

BUREAU OF ENVIRONMENT

CONFERENCE REPORT

DATE OF CONFERENCES: March 2 and 9, 2006

LOCATION OF CONFERENCES: J.O. Morton Building

ATTENDED BY: Christine Perron, Kevin Nyhan, Marc Laurin, Mark Hemmerlein, Russ St. Pierre, Dennis Danna, Chris Waszczuk, John Kallfalz, Nancy Mayville, NHDOT; Jim Garvin, Linda Wilson, Emily Paulus, Beth Muzzey, and Edna Feighner, NHDHR; Harry Kinter and Ed Woolford, FHWA; Jamie Paine, CLD; Mike Desrochers, Edwards and Kelcey; Peter Howe, FST; John Watters and Addie Kim, HNTB; Lynne Monroe, Preservation Company; Tom Levens, Holden Engineering; Liz Hengen, Preservation Consultant; Lisa Mausolf, Preservation Consultant; Lynne Monroe and Carol Hooper, Preservation Co.; Charlie Freiberg, Photographer; Rich Casella, Engineering and Architectural Historian; and Ron Joy, McFarland Johnson.

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

NOTES ON CONFERENCE

Thursday, March 2, 2006

Portsmouth, BHS-X-T-0101(015), 13678. Participants: Kevin Nyhan and Nancy Mayville, NHDOT; Lynne Monroe, Preservation Company; and Addie Kim (akim@hntb.com) and John Watters, HNTB.

The purpose of this meeting was to review the alternatives under consideration and discuss cultural resource impact assessment method for the Memorial Bridge rehabilitation.

John Watters reviewed the work proposed. For the Kittery approach span, extending between Badger's Island and the truss span of the Memorial Bridge, the concrete deck will be retained and there will be localized repair and patching on the deck. The timber sidewalks will be replaced with concrete. There will be localized repairs and painting of steel sidewalk railing that has rusted. Below the roadway, there will be steel repairs and painting. On the concrete substructure that has experienced spalling and cracking, sealing and repairs will be performed. There will be milling and replacement of the first more than 40 feet of the roadway on Badger's Island. Harry Kinter inquired whether potholes will be replaced and whether the railing will be rehabilitated off site. John Watters indicated that rehabilitation of the railing will most likely be done on site. A new deck surface would be installed on the truss spans, and the potholes will be fixed on the approach span in Kittery, Maine. The cost of the proposed alternative is approximately \$35 million.

John Watters explained that six alternatives for the Memorial Bridge, three involving bridge rehabilitation and three involving replacement, were evaluated, in addition to the No Build alternative. Plans and renderings of the alternatives were distributed. He indicated that a matrix of these alternatives has been prepared that will be used in the March 9th Effects meeting, with the effects on each historic component listed (Scott Avenue/Memorial Park, Memorial Bridge Lift Span, Memorial Bridge Truss Spans, Kittery Approach Span). It was discussed that additional columns will be added to the matrix for the Badger's Island roadway and Bridge and the John Paul Jones Memorial Park.

John Watters described the replacement of the lift span. The existing riveted steel is no longer manufactured, so the replacement would have the same geometric dimensions, but reduced bracing, so there would be more solid shapes. On the new lift span, there would be upper and lower bracing, but no diagonal bracing. Jim Garvin noted that the gusset plates that were welded or bolted would not be incorporated into the new lift span and that the original deck was made of solid wood, which was later replaced with steel. Harry Kinter inquired whether the rehabilitation would be performed off site. John Watters indicated that the rehabilitation would be performed on site.

Under both the lift span rehabilitation and lift span replacement alternatives, the machinery would be replaced, and the operator's control house would be moved to the south tower, but the machinery in the control house would remain on top of the vertical lift. A question was asked as to how the electrical connection would be made between the operator and the lift span. John Watters indicated that the cables would droop between the lift span and operator's house. Jim Garvin had a question on the 3-wire trolley system dated from the original construction. John Watters was unsure if the original 3 wire system was still in place. Most likely the original wires have been replaced.

John Watters indicated that the deck would be replaced on the truss spans, which is now a 6 ½-inch solid deck. Jim Garvin suggested that there would need to be an increase in the counterweight of the bridge, for example by adding additional concrete to the sides and bottom of the counterweight. John Watters stated that the lifting mechanisms including the trunnions, sheaves, ropes, and machinery had already been replaced and would be replaced under this project. He further indicated that the railing on the truss spans would be repaired. Harry Kinter indicated that the only difference would be the aesthetics of the product, and inquired whether there were other utilities carried across the bridge. Jim Garvin inquired whether CATV was carried across the towers. Harry Kinter indicated that there were no underwater utilities.

