

# BUREAU OF ENVIRONMENT CONFERENCE REPORT

**SUBJECT:** Monthly SHPO-FHWA-ACOE-NHDOT Cultural Resources Meeting

**DATE OF CONFERENCES:** May 14, 2020

**LOCATION OF CONFERENCE:** John O. Morton Building

## ATTENDED BY:

### NHDOT

Phil Brogan  
Sheila Charles  
Ron Crickard  
Meli Dube  
Jill Edelmann

Mike Mozer

### NHDHR

Laura Black  
David Trubey

## PROJECTS/PRESENTATIONS REVIEWED THIS MONTH:

*(minutes on subsequent pages)*

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### **Warner 15907, X-A001(029)**

Participants: Meli Dube, Phil Brogan, Mike Mozer, NHDOT

Consultation on the Davisville Bridge (253/180) project on NH Route 127 over the Warner River. The goal of the meeting was to review the design alternatives, including rehabilitation and replacement, with an emphasis on examining the potential effects. The discussion will include the findings of the archaeological and architectural surveys, and guidance for completing the Section 106 process. including potential mitigation strategies

Phil Brogan, NHDOT Bureau of Bridge Design, began by providing an overview of the project area and purpose and need. The project will address structural deficiencies at Bridge #254/180 carrying NH Route 127 over the Warner River in the Town of Warner. The existing structure is a three-span 120' long continuous steel I-beam bridge which was constructed in 1937 after a previous covered bridge washed away during a March 1936 flood event.

The bridge is on the State's red list due to poor deck condition, several photos of delamination and bridge beam deterioration were shown to convey the extent of the damage. The purpose of the proposed project is to address safety and structural concerns such that the bridge may be removed from the red list and to remove the existing load posting. The need is demonstrated by the deteriorated condition of the bridge. A study completed in 2010 concluded that full replacement should be considered as an alternative due to steel girder section loss in numerous locations, the location of the bridge in a sag vertical curve resulting in drainage issues at all four quadrants and the significant history of steel and concrete repair which have not been able to address the current structural deterioration due to age. Other concerns which were identified include narrow shoulders which cause safety concerns for pedestrians and bicyclists and an inadequate turning radius at the intersection of Dustin Road in the northeast quadrant of the crossing. Large trucks frequently turn from Dustin Road onto NH Route 127 as a connection to NH Route 103 to the south of the project area and are unable to complete the turn without damaging the existing guardrail, which must be fixed on a regular basis.

Phil discussed the design alternatives currently under analysis. Alternative 1 involves replacement of the deck only. The alternative would maintain the current hydraulic opening, provide a slight widening of the shoulders from 1'-9" to 2'-6", upgrade the guardrail, clean and paint steel beams, rehabilitate abutments and wingwalls by patching spalled concrete areas, and would maintain the current inadequate geometry at the Dustin Road intersection. The deck replacement alternative would provide an additional 50 years of service life for the bridge and would cost an estimated \$1.1 million. Alternative 2 would involve replacement of the entire superstructure while maintaining the existing substructure. This would maintain the existing hydraulic opening, provide additional widening of the shoulders to 3'-0", upgrade the guardrail, replace steel beams and the rest of the superstructure, rehabilitate abutments and wingwalls by patching spalled concrete areas and improve the Dustin Road intersection to the recommended geometry. This option would allow for an additional 75 years of service life and would cost an estimated \$1.5 million. Alternative 3 would involve complete removal and replacement of the bridge with a new single span structure. This would remove the piers and improve the hydraulic opening, widen the shoulders to 4'-0" with an option to widen more to 5'-0", replace all structural components of the bridge with new to-standard components including guardrail, steel beams, abutments, etc, would upgrade the Dustin Road intersection to the recommended geometry, alleviate the poor drainage at the bridge by adjusting the roadway profile, and improve water quality by constructing a vegetated treatment swale in the southwest quadrant. This alternative would allow an additional 120-year service life for the bridge and would cost an estimated \$2.5 million. Phil noted that Alternative 3, full replacement, is the preferred alternative of the Department and of the Town and residents in the project area. The benefits of replacement with a wider bridge are that it addresses increased traffic volumes projected for the future, better accommodates the Town's newly purchased larger fire engines, improves pedestrian and cyclist safety, provides the longest service life, and addresses the inadequate turning radius at Dustin Road. The Town also expressed a preference for a complete road closure during construction in order to allow for fewer right-of-way impacts and a shorter construction window.

Phil also described the existing cultural resources at the site. An area form was completed for Davisville Village and DHR concurred that this is a Historic District eligible for listing on the National Register of Historic Places. The bridge was also determined to be a contributing factor to the historic district, as well as many of the surrounding structures within the Area of Potential Effect for the project. An Individual Inventory Form for the bridge itself was also completed and it was determined that the bridge is individually eligible for listing on the National Register of Historic Places under Criterion A due to the use of disaster-relief WPA funding after the 1936 flood events and Criterion C as the oldest extant continuous I-beam bridge in NH.

An Archaeological Phase IA/IB investigation was completed for the project area which determined that there are no resources present in the potential areas of disturbance for the replacement alternative, due to the location within highly disturbed areas and the existing roadway fill prism. There is a large archaeological site out of the project area associated with mills which were historically located along the banks of the Warner River east of the crossing, however, as long as the work remains within the previously surveyed areas, no further archaeological investigation was recommended.

Laura Black, NHDHR, provided several comments and questions for discussion. Primarily, DHR will require clarification on the impacts to the bridge, district and potentially any other individual properties in the APE for each proposed alternative. Meli Dube, NHDOT Bureau of Environment, stated that Effects Tables were in process of being completed which would provide additional details and effects summaries. Laura noted that individual inventories had not been completed for surrounding structures in the project area and that, depending on potential impact, this may be necessary if it seems that adverse effects to the properties are likely.

Laura also stated that an old FERC application to construct a dam, which was rejected, noted a USGS monitoring station located in the northeast quadrant between the river and Dustin Road. Meli stated that the proposed work area does not extend as far as the USGS station and impacts to the structure are not anticipated.

Laura also asked for clarification about construction of the proposed stormwater treatment swale in the southwest quadrant. Meli showed several photos of the existing erosion in that quadrant resulting from poor drainage at the bridge and stated that the proposed swale would look similar to the existing grassed lawn condition and would not remove the large old trees in the riparian zone of the Warner River. The swale would be intended to be mowable and easily traversable and would not impede access to the river for either of the properties along which it would extend. Meli stated that one property owner had been consulted in person and was in favor of the swale, however, direct contact has not been made with the other property owner.

Laura requested that the project files be updated with a detailed explanation of the impacts to the bridge and district, as well as the footprint minimization efforts of the various alternatives and the explanation for why individual inventories of surrounding properties were not deemed necessary due to these minimization efforts. Effects tables should discuss the impacts to the bridge, district, intersection with Dustin Road and the properties on which the treatment swale will be located. It was noted that due to the impacts to the bridge and historic district, the need for a 4(f) evaluation should be considered.