

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA

Item No. 5d

ACTION ITEM

Date of Meeting July 24, 2012

DATE: July 17, 2012

TO: Tay Yoshitani, Chief Executive Officer

FROM: Michael Ehl, Director, Airport Operations
Wayne Grotheer, Director, Aviation Capital Improvement Program

SUBJECT: 2013 Airfield Apron Pavement Replacement (CIP #C102573)

Amount of This Request: \$200,000 **Source of Funds:** Existing 2010 Revenue Bonds

Estimated 2013 Project Cost: \$10,000,000

ACTION REQUESTED:

Request authorization for the Chief Executive Officer to design, prepare construction documents, and perform advanced preparatory work at boarding gates needed for maintaining airline operations for the 2013 Airfield Apron Pavement Replacement project in the amount of \$200,000. The total estimated project cost in 2013 is \$10,000,000.

SYNOPSIS:

As in previous years, it is necessary to replace some of the worst pavement and joint seals on the airfield because the existing concrete panels become cracked and damaged with age, creating a significant security risk for aircraft.

This project will produce the final design for concrete pavement panels, joint seal replacement, spall repair, and temporary facilities such as striping and lighting on the Airport Operations Area (AOA). The design will include utilities and other scope items related to the project. The final design will be completed by early 2013. Port staff will return to the Commission early in 2013 to request authorization for advertisement and construction funding. This project was included in the 2012 – 2016 capital budget and plan of finance.

The current request accounts for the design and implementation of a minimal amount of temporary measures being required to mitigate airline impact due to anticipated gate closures. Closure of gates, required by the construction of the project, may cause reassignment of domestic and international flights on multiple concourses. Port staff will return to the Commission to request additional funding in the event that extensive temporary modifications for reassigning gates are required that exceed the authorized funds.

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BACKGROUND:

The 2013 Airfield Apron Pavement Replacement project proposes to replace distressed concrete pavement panels in a programmatic approach. This approach would involve the replacement of distressed panels and additional panels in the direct vicinity of the distressed panels. These panels were poured in 1970 and had a design life of 20 years. Currently there is a significant amount of existing airfield apron pavement that has far exceeded its expected service life. This strategy of replacing larger groups of panels will allow aged panels to be systematically and more efficiently replaced than if only individual panels were replaced. Over time, this approach should be less disruptive to the airline operations since the areas will not need to be closed again for construction for many years.

Port staff has currently identified two locations with a high percentage of distressed panels, one along Taxilane W and the other in the vicinity of gate N10 of the North Satellite (See Attachment A). The location along Taxi Lane W is west of the South Satellite and is the location with the highest percentage of distressed panels. The distressed areas along Taxilane B align with the wheel tracks of the aircraft that use the Taxilane. The location near gate N10 exhibits ponding water after rain events as well as a number of cracked and distressed panels.

This project will also replace smaller sections of airfield pavement as they deteriorate. These smaller sections can occur anywhere on the airfield, not including runways. (Runway pavement replacement is conducted under a different CIP.)

This project is part of a multi-year program to replace some of the worst pavement and joint seal on the airfield. The construction costs for this project have yet to be determined but a projected estimate is in the \$10,000,000 range. The original budget for the program is \$30,800,000.

PROJECT JUSTIFICATION:

In areas around the AOA, the age of the existing concrete has resulted in cracked and damaged panels. There are areas of pavement throughout the AOA that need to be replaced due to age or due to the proximity to those panels that warrant being replaced. Concrete debris resulting from deteriorating pavement can become a hazard for aircraft and personnel.

This project will most likely impact airline operations at gates throughout the Airport and to taxiway configurations. Temporary modifications, such as temporary podiums at the gates, within the interior of the terminal may be necessary to facilitate airline tenant relocation. The need for temporary modifications requires discussion and coordination with the airlines during the design phase and is dependent upon the anticipated impact during construction.

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PROJECT STATEMENT AND OBJECTIVES:

Project Statement:

Perform final design for the replacement of concrete pavement panels and joint seal including any temporary infrastructure modifications necessary to accommodate airline reassignments for a cost of approximately \$10,000,000.

Project Objectives:

Complete the final design for the pavement, and joint seal replacement in preparation for construction in summer of 2013.

PROJECT SCOPE OF WORK AND SCHEDULE:

Scope of Work:

Produce final design for the apron pavement, and joint seal replacement. The design will include utilities, temporary striping and lighting and other scope items related to the project. The final design will be completed in early 2013. Construction is anticipated in 2013.

