

**PORT OF SEATTLE**  
**MEMORANDUM**

**COMMISSION AGENDA**

**Item No.** 5b

**Date of Meeting** October 12, 2010

**DATE:** September 9, 2010

**TO:** Tay Yoshitani, Chief Executive Officer

**FROM:** Mike McLaughlin, Senior Manager, Cruise and Industrial Properties  
Rod Jackson, Capital Construction Project Manager, Seaport

**SUBJECT:** Terminal 91 Waterline Replacement  
CIP #800298

**Amount of this request:** \$3,555,000

**Source of Funds:** General Operating Funds  
and Tax Levy \$145,000

**Total Project Cost:** \$4,255,000

**Sales Tax:** \$132,000

**Estimated Workers Employed:** 5

**ACTION REQUESTED:**

Request authorization for the Chief Executive Officer to direct staff to proceed with the construction phase of the Terminal 91 Waterline Replacement Project by (1) funding the remaining work in the amount of \$3,555,000, bringing the total project authorization to \$4,255,000; (2) purchasing materials necessary for the construction, and using Port Construction Services (PCS) and Maintenance to self-perform majority of the construction work; and (3) using existing or new small works construction contracts to implement the remaining work.

**SYNOPSIS:**

Portions of the underground waterlines at Terminal 91 (T-91) in the vicinity of the Magnolia Bridge and upland area were installed over 60 years ago (1945 Navy era). These old, deteriorated systems are unreliable and have exceeded their useful design/service life.

These pipelines distribute the domestic water throughout the terminal and supply the fire protection systems—critical to terminal/tenant operations and safety. Replacement of these aged pipelines will prevent continued failures which create costly repairs and interruption of operations for both the Port and our customers. Multiple water main failures during the past few years have resulted in repair costs of over \$150,000 plus the additional costs and negative impacts absorbed by our tenants when waterlines break. If

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nothing is done, additional water main failures are to be expected, resulting in higher frequency of emergency repairs and related significant impacts to the various terminal operations. Now that final design is complete and permit applications prepared, staff is ready to move into the construction phase. The tax levy will cover the costs associated with environmental remediation.

### **PROJECT STATEMENT AND OBJECTIVES:**

#### ***Project Statement:***

This project will replace deteriorated waterlines, valves, and hydrants, separate domestic and fire system lines, and install back-flow preventers dry pipe valves and above ground hot boxes at several existing facilities including buildings; M-28, W-40, W-50 and W-392 at T-91 by December 2011.

#### ***Project Objectives:***

- Separate domestic and fire system lines while providing back flow preventers at several existing facilities per Department of Development and Planning (DPD) and National Fire Protection Association (NFPA) codes.
- Minimize disruptions to terminal operations during construction.
- Minimize future maintenance & repair work of the system.
- Upgrade the water system to provide additional capacity and connection points for future T-91 development.
- Project will be on budget and at minimum cost.
- Project will be delivered on-time to meet schedule milestones.
- Project will be environmentally sound and will utilize sustainable environmental elements.
- Project will coordinate with other projects including the T-91 Paving project within the area.

### **PROJECT SCOPE OF WORK AND SCHEDULE:**

#### ***Scope of Work:***

The overall project scope will utilize PCS to demolish and replace deteriorated waterlines, valves, and hydrants; prepare base materials; provide new future utility stub connections for additional capacity; separate domestic and fire system water service at several of the existing facilities while installing back flow preventers per DPD and NFPA codes; and restore pavement as required. Scope of this final request includes the construction, permitting, testing of excavated soils and execution of contract documents to support the final construction installation.

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### ***Schedule:***

	<b><u>Start</u></b>	<b><u>Finish</u></b>
Pre –Design	January 2010	March 2010 <b>(COMPLETED)</b>
Design	March 2010	September 2010 <b>(COMPLETED)</b>
Permits	September 2010	October 2010 <b>(COMPLETED)</b>
Construction	November 2010	December 2011
Close Out	January 2012	March 2012

Due to busy terminal operations and seasonal peaks in traffic volumes, the construction work is expected to be completed in phases to minimize impact on terminal operations.

Request for project funding approval has been done in two steps:

Step-1: This step consisted of funding for project pre-construction activities that included design; engineering; cost estimating; permitting; phasing; and preparation of final construction documents. This work is now nearly complete.

Step-2: This current step will seek funding approval for construction cost and begin installation shortly after Commission authorization.

## **FINANCIAL IMPLICATIONS:**

### **Budget/Authorization Summary**

Original Budget	\$0
Previous Authorizations ( <i>per Commission Approval on March 9, 2010</i> )	\$ 700,000
Current request for authorization ( <i>construction cost</i> )	\$3,555,000
Total Authorizations, including this request	\$4,255,000
Remaining budget to be authorized	\$0
Total Project Cost	\$4,255,000

### **Project Cost Breakdown**

Construction	\$3,366,000
Sales Tax	\$ 132,000
Soft Costs	\$ 618,000
REMEDIATION Environmental Reserves	\$ 145,000
Total Project Costs	\$4,255,000

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### **Source of Funds**

This project was included in the 2010 Plan of Finance under Committed CIP# C800298, T-91 Water Main Replacement N. of Bridge, in the amount of \$4,200,000. The additional \$55,000 required to fund the balance is available due to anticipated timing delays in other 2010 Plan of Finance Committed projects, such as the Terminal 104 Site Improvements.

