



AGENDA MEMORANDUM

Action Item for the City Council Meeting of March 30, 2021

DATE: March 30, 2021

TO: Peter Zaroni, City Manager

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Mary Rhodes Pipeline Phase 2 System Improvements
Feasibility Study Cost-Share Agreement with the U.S. Army Corps of Engineers

CAPTION:

Motion authorizing a cost-share agreement with the U.S. Army Corps of Engineers to conduct a study that will analyze impaired infrastructure and provide alternatives to address streambank erosion control related to the Mary Rhodes Pipeline Phase 2 System Improvements project, located in the vicinity of the Mary Rhodes Pump Station in Matagorda County, in an amount not to exceed \$92,500.00, with FY 2021 funding available from the Water Capital Fund and funding in the amount of \$192,500 available from the U.S. Army Corps of Engineers.

SUMMARY:

This motion authorizes a cost-share agreement with the U.S. Army Corps of Engineers to conduct a feasibility study for streambank erosion control related to the Mary Rhodes Pipeline Phase 2 System Improvements. The feasibility study will provide an analysis of the imminent threats to the facilities as well as the formulation and evaluation of the lowest-cost alternative solution to effectively address the erosion along the portion of the Colorado River in the vicinity of the intake structure of the Mary Rhodes Pump Station. The study also will provide the proposed project design and construction costs.

BACKGROUND AND FINDINGS:

In the 1990's the City of Corpus Christi was experiencing water shortages and former Mayor Mary Rhodes led an initiative to secure water rights from the Colorado River to provide for an additional water source to residents, businesses, and industries. Mayor Rhodes' initiative led to the

development of the Mary Rhodes Pipeline. The pipeline consists of Phases 1 and 2. Phase 1 was constructed in 1998 and includes a 101-mile-long pipeline and several pump stations that transfer water from Lake Texana to the O.N. Stevens Water Treatment Plant. Phase 2 was constructed in 2016 and includes a 42-mile-long pipeline that has two pump stations and a sedimentation basin that starts at the Colorado River near Bay City, connecting to Phase 1 of the pipeline at Lake Texana.

Following Hurricane Harvey and subsequent major rain events, portions of the riverbank along the Colorado River that are adjacent to the Mary Rhodes Pipeline Phase 2 water intake structure and pump station have experienced significant streambank erosion. In 2018, the City retained the Engineering firm Freese and Nichols, Inc. (FNI). to prepare a technical memorandum to assess the erosion at the riverbank, develop preliminary recommendations to repair and restore the riverbank and to prevent further threats to the Mary Rhodes Pipeline Phase 2 water intake structure and pump station. The report prepared by FNI is a very basic memorandum that was provided to U.S. Army Corps of Engineers (USACE) to request for funding assistance for the project. In their assessment, FNI indicated that the erosional process on the river has caused the streambank to recede approximately 10 to 12 feet and that it is approximately 15 to 40 feet from the pertinent structures of the intake structure, pump station, and sedimentation basins in various locations along the project area. Moreover, the erosion has compromised certain land structures, such as the pump station, alert warning infrastructure, power lines, and the sedimentation basin. Most importantly, the power lines in the vicinity are in imminent danger of failure, as the erosion is already approaching the foundation of the power line poles.

Due to the escalating degradation of the area adjacent to the pump station (0.45 miles in length), the City proactively requested assistance from the USACE, in partnership with the City, to further investigate the issue and determine solutions for needed repairs under its Emergency Streambank and Shoreline Protection – Continuing Authorities Program (CAP). CAP authorizes the USACE to plan, design, and construct projects to assist local governments by investigating potential water resource issues.

A CAP project is conducted in two stages: (1) a feasibility study, and (2) design and implementation (construction). Both stages of a CAP project are cost-shared between the federal government and the local government. The cost-share for the first stage will require the City to fund 50% of the project if the feasibility study exceeds \$100,000. The total cost of the feasibility study is \$285,000, with the Federal Government funding the first \$100,000 and then cost-sharing 50% of the remaining amount of \$185,000 with the City. Therefore, the remaining amount will require the City and Federal Government to provide \$92,500 to cover the remaining costs. The CAP's second stage will require the City to fund 35% of project design and construction costs. This amount is dependent on the feasibility study and at the moment the USACE has not provided the City with a preliminary cost.

This agenda item will authorize the City to enter into the cost-share agreement with the USACE for the first stage of the project. After completion of the feasibility study (first stage), the USACE will begin the second stage, which is to prepare a detailed project report with the recommendations for design and construction to remediate the erosion problem.

PROJECT TIMELINE:

The project feasibility study will begin in April 2021 with anticipated completion by December 2021.

ALTERNATIVES:

An alternative is to not proceed with the cost-share agreement for the feasibility study with the U.S. Army Corps of Engineers, which will allow the erosion to continue along the Colorado Riverbank and remain an imminent threat to the Mary Rhodes Pump Station and intake structure.

FISCAL IMPACT:

This fiscal impact for FY 2021 is an amount of \$92,500.00, with funding available from the Water Capital Fund. The total cost of the feasibility study is \$285,000.00. The amount of \$92,500.00 represents the portion that the City is responsible for under the cost-share agreement.

The Capital Improvement Program (CIP) shows the design project is ready to be implemented in FY 2021. The CIP expenditures for design were preliminarily budgeted at \$50,000.00. The remaining amount of \$42,500.00 is available under the Contingency expenditure for this project.

FUNDING DETAIL:

This project is listed in the FY 2021 Capital Improvement Program.

Fund: Water 2015 MRP2 (Fund 4095)
Mission Elem: Water Distribution (041)
Project: Mary Rhodes Pipeline Phase 2 System Improvements (19025A): Please
reference project 20105A in the FY 2020-2021 Capital Budget.
Account: Outside Consultants (550950)
Activity: 19025-A 4095-EXP
Amount \$92,500

RECOMMENDATION:

Staff recommends approval of the motion authorizing a cost-share agreement with the U.S. Army Corps of Engineers to conduct a feasibility study for streambank erosion control related to the Mary Rhodes Pipeline Phase 2 System Improvements project.

LIST OF SUPPORTING DOCUMENTS:

Feasibility cost share agreement
Location and Vicinity maps
Project management plan
Lobbying certification
Letter of intent
Self-certification of financial capability