

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA

Item No. 5c

Date of Meeting September 28 , 2010

DATE: August 31, 2010

TO: Tay Yoshitani, Chief Executive Officer

FROM: Michael Burke, Director, Cargo and Container Operations
Ticson Mach, Capital Project Manager

SUBJECT: Fender Piling Replacement at Terminal 18
CIP #C800416 T-18 Fender Replacement

Amount of This Request: \$4,724,000

Source of Funds: General Fund

Est. State and Local Taxes: \$387,000

Est. Construction Jobs Generated: 44

Total Project Cost: \$5,738,000

ACTION REQUESTED:

Request authorization for the Chief Executive Officer to (1) advertise construction project, (2) execute a contract to purchase timber piling, and (3) execute construction contract award in accordance with Resolution 3605 procedures for the replacement of the damaged fender piling at Terminal 18 (T-18) in the amount of \$4,724,000, for a total funding authorization of \$5,738,000.

SYNOPSIS:

The project will replace the fender piles and supporting members at T-18. The fender system is designed to protect the main apron structure of the dock from the initial impact made by a berthing barge/vessel. The fender system for this portion of T-18 was replaced in 2003/2004, but in January 2009, it was found to have a combination of design and construction errors which contributed to the apron structure experiencing damage during normal berthing activities. On April 6, 2010, the Commission authorized replacing 30 broken piles, approximately 15% of the fender system. An additional 31 broken piles were later discovered, and on August 3, 2010, the Commission authorized funds for preparation of design and permit applications to replace the entire fender piling and its supporting members. This request is to move forward with advertising the construction project and authorizing the Port to purchase timber piling. The pre-advertisement notice has been posted on September 17, 2010. The total estimated cost of the project is \$5,738,000.

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PROJECT DESCRIPTION AND JUSTIFICATION:

The project is located within bent 62 to 162 (approximate footmark 2900 to 4900) at T-18 along the waterside of the concrete apron. Periodic repair and replacement of fender piles is typical during the life of the system. The scope of work consists of replacement of the fender piles and their supporting members. The cost estimate for the project is \$5,738,000. It is projected to be completed in 2012 to 2013.

The fender system for this portion of the T-18 dock was replaced by the port as part of the berth deepening project in 2003/2004. This deepening to -50 feet was an obligation of the port per the T-18 lease.

The fender system damages were first discovered in January 2009 during the Terminal 18 Maintenance Dredging Project. Port Engineering conducted a detailed inspection of the damages in August 2009, and concluded that the damages are a combination of design and construction issues.

The broken fender piles create a void in the fender system. With barges or small vessels berthing at an angle, the front corners of the barges or vessels could reach and hit the structural/bearing concrete piles. Split piles will also have less fendering capacity in keeping the vessels from going underneath the dock. The apron structure is exposed to possible damage with ongoing berthing activities.

Following the approval of the Commission on April 6, 2010, staff proceeded with the design for the replacement of 30 broken piles, associated supporting structures, and permitting applications. The design team subsequently discovered an additional 31 broken piles during a May 6, 2010 field inspection. With growing concern of continued damages to the remaining fender piling, Seaport Investment Committee directed the project team to move forward with the replacement of all timber fender piles between bent 63 and 162. On August 3, 2010, Commission authorized design and permitting for the entire fender piling to be replace. The pre-advertisement notice has been posted on September 17, 2010.

Port staff has determined that replacing the fender piles is a lease obligation of the Port, which maintains the Port's competitiveness by keeping the T-18 container berthing area active, and protecting the dock revenue that the Port receives.

PROJECT SCOPE OF WORK AND SCHEDULE:

The scope of work consists of replacement in-kind of timber fender piles and their supporting members.

The construction will be phased in two in-water work windows to minimize the impact on terminal operation, accommodate limited in-water work window, and the long lead time for piles purchase.

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Tentative Project Schedule:

Commission Authorization for Design	April 06, 2010
Procure Engineering Services	April 23, 2010
Permit Submitted	May 23, 2010
Commission Authorization for Additional Design Funding	August 2, 2010
100% Design Completed	August 31, 2010
Commission Authorization for Construction	September 28, 2010
Estimated Begin Construction	January 03, 2011
Estimated Construction Complete	March 15, 2012

STRATEGIC OBJECTIVES:

This project supports the Port's strategies to "Ensure Airport and Seaport Vitality" by:

- Meeting lease obligation.
- Maintaining our ability to remain competitive by keeping all of Terminal 18 container berthing area active.

