



**TRUCKEE TAHOE AIRPORT DISTRICT
BOARD OF DIRECTOR STAFF REPORT**

AGENDA TITLE: Apron A2 Reconstruction 2025

MEETING DATE: October 23, 2024

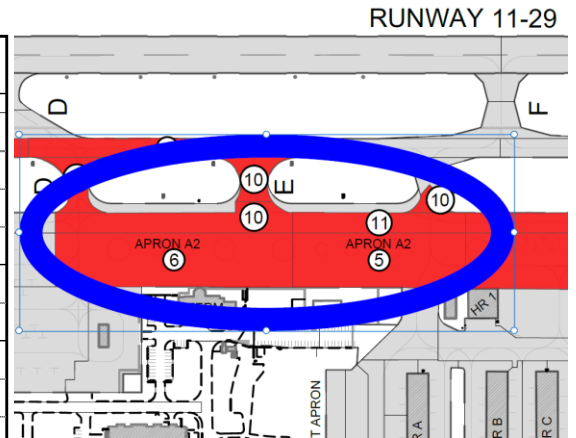
PREPARED BY: Robb Etnyre, General Manager

RECOMMENDED ACTION: Approve including Apron A2 final design and construction cost estimate and FAA Grant Revenue for budget 2025. Final contract award, after competitive bids, will be presented to the board for contract award February 2025 / March 2025, with an estimated project date of May/June 2025.

Background: The Truckee Tahoe Airport has continued to apply for FAA, Airport Improvement Program (AIP) Funds for Apron A2 design as part of the overall long rang KTRK pavement management plan. The KTRK Pavement Maintenance/Management Plan (PMMP) June 2021, identifies Apron A2 for complete reconstruction in 2024 to avoid the forecast pavement section failure in 2026, as indicated in the below chart/figure from the PMMP.

**TABLE NO. 4-2
TRUCKEE TAHOE AIRPORT
REHABILITATION PLAN - DEEP-SEATED DISTRESS**

Estimated Date of Rehabilitation	Element	Station	Remaining Life (Years) from 2020	Estimated Year of Failure	Code*	Recommended Rehabilitation Description
2021	Taxiway A	0+00 to 24+00	9	2029	A1	Reconstruction
2021	Taxiway A	24+00 to 31+25	4	2024	A1	Reconstruction
2021	Taxiway B Runup	See Plates 5-1 & 5-2	7	2027	A1	Reconstruction (with Taxiway A)
2021	Taxiway B	0+50 to 1+75	12	2032	A1	Reconstruction (with Taxiway A)
2023	Taxiway V	0+00 to 1+25	9	2029	A2	Reconstruction (with Runway 2-20)
2023	Taxiway Q	0+00 to 1+25	16	2036	A2	Reconstruction (with Runway 2-20)
2024	Apron A2	See Plates 5-1 & 5-2	6	2026	A3	Reconstruction
2024	Taxiways D(south), E, & F(south)	See Plates 5-1 & 5-2	10	2030	A3	Reconstruction (with Apron A2)
2024	Taxilane Q	12+50 to 25+50	10-11	2030-2031	A3	Reconstruction (with Apron A2)

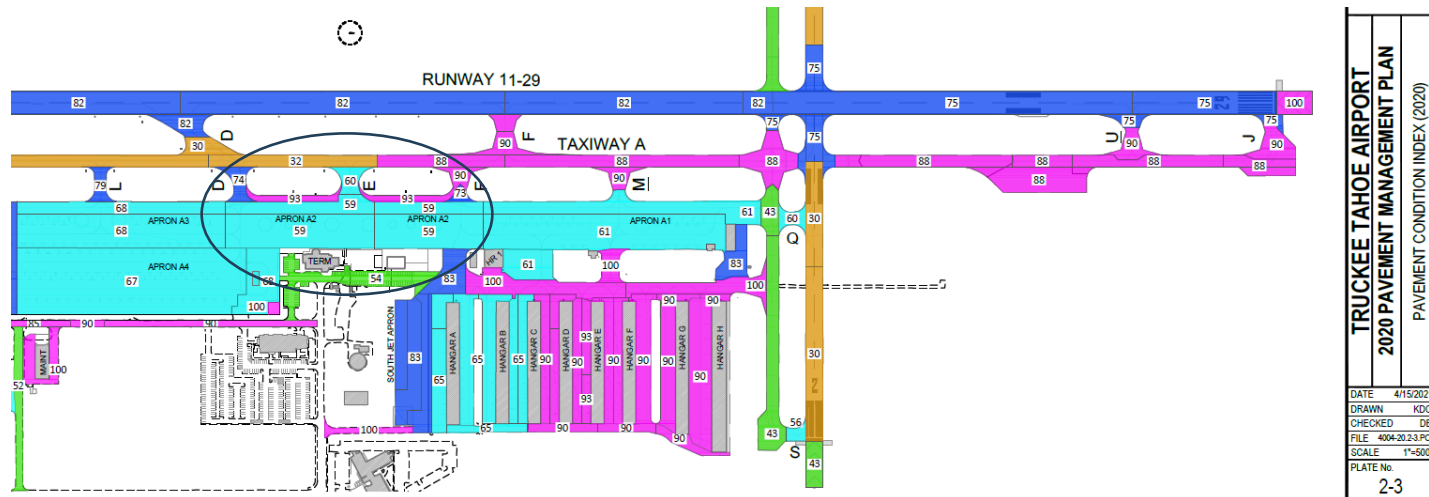


Section 5-2.9 in the PMMP provides the following write up on the condition of all of the aprons and more specifically the proposed Apron A2, with a low PCN score of 59, as indicated in the below graphic.

