

City Council Meeting: **September 26, 2017**
Agenda Item: **4.A**

To: Mayor and City Council
From: Susan Cline, Director, Public Works, Civil Engineering
Subject: Options for the Removal of Excess Runway Pavement at Santa Monica Airport

Recommended Action

Staff Recommends that the City Council:

1. Review and provide direction to staff regarding the preferred option for excess pavement removal at Santa Monica Airport to be implemented as a separate and distinct project once the runway shortening is completed; and
2. Provide direction to staff with regard to proceeding with procuring engineering design services for excess pavement removal.

Executive Summary

Santa Monica Airport (SMO) over the last century has grown from a dirt airstrip designed for biplanes to a busy general aviation airport with more than 80,000 landings and take-offs last year. For the past three decades, the City government has sought to rein in the increasingly severe noise, health and safety impacts on surrounding neighborhoods. After protracted litigation, the City of Santa Monica and the Federal government entered into a landmark Consent Decree to authorize permanent closure of SMO at the end of 2028. The Consent also authorized the City to shorten the Santa Monica Airport's runway by 40% to curb large jet operations. Runway shortening construction is scheduled to be complete by the end of December.

The runway shortening creates more than 700' feet of excess pavement on each end of the runway. At the May 24, 2017 special meeting, concurrent with selecting the preferred option for shortening the runway and adopting related CEQA actions, Council directed staff to investigate pavement removal options for the unused and abandoned portions of the runway, taxiways and adjacent in-field pavement that could be implemented as a separate and distinct project once the runway shortening project is

complete.

Figure A below depicts the abandoned pavement that is potentially eligible for removal, and shows its relation to the Runway Protection Zone (RPZ) and Runway Safety Area (RSA). The RPZ is an area at ground level beyond the ends of the runway to enhance the safety and protection of people and property on the ground. For airports in urban areas, due to historical circumstances, the RPZ often extends beyond the airport boundary and into the surrounding neighborhood. The RSA is the surface immediately at each runway end prepared in a manner that reduces risk of damage to airplanes in the event of an undershoot, overshoot or excursion from the runway. At SMO the RSA extends 300 feet beyond the active runway.

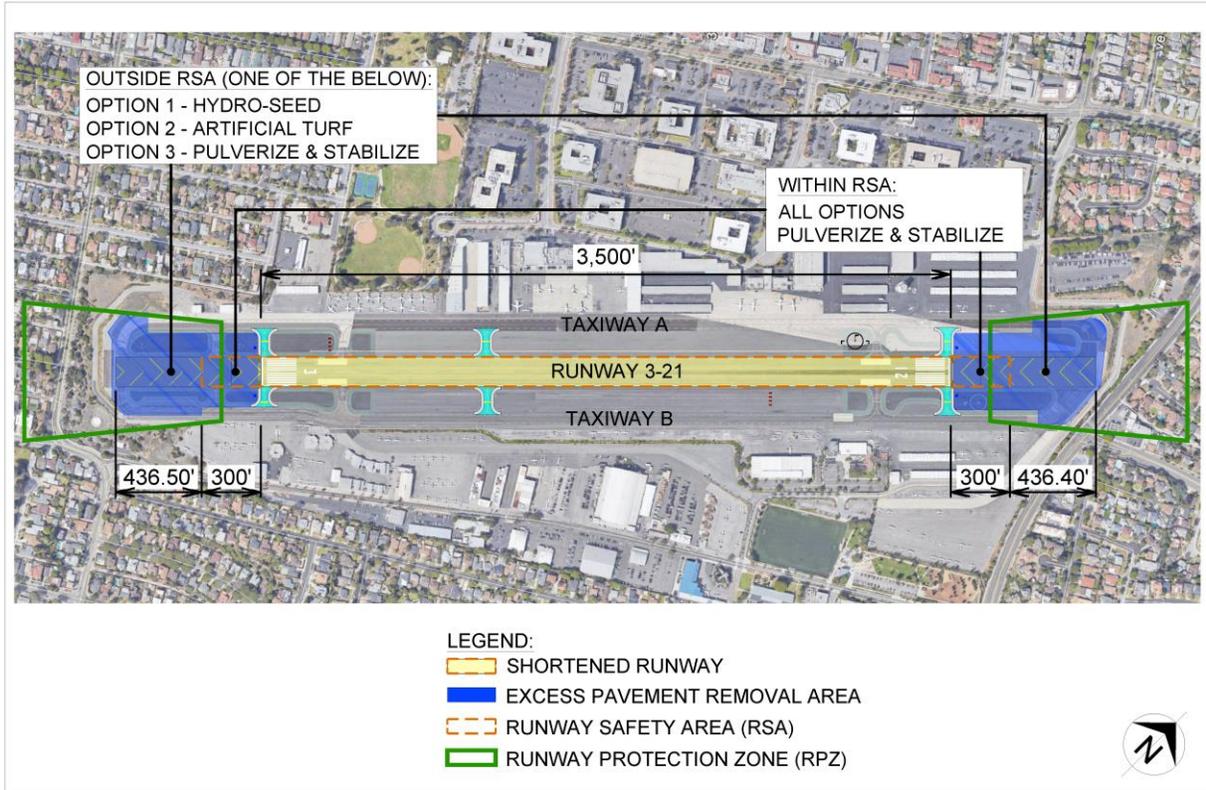


Figure A - Abandoned pavement removal options in relation to the RSA and RPZ

This report presents three options, listed below, for pavement removal for City Council's consideration (see Figure A above and Attachment A, Figures 1 and 2 for reference).

