project?	**Yes**
Are you doing construction in this project?	**Yes**
Population affected	**21**
Detail/description of stated percentage	**See attached spreadsheet detailing the calculations undergirding this percentage.**
Provide a clear and detailed description of your proposed activity	**The Middle Branch Resiliency Initiative (MBRI) is a comprehensive implementation strategy for mitigating flood risks to public utilities, hospitals, transportation infrastructure, and communities surrounding the Middle Branch of the Patapsco River in Baltimore, Maryland. Through a coordinated network of vegetated berms, living shorelines, restored wetlands/aquatic habitats, and public space enhancements, the MBRI will protect critical infrastructure elements and Community Lifelines. Phase I of the MBRI focuses on increasing the resilience of two community lifelines located along the shoreline of Middle Branch – the BGE Spring Gardens site (BGE) and MedStar Harbor Hospital site (MHH). This proposal will refer to both sites by these names for identification purposes, even though as a technical matter most of the nature-based resiliency features described herein will be constructed on adjacent subaqueous property controlled by the State of**

	Maryland rather than by the named institutions. Further details are provided in the attached document.
How will the mitigation activity be implemented?	**MBRI Phase I will use nature-based infrastructure to increase resilience to sea level rise and climate change along the vulnerable Middle Branch Shoreline and protect two major community lifelines: BGE Spring Gardens and Medstar Harbor Hospital. In both cases, a complex of restored wetlands and vegetated berms will be installed in order to simultaneously address hazards, encapsulate any contaminated soils, enhance water quality, and restore damaged wetland habitats. Further details are provided in the attached document.**
Describe how the project is technically feasible and will be effective in reducing the risk by reducing or eliminating damage to property and/or loss of life in the project area. Please include engineering design parameters and references to the following: preliminary schematic or engineering drawings/design; applicable building codes; engineering practices and/or best practices; level of protection (e.g., life safety, 100-yr flood protection with freeboard, 100-yr wind design, etc.):	**The MBRI Phase I has already undergone extensive engineering and regulatory analysis, and is extremely feasible given current technologies and implementation techniques. Specifically: • The techniques implemented here have clear precedents in other projects across the country; • The Project Team has presented the concept to Local, State, and Federal regulators for comment; • The designs presented in this application have already gone through an extensive process of Design Development, feasibility assessment, and alternatives analysis; • Any detail changes that are required will be easily incorporated during the design development and permitting process; • The project is consistent with Maryland Coastal Zone Management Act (CZMA) policies and regulations, as explained elsewhere in this application; • Alternative approaches to both sites have been considered and rejected as not practicable, as explained elsewhere in this application; • The project will encapsulate any contaminated sediments that may be present, and will be installed in a manner that tightly manages the risk of inadvertent sediment transport , as explained elsewhere in this application; • The project will not have a negative impact on rare, endangered, or threatened species, as explained elsewhere in this application; • The project will have a positive impact on historic structures, as explained elsewhere in this application; and • The project will have a positive impact on disadvantaged communities, as explained elsewhere in this application. • The project will establish a long-term management (LTM) endowment with SBGP as the beneficiary. GreenTrust Alliance will work closely with SBGP as the long-term steward. The The LTM**