Schedule:

Begin design	August 2012
Final Design	March 2013
Commission Authorize Advertise	March 2013
Advertise	March 2013
Construction	May to October 2013

FINANCIAL IMPLICATIONS:

Budget/Authorization Summary:

	Capital	Expense	Total
Original Budget	\$30,800,000		\$30,800,000
Budget Decrease	\$(378,915)		\$(378,915)
Revised Budget	\$30,421,085		\$30,421,085
Previous Authorizations this CIP	\$12,337,085		\$12,337,085
Current request for authorization	\$200,000		\$200,000
Total Authorizations, including this request	\$12,537,085		\$12,537,085
Remaining budget to be authorized	\$17,884,000		\$17,884,000

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Project Cost Breakdown:

Design	\$100,000
Project Management	\$60,000
Survey	\$20,000
Internal POS Support and Review	\$20,000
Outside Professional Services	\$0
Total	\$200,000

Budget Status and Source of Funds:

This project is included in the 2012-16 capital budget and plan of finance within CIP #C102573 in amount of \$30,800,000. The budget decrease of \$378,915 has been transferred to Aeronautical Renewal/Replace C102166. The Source of funding for the 2013 project work (approximately \$10,000,000) is existing 2010 Revenue Bonds. Project work in 2014 and beyond will be funded by a future bond issue.

Financial Analysis and Summary:

CIP Category	Renewal/Enhancement
Project Type	Infrastructure Upgrade
Risk adjusted Discount rate	N/A
Key risk factors	N/A
Project cost for analysis	\$30,421,085
Business Unit (BU)	Airfield - capital costs will be fully recovered in landing fees over the life of the asset
Effect on business performance	NOI after depreciation will increase since capital and operating costs will be recovered through landing fees.
IRR/NPV	N/A
CPE Impact	Will increase CPE by \$0.15 by 2015 but no change to business plan forecast as this project was included.

STRATEGIC OBJECTIVES:

This project supports the Port's strategy to "Ensure Airport Vitality" by maintaining a safe operating environment as well as maximizing asset utilization.

ENVIRONMENT SUSTAINABILITY:

During repair and maintenance activities, various sustainable practices will be considered and implemented when practicable. These include, but are not limited to, performing a lifecycle analysis of materials used to ensure that resources being used and/or recycled are environmentally and economically practical; utilizing onsite water for dust control and irrigation; the reuse of materials such as concrete and soil; and employing low emission construction equipment.

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BUSINESS PLAN OBJECTIVES:

This project furthers the Airport's business plan objectives to operate a world-class international airport by ensuring safe and secure operations and by managing our assets to minimize the total long-term cost of ownership.

TRIPLE BOTTOM LINE SUMMARY:

Replacement of concrete pavement panels and the joint sealant are a financially responsible way to insure continued access to the gate areas and runways for the airline tenants and continued gate availability for the traveling public.

ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:

- 1) Do nothing: This alternative would result in an increasing risk of aircraft ingesting concrete debris into aircraft engines from distressed pavement, adversely affecting Airport operations. This is not the recommended alternative.
- 2) Replace the pavement and joint seal during the 2013 construction season. This is the recommended alternative.

OTHER DOCUMENTS ASSOCIATED WITH THIS REQUEST:

Attachment A – Preliminary Airfield Apron Panel Replacement Areas

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS:

C102573 – Airfield Pavement Replacement

- On April 10, 2012, the Commission authorized an additional \$1,467,000 because the bids exceeded the Engineer's Estimate by greater than 10 percent; and authorized the Chief Executive Officer to execute a contract in the amount of \$6,553,964 with the low responsive and responsible bidder for the 2012 Exterior Gates and Airfield Improvement Projects. This authorization increased the budget by \$1,467,000 due to the higher than expected bids, for a total project cost of \$10,500,000.
- On January 24, 2012, the Commission authorized \$4,707,000 and for the Chief Executive Officer to advertise and execute a construction contract that included Apron Pavement Replacement, Exterior Gate Improvements, Runway 16C/34C Panel Replacement, and South Snow Dump Pavement Expansion
- On July 26, 2011, the Commission authorized \$465,000 and for the Chief Executive Officer to complete the design and perform any advance work in support of the 2012 Pavement and Joint Replacement and Sealant Project for non-runway concrete pavement panels, joint seal replacement, spall repair, and associated or temporary facilities, such as striping, lighting, etc., on the Aircraft Operations Area.
- On March 1, 2011, the Commission authorized \$6,235,000 and for the Chief Executive Officer to advertise and execute a construction contract that included slot drain, pavement, and joint seal replacement at the South Satellite and perform installation of temporary

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common use podiums and minor removal of hazardous materials through Port Construction Services.

- On August 10, 2010, the Commission authorized \$394,000 and for the Chief Executive Officer to direct staff to: 1) proceed with project management, design, environmental support, and preparation of 100 percent design level construction documents for the replacement of slot drains, pavement and joint seal at the South Satellite at Seattle-Tacoma International Airport; 2) execute and award outside professional service agreements; 3) pre-purchase common-use gate equipment; and 4) allow Port Construction Services to self-perform, advertise for bids, and execute and award small works construction contracts for common use equipment installation.
- On February 9, 2010, the Commission authorized \$5,650,000 for the design, advertisement, and award of a construction contract for the 2010 Airfield Improvement Projects – Contract 1, consisting of panel replacements on Runway 16C/34C.