

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA

Item No. 6b
Date of Meeting July 27, 2010

DATE: June 28, 2010

TO: Tay Yoshitani, Chief Executive Officer

FROM: Darlene Robertson, Director, Harbor Services, Real Estate Division
Kenneth Lyles, General Manager, FT/Maritime Industrial Center
Tim Leonard, Project Manager, Capital Development Division

SUBJECT: Construction Funding for the Maritime Industrial Center (MIC) Central Seawall Replacement project CIP #C800175

Amount of This Request: \$2,240,000

Source of Funds: Tax Levy

State and Local Taxes Paid: \$170,000

Est. Workers Employed: 17

Total Project Cost: \$2,650,000

ACTION REQUESTED:

Request authorization to advertise for construction bids, award the contract, and construct the MIC Central Seawall Replacement project for an estimated cost of \$2,240,000 bringing the total authorized amount of this project to \$2,650,000.

SYNOPSIS:

Staff requests approval for construction funding for the replacement of approximately 250 lineal feet of existing steel sheet pile seawall between the West and Central Piers at the Maritime Industrial Center (MIC) which has exceeded its service life and is at risk of structural failure. The replacement of this seawall section will alleviate the existing structural safety concern and consequently allow resumption of tenant vessel loading/unloading and vehicle parking operations along it.

BACKGROUND:

Since purchasing the Maritime Industrial Center from the United States Coast Guard in 1992, the Port of Seattle has operated it as a commercial marine facility serving numerous tenants. In addition to its upland interior office/workshop/storage spaces and secured parking and work yard areas, the MIC currently contains 1,518 linear feet of

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

June 28, 2010

Page 2 of 6

dock space for marine loading and repair work and provides moorage for vessels up to 250 feet in length.

In February 2007, severe corrosion was detected along the waterline at the oldest steel sheet pile section of the seawall - installed in the 1930s and consisting of approximately 250 lineal feet in length between the West and Central Piers - during a dock pile condition survey being performed by Harbor Consulting Engineers. Upon further inspection by Port personnel, it was discovered that the corrosion has resulted in perforation of the sheet piling and significant loss of fill material under limited portions of the pavement immediately behind the seawall. Due to a potential structural safety concern, a decision was made by the Port to prevent any further parking of vehicles along this length of the seawall until the concern is resolved. Consequently, ecology block barriers were installed in this area and vessel loading/unloading directly to or from vehicles has since been unavailable along this section of the seawall. In addition to the aforementioned surface water inspections, an underwater investigation of the steel pile was performed by Echelon Engineering, Inc. in August 2007. The finding of this investigation was that this steel pile seawall section is in poor overall condition due to significant corrosion, and consequently, is in need of replacement.

PROJECT JUSTIFICATION:

This is a safety issue. The improvement is needed as the existing sheet pile seawall section is in poor condition due to corrosion and resultant perforations in the steel which have in turn led to fill material being lost from under the pavement immediately behind the bulkhead. Consequently, this bulkhead section and the affected adjacent pavement area are at risk of structural failure. Vehicle parking as well as vessel loading/unloading along this section of the seawall is currently closed off pending its replacement.

PROJECT SCOPE OF WORK AND SCHEDULE:

Scope of Work:

The project scope will include the following:

- installation of approximately 250 LF of new steel sheet piling
- rerouting of electrical utilities as required for the new sheet pile installation
- construction of a new cast-in-place concrete cap over the old and new steel sheet pile sections
- installation of compaction grouting for structural subgrade support of pavement behind existing seawall section
- removal of several creosote treated timber piles and an abandoned marine rail system as mitigation for aquatic area fill and increased overwater coverage from new sheet piling

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

June 28, 2010

Page 3 of 6

- re-grading and replanting of shoreline in proposed mitigation area
- installation of applicable temporary soil erosion control measures

Schedule:

Design and permitting is to be completed by August 2010. In-water construction is to be completed by April 15, 2011 (at the end of the freshwater fish window). All construction is anticipated to be completed by summer 2011.

FINANCIAL IMPLICATIONS:

Budget/Authorization Summary

Original Budget	\$0
Previous Authorizations	\$410,000
Current request for authorization	\$2,240,000
Total Authorizations, including this request	\$2,650,000
Remaining budget to be authorized	\$0
Total Estimated Project Cost	\$2,650,000

Project Cost Breakdown

Construction	\$1,750,000
Construction Management	\$190,000
Design	\$350,000
Project Management	\$115,000
Environmental & Permitting	\$75,000
State & Local Taxes (estimated)	\$170,000
Total	\$2,650,000

Source of Funds

The MIC Seawall Replacement project was included in the 2010 Draft Plan of Finance as a committed project in the amount of \$2,111,000 under CIP C800175. The additional funding required to complete this project, in the amount of \$539,000, is available due to later or lower than expected spending on other projects included in the 2010 Draft Plan of Finance such as on Tenant Improvements – Capital. The project will be funded from the Tax Levy.

