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COMMISSION

AGENDA MEMORANDUM Item No. 8d

ACTION ITEM Date of Meeting December 12, 2023

DATE: December 1, 2023

TO: Stephen P. Metruck, Executive Director

FROM: Laurel Dunphy, Director Airport Operations

Krista Sadler, Director ICT Technology Delivery

SUBJECT: Surface Area Management Project Additional Authorizations (CIP #800650)

Amount of this request: \$2,494,000

Total estimated project cost: \$15,865,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to (1) advertise and execute a major public works contract to construct portions of the Surface Area Management System project at Seattle-Tacoma International Airport; (2) amend the contract with SAAB, Inc. to increase the contract value up to \$512,000 for additional services and equipment; (3) increase the project budget by \$2,494,000 for a new total of \$15,865,000; and (4) execute a Project Labor Agreement.

EXECUTIVE SUMMARY

The Surface Area Management (SAM) project, first authorized in June 2019, has implemented a system to improve airfield situational awareness and provide forensic and analytic information on airfield operations at Seattle-Tacoma International Airport (SEA). The system provides information to improve aircraft flow and gate docking efficiencies, reduce aircraft holds, and support safety initiatives by providing more detailed information on incident causes and contributing factors. Integrating with several Port and external data feeds, the system provides a real-time, actionable picture of operations that is invaluable to Airport Operations, emergency response, security, and our airline partners.

The system is being implemented in multiple phases and portions are now used by Port staff, Federal Aviation Administration (FAA), and Airlines. The first three phases deployed the core system, video analytics capabilities, integration with other Port systems, and vehicle and equipment tracking. In parallel to the delivery of these phases, the project team progressed the design work for phase four, the installation of sensors and cameras used by the new system to provide more detailed situational awareness on the airfield. In February 2022, Commission authorized construction using Job Order Contracting (JOC) to complete construction. While the installation of critical sensors has proceeded using this contracting method, staff is now

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recommending that remaining sensors and cameras be delivered via a major public works contract.

Schedule delays to the design of the fourth phase of the project and the recommended change in contracting method have resulted in increased project costs estimated at \$2,494,000. Finally, an amendment to the contract with the project system vendor, SAAB, Inc. will provide additional contract capacity to provide additional sensors and equipment necessary to complete the system.

JUSTIFICATION

The SAM system provides a holistic view or understanding of underlying reasons or root causes for delays, bottlenecks, or deficiencies and improve overall airfield efficiency at the Airport. Additional funding through this request will allow the system to be constructed as designed providing the greatest opportunity to provide this holistic view.

Diversity in Contracting

The project team has worked with the Diversity in Contracting Department to establish a 10% women- and minority-owned business enterprise (WMBE) aspirational goal for this construction contract.

DETAILS

Since 2022 the project has encountered delays due to extensive site investigations during design and efforts to value engineer alternative locations, additional compliance measures identified later in the process and the resulting added design effort. These delays have resulted in additional

staff costs and other soft costs. As design neared completion, it was determined that the JOC construction method approach initially planned for the entire project was no longer suitable for that entire scope. The JOC construction method utilizes established fixed period indefinite quantity indefinite delivery public works contracts to complete work in work orders of limited size. They often prove most useful for smaller scopes of work or repetitive construction of similar scopes of work.

While a useful tool under the right circumstances, JOC contracting has limitations that would have extended the delivery time for this project even further, and subsequently increased costs due to the longer delivery process. As the project team considered alternative delivery methods to complete construction, a need for more immediate installation of key sensors to address a critical shortfall of airfield awareness led the team to proceed with the construction of these critical sensors using the JOC method, while separating out the balance of the work to be delivered via a more traditional major works construction bid package. While this reduced the time taken to provide these critical sensors, it resulted in two construction packages and additional costs to manage both.

Lessons learned because of the challenges this project has faced include:

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(1) Recognition that technology projects often lead to a more iterative and therefore lengthy design phase for the physical installation. Often technology projects incorporate emerging technologies that do not have historical practices on which to base a design schedule and budget.

(2) Early collaboration among departments delivering technology projects to better scope the physical infrastructure requirements for such shared projects will allow for improved budgeting and scheduling of these unique projects.

(3) Better understanding of the benefits and limitations of the utilization of JOC contracts at the Port will allow for a more informed decision when the Project Delivery Method is selected. The Port is limited in the number of JOC contracts it can utilize, and broad use of the JOC contract for other projects at the Port limited the contracting capacity available for this project.

