



## TRUCKEE TAHOE AIRPORT DISTRICT - INTEROFFICE MEMORANDUM

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**TO:** BOARD OF DIRECTORS  
**FROM:** KEVIN SMITH - GENERAL MANAGER, AND RUNWAY AD HOC COMMITTEE  
**SUBJECT:** RUNWAY 10/28 DESIGN OPTIONS AND COURSE OF ACTION  
**DATE:** 11/18/2014

The following report outlines analysis and recommendations of the Runway Ad Hoc Committee, Committee advisors and Airport Staff regarding design options for Runway 10/28 and a recommended course of action.

In April of 2011 the Airport District retained the services of Reinard Brandley, Consulting Airport Engineer through a competitive *Request for Qualifications* process. Brandley Engineering was asked to produce a new Airport Pavement Maintenance Plan and complete design work for the Runway 10/28 Pavement Rehabilitation Project. On May 25, 2011 Brandley Engineering completed their Pavement Evaluation Analysis including runway design options for the Ad Hoc Committee and Board of Directors consideration. A copy of this report has been attached.

**Objective for this Meeting:** Review provided information from Engineer, Staff, and Ad Hoc Committee. Discuss merits of the various options and prepare to make a final decision at the June 23, 2011 Board of Directors Meeting.

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### **BACKGROUND:**

As part of the 2011 ACIP, the Airport District has received funding in the amount of \$2,450,000 for runway pavement rehabilitation (\$1,940,000), drainage improvements (\$410,000), and obstruction removal (\$50,000). The runway rehabilitation project has been on the ACIP schedule for some time and is essentially Part II of the 2009 10/28 touchdown area reconstruction project. The Board of Directors considered these available AIP funds in detail at their January 18<sup>th</sup> 2011 Workshop. It was decided at

that meeting to move forward with rehabilitation, directing the Ad Hoc Committee and Staff to maximize the benefit of the funding available and implement it in the most appropriate way.

To achieve this objective, staff has been working closely with Brandley Engineering to design and implement the best and most effective rehabilitation option available. In collaboration with the Ad Hoc Committee, Reinard Brandley has provided 4 design options for consideration. These can be reviewed in detail starting on Page 8 of the attached study. Mr. Brandley will present this information at the meeting.

### **CURRENT FUNDING STATUS:**

In recent discussions with the Airport District's FAA Project Manager, much is in flux with available funding for this project. Due to delays with the FAA Reauthorization Bill in Congress and the fact that the FAA continues to operate on "continuing resolutions," funding for our project while programmed, has not been received by the San Francisco Airport District Office in Burlingame, CA. As a result, it is highly unlikely our project will be completed this summer. We are under instruction to continue to move forward with design and bidding with hopes of receiving "end of year funding" which will obligate the project for early summer construction in 2012. We are also instructed to maintain a project cost close to \$2,000,000. This will make us most competitive for end of year funding. The General Manager will be attending the FAA Western Pacific Airport District Office Conference in Los Angeles this week and will have additional information regarding funding status and the future of the FAA Reauthorization Bill.

### **AD HOC COMMITTEE RECOMMENDATIONS:**

In reviewing the various reports and in discussions at our various meetings, the Runway Ad Hoc Committee is recommending that the Board consider Option A as the optimal design. This option consists of pulverizing and re-compacting the upper 6 inches of existing asphalt concrete (AC) and aggregate base (AB) and placing a new 3" layer of polymer modified asphalt pavement which will increase our runway cross section by 3 inches. This will strengthen the runway's load bearing capacity from the current 19000 lbs for a single wheel aircraft and 38000 lbs for a dual wheel aircraft to 37000 lbs for a single wheel aircraft and 57000 lbs for a dual wheel aircraft. This is a significant improvement and brings the runway up to a similar standard with the improvement work completed on the easterly 2000 feet reconstructed in 2009.

Committee considerations regarding the other options are as follows:

- Option B – Cost was significantly more than Option A and did not improve strength of runway base course and subgrade substantially.
- Option C – Cost is not feasible based on available funding. District would need to contribute significant funding to make option possible. Another consideration was the proposed bearing capacity of 54/74 and if this standard should be discussed with the community through the Master Plan process before the runway is improved to that level. Based on Master Plan discussions, 54/74 may be more than the community wants or it may not be enough to accomplish the community's goals for the airport.

- Option D - There was minimal improvement to facility based on cost and a comparison with Option A.

## **THE HUMP**

There has also been much discussion regarding the removal of a hump in the runway. At this time the FAA is not inclined to fund the removal of the hump as the airport has a parallel taxi way which mitigates some of the safety risks. While they still agree it has some runway safety benefits, it would only be fundable if it fits within the \$2,000,000 funded project allocation.

It is our engineer's opinion that there may be a favorable enough bidding environment to be able to remove the hump and keep the project within the funding allocation. Another significant benefit to hump removal is the 1700 linear feet where the hump exists is the weakest section of the runway based on data from the 2009 and 2011 FWD testing. Removal of the hump would allow reworking of the base course and subgrade and significantly improve that section of the runway. Mr. Brandley is suggesting that the District solicit parallel bids, one advertising Option A as is, and a second Option A with hump removal. If bidding is advantageous, we may have the option to remove the hump.

## **SUMMARY:**

The Ad Hoc Committee and Staff have spent considerable time analyzing and reviewing the various methods and options to rehabilitate runway 10/28. Based on this analysis, Option A appears to be the best fit for the Airport District at this time. While not the perfect solution, it provides the necessary rehabilitation to extend the life of the runway base course and subgrade for 20+ years and significantly improves the condition of the asphalt. This option also brings both ends of the runway to a similar design standard, simplifying ongoing maintenance and operations of the facility. Staff and the Ad Hoc Committee fully support and recommend a vigorous discussion through the Master Plan process regarding the future of our runways and what the ultimate design of the runways should be, including the types of aircraft they should accommodate in to the future.

The Board of Directors and Staff, with the assistance of our consulting engineer, should discuss these concepts and ideas as presented. The Board is scheduled to take action on this issue at their June 23, 2011 Meeting.

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## **ATTACHMENTS:**

Pavement Evaluation and Analysis for Runway 10/28