City of Cambridge MD Sewer System Hardening for Resilience to All Hazards

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)	**City of Cambridge MD Sewer System Hardening for Resilience to All Hazards**

Activities

Primary activity type	**Utility and infrastructure protection**
Primary sub-activity type	**Wastewater and/or sanitary sewer system**
Secondary activity type (Optional)	**Floodproofing**
Secondary sub-activity type	**Wet floodproofing**
Tertiary activity type (Optional)	**Elevation**
Geographic areas description	**Sewer System within the 100 year floodplain**

Community lifelines

Primary community lifeline	**Health and medical**
Primary sub-community lifeline	**Medical care**
Secondary community lifeline (optional)	**Health and medical**
Secondary sub-community lifeline	**Public health**
Tertiary community lifeline (optional)	

Hazard sources

Primary hazard source	**Flooding**
Secondary hazard source (optional)	**Severe storm**
Tertiary hazard source (optional)	
Is this a phased project?	**No**
Are you doing construction in this project?	**Yes**
Population affected	**40**
Detail/description of stated percentage	**3100 total properties will be impacted by this proposed utility mitigation project.**
Provide a clear and detailed description of your proposed activity	**Because of the age and location of the City's Sewer System infrastructure and rising sea levels, the current system does not function as required and the flooding problem is exacerbated due to frequent flooding and environmental degradation due to sewage discharge in frequent events (up to three times monthly with ever increasing high tides). The proposed project includes elevating pump stations, and upgrading the gravity sewer lines to harden the system and make it resilient to all hazards.**
How will the mitigation activity be implemented?	**The City will manage the project with contractor support for the design and construction of the proposed hardening improvements to the system.**
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 proposed project will elevate three existing pumping stations above the 100 year floodplain and will include a design flood elevation that incorporates anticipated sea-level rise of 2.1 feet by 2050. The existing sewer line will be retrofitted and replace where needed, as well as hardened and floodproofed to account for its location in the floodplain and the anticipated sea level rise. Currently, several high tides per month cause localized flooding and service impacts and overflows, with rain events frequently causing riverine flood events, and hurricanes (including hurricane Isabel in 2003) bringing coastal surge as the storms move up the Chesapeake Bay and Choptank River.**
Who will manage and complete the mitigation activity?	**The City of Cambridge will manage the project. The City Engineer will serve as the Project Manager**

	with the support of subject matter experts within City Government, and outside consultants.
Will the project address the hazards identified and what risks will remain from all hazards after project implementation (residual risk)?	**The High risk hazards for the City are all flood related due to hurricanes, nor'easters, riverine flooding and storm surge/ and wind. Hardening of the system will result in floodproofing of the system to all of these hazards.**
When will the mitigation activity take place?	**Over a 3 year period beginning when funding becomes available under this grant application.**
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?	**See attached scope of work that includes an assessment of the system current condition, vulnerability, and the alternative mitigation measures considered. Because of the age of the system, and projections for sea level rise, the best alternative is to elevate the pump stations, and retrofit, harden and floodproof the gravity sewer line.**
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?	**The City of Cambridge will maintain the system once completed.**
Additional comments (optional)	

Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
Service Area Map Cambridge Sewer Hardening Project.pdf	11/19/2020	cvissering@visseringgroup.com	Scope of Work Attachments	*No description given.*	
Project Location.pdf	11/19/2020	cvissering@visseringgroup.com	Scope of Work Attachments	*No description given.*	

Filename	Date uploaded	Uploaded by	Label	Description	Action
FEMA 2020 BRIC Sewer System SOW Draft 11172020.docx	11/17/2020	lawhitepe@aol.com	Scope of Work Attachments	City of Cambridge BRIC Sewer System Statement of Work	

Continue