



**COMMISSION  
AGENDA MEMORANDUM**

**Item No.** 4e

**ACTION ITEM**

**Date of Meeting** June 27, 2017

**DATE:** June 20, 2017

**TO:** Dave Soike, Interim Executive Director

**FROM:** Mike Tasker, Director, Aviation Facilities and Infrastructure  
Wayne Grotheer, Director, Aviation Project Management Group

**SUBJECT:** Pond Netting Repair Safety Improvement

**Amount of this request:** \$455,000

**ACTION REQUESTED**

Request Commission authorization for the Executive Director to use Port Construction Services to repair damaged stormwater pond nets at Seattle-Tacoma International Airport in 2017 in the amount of \$455,000.

**EXECUTIVE SUMMARY**

This project will repair damaged pond netting at 10 storm water ponds and three industrial wastewater system (IWS) ponds at the Airport. Pond netting is installed at the Airport's stormwater detention ponds to deter waterfowl from the airfield in order to reduce aircraft bird strikes. The nets were damaged during a snow storm in early 2017 and need to be repaired before the fall season in the interest of safety. The costs for these repairs were not anticipated in the 2017 budget.

The repairs are planned to be accomplished by combination of Port Construction Services self-performed work and small works contract. The cost of making the repairs in 2017 is estimated to be \$455,000. The costs will be accounted for as operating costs.

**JUSTIFICATION**

The Port has constructed a series of detention ponds around the Seattle-Tacoma International Airport to mitigate the impacts of stormwater runoff on nearby streams. These ponds attract wildlife, particularly waterfowl, which are a known aviation safety risk. The Airport has effectively used pond netting to prevent access to the ponds by waterfowl, and in turn reduced the number of bird strikes by aircraft. There has been an increase in aircraft strikes with waterfowl since the beginning of the year that might be interpreted as being related to damage of the pond netting system.

Meeting Date: June 27, 2017

Federal Aviation Regulations (FAR) Part 139.337 require airports, including Seattle-Tacoma International Airport, to take immediate measures and mitigate wildlife hazards whenever hazardous conditions exist. According to FAA Advisory Circular 150/5200-33B, the FAA requires immediate correction of any hazardous wildlife attractants arising from existing storm water facilities located on or near airports. Areas of water that remain open in excess of 48 hours must be mitigated using appropriate waterfowl exclusionary measures such as netting.

The frequency with which hazardous birds were harassed has increased in 2017. Mitigation measures, such as launching pyrotechnics, are only acceptable for a short term and cannot be considered as an alternative to the pond netting repair. Preventing waterfowl access to the ponds will reduce their presence in the general vicinity of the airport, reduce an operational need for direct control of wildlife, better protect birds from being struck and injured by aircraft, and return the Port’s efforts back to habitat management which is the primary and the preferred method for reducing wildlife conflict.

The pond netting repair will reduce the risk of aircraft strikes with waterfowl. One bird strike that occurred at the end of April, 2017 resulted in damage to an aircraft that exceeded \$1 million in cost. The damage required the repair of two engines, landing gear and the aircraft being out of service for at least 5 days.

The best weather that allows access to the ponds is during the July to October dry season. The repair to the facilities is anticipated to use quick methods that may be temporary in nature. A 2018 capital project request has been submitted to improve the bird deterrent system for all stormwater ponds and lagoons. The project will develop a study that will evaluate current infrastructure, feasibility, and improvement recommendations..

**Scope of Work**

Repair the damaged bird netting systems at the 10 storm water ponds and 3 IWS ponds on or near the airport to reduce the access of birds to the ponds and discourage the presence of waterfowl in the area.

**Schedule**

<i>Activity</i>	
Design start	2017 Quarter 2
Construction start	2017 Quarter 3
In-use date	2017 Quarter 4

**Cost Breakdown**

	This Request	Total Project
Design	\$0	\$0
Construction	\$455,000	\$455,000
Total	\$455,000	\$455,000

Meeting Date: June 27, 2017

**ALTERNATIVES AND IMPLICATIONS CONSIDERED**

**Alternative 1** – Maintain current conditions: The Port would not repair the damaged netting systems for storm water ponds or IWS ponds at the airport in the dry season of 2017.

Cost Implications: \$0

Pros:

- (1) No additional cost in 2017.

Cons:

- (1) The increased habitual use of ponds on or near the airport by waterfowl is well documented. Doing nothing would result in an increasing potential risk of bird-aircraft strikes.
- (2) Not in compliance with FAR Part 139 requirements or FAA Advisory Circular 150/5200-33B.

This is not the recommended alternative.

**Alternative 2** – Repair the facilities by quick methods.

Cost Implications: \$455,000

Pros:

- (1) Reduce the access of birds to the ponds on or near the airport and the presence of the water fowl in the area to improve air traffic safety at the airport.
- (2) Comply with FAR Part 139 requirements or FAA Advisory Circular 150/5200-33B.
- (3) Utilize the dry season between July and October for the best access to perform work in the ponds.

Cons:

- (1) Capital/Expense spending in 2017

***This is the recommended alternative.***

**FINANCIAL IMPLICATIONS**

***Cost Estimate/Authorization Summary***

Capital

Expense

Total

	Capital	Expense	Total
<b>COST ESTIMATE</b>			
Original estimate	\$0	\$455,000	\$455,000
<b>AUTHORIZATION</b>			
Previous authorizations	\$0	\$0	\$0
Current request for authorization	\$0	\$455,000	\$455,000
Total authorizations, including this request	\$0	\$455,000	\$455,000

Meeting Date: June 27, 2017

Remaining amount to be authorized	\$0	\$0	\$0
-----------------------------------	-----	-----	-----

***Annual Budget Status and Source of Funds***

The repairs for the unexpected damages to the ponds due to the winter storm in amount of \$455,000 will be absorbed within the approved 2017 operating budget, and funded with the Airport Development Fund.

Stakeholders have requested a 2018 capital project to address long-term solutions for the bird deterrent systems.

***Financial Analysis and Summary***

Project cost for analysis	\$455,000
Business Unit (BU)	Airfield Movement
Effect on business performance (NOI after depreciation)	NOI after depreciation will decrease
IRR/NPV (if relevant)	N/A
CPE Impact	\$0.01

***Future Revenues and Expenses (Total cost of ownership)***

It is likely that pond netting will need more frequent repairs or replacement to maintain functional integrity.

**ATTACHMENTS TO THIS REQUEST**

Presentation slides

**PREVIOUS COMMISSION ACTIONS OR BRIEFINGS**

None.