

June 3, 2010

Board Members
Memphis Shelby County Airport Authority
2491 Winchester Road
Memphis, TN 38116-3851

MSCAA Board Members,

Because the 111 page *Amendment #6 Hurricane Creek Culvert Investigation* (Kimley-Horn Project No. 115010008) conducted by Kimley-Horn and Associates was not released until the day before the May 20th, 2010 MSCAA Board meeting and because I did not receive my copy until the following week, I would like to submit a very short (2 pages) but concise response to the report now that I have had an opportunity to study it.

Clearly there was an attempt made by the MSCAA staff to commission a report that showed the majority of visual tunnel damage still exists within the FedEx Express property and is not the responsibility of the MSCAA. FedEx Express may or may not decide to correct these issues within their section of the Hurricane Creek tunnel during the reconstruction of Taxiways Victor and Alpha.

The most significant result of this study is it proves that MSCAA staff members are continuing an attempt to cover up the problems specific to Runway 9/27 and the damaged walls directly below the runway; all of which are located within the MSCAA's area of responsibility.

I welcome any feedback or proof that legitimately refutes any of my findings.

Sincerely,

Guy Cobb

Kimley-Horn report statements are in blue and my response/observations are in **bold**:

Walk-through all four (4) barrels of the existing structure the full length of airport responsibility (from the south inlet to the interface with the FedEx culvert)

This is the first time I have read a document specifying where the Airport Authority's responsibility for the tunnel begins and ends and where FedEx Express' section of tunnel begins and ends. This is significant from both a maintenance and liability standpoint.

The construction drawings dated April 19, 1985 prepared by Allen Hoshell were made available by the MSCAA; however no design loading or methodology was identified in these drawings.

Records indicate that no major maintenance has been performed on the structure since construction.

The entire MSCAA portion of the tunnel was replaced long after the 1985 construction with new walls and "stay-in-place" ceiling panels. This explains Matt Jensen's observation:

The structure appears to generally be constructed in accordance with the [1985] construction drawings. One notable difference was that stay-in-place precast concrete form was used for the top slab. The construction drawings do not show the stay-in-place panels.

Mr. Jensen was not provided the most current construction diagrams. This is the second time that construction diagrams have been withheld from engineers studying the tunnel. The first instance was when Benjamin Bovee with AFRAM Corporation studied the tunnel in 2006 without critical rebar documentation for the interior walls.

Continue to next page

Visual observations of the box culvert were performed by Matt Jensen, P.E., a certified bridge safety inspector, on March 22 and 23, 2010. The visual observations were conducted to determine the physical and functional condition of the culvert to form the basis for the evaluation and rating of the culvert.

The interior and exterior side walls and base slab did not show any significant abrasion, cracking, bulging, or other deterioration of the exposed concrete surfaces. Appendix A, **Figures 11 and 12 show an interior wall with misaligned concrete faces.** This condition likely occurred during **[1985]** construction due [to] a misalignment of concrete formwork that supports the plastic concrete while concrete was being poured. The formwork faces did not line up, therefore creating a difference in wall thickness. The side that protrudes is thicker than the design drawings dictate, and is therefore more robust than necessary. This condition does not affect the integrity and the structure and actually results in a thicker section with greater strength.

Mr. Jensen's observation of a single wall being misaligned during the 1985 construction of the tunnel is incorrect. There is not one wall misaligned, all five walls are misaligned; the two exterior and three interior tunnel walls are all damaged.

What is unclear is whether or not Mr. Jensen was made aware by MSCAA Airfield Maintenance staff of the fact that these walls were located directly beneath Runway 9/27 and that there were additional walls with damage.

Kimley-Horn's testing subconsultant was not able to provide radiographic (X-ray) testing of the top slab since the source needed to test the top slab required a very large safety radius which would have caused the closure of Runway 9-27 and Taxiway A for a period of about an hour.

Of all the inspections this report should have provided, the most important would have been a simple visual inspection of the surface of Runway 9/27 directly above the Hurricane Creek tunnel which would have verified that the runway is in fact sinking in this location.

MSCAA Airfield Maintenance has the capability to close Runway 9/27 whenever they like. They closed it for more than two hours during the inspection of the tunnel by Memphis Water Pollution Control and could have closed it for a visual inspection and photographs by the Kimley-Horn team.