5-2.9 Apron Reconstruction Projects

All of the apron pavements that serve the large jets (Aprons A1, A2, and A3) are under-designed for this size aircraft. These pavement sections have only 9" of total pavement section thickness, and a total pavement section of approximately 18" is needed to support the forecast aircraft fleet mix. While they can support some operations of heavy aircraft, they will need to be reconstructed to provide the proper life and performance based on the forecast traffic. Apron A2 is the most heavily used by the larger jets, which explains why its remaining pavement life is only 5-6 years.

The reconstruction of these aprons will need to include the use of the "grade bumped" asphaltic concrete of PG 76-28 PM to support the heavier jet aircraft in the current forecast on hot summer days.



Brandley Engineering has provided some additional background on this specific project as follows:

- All the apron pavements are under-designed for the large jet aircraft as noted in the PMMP, however the heavier usage of the Apron A2 portion of the apron in front of the terminal building has caused the subgrade strength to deteriorate faster than other portions of the apron. The PMMP forecasted a pavement section structural failure of the subgrade of the Apron A2 area by the year 2026 based on the forecast traffic. The PMMP originally recommended reconstructing these pavements in 2024, which was initially delayed due to funding availability.
- The sub-standard pavement section thickness on the apron provides a continuous risk that it could fail under the large jet aircraft currently using it. A failure has not occurred yet due to the sub-standard pavement section, but that doesn't mean that it will not

occur. Combining this risk with a failing subgrade is a recipe for a potential catastrophic failure.

- Soil borings taken in the Summer of 2024 for the design of Apron A2 further support the weakened subgrade strength that was derived from test data in the 2021 PMMP. This subgrade strength with the existing pavement section along with the forecast traffic still supports the PMMP forecast that a subgrade failure could occur by 2026.
- If all the jet traffic were eliminated from the Apron A2 section to delay subgrade failure, they would inevitably have to park on other Aprons (Apron A1 to the east or Apron A3 to the west). This would not be an adequate solution as these aprons are also under-designed for these aircraft and the increased traffic would then cause those pavements to fail significantly faster. Operationally, the most valuable portion of the apron in front of the terminal building would become unusable for these aircraft, which would likely be very problematic for the airport.
- The Apron A2 pavement section is at a critical tipping point, such that a recommendation or justification for delaying the reconstruction of this Apron any further cannot be made.

DISCUSSION:

The Truckee Tahoe Airport District Board approved the engineering design of the Reconstruction of Apron A2 in March 2024. Brandley Engineering, our Airport Engineer has conducted limited design for this project to help provide an updated cost estimate for consideration. This project also includes hydronic heat outside the main terminal exit to the ramp to address long documented winter ice buildup and poor drainage.

An independent fee estimate (IFE) for the engineering design for the subject project was prepared by Auerbach Engineering Corp. for services to be provided including environmental studies (Cat Ex), topographic surveys, geotechnical studies, and engineering design and preparation of plans and specifications ready for bid. A copy of this IFE is attached.

A scope of work and fee proposal for the Engineering Design Services for the reconstruction of the Apron A2 pavements was requested from Brandley Engineering.

The consultant has submitted their fee proposal for the Engineering Design Services in the amount of \$228,500 for the Reconstruct Apron A2 Pavements project, which the TTAD Board awarded in March 2024.

Brandley Engineering has prepared an updated cost estimate including all estimated engineering and construction project costs for consideration. The maximum available funding from FAA and Caltrans is also shown with the remainder being what the Sponsor would need to provide.

**TRUCKEE TAHOE AIRPORT
TRUCKEE, CALIFORNIA**

Reconstruct Apron A2

Estimated Summary of Project Costs - 10/15/24

Engineering Design	\$ 228,500
Bidding Assistance, Engineering During Construction, Final Project Closeout	\$ 98,000
Resident Engineering, Testing, Inspection	\$ 150,000
Construction Cost Estimate	\$ 4,250,000
<i>Total Engineering + Construction (No Administrative Costs)</i>	<i>\$ 4,726,500</i>
<i>Total Project Costs</i>	\$ 4,726,500
Available FAA AIP Funding	\$ 249,000
Caltrans State Matching Grant	\$ 12,000
Available FAA AIG Funding	\$ 1,175,000
Sponsor Participation	\$ 3,290,500

FAA AIG Funds expire starting in 2025 at the following rate if they are not used for Apron A2:

2025 (\$295,000), 2026 (\$292,000), 2027 (\$294,000)

The Airport District has no other eligible projects scheduled for consideration with the FAA until 2027 when the design of the reconstruction of the eastern 2,000' of Runway 11-29 is anticipated. Removal and replacement of the existing jointed asphalt surface course at Hangars A, B, C, and M rows could be programmed with the AIG funding to prevent it from expiring if it is not used on Apron A2, however that project is just a cosmetic surface replacement to eliminate the widening joints whereas Apron A2 is anticipated to have a subgrade failure in 2026 and should be prioritized.

Fiscal Impact: Noted above and included in current Budget 2025 draft.

Recommended Motion: I _____ Move to (approve/deny) including Apron A2 final design and reconstruction cost estimate and FAA Grant Revenue for budget 2025. Final contract award, after competitive bids, will be presented to the board for contract award February 2025 - March 2025, with an estimated project date of May/June 2025.

ATTACHMENTS:

Reconstruct Apron A2 – Engineering Design, Record of Negotiations

SUPPLEMENTAL SERVICES AGREEMENT NO. 3

Reconstruction of Apron A2, Engineering Design Proposal for Professional Engineering Services

Apron A2 Reconstruction Cost Estimate

PMMP Apron A2 Information