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COMMISSION

AGENDA MEMORANDUM Item No. 8h

ACTION ITEM Date of Meeting September 13, 2022

DATE: September 6, 2022

TO: Stephen P. Metruck, Executive Director

FROM: Keri Stephens, Director, AV Facilities & Capital Programs

Eileen Francisco, Director, Aviation Project Management Group

SUBJECT: 1947 Water Main Improvements (CIP #C801224)

Amount of this request: \$1,025,000

Total estimated project cost: \$4,319,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to complete design of the 1947 Water Main Improvements project at Seattle-Tacoma International Airport. The requested authorization amount is \$1,025,000 for a total authorization of \$1,100,000.

EXECUTIVE SUMMARY

The Utility Master Plan has identified the existing 1947 water transmission main to be deficient or nearing the end of serviceable lifespan. This deficient water main will be addressed by a program of three projects, including this 1947 Watermain Improvement project. The selected portion of water main for this project provides the primary feed to the Central Plant cooling towers, North Toll Plaza, Light Rail Station; and secondary feed to large fire flow facilities such as Delta Hangar, Alaska Hangar, Main Garage and Fuel Farm. The pipe needs to be restored to protect the integrity of Port's water system. Instead of a costly and highly impactful traditional remove-and-replace method, the Port is pursuing restoration by pipelining, namely Cured-In-Place-Pipe. The design of this project will include analyzing the best pipe rehabilitation method.

JUSTIFICATION

This project will support the Century Agenda goal to advance this region as a leading tourism destination and business gateway by meeting the region's air transportation needs through improving vital facilities and infrastructure in a sustainable and cost-effective manner. This water main has reached the end of its serviceable life and has experienced multiple failures requiring emergency repairs, most recently in January 2021. This project will extend the serviceable life of the water main, and the low-impact method of installation will also minimize traffic delays and overall construction duration.

Template revised January 10, 2019.

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Diversity in Contracting

The design of this project will utilize an existing Indefinite Delivery / Indefinite Quantity (IDIQ) Contract to provide design services. The contract has a 10% over-all WMBE participation goal. The project team will work with Diversity in Contracting department to establish additional WMBE goals for the construction contract.

DETAILS

The project will restore the water main from where it begins south of the S 182nd St intersection with International Blvd adjacent to the light rail guideway, traveling north under the Northern Airport Expressway (NAE) (located east of the Main Garage), and ending under the NAE approximately, north of the light rail pedestrian bridge. The entire length of watermain addressed will be approximately 2,400 linear feet.

Scope of Work

The 16-inch steel water main will be restored by pipe lining, which is more cost-effective and less operationally impactful than the traditional remove-and-replace methodology. Additionally, the project will replace existing tees and provide access vaults or manholes to ease future access needs for reaching the water main, which is twenty feet deep in some locations under the NAE.

Schedule

Design start 2022 Quarter 3

Commission construction authorization 2023 Quarter 3

Construction start 2024 Quarter 1

In-use date 2024 Quarter 3

Cost Breakdown This Request Total Project

Design \$1,025,000 \$1,100,000
Construction \$0 \$3,219,000
Total \$1,025,000 \$4,319,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Continue addressing emergency failures

Cost Implications: \$500,000 per event based upon past failures

Pros:

(1) Requires no capital investment

Cons:

(1) Emergency failures cause unexpected damage and disruption to operations

(2) Does not address water main pipe that is beyond its serviceable life. Will likely require more frequent emergency repairs.

Template revised June 27, 2019 (Diversity in Contracting).

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This is not the recommended alternative.

Alternative 2 – Remove-and-replace water main

Cost Implications: \$12,000,000

Pros:

(1) Completely replaces the 74-year-old pipe with new piping providing a fifty-year service life

(2) Potential for increased capacity

Cons:

(1) Major disruption to operations (lane closures, detours, roadway capacity reduction)

(2) Requires significant capital investment

This is not the recommended alternative.

Alternative 3 – Restore the pipe by lining

Cost Implications: \$4,319,000

Pros:

(1) Reasonably priced solution

(2) Design service life is fifty-years

(3) Minimizes impacts to operations (only access pits at tee and valve replacement locations)

Cons:

(1) Relies on existing pipe to form and house liner

(2) Minimally reduces inner pipe diameter, which may reduce flow capacity

This is the recommended alternative.

FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary Capital Expense Total

COST ESTIMATE

Original estimate \$2,263,000 \$0 \$2,263,000

Current change \$2,056,000 \$0 \$2,056,000

Revised estimate \$4,319,000 \$0 \$4,319,000

AUTHORIZATION

Previous authorizations \$75,000 \$0 \$75,000

Current request for authorization \$1,025,000 \$0 \$1,025,000

Total authorizations, including this request \$1,100,000 \$0 \$1,100,000

Remaining amount to be authorized \$3,219,000 \$0 \$3,219,000

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Annual Budget Status and Source of Funds

This project, CIP C801224, was included in the 2022-2026 capital budget and plan of finance with a budget of \$2,263,000. A budget of \$2,056,000 was transferred from the Utility Master Plan Reserve CIP (C801267) resulting in a zero net change to the Aviation capital budget. The funding sources will be the Airport Development Fund (ADF) and revenue bonds.

Financial Analysis and Summary

Project cost for analysis \$4,319,000

Business Unit (BU) Utility storm water project would be recovered through

utility internal charge that would impact 80.8% to airlines.

Effect on business performance NOI after depreciation will increase due to inclusion of (NOI after depreciation) capital (and operating) costs in airline rate base.

IRR/NPV (if relevant) N/A

CPE Impact \$.01 in 2025

Future Revenues and Expenses (Total cost of ownership)

The operations and maintenance costs are anticipated to be minimal.

ATTACHMENTS TO THIS REQUEST

(1) Vicinity Map

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

None

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