These options involve removing unused pavement outside and within the RSA.

- Option 1 - Remove all unused pavement outside the RSA and hydro-seed. Pulverize in place and stabilize pavement within the RSA (\$3.44M)
- Option 2 - Remove all unused pavement outside the RSA and install artificial turf. Pulverize in place and stabilize pavement within the RSA (\$5.69M)
- Option 3 - Pulverize in-place all unused pavement outside and within the RSA and stabilize (\$2.73M)

Pavement removal areas under Options 1, 2, and 3 are partially within the RPZ. The RPZ is a very critical safety area that should be kept free and clear of all objects in order to protect people and property.

Background

On February 28, 2017 (Attachment B), Council awarded Feasibility Professional Services Agreement 10436 (CCS) to AECOM, which engaged AECOM to study reducing the length of Runway 3-21 at SMO to 3,500 feet. The agreement included an initial feasibility phase to provide runway shortening options for Council consideration and future selection.

On April 24, 2017 (Attachment C), staff issued an Information Item responding to Council's inquiry about a potential phased interim project for the removal of pavement at the ends of the runway and evaluation of future uses of the excess runway area. The Information Item provided an update on those topics, as well as the overall status of the runway-shortening project.

On May 24, 2017 (Attachment D), Council selected the center-aligned shortened runway option from the two options presented for runway shortening construction. At that meeting, Council also:

- Authorized staff to proceed with further design of the preferred option to establish a guaranteed maximum price (GMP) for a design-build agreement between the

City and AECOM to complete runway-shortening construction prior to December 31, 2017;

- Adopted Resolution No. 11044 stating that the runway-shortening project is categorically exempt from review under the California Environmental Quality Act (CEQA); and
- Directed staff to investigate pavement removal options for the unused and abandoned portions of the runway, taxiways and adjacent in-field pavement that could be implemented as a separate and distinct project once the runway shortening project is complete.

On August 8, 2017, (Attachment E), Council authorized the City manager to execute a design-build agreement with AECOM, for a GMP of \$3.52 million to complete runway shortening construction by December 31, 2017. The City and AECOM are in the process of executing the Design-Build Agreement, with construction scheduled to begin in early October 2017 and be complete by the end of 2017.

Discussion

The runway shortening project will result in 736 feet of unusable pavement for aircraft operations at each end of the runway. Of the 736 feet, the first 300 feet adjacent to each runway end is required for the Runway Safety Area (RSA).

The RSA must be well-graded with no ruts, humps or surface depressions and capable of supporting Aircraft Rescue and Fire Fighting (ARFF) equipment. Additionally, the first 150 feet of the RSA adjacent to each runway end, which includes the blast pad, must be essentially non-erodible under jet blasts to minimize the generation of Foreign Object Debris (FOD) that represent a major hazard to all aircraft.

Pavement Removal Options

The existing runway pavement consists of approximately six inches of asphalt surface pavement over approximately eight inches of concrete pavement. The abandoned taxiways, shoulders and in-field areas consist of variable asphalt and concrete

pavements ranging from three to eight inches thick.

Option 1 - Hydro-seeding (\$3.44M)

This option includes removing the abandoned pavement outside the RSA, backfilling and hydro-seeding the graded surface. The depth of excavation varies from three inches to thirteen inches, representing the full thickness of the abandoned pavements, and would require minor grading and slope protection. This option also includes pulverizing in place the abandoned pavement within the RSA (Attachment A, Figures 1 and 2). The depth of pulverization is approximately thirteen inches, representing the full thickness of existing runway pavement. The pulverized pavement would be compacted, graded for drainage and stabilized with a soil stabilizer. Drainage improvements would likely be required for collecting storm water and to control excess storm water surface runoff from this area. Closure of the runway would be required during construction.

This option has less up-front costs, but potentially more on-going maintenance requirements. Scheduled maintenance of the hydro-seeded area would be required on an annual basis, supplemented by monthly or quarterly maintenance to control weeds and other vegetation. An irrigation system is not included in the estimate for this scenario. Even with the use of drought tolerant or native plants, to prevent dust from becoming an issue, periodic watering would be required. This option requires no imported fill material. There is a risk that this option may attract wildlife, which is generally discouraged near airports.