The environmental reserve portion will be accounted for as environmental reserves and charged to expense in accordance with Port Policy AC-9. The cash funded by Environmental Reserves, which pays for the environmental cleanup project, is funded by the Port's Tax Levy.

The remainder of the project will be funded from the General Fund.

### **Financial Analysis Summary**

<b>CIP Category</b>	Renewal/Enhancement	
<b>Project Type</b>	Renewal & Replacement	
<b>Risk adjusted Discount rate</b>	9.0%	
<b>Key risk factors</b>	<ul style="list-style-type: none"><li>• Project schedule could be delayed due to project complexity, weather, and the need to minimize disruptions to terminal operations and existing tenants/customers. This risk is partially mitigated with a phased construction approach.</li><li>• Construction costs may increase if the schedule is significantly delayed.</li><li>• The environmental component of the project may be more extensive as site specific information becomes available during construction.</li></ul>	
<b>Project cost for analysis</b>	\$4,255,000	
<b>Business Unit (BU)</b>	Seaport Industrial Properties	
<b>Effect on business performance</b>	<p>This asset replacement project will not generate any incremental revenue. However it will eliminate disruptions to terminal operations, tenants, and customers that would result from continued water main breaks. Revenue from Terminal 91 operations (multiple lines of business) is budgeted to be approximately \$14,500,000 in 2011.</p> <p>Incremental depreciation expense from this project is estimated at \$85,100/year, based on a 50 year asset life. NOI after Depreciation will decrease by the associated depreciation from this project.</p>	
<b>IRR/NPV</b>	No incremental revenue or operating expense. NPV is present value of project costs.	
	<b>NPV (in \$000's)</b>	<b>(\$3,953)</b>

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### **ECONOMIC IMPACTS AND BUSINESS PLAN OBJECTIVES:**

This project is aligned with the business plan objectives to maintain safe working facilities and assets that provide customers with compelling value. This is a renewal and replacement project to rebuild the major waterlines at T-91 which support all of the current businesses at the terminal.

### **STRATEGIC OBJECTIVES:**

This project supports the Port strategy to “Ensure Airport and Seaport Vitality” through renewing and replacing vital Seaport Infrastructure to the Port of Seattle Waterfront operations and to “Exhibit Environmental Stewardship through our Actions” by;

- Investing in, and renewal of Port assets;
- Maintaining the long –term revenue generating capability of the waterlines supplied to existing tenants.

Best management practices will be deployed in the selection of materials, work practices and ongoing total cost of ownership.

### **Meet Environmental Obligations**

In addition to removing existing deteriorated waterlines from the environment, the project will;

- Acquire all necessary and required permits from appropriate agencies prior to the start of construction; and;
- Comply with all conditions stipulated by permit authorities.

### **Develop and Maintain Community Support**

This project will continue to develop and maintain community support by showing the Port’s commitment to long-term asset renewal and replacement of the deteriorated waterline infrastructure at T-91, and its continued support for the variety of maritime customers the terminal serves including commercial fishing, cold storage, and cruise industries –sustaining positive economic impacts to the region.

### **ENVIRONMENTAL SUSTAINABILITY AND COMMUNITY BENEFITS:**

Replacement of the existing deteriorated waterline system with ductile iron pipe will follow Policy EX-15, Sustainable Asset Management. Factors such as life-cycle cost, structural performance, maintenance frequency, constructability, construction impacts on tenants, environmental objectives and overall business objectives were considered.

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No impact to the environment is anticipated as a result of this project. Upgrades will be constructed with materials that have demonstrated long life and durability.

*What plans have been made to reduce maintenance cost? If not, why?*

This project replaces the existing waterlines that are essential to the activities at T-91. The project will also reduce maintenance and repair costs by preventing potential damage to tenant processing equipment and to fire protection systems at the site.

*What is the design life span of this project?*

Ductile iron pipe is commonly designed with a 50-year life span.

### **TRIPLE BOTTOM LINE:**

The project supports the Port's Triple Bottom line:

- Economic Development- The project will provide long-term enhancement to a revenue-generating Port asset that supports all tenants and customers at T-91.
- Environmental Sustainability- Water quality benefits will be provided by removing deteriorated waterlines that will be replaced with ductile iron pipe.
- Social Equity- Project construction will be scheduled, phased and coordinated to minimize impacts on vessels, tenants, and customers by minimizing impacts on customers and to the port.

### **ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:**

Alternative 1: Do nothing. Without replacement, the existing waterlines will continue to deteriorate and the possibility of failure will continue to increase. Local repairs at points of failure through the terminal have been costly and negatively impact the on-going terminal operations when they occur. For this reason, Alternative 1 is not recommended.

**Alternative 2: Complete full replacement of the failing underground water distribution systems serving the existing facilities and tenants at T-91 to maintain water service throughout the facility and provide required fire protection systems. This alternative will restore the waterlines to full beneficial use and will minimize the possibility of future failures which cause tenant inconvenience when they occur. This upgrade will also provide needed capacity and additional connection points for future development of the terminal. This is the recommended alternative.**

### **PREVIOUS COMMISSION ACTIONS OR BRIEFINGS:**

On March 9, 2010, Commission authorized \$700,000 to proceed with the Design and the Permitting phase of the project including construction document preparation.