

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA
ACTION ITEM

Item No. 4c
Date of Meeting April 26, 2016

DATE: April 18, 2016
TO: Ted Fick, Chief Executive Officer
FROM: Dave Soike, Director, Aviation Facilities and Capital Program
Wayne Grotheer, Director, Aviation Project Management Group
SUBJECT: Passenger Loading Bridge Installation and Replacement at Gate C17 (CIP 800653)

Amount of This Request:	\$0	Source of	Airport
Est. Total Project Cost:	\$6,250,000	Funds:	Development Fund and Revenue Bonds
Est. State and Local Taxes:	\$450,000		

ACTION REQUESTED

Request Commission authorization for the Chief Executive Officer to add scope to (1) design the replacement of the passenger loading bridge (PLB) at Gate C17; (2) procure 1 new PLB; and (3) use Port crew labor and small works contractors to perform site work and complete replacement of the PLB at Gate C17. The previously authorized budget for the original five-PLB project covers this added scope.

SYNOPSIS

On March 4, 2016, Alaska Air Group (AAG) informed the Port they are replacing their entire shorter 737-400 series aircraft with longer 737-900ER aircraft. They plan to complete this by the end of 2017 as part of their overall aircraft fleet upgrade program. The longer aircraft will not fit at Gate C17 as the tail protrudes into the taxi lane object free area (OFA) that protects the dual taxi lane that exists between Concourse C and the North Satellite (NSAT). This protrusion violates the FAA airport design standards creating a safety hazard for nearby taxiing aircraft and makes Gate C17 less useable operationally. Alaska's increasing inability to use Gate C17 during unprecedented growth at the airport will quickly result in an untenable situation.

To mitigate this operational restriction the existing Port owned passenger loading bridge (PLB) (model A3 58'/110') must be replaced with a shorter PLB (model A3 44'/78'). The shorter PLB allows the longer 737-900ER aircraft to park closer to the concourse building such that the tail clears the OFA. This gate would also retain the flexibility to park a range of other narrow body aircraft that Alaska Air Group's operations may require. This request is to replace the existing Gate C17 PLB as quickly as possible to minimize increasing operational impacts during upcoming construction and Alaska's inability to use this gate for many of its planes that could also impact airport-wide operations.

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BACKGROUND

This is an enabling project of the North Sea-Tac Airport Renovation (NorthSTAR) Program. The NorthSTAR program is a collaborative effort between the Port and AAG to create and promote a user-friendly “curb-to-seat” passenger experience through the integration of facility improvements, technology, and airline services on Concourse C, D, the North Main Terminal, North Satellite, and the north STS loop. The recently created dual taxi lane, between Concourse C and the NSAT, is an operational enhancement in the NorthSTAR Program.

The urgency to replace the existing PLB at C17, with a new shorter one, is scope added to the original PLB renewal and replacement project and is driven by a combination of Alaska’s aircraft fleet upgrade program schedule, not fully visible to Port staff, and a change by AAG that the recently created dual taxilane was required for their operational efficiency throughout construction of the North Satellite.

Currently, Gate C17 is restricted to the shorter series of 737 aircraft because of the recently created dual taxi lane between Concourse C and the North Satellite (NSAT). Alaska Air Group (AAG) is replacing 20 of their 737-400 series aircraft from their fleet mix with the longer 737-900ER aircraft. The current PLB is an A3 58/110 having a range of 58-110 feet in length and suitable for the current 737-400 aircraft operating at Gate C17. Unfortunately, this PLB cannot retract short enough to accommodate the longer replacement 737-900ER aircraft currently being phased in by AAG. The PLB required for the longer aircraft must be a model A3 44/78 having a range of 44-78 feet in length to allow the nose wheel to stop closer to the concourse building and bring the aircraft tail back in within safety parameters.

PLBs are considered to have a service life of 25 years before major refurbishment or replacement is required. The current PLB was manufactured in 1987. A replacement PLB for C17 has been included in Aviation Maintenance and Facilities & Infrastructure’s current PLB Renewal and Replacement Prioritization plan for the years 2018/19. Adding this PLB replacement fits the intent of the original CIP and provides the opportunity to expedite a solution to an increasing critical operational impact. Although considered, from an engineering perspective, it is not feasible to shorten the existing C17 PLB or another PLB that AAG currently has in storage. AV/Maintenance and Facilities & Infrastructure Departments have requested disposal versus refurbishing and reusing the existing PLB elsewhere.