	plan will include a schedule of annual inspections to evaluate stability, functionality and conduct routine maintenance. The LTM endowment will set up a non-extinguishing principal balance where the interest generated will cover the anticipated annual LTM costs. Further details are provided in the attached document.
Who will manage and complete the mitigation activity?	**The subapplicant is South Baltimore Gateway Partnership (SBGP). This innovative economic development authority supports the City of Baltimore in its efforts to mitigate hazards, restore the Middle Branch, provide recreational facilities, and generate economic development. The Partnership is a major funder of the Middle Branch Master Plan update and a wide range of related capital, maintenance, and programming activities around the waterfront. Its board of directors consists of neighborhood, nonprofit, and business representatives from around the Middle Branch area. SBGP issued a competitive solicitation in October 2020, to select a contractor for the development of the MBRI project and associated BRIC application. SBGP selected GreenVest, LLC (GV) as its prime contractor and program manager. GV has assembled a truly remarkable team of subcontractors to deliver Phase I of the MBRI. GV intentionally onboarded and integrated project team partners with diverse skillsets, as well as technical and professional overlap to ensure we have both capability and capacity to deliver a high-performance project. This team also will help achieve Baltimore City Minority Business Enterprise (MBE) and Woman-owned Business Enterprise (WBE) goals. Further details are provided in the attached document.**
Will the project address the hazards identified and what risks will remain from all hazards after project implementation (residual risk)?	**The MBRI Phase I will use nature-based infrastructure to increase the flooding resiliency of two major community lifelines: BGE Spring Gardens LNG facility and Medstar Harbor Hospital. In both cases, a complex of restored wetlands and vegetated berms will be installed in order to simultaneously address flooding hazards due to storm surge, tidal flooding, and sea level rise; encapsulate any contaminated soils; enhance water quality; and restore damaged wetland habitats. An engineering analysis by members of the MBRI Project Team has determined that these features will have a Project Useful Life (PUL) of 50 years. Further details on hazards identified and residual risk are provided in the attached document.**

When will the mitigation activity take place?	**Assuming that BRIC funds are awarded and contracted by February, 2022, construction of Phase I of the MBRI will be completed by November, 2024. This is within the 3-year project completion requirement, and provides substantial additional time in the event of unforeseen delays. Beyond that point, the Project Team will provide five years of maintenance and monitoring, followed by an endowed Long Term Maintenance plan that will last throughout the Project Useful Life (PUL) of 50 years. Further details are provided in the attached document.**
Explain why this project is the best alternative. What alternatives were considered to address the risk and why was the proposed activity considered the best alternative?	**Prior to commencing the current designs, the MBRI Project Team considered multiple alternatives for each site. After extensive testing of each scenario, in consultation with the property owners and agency officials, the Project Team selected the strategies presented in this proposal. Further details are provided in the attached document.**
Please identify the entity that will perform any long-term maintenance and provide a maintenance, schedule and cost information. The subapplicant or owner of the area to be mitigated is responsible for maintenance (including costs of long-term care) after the project is completed?	**This team will develop a Long-Term Management (LTM) plan and implement the program lead by GreenTrust Alliance (GTA) and in cooperation with SBGP. The intent of the LTM Plan will be to ensure the long-term operational integrity and function of the program and the individual project elements. The budgets prepared for the BRIC Grant include an endowment to fund a LTM program in perpetuity, which is expected to generate $40,000 per year. The Long-Term Management Endowment will be established prior to completing the regulatory MM period, with South Baltimore Gateway Partnership as the beneficiary. GreenTrust Alliance will work closely with SBGP as the long-term steward, and the LTM plan will include a schedule of annual inspections to evaluate stability, functionality and conduct routine maintenance. The LTM endowment will set up a non-extinguishing principal balance where the interest generated will cover the anticipated annual LTM costs. The result is an an effective and endowed strategy for long term maintenance throughout the project's 50 year Project Useful Life (PUL). Further details are provided in the attached document.**
Additional comments (optional)	**Project schedule is attached. PLEASE NOTE that construction is complete within 36 months, but we have included 5 years of additional maintenance**

and monitoring to ensure that there are no issues. These 5 years are shown on our schedule for the sake of completeness.

Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
Population Affected 2020-11-20.pdf	11/20/2020	brogers@sbgpartnership.org	Scope of Work Attachments	Calculation of population affected	
MBRI Phase I Schedule_111820_V3.pdf	11/20/2020	brogers@sbgpartnership.org	Scope of Work Attachments	Project schedule, including 3-year construction deadline and subsequent 5-year maintenance and monitoring period.	
MBRI Phase I SOW_FULL PACKAGE.pdf	11/20/2020	brogers@sbgpartnership.org	Scope of Work Attachments	Uncorrected Scope of Work with *MINOR ERROR IN TABLE 3.1*	
MBRI Phase I SOW_FULL PACKAGE FINAL 2020-11-20 Rev 1.pdf	11/23/2020	brogers@sbgpartnership.org	Scope of Work Attachments	Final Scope of Work *CORRECTING MINOR ERROR* in Table 3.1.	

Continue