



CITY OF DURHAM | NORTH CAROLINA

Date: April 7, 2011

To: Thomas J. Bonfield, City Manager  
Through: Theodore L. Voorhees, Deputy City Manager  
From: Edward R. Venable, Manager of Engineering and Stormwater Services  
Subject: R. Kelly Bryant Pedestrian Bridge Report on Lighting

### **Executive Summary**

The R. Kelly Bryant Pedestrian Bridge was completed in the summer of 2010, but there have been numerous problems with the lighting system. The arched accent lighting on the bridge is currently experiencing intermittent problems and is not fully operational. The bridge's lighting is under warranty until August 2011. The technology being used for the lighting components is a reliable product in widespread use. Public Works is working with the bridge designer Stewart Engineering and the bridge contractor S.T. Wooten to identify the problems and make the necessary repairs.

### **Recommendation**

The Administration recommends that the City Council receive this report on the lighting of the R. Kelly Bryant Pedestrian Bridge over NC-147.

### **Background**

On February 16, 2009, the City Council awarded Contract ST-230 to S.T. Wooten Corporation with a bid of \$1,906,368 to construct the R. Kelly Bryant Pedestrian Bridge over NC-147. The bridge was completed in August 2010, and the dedication was held on September 16, 2010. The ST-230 project replaced the original pedestrian bridge constructed by NCDOT as part of the Durham Freeway project to provide a link between neighborhoods that were separated by the freeway.

A more detailed discussion of the background in the form of a report from Stewart Engineering is attached.

### **Issues/Analysis**

The lighting was first turned on in August, 2010 a few weeks prior to the bridge dedication on September 16, 2010. The systems functioned well until the first failures on the arch light were noted around October 5, 2010. Upon investigation what appeared to be a lightning strike was discovered that affected the arch light on the Durham side of the bridge. There was also an unrelated issue of a circuit breaker in the main panel tripping which cut off all of the lights on the bridge. Repairs were made in December, 2010 and the bridge again functioned properly for a few weeks. Then, intermittent outages of the arch light began to occur on the Durham side of the bridge.

The design team and contractors held several meetings to determine a course of action to repair the problems. During these deliberations a new series of arch sign failures have occurred

on the Raleigh side of the bridge, where there were no indications of a lightning strike occurring. These are also intermittent failures that do not seem to hold to a predictable pattern. Because both sides of the arch signs are experiencing intermittent failures, it appears that a potential lightning strike may not be the direct and/or only cause of the sign's performance history. This lighting system remains under warranty, and all work that has been accomplished to repair the lights has been at no cost to the City.

Having resolved issues associated with the engineering of the bridge and lighting protection, the next steps will be to explore the arch light itself for a resolution to the problem. The design team will be meeting with the sign manufacturer Rodney Signs to seek resolution.

### **Alternatives**

Council can allow the warranty process to proceed allowing the arch light to be repaired under warranty. Council could choose to speed the repair process by replacing the arc light at the City's cost. Public Works staff will continue to pursue the warranty process.

### **Financial Impacts**

The bridge and lighting are under a warranty, and there are no financial impacts for the repair of the lighting.

### **SDBE Summary**

This section is not applicable to this report.