PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA
ACTION ITEM

Item No. 6c

Date of Meeting July 9, 2013

DATE: July 1, 2013

TO: Tay Yoshitani, Chief Executive Officer

FROM: Wayne Grotheer, Director, Aviation Project Management Group
David Soike, Director, Aviation Facilities and Capital Program

SUBJECT: Concourse D Roof Replacement Project (CIP #C800550)

Amount of This Request: $530,000

Source of Funds: Airport Development Fund and Future Revenue Bonds

Est. State and Local Taxes: $227,000

Est. Jobs Created: N/A

Est. Total Project Cost: $3,727,000

ACTION REQUESTED:

Request Commission authorization for the Chief Executive Officer to prepare design and construction bid documents for the replacement of approximately 70,100 square feet of roof systems located on the Concourse D of the terminal building at Seattle-Tacoma International Airport for an amount not to exceed $530,000 of a total estimated project cost of $3,727,000.

SYNOPSIS:

This project will remove and replace the current roofing system on Concourse D of the main terminal building at the Airport in order to avoid leaks that cause damage to the underlying infrastructure, equipment, and interior facilities. The portions of the roof being replaced were installed in 1991 and 1994 and will be beyond their useful life expectancy when replacement takes place. This is the third of a series of necessary progressive design and construction steps to accomplish reroofing of the Airport facilities over the next several years. Warranties on existing roofs have expired and testing of roof membranes by Airport maintenance staff indicates they are deteriorating. The replacement roof will be Energy Star™ rated and will save energy over its lifetime. Staff expects to seek Commission authorization annually over the next five years as part of a long-term roofing maintenance program.

This project was included in the 2013 Aviation Division's capital budget and plan of finance with a budget of $1,927,750. The budget increase is primarily due to the need to work around the newly-installed pre-conditioned air piping, as well as for the installation of ladders, stairs and fall protection and the refurbishment of existing skylight windows.

BACKGROUND:

In 1991, the Airport began a major terminal facility re-roofing program that was completed in 1997. Since 1997, some Airport roofs have been replaced on a project- or area-specific basis.

The first phase of the cycle of completed roof replacements included sections on the south end of the Main Terminal. The second phase of the cycle that is now underway includes the Fire Station, which was replaced in 2012, and sections on the north end of the Main Terminal that will be replaced this year.

This project is the third phase of the cycle of roof replacement projects at the Airport. It includes numerous sections of the Concourse D roof (sections B, B-1, C, C-1, D, D-1, E, E-1, F, G, H, and J on the attached map). When originally built, the Airport's current roofs had a 15-year life expectancy that has expired.

PROJECT JUSTIFICATION:

Maintaining Airport roofing systems supports the Port's objective to provide safe and functional facilities. As a critical system, the Concourse D roof must be replaced as it ages. The current roofing system on Concourse D has reached the end of its dependable, leak-free, life span. When the roofing system fails and leaks emerge, they must be corrected on an emergency basis in order to preserve underlying infrastructure and provide good customer service. Delaying repairs until leaks require emergency attention tends to be more expensive due to scheduling pressures. In addition, repairing damage from leaks inside the terminal can be extensive and expensive. Proceeding with replacement of the Concourse D roof will preserve the Airport's infrastructure investments and support an outstanding customer experience for travelers and tenants.

Project Objectives:

This project will remove and replace existing roof systems on Concourse D of the Airport.

PROJECT SCOPE OF WORK AND SCHEDULE:

Scope of Work:

Remove and replace the existing roof system on Concourse D at the Airport and install a new 65 millimeter elastomeric roofing system. Remove and replace two skylights and make repairs to existing skylight window/walls. The Concourse D roof system is approximately 70,100 square feet. Design will be completed using in-house design services.

Schedule:

Commission Authorization to Design:	July 2013
Commission Authorization for Construction	December 2013
Issue Notice to Proceed	June 2014
Construction Complete	October 2014

FINANCIAL IMPLICATIONS:

Budget/Authorization Summary:	Capital	Expense	Total Project
Original Budget	$1,927,750	$0	$1,927,750
Current Budget Increase	$1,325,050	$474,200	$1,799,250
Revised Budget	$3,252,800	$474,200	$3,727,000
Previous Authorizations	$0	$0	$0
Current request for authorization	$501,800	$28,200	$530,000
Total Authorizations, including this request	$501,800	$28,200	$530,000
Remaining budget to be authorized	$2,751,000	$446,000	$3,197,000
Total Estimated Project Cost	$3,252,800	$474,200	$3,727,000

Project Cost Breakdown:	This Request	Total Project
Construction	$0	$2,388,000
Construction Management	$0	$359,000
Design	$430,000	$430,000
Project Management	$100,000	$287,000
Permitting	$0	$36,000
State & Local Taxes (estimated)	$0	$227,000
Total	$530,000	$3,727,000

Budget Status and Source of Funds:

This project was included in the 2013-2017 capital budget and plan of finance as a business plan prospective project with a budget of $1,927,750. Upon completion of the project notebook, the project budget was increased to $3,727,000. The increase in budget is related to the installation of ladders, stairs and fall protection at mechanical penthouses ($48,000), refurbishment of the existing skylight/windows ($474,200) and the additional costs associated with working around newly-installed pre-conditioned air piping ($1,277,250). The funding source will be the Airport Development Fund and future revenue bonds. The Port plans to issue revenue bonds in 2014 to fund a number of projects. The budget increase will be transferred from the Aeronautical Allowance CIP (C800404), resulting in no net change to the capital budget.