John Watters stated that the Scott Avenue approach was significantly deteriorated. HNTB had looked at multiple alternatives, and the city preferred the two-span bridge. It allows more space for improvements and enhances safety.

Nancy Mayville indicated that the City of Portsmouth owns the Scott Avenue Bridge and would pay 20% in matching funds for the bridge replacement. The lift span is split between New Hampshire and Maine, and the Maine approach would receive 80% federal funding and 20% Maine funding. She indicated that a public informational meeting and presentation on the results of the alternatives screening and Environmental Study Report is scheduled for Thursday, April 6th. Harry Kinter indicated that the rehabilitation is the preferred alternative under Section 106, and Jim Garvin concurred. Nancy Mayville indicated that a NHDOT Commissioner's briefing is scheduled for March 20th, and a meeting with Maine DOT will be held on March 29th to receive inputs on the preferred alternative.

Jim Garvin questioned whether improvements beyond strengthening were needed. John Watters indicated that lift span replacement would be more costly and corrosion is built up on the existing lift span. The replacement lift span would have less rust-sensitive details and would operate longer in the long-term, as far as cost-benefits.

Joyce McKay inquired whether the state border would factor into determinations. Harry Kinter responded in the negative. Joyce McKay reiterated that the evaluation would look at impacts on the entire bridge historic district, as NH DHR decided that the bridge would be considered as one district. Jim Garvin noted that Memorial Park, as part of the historic district, has already been compromised. He wondered about the city's plans for the park. Harry Kinter responded that the impact to the park could be viewed as temporary, and it could be restored to its current or original configuration. Harry Kinter indicated that this would probably not require a Section 4(f) Evaluation because there would be no taking. However, after discussions with Kevin Nyhan after the meeting, it was determined that a Section 4(f) Evaluation would be needed based on the replacement of the Scott Avenue Bridge. Nancy Mayville indicated that how the park would be restored would be up to the city. Their decision could have effects on the district, although this now sounds much less likely. The city has indicated that they would like to eliminate some of the entrances to the park and parking lot and create additional grassed area as part of the memorial site and move the parallel parking on the side. This would increase, rather than decrease, the area of the park.

Nancy Mayville indicated that the project was originally scheduled to be advertised in 2007 and this has been shifted to 2008. The local legislative group is concerned regarding the effect of bridge restrictions on mutual aid agreements, since Portsmouth consists of old wood buildings and the bridge is used by

first responders. She is preparing applications for special earmarked funds, and the schedule for the project has been accelerated to potentially accommodate the 2007 advertise date.

Lynne Monroe indicated that in Maine, there is an eligibility form for the John Paul Jones Memorial Park, and the two other elements are referenced as National Register eligible, but have no form. Joyce McKay asked Lynne Monroe to prepare the tops of the yellow eligibility sheets for individual properties within the district and for the district as a whole for the effects meeting next week. Jim Garvin indicated that there is one district for the Memorial Bridge that extends from Wright Avenue in Portsmouth to Government Street in Kittery, and this entire district would also be considered in the impact evaluation.

Thursday, March 9, 2006

Portsmouth, BHS-X-T-0101(015), 13678. Participants: Kevin Nyhan; Lynne Monroe, Preservation Company; and Addie Kim (akim@hntb.com) and John Watters, HNTB.

The purpose of this meeting was to review the effects of the Memorial Bridge project and alternatives on the National Register-eligible Memorial Bridge Historic District and the individual NR-eligible elements that comprise the historic district. Effects on these individual elements (the Scott Avenue Bridge/ Memorial Park, Memorial Bridge, Kittery Viaduct, Badger's Island Roadway, Badger's Island Bridge, and John Paul Jones Park) were determined first and effects on the district as a whole were discussed at the end of the meeting.