Option 2- Artificial Turf (\$5.69M)

This option includes removing the abandoned pavement outside the RSA and installing artificial turf. The depth of excavation varies from three inches to thirteen inches, representing the full thickness of the abandoned pavements. This option also includes pulverizing in place the abandoned pavement within the RSA (Attachment A, Figures 1 and 2). The depth of pulverization is approximately thirteen inches, representing the full thickness of existing runway pavement. The pulverized pavement would be compacted, graded for drainage and stabilized with a soil stabilizer. Closure of the runway would be required during construction.

This is the most expensive option initially, but requires less on-going maintenance. Nominal scheduled maintenance of the artificial turf including monthly vacuuming and grooming would be required. Artificial turf would be least susceptible to premature deterioration due to the elements. The drainage improvements for collecting storm water and to control excess surface runoff contribute to the higher project cost. A downside to this option is the considerable number of truck trips generated by the amount of exported material generated and required imported fill. Further, it is anticipated that this option would take the longest to construct by a couple of months.

Option 3 - Pulverizing In-Place (\$2.73M)

This option includes pulverizing in place the abandoned pavement outside and within the RSA (Attachment A, Figures 1 and 2). The depth of pulverization varies from three to thirteen inches representing the full thickness of the abandoned pavement. The pulverized pavement would be compacted, graded for drainage and stabilized with a soil stabilizer. Drainage improvements would likely be required to control excess storm water surface runoff from this area. It is anticipated that scheduled maintenance of the stabilized area would be required on an annual basis, with ongoing maintenance to control weeds, between the scheduled maintenance. Closure of the runway would be required during construction.

This is the least expensive option and requires no exporting or importing of material. Additionally, this option will likely have the shortest construction duration. This option requires as-needed maintenance to re-compact and stabilize the surface in order to maintain its integrity. This results in the highest maintenance costs of the three options.

For all three options, to conform to FAA requirements, the pulverized pavement within the RSA would be well-graded with no ruts, humps or surface depressions and would be capable of supporting Aircraft Rescue and Fire Fighting equipment and the occasional passage of aircraft without causing damage to the aircraft. The initial 150 feet at each end of the shortened runway (representing the runway blast pad areas) would be resurfaced with asphaltic material, conforming to FAA requirements that the

runway blast pad area shall be non-erodible under jet blasts to minimize the danger of debris (FOD). All excavated areas would need to be backfilled, graded and compacted prior to the opening of the runway. All runway threshold lights, runway end lights and signs would need to be restored and operational at the end of each working shift.

Anticipated Schedule

Staff anticipates the following completion schedule for implementing any of the three pavement removal options, based on the City's design-bid-build procurement process.

- Procure Design Services - January 2017
- Final Design Completion - April 2018
- Construction Award - August 2018
- Construction Completion - February 2019

California Environmental Quality Act (CEQA) Determination

It has been determined that removal of the excess runway pavement at Santa Monica Airport (SMO) would be categorically exempt from CEQA pursuant to Sections 15301 and 15304 of CEQA Guidelines. Section 15301 provides a Class 1 exemption for the minor alteration of existing public or private facilities involving negligible or no expansion of use. Section 15304 provides a Class 4 exemption for minor public or private alterations in the condition of land and/or vegetation. The project would make improvements to existing un-useable pavement at SMO, which will include the removal of existing pavement and the installation of a stable surface (artificial turf, hydro-seeded soil and mulch, ground-in-place and stabilized pavement, etc.). Therefore, the project qualifies as a Class 1 and Class 4 exemption. In addition, none of the exceptions specified in Section 15300.2 of CEQA Guidelines would apply that would preclude the use of this CEQA exemption - the project site is not located in a sensitive environment, the project will not have a significant effect on the environment, the project would not damage scenic resources, the project would not be located on a hazardous waste site; and the project would not cause a change to a historical resource. Therefore, this project is determined to be categorically exempt from CEQA.

Financial Impacts and Budget Actions

Once design and construction management costs are factored in, the cost for excess pavement removal would range from, approximately \$2.7 million to \$5.7 million (depending on the option selected) based on estimates developed by AECOM (Attachment A). There are no funds set aside or available in the City's Fiscal Year 17-18 Capital Improvement Program (CIP) for this project. Additionally, the Airport Fund does not have sufficient reserves and could require a loan from the General Fund to remove the excess pavement. If directed by Council to proceed with one of the options presented above, staff would issue a Request for Proposal to select an engineering design consultant through a competitive process, and would return to Council in early 2018 to potentially authorize the City Manager to advance a General Fund loan to the Airport Fund and award a Professional Services Contract to initiate the design phase of the project, along with recommended budget actions.

Prepared By: Allan Sheth, Civil Engineering Associate

Approved

Forwarded to Council



Susan Cline, Director

9/21/2017



Rick Cole, City Manager

9/22/2017

Attachments:

- A. Feasibility Report - Removal of Abandoned Pavement at SMO
- B. February 28, 2017 Staff Report
- C. April 24, 2017 Staff Report
- D. May 24, 2017 Staff Report
- E. August 8, 2017 Staff Report
- F. Written Comments
- G. Powerpoint Presentation