Financial Analysis and Summary:

CIP Category	Renewal/Enhancement
Project Type	Renewal & Replacement
Risk adjusted discount rate	N/A
Key risk factors	N/A
Project cost for analysis	$3,727,000
Business Unit (BU)	Airfield (Fire Dept) and Terminal
Effect on business performance	NOI after depreciation will decrease slightly
IRR/NPV	As a cost recovery project, traditional financial analysis measures such as net present value (NPV) and internal rate of return (IRR) are not meaningful.
CPE Impact	$0.01 by 2015 but no change to business plan forecast as this project was included.

STRATEGIC OBJECTIVES:

This project supports the Port's Century Agenda objective of meeting the region's air transportation needs at the Airport for the next 25 years. The Airport must maintain its existing terminal to accommodate current as well as future passenger and cargo levels.

ENVIRONMENTAL SUSTAINABILITY:

The new roof will be Energy Star™ rated and have a minimum solar reflective index that exceeds 78, which is the value required to obtain the LEED™ Credit NC7.2. This will reduce air conditioning loads and save energy. The insulating value of the new roof will be greater than that of the existing roof. By replacing the roof and preventing damage to the underlying building systems, the life of the existing building systems will be prolonged.

BUSINESS PLAN OBJECTIVES:

Replacing the most distressed Airport roofs in order of importance supports the objectives identified in the Aviation Division's Strategy of operating a World Class International Airport by:

- Ensuring safe and secure operations
- Meeting needs of our tenants, passengers and the region's economy
- Managing our assets to minimize the long-term total cost of ownership

ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:

Alternative 1: Continue to patch and repair leaks, risking continued retrogressive deterioration throughout the entire roof system. This alternative increases maintenance and emergency repair response and costs, not only due to the continual patching of the existing roof system but also due to ceiling, floor, and equipment damage caused by the leaks. This could also increase the Port's liability should customers slip and fall. This is not the recommended alternative.

Alternative 2: Install a green roof system. Green roofs are complete roof systems comprised of vegetation, soil, drainage and waterproof membrane, requiring specific additional structural integrity not currently in place as part of the Airport structure. This alternative would create an environment that would attract birds, insects and other wildlife, increase bird strike hazards, and escalate nuisance-wildlife control. Installing a green roof would be in direct conflict with the Airport's Wildlife Hazard Mitigation and Wildlife Conservation Program and the Federal Aviation Administration (FAA) approved Airport Certification Manual. This is not the recommended alternative.

Some airports have begun to use green roof systems on new construction (thereby avoiding the extensive redesign and structural strengthening retrofit issue for existing structures) using plants that do not attract birds or wildlife. Staff has been in communication with Portland International Airport (PDX) which has installed a green roofing system. PDX's green roof system has attracted insects and birds, which conflicts with the requirements in the FAA's Airport Certification Manual.

Alternative 3: Develop a systematic replacement program for the Airport's roof systems. Phase the replacement program over multiple years, which allows the Airport to sustain serviceable roof systems and provide safe and productive environments for our business partners and passengers. Through roof inspection and analysis, the second phase of the roof replacement program has identified 70,100 square feet of roof on Concourse D. This phase is intended to be designed in 2013 with construction to be accomplished in 2014. The rest of this prioritized replacement program would be accomplished over the next five years and be approved on a project-by-project basis. This process/alternative requires securing necessary approvals and funding for each specific phase of the roof replacement program. **This is the recommended alternative.**

OTHER DOCUMENTS ASSOCIATED WITH THIS REQUEST:

- Roof Replacement Planning Map.
- PowerPoint Presentation

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS:

- January 8, 2013 – the Commission voted to authorize construction funds for the North End Main terminal roof replacement.
- January 24, 2012 – the Commission voted to authorize construction funds for the Fire Station roof replacement.
- July 26, 2011 – the Commission voted to approve design funds for the second phase of the Airport re-roofing programs includes design of the Fire Station and North End Main Terminal roofing systems.
- November 30, 2010 – the Commission voted to authorize construction funds for the first phase of the Airport Re-roofing program.
- April 27, 2010 – the Commission voted to approve design funds for the first phase of the Airport re-roofing program.
- September 22, 2009 – the Commission was briefed on facility renewal projects that were necessary in future years. The Airport re-roofing program was included in the presentation.