Sakonnet River Bridge
Emergency Inspection – August 29, 2016

8/31/2016

Prepared for:
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Jamestown, RI

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Introduction

On the afternoon of Monday August 29, 2016, in response to an incident involving an A-75 Under Bridge Inspection Unit earlier in the afternoon, the Rhode Island Turnpike & Bride Authority requested Ammann & Whitney to perform an emergency inspection of the Sakonnet River Bridge. The purpose and scope of the inspection was limited to the immediate area of the earlier incident and was intended to determine the level of visible damage that may have resulted from the incident. Stuart Rankin, PE, Ammann & Whitney's Project Manager was on-site for other business unrelated to the incident and performed the inspection from 6:00 pm to 6:30 pm utilizing an A-62 Under Bridge Inspection Unit which was on site in response to the earlier incident.

Inspection Findings

The inspection was performed from the northbound right shoulder (breakdown lane) at a location which was previously marked as 1500 (see photo 1). This is located in Span 6. Once the disabled A-75 was removed from the site, the concrete parapet and steel railing was inspected from the roadway side. The concrete parapet exhibited one area along its top edge where there was a scrape/abrasion mark (see photo 1). There was no cracking, spalling, or other visible damage attributed to the incident on the roadway side of the parapet.

The galvanized steel railing exhibited several yellow paint rub marks (see photo 3). There were also a few areas of scrape marks on the railing (see photo 4). Several of the railing posts exhibited areas of scrapes (see photo 3 for railing and post conditions). The scrapes on the posts appear to be deep enough to go through the galvanizing. At a few locations, the bolt which connects the railing to the post was pushed slightly into the rail causing the wall of the tube steel rail to exhibit a slight depression. This caused the nut on the back side of the connection to loosen; it is currently only hand tight. Also, the bolts have been shifted within the slotted holes in the railing tube steel (see photo 3).

The navigation light (light tube) support struts have been bent. Just below the bottom edge of the concrete parapet/deck, the two struts have been bent to the north by a few degrees (see photo 5). At the bottom of the light tube, there is a yellow paint rub mark on the south side (see photo 6).

The outside face of the parapet, the underside of the concrete deck overhang, and the steel tub girders exhibited no signs of visible damage. There was no cracking or spalling in the parapet or deck overhang that appeared to be from the incident (see photo 7). There was no visible impact damage, scrapes, gouges, or cracks in the steel tub girders (see photo 8).

Conclusions and Recommendations

The Sakonnet River Bridge appears to have suffered no significant damage from the A-75 UBIU incident on August 29, 2016. There is no structural damage that effects the load carrying ability of the bridge. Although there are no structural concerns, the incident has created several maintenance issues that should be addressed. The scrapes in the galvanizing on the steel railing and posts have left bare steel exposed to the elements. It is recommended that these areas be repaired with a cold spray galvanizing compound. The loose/shifted bolts between the railing and the posts should be centered and retightened. An additional galvanized washer or galvanized washer plate may be required if the existing washer cannot cover the slotted hole. The two vertical struts supporting the navigation light tube should be replaced.

Photo 1. Location of inspection.

Photo 2. Scrape on top edge of concrete parapet.

Photo 3. Paint rub marks on railing. Scrapes on post. Head of bolt has been depressed into wall of railing tube.

Photo 4. Paint rub marks and scrapes on railing.

Photo 5. Just below bottom of concrete, the struts are bent to the north.

Photo 6. Yellow paint rub mark on the south side of the light tube at the bottom.

Photo 7. Outboard face of parapet and underside of concrete deck overhang exhibits no signs of distress from incident.

Photo 8. Steel tub girders and diaphragms exhibit no signs of impact damage.