Scope of Work

The Phase 4 project scope of work includes sensor and camera installation at various locations in the airfield to improve identification of targets for situational awareness and provide gate turn monitoring at all gates. The scope also includes the setup of the all the required Power and Communication Infrastructure for the sensors and cameras.

Schedule

Activity

Construction (Phase 4) 2024 Quarter 1

In-use date 2025 Quarter 2

Cost Breakdown This Request Total Project

Capital

Hardware/Software/Vendor Services \$375,000 \$3,283,000

Port Labor \$649,000

Sensor/Camera Installation \$2,119,000 \$11,533,000

Total Capital \$2,494,000 \$15,465,000

Expense

Training \$200,000

Spare Parts \$200,000

Total Expense \$400,000

TOTAL PROJECT \$2,494,000 \$15,865,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

An alternative that would have provided three additional sensors adjacent to Runway 16R-34L was considered which would have increased the project cost by a further estimated \$400,000 in

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both direct and soft costs; however, it was deemed infeasible and not pursued due to the time required to seek and reach all required federal and local approvals.

Alternative 1 – Reduce project scope to remain within existing project budget.

Cost Implications: \$0 additional cost

Pros:

(1) Project remains within existing project budget.

Cons:

(1) Resulting system is deficient and will not meet project goals and requirements.

(2) Reduction of the system as designed would require additional time to revise the system and infrastructure design, which will delay system activation and in turn the productive use of the full capabilities of the system.

This is not the recommended alternative.

Alternative 2 – Increase project funding to meet current scope.

Cost Implications: \$2,494,000 additional cost

Pros:

(1) Resulting system meets project goals and requirements.

(2) No delay in construction would be experienced as there would be no need to wait for the redesign to the reduced scope.

Cons:

(1) Project would cost more than Alternative 1

This is the recommended alternative.

FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary Capital Expense Total

COST ESTIMATE

Original estimate \$6,200,000 \$400,000 \$6,600,000

Previous changes – net \$6,771,000 \$0 \$6,771,000

Current change \$2,494,000 \$0 \$2,494,000

Revised estimate \$15,465,000 \$400,000 \$15,865,000

AUTHORIZATION

Previous authorizations \$12,971,000 \$400,000 \$13,371,000

Current request for authorization \$2,494,000 \$0 \$2,494,000

Total authorizations, including this request \$15,465,000 \$400,000 \$15,865,000

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

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Annual Budget Status and Source of Funds

This project, C800650 was included in the 2023-2027 capital budget and plan of finance for \$13,100,000. The capital budget increase of \$2,494,000 will be transferred from the Aeronautical Allowance C800753 resulting in no net change to the Aviation Division capital budget. The funding source would be the Airport Development Fund and revenue bonds. This project had prior airlines Majority in Interest (MII) approval of \$5M. The budget increase would utilize the MII Management Reserve which would not require additional MII approval.

Financial Analysis and Summary

Project cost for analysis \$15,865,000

Business Unit (BU) Airfield Movement Area

Effect on business performance NOI after depreciation will increase due to inclusion of (NOI after depreciation) capital (and operating) costs in airline rate base

IRR/NPV (if relevant) N/A

CPE Impact \$0.07 in 2026

Future Revenues and Expenses (Total cost of ownership)

Previously authorized annual recurring maintenance and license costs for this system, estimated at \$1,620,000 are budgeted in the Aviation Operations and Aviation Maintenance operating budgets.

ADDITIONAL BACKGROUND

Since the deployment of phase 1 of the project, the Port and its partners have realized several benefits from using the new system.

(1) Alaska Airlines leveraged information from the new system and implemented a change to its operations that resulted in reduction of wait time for gates upon arrival.

(2) Ramp Tower and FAA coordination significantly improved coordination during impacts of the 2021 Airport Improvement Project (AIP) work and International Arrivals Facility (IAF) construction taxi lane closures

(3) Sixty-seven (67) gates are currently under turn monitoring surveillance providing time

stamps of up to 36 critical milestones throughout the progression of a turn which establishes a record to gauge vendor performance and predict off-block times.

ATTACHMENTS TO THIS REQUEST

(1) Presentation slides

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

February 8, 2022 – The Commission authorized construction using JOC, a budget increase and a contract amendment with the vendor SAAB, Inc.

June 11, 2019 –The Commission authorized proceeding with the project for \$4,782,000.

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