Meet Environmental Obligations

The project will meet environmental obligations by:

- Acquiring all necessary and required permits from appropriate agencies prior to start of construction;
- Complying with all conditions stipulated by permit authorizations
- Using best management practices during construction to limit water quality impacts.
- Using vibratory impact pile driving to limit noise impacts to endangered species.
- Removal of creosote piling as mitigation for water quality impacts.

BUSINESS PLAN OBJECTIVES:

The purpose of the project is to maintain the use of berth and to meet lease commitments.

FINANCIAL ANALYSIS:

Budget/Authorization Summary

Previous Authorizations <i>(by Seaport Division Director)</i>	\$ 130,000
Previous Authorizations <i>(by Commission authorization)</i>	\$ 884,000
Subtotal Prior Authorizations	\$1,014,000
Current request for authorization	\$4,724,000
Total Authorizations, including this request	\$5,738,000
Remaining budget to be authorized	\$0
Total Estimated Project Cost	\$5,738,000

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Project Cost Breakdown

Construction Costs	\$4,337,000
Interim Repair Work (Maintenance)	\$66,000
Soft Costs	\$948,000
Estimated State and Local Taxes	\$387,000
Total Estimated Project Cost	\$5,738,000

Source of Funds

The \$66,000 cost of interim repair work (banding of select piles to minimize further splitting) was recorded as an operating expense in 2009 (\$22,000) and 2010 (\$44,000).

The T-18 fender replacement project was not anticipated in the 2010 Plan of Finance, as the full extent of the fender damage was not known when the 2010 Capital Plan was prepared. Funding for this project is available due to project deferrals or timing delays on other 2010 Plan of Finance Committed projects, such as the Terminal 18 Pile Cap Improvements project.

This project will be funded from the general fund.

Financial Analysis Summary

CIP Category	Renewal/Enhancement
Project Type	Renewal & Replacement
Risk adjusted Discount rate	7.0%
Key risk factors	<ul style="list-style-type: none">• Key risk factors include potential cost overruns due to project complexity/timeframe and permitting delays.• Construction costs may increase if unknown obstructions are encountered during piling installation.• Procurement of treated timber piling is a long lead item.• Delays in contract award timing or materials delivery may adversely impact the planned construction schedule.
Project cost for analysis	\$5,738,000 (cost estimate based on final design)
Business Unit (BU)	Container Operations

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Effect on business performance	Fender system replacement will preserve existing revenue from Terminal 18 container operations. At project completion, incremental depreciation expense from the fender replacement project is estimated at \$567,200/year, based on a 10 year asset life.		
IRR/NPV	No incremental revenue. NPV is present value of project costs. <table border="1"><tr><td>NPV (in \$000's)</td><td>(\$5,202)</td></tr></table>	NPV (in \$000's)	(\$5,202)
NPV (in \$000's)	(\$5,202)		

SUSTAINABILITY AND LIFE CYCLE COSTS:

Due to premature failure of the fender piling, the Port will replace the broken piles with in-kind material to fulfill lease obligation. Port tenant is obligated to perform future maintenance of the fender system.

ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:

Three piling replacement alternatives were explored throughout the Seaport Investment Committee approval process, however; as authorized by the Commission on August 3, 2010, replacement of all timber fender piling in the affected area is the recommended option. This would best enable the division to minimize further risk of operation impact, and damage to apron structure

Previously approved alternative: Proceed to advertise construction project, execute a contract to purchase of timber piling, and execute construction contract if there are no bid irregularities for the replacement of the entire fender piling and its supporting members the total project cost of \$5,738,000.

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS:

April 6, 2010: Authorization of \$143,000 for a total authorization of \$273,000, for design and permitting for the repair of the damaged fender system at Terminal 18.

August 3, 2010: Authorization of \$741,000 for additional funding for design and permitting for the replacement of the entire fender piling and supporting members at Terminal 18.