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

June 28, 2010

Page 4 of 6

Financial Analysis Summary:

CIP Category	Renewal/Enhancement						
Project Type	Renewal & Replacement						
Risk adjusted Discount rate	7.5%						
Key risk factors	<ul style="list-style-type: none">• Permitting delays could result in a delayed construction schedule. The timing of in-water work is limited to the period allowed by the fisheries services to limit impact on endangered species – currently October 1 through April 15.• Bids received are higher than the Port's estimate.• Material costs increase significantly before purchase.						
Project cost for analysis	\$2,650,000 (100% design)						
Business Unit (BU)	Harbor Services Group, Fishing and Commercial Vessels						
Effect on business performance	<p>This is a renewal and replacement project and accordingly, the project preserves Net Operating Income (NOI) rather than creates new NOI.</p> <p>Net Operating Income generated by the waterside operations of the Maritime Industrial Center is currently about \$70,000 per year excluding <u>major</u> maintenance expenses.</p> <p>As a result of this project, annual depreciation expense will increase by \$53,000, resulting in a corresponding reduction in Net Operating Income After Depreciation.</p>						
IRR/NPV	Financial Analysis, based on preserving Net Operating Income (proxy for cash flow): <table border="1"><thead><tr><th>NPV (in \$000's)</th><th>IRR</th><th>Payback (in years)</th></tr></thead><tbody><tr><td>(\$898)</td><td>4.4%</td><td>25</td></tr></tbody></table>	NPV (in \$000's)	IRR	Payback (in years)	(\$898)	4.4%	25
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ECONOMIC IMPACTS AND BUSINESS PLAN OBJECTIVES:

This project is aligned with the business plan objectives to maintain safe facilities and assets and provide customers with compelling value. It is a renewal and replacement project to rebuild the infrastructure (seawall) which is needed to continue to provide moorage & loading/unloading capacity to commercial fishing vessels, commercial workboats and vessel repair businesses at the MIC.

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

June 28, 2010

Page 5 of 6

STRATEGIC OBJECTIVES:

This work, if authorized, is aligned with the Industrial Moorage Initiative as it is intended to preserve and expand berth facilities to provide for a vibrant seaport that adequately serves the requirements of all essential sectors of the maritime community.

ENVIRONMENTAL SUSTAINABILITY AND COMMUNITY BENEFITS:

The project includes numerous features which will improve environmental conditions at the MIC, including:

- The project has been designed to avoid excessive air emissions and impacts on the waste stream. The existing seawall and unstable fill/pavement will be addressed and/or remediated in location rather than removed as landfill waste.
- The new seawall will be constructed primarily of steel and concrete components to take advantage of greater life cycle benefits.
- The removal of the marine rail system and fill from the west edge of the property will restore or enhance at least 2,000 square feet of aquatic and riparian habitat and promote better fish passage through the site.
- At least seventeen (17) creosote treated piles will be removed from construction area, improving water, sediment and habitat quality beneath the central pier.
- Construction best management practices, including erosion and sediment control measures, will be employed to prevent impacts to water quality and the aquatic environment.

ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:

Alternative 1: Do nothing. Without remediation, the existing steel sheet pile seawall section and adjacent pavement subgrade will continue to deteriorate and the likelihood of structural failure of both will continue to increase. Vehicle parking along the seawall will need to continue to be prohibited, thus reducing the use and efficiency of the facility. For these reasons, Alternative 1 is not recommended.

Alternative 2: Repair, not replace, the existing sheet pile and adjacent pavement subgrade. Due to the overall age of the existing steel sheet piling and the degree of the corrosion that it has experienced, this option is considered to be an inefficient and short-term, at best, solution to alleviating the risk of structural failure in the bulkhead. For this reason, Alternative 2 is not recommended.

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

June 28, 2010

Page 6 of 6

- **Alternative 3: Replace the existing steel sheet pile seawall in kind, and inject compaction grouting in the pavement behind the existing adjacent pavement for structural subgrade support.**
- **Reopen the pavement area along the seawall to vehicle parking and vessel loading/unloading operations. Staff is recommending this alternative as it will alleviate the existing structural safety concern, correct the current degrading condition, and restore this asset to its full beneficial use.**

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS:

On January 13, 2009, Commission authorized \$360,000 for design, permitting, and project management for the Maritime Industrial Center Central Seawall Replacement project.