Scott Avenue Bridge

Joyce McKay distributed yellow effects sheets for Scott Avenue and Memorial Park and indicated that DHR considers these properties inseparable. John Watters described the need for the proposed Scott Avenue Bridge replacement because of the deteriorated condition of the bridge. The proposed bridge replacement, with a two-span bridge, would remove three sets of piers from under the roadway, a benefit for drivers and pedestrians along the waterfront, with no other geometric changes to the roadway under the bridge. There would be no change above along the Memorial Bridge approach roadways. There would be a temporary impact for construction equipment and excavation for the roadway support in the north end of the park. The construction option with a complete roadway closure over 5 months would have less effect on overhead roadway than alternating one-way traffic (2-month closure, followed by 6-month alternating one-way traffic). Four design alternatives were evaluated that include the No Build alternative and three alternatives for three-span and four-span bridges. The No Build alternative is not practicable, due to the condition of the bridge, and other options would introduce more columns under the roadway, increasing the hazard to drivers and impediments to pedestrians.

Linda Wilson indicated that the Scott Avenue Bridge replacement would have an adverse effect on the integrity of all elements on the effects form (design, setting, workmanship, etc.). Joyce McKay indicated that the bridge had been documented through large format archival-quality photographs of the bridge. The original design drawing for the bridge still needs to be copied using this process. Carol Hooper indicated that only one design drawing was originally created for the bridge. With the exception of the photography of the plan, the HSR provides a detailed record of the Scott Avenue approach and the Memorial Bridge.

The consensus was that the visual result of the proposed design is similar to that of the existing bridge, but creates additional feeling of openness under the bridge and would improve safety. But, its replacement would be an adverse effect on this element and on the whole district. Harry Kinter inquired about the lighting design and indicated that consultation with the city to use lighting consistent with the city's Master Plan or city standards should be specified. It was agreed that if the city does not have a preference for lighting, then lighting that is consistent with either the age of the bridge or that is compatible with the character of the bridge should be used.

Jim Garvin indicated that in 1922, bulb and reflectors were used in the design. The original railing cannot be used on the bridge, since this type of rail is not acceptable under AASHTO standards. John Watters concurred that it would be impossible to replicate the old railing and meet NCHRP 350 crash testing requirements. Lynne Monroe

suggested that a wall at the curb line could be used to allow the original railing to be installed. John Watters responded that use of a barrier would reduce the sidewalk width and would have a visual effect. Kevin Nyhan pointed out the potential need to accommodate bicycles and asked whether they would be accommodated on the roadway or on the sidewalks. Steve Liakos responded that bicycles would be accommodated on shoulders, and the railings would be designed for 36 inches (not 54 inches as required for bicycle use). He also noted the need for vertical pieces (balusters) between posts to prevent people from climbing between posts on the railings and also noted that a snow fence on the bridge should be 5-foot high. Jim Garvin noted that old photographs seem to show chain link fence.

Joyce McKay summarized mitigation for Scott Avenue: complete documentation in the HSR by photographically copying plans, conducting some mitigation by design, and engaging in consultation on the railing and lighting. Harry Kinter concurred that the proposed design should be reviewed by FHWA, DHR, and the city.

Memorial Park (Part of the Scott Avenue Bridge)

Taking into account the city's current perspective, Joyce McKay indicated that the intent, then, is to reconstruct Memorial Park to its existing form or one closer to the original after it has been affected by bridge replacement. John Watters indicated that the best guess of how the contractor would construct the piers would involve an excavator and backhoe if the south bridge abutment is reconstructed. This would affect the northern triangle of the park, but would not impact the southern triangle of the park. John Watters mentioned that, to speed Scott Avenue construction, the abutment may be reused. This would involve driving piles and build behind the existing abutment (to the south) to a depth of 5 to 6 feet.

Jim Garvin inquired about the depth of the archaeological resources at the northern triangle and potential impact by the construction of the south piers to these resources. Joyce McKay indicated that the testing found that fill extended below 4 feet, the depth of archaeological testing in the south park triangle. Intact archaeological resources may exist below this level. Excavation in the park area or along the waterfront would require archaeological monitoring and would involve work stoppages if archaeological deposits are found. Joyce McKay indicated the need for the archaeologist to be present when taking borings in this area. It was discussed that even use of 2-inch to 3-inch borings may still yield valuable information about archaeological deposits. Addie Kim indicated that there will be environmental testing in this area during borings, due to the presence of a coal tar layer on adjoining Harbour Place property and Groundwater Management Permits for this property and a former gas station. It was mentioned that the archaeologist, Kathy Wheeler of IAC, has hazmat training.

Harry Kinter mentioned that coordination with the city on the plans for the memorial should be performed. John Watters indicated that the city plans