PROJECT JUSTIFICATION AND DETAILS

- The dual taxi lane was created in 2015 between Concourse C and the NSAT to allow aircraft to more efficiently move around and between Concourse C, D and NSAT, which resulted in restricting use to only shorter 737 series aircraft at Gate C17.
- AAG uses Gate C17 as one of their preferential gates under the airport’s Standard Lease and Operating Agreement (SLOA).
- Gate C17 is currently restricted to only shorter 737-400/700 series and Horizon’s Embraer 175 aircraft.

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- It was not determined until the fall of 2015 that the dual taxi lane could remain in operation during construction of the North Satellite Renovation and Expansion project (NSAT) and continue to restrict Gate C17.
- AAG has twenty 737-400's (119' long) to be completely phased out over 2016/17 and replaced by longer 737-900ER (138' long) series aircraft.
- AAG will have only 12% of their 737 fleet (out of 150 737's) that will fit at Gate C17 by the end of 2016.
- The need for Gate C17 to fit longer 737 aircraft has already become critical for AAG, as shorter 737's are continually being phased out.
- Adding to the urgency, as construction begins in 2016 on the NSAT, Alaska's operating positions will be impacted, putting increased demand on other aircraft positions, including Gate C-17, which if it remains restricted to certain aircraft, further exacerbates the impacts.
- It would also negatively impact the overall airport gating capacity by displacing AAG's longer 737's to other gates.
- Swapping this PLB for another short PLB from another gate is not feasible as it takes two gates out of service for an extended period of time for extensive modifications and both gates would still retain older, out of date PLBs.

Project Objectives

The objectives of this project are:

- To eliminate a specific aircraft safety hazard when longer 737's are parked at Gate C17.
- To accommodate longer 737 aircraft on an expedited schedule.
- To aid in mitigating any potential gating impacts to the NSAT or to airport-wide gating capacity.

Scope of Work

- Remove the existing PLB and scrap.
- Design using existing design services indefinite delivery, indefinite quantity (IDIQ) contracts.
- Purchase and installation of new PLB, and related components at Gate C17
- Any necessary structural foundation modifications, architectural, electrical, data and mechanical infrastructure upgrades to meet new PLB standards and current code requirements.
- Utilize Port Construction Services (PCS) to perform all work associated with removal and disposition of the exiting PLB, modifying the existing foundation if necessary, installation of the new PLB and construction management services for the PLB installation at Gate C17.
- Installation and commissioning of the new PLB and fixed walkway at C17. The PLB will be owner provided equipment.

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- Electrical connection to the airport's existing central 400 HZ aircraft ground power system.
- Reconnection to the existing pre-conditioned air system at Concourse C.
- The new PLB will be connected to the Port's Facility Monitoring System so any malfunction that shuts the bridge down, will be promptly reported to Maintenance for faster response.

Schedule

Complete Design	July 2016
Start Construction	August 2016
Complete Construction	July 2017

FINANCIAL IMPLICATIONS

Budget/Authorization Summary

	Capital	Expense	Total Project
Original Budget	\$7,250,000	\$0	\$7,250,000
Previous Budget transfer	(\$950,000)	\$0	(\$950,000)
Previous budget changes - net Savings	\$900,000	\$50,000	\$950,000
Savings	(\$2,000,000)		(\$2,000,000)
Proposed increase for new scope	\$1,000,000		\$1,000,000
Revised budget	\$6,200,000	\$50,000	\$6,250,000
Previous Authorizations	\$7,200,000	\$50,000	\$7,250,000
Current request for authorization	0	0	0
Total Authorizations, including this request	\$7,200,000	\$50,000	\$7,250,000
Remaining budget to be authorized	\$0	\$0	\$0
Total Estimated Project Cost	\$6,200,000	\$50,000	\$6,250,000

Project Cost Breakdown (Gate C17 only)

	This Request and Total Project
Design	\$70,000
Construction	\$860,000
State & Local Taxes (estimated)	\$70,000
Total	\$1,000,000

Budget Status and Source of Funds

To replace this PLB as expeditiously as possible, staff is recommending using the existing PLB Renewal and Replacement Project (CIP # C800653). This project is included in the 2016-20 capital budget and plan of finance with a budget of \$7,200,000. This CIP was originally authorized by the Commission, in October 2014, for \$7,250,000 to replace PLB's at Gates B6, B8, B14, C3, and S15. That scope of work was completed recently for \$5,200,000. Due to efficiencies gained as the project progressed and risks that did not materialize, the project returned \$2,000,000 in savings to the capital allowance CIP (and \$50,000 in expense funding). This reduced the capital budget for this CIP from \$7,200,000 to \$5,200,000. Approximately

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\$1,000,000 of these savings will be used to replace the Gate C17 PLB and transferred back into the CIP. This brings the revised total budget for capital and expense to \$6,250,000, still within the authorized \$7,250,000. The funding source will be the Airport Development Fund and existing revenue bonds.

