

## **SPECIFICATIONS FOR THE DISMANTLING OF THE ROBERT J. PROWSE MEMORIAL (ASH STREET) BRIDGE (NH BRIDGE 140/120)**

The purpose of this undertaking, a component of NHDOT Project LON0016, is to disassemble the Robert J. Prowse Memorial (Ash Street) Bridge (NH Bridge 140/120) in such a manner that the components of the bridge 1) will retain full structural integrity and 2) may be safely stored and reassembled at a future time and a selected new location without loss of those characteristics that make the bridge eligible for the National Register of Historic Places.

### **Bridge deck**

**Removal of bridge deck.** The existing bridge deck shall be removed in a symmetrical or balanced fashion so that the reduction of its dead load during removal shall not create eccentric stresses in the bridge frames. Care shall be taken to protect the upper flanges of the frames during removal of the concrete and to preserve shear connectors that link the concrete and steel components.

### **Stresses in structural frames**

**Neutralizing internal stresses in each frame.** To ensure the retention of structural integrity of the frames that constitute the National Register-eligible components of the bridge, the bridge shall be dismantled with sufficient care and with adequate jacking and shoring and support to neutralize the internal stresses in each component of each frame prior to disassembly.

### **Stresses at field-bolted connections**

**Neutralizing shear stresses in field-bolted connections; protection of bolt holes and pinned connections.** A purpose of the jacking and shoring of the bridge components shall be to neutralize shear stresses at the bolted field connections and at the pins at the bridge seats so that these threaded connections may be removed without damage, preserving the integrity of the connectors and of the holes or bearings through which they pass. Bolted connections shall not be burned out or sheared off, but shall be unbolted after stresses are neutralized.

### **Treatment of field-bolted frames**

**Protection of web stiffeners and shop welds in the frames.** The integrity of each of the three internal field-bolted frames shall be maintained through the careful protection of all existing welded web stiffeners and all shop welds in the plates of the frames themselves.

**Protection from overstressing during disassembly, lifting, moving, and storage.** The shop-welded components of each frame and the welded joints shall be protected from overstressing both by careful shoring and by careful lifting of each detached component for loading, transportation to the storage site, and arrangement and support for storage.

**Cutting of field-welded components.** Field-welded components such as lateral bracing shall be cut carefully to detach adjacent frames in preparation for disassembly and to permit the proper and efficient attachment of new bracing members in a future re-erection of the bridge.

#### **Treatment of field-welded frames.**

**Cutting of field-welded structural connections.** The two exterior frames of the bridge were treated stylistically with welded spandrel exterior facades and with welded rather than bolted field connections. Detachment of the components of the two outer frames will require cutting at or near the lines of the field welds. Cutting shall be done with extreme care in the expectation that the bridge will be reassembled at a future time and that new field welds will be ground to become inconspicuous in the same manner as the existing field welds. Every effort shall be exerted to minimize damage to the exterior surfaces of the steel and to facilitate the future re-welding of the connections on the two exterior frames.

As with field-bolted connections, care shall be taken, by adequate jacking and shoring, to neutralize the internal stresses in each component of each frame prior to cutting and disassembly.