Financial Analysis and Summary

CIP Category	Renewal and Enhancement
Project Type	Renewal & Replacement
Risk adjusted discount rate	N/A
Key risk factors	N/A
Project cost for analysis	\$6,250,000
Business Unit (BU)	Terminal – Passenger Loading Bridges
Effect on business performance	NOI after depreciation will increase
IRR/NPV	N/A
CPE Impact	CPE \$.02 in 2017

Lifecycle Cost and Savings

Aviation Maintenance completes regular preventive, corrective and emergency maintenance on all Port-owned PLBs, as well as providing customer service support for operations. Aviation Maintenance estimates a current annual cost per PLB of approximately \$15,000 inclusive of all repair, maintenance and customer support activities, including 24/7 response. Since this project is a renewal and replacement of an existing Port owned and maintained PLB, there will be no impact to AVM operating and maintenance costs because of this project.

STRATEGIES AND OBJECTIVES

The anticipated growth in domestic and international enplanements will require improving and maintaining existing gates for all airlines. This project supports the Port's Century Agenda objective of meeting the region's air transportation needs at Sea-Tac Airport for the next 25 years. This project also supports the Aviation Division's strategy of anticipating and meeting the needs of our tenants, passengers, and the region's economy.

TRIPLE BOTTOM LINE

Economic Development

This project replaces an outdated and inefficient PLB. This will allow the Port to provide its airline tenants and the public with the updated, dependable and more efficient equipment that they need for passenger service. As our business partner, this change allows AAG to expand and improve their operations with larger aircraft to meet their market demands.

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Environmental Responsibility

New PLBs employ the use of advanced electronics, materials and finishes that provide enhanced energy efficiency and improved air quality through:

- Installation of Energy Star compliant equipment/components where applicable.
- Use of up to 30% pre-consumer recycled content in PLB flooring.
- Use of repurposed rubber from spent aircraft tires for PLB control cab bogies (under-cab assemblies)
- Use of No/Low VOC (volatile organic compound) paints, adhesives and finishes wherever possible.
- Use of the most energy efficient lighting provided for this application.
- Provision for increased passive ventilation in newly manufactured PLBs over older models.

Community Involvement

There will be opportunities for small businesses in that several Small Works contracts will be utilized in order to perform the mechanical, electrical, and foundation work. The Small Works contracts will be for an approximate total of \$100,000.

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1) Maintain status quo - This is not the recommended alternative.

Pros:

- 1) Saves \$1,000,000 in project costs.

Cons:

- 1) The new longer 737 aircraft does not fit the current Gate C17 PLB without impacting the dual taxi lanes thereby creating a safety hazard.
- 2) Restricting larger aircraft at Gate C17 has begun to create an operational impact that will increase as shorter aircraft are removed from Alaska's fleet.
- 3) Negatively impacts gating capacity for AAG and the airport during NorthSTAR construction.

Alternative 2) Modify and shorten the existing C17 PLB. Estimated project cost is \$1,000,000. This is not the recommended alternative.

Pros:

- 1) Reuses the existing 29-year-old PLB.
- 2) Saves expenditure on new PLB.

Cons:

- 1) Not feasible to shorten from an engineering perspective, has not previously been accomplished and is not recommended by manufacturer, JBT Jetway.
- 2) Does not save money.
- 3) Gate C17 would be inoperative for a longer period of time while PLB is modified off-site.

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Alternative 3) Replace the current C17 PLB with a new, shorter PLB which allows longer 737's to park. Estimated project cost is \$1,000,000. **This is the recommended alternative.**

Pros:

- 1) Optimal schedule for mitigating Gate C17 down time during replacement.
- 2) Provides best opportunity to match AAG's desire for new PLB as quickly as possible, in terms of shortest project schedule.
- 3) PLB matches existing Port standard PLBs.

Cons:

- 1) Existing PLB currently scheduled for replacement 2018/19.

ATTACHMENTS TO THIS REQUEST

- None

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

- October 20, 2014 – The Commission authorized \$7,250,000 for PLB replacement at Gates B6, B8, B14, S15 and C3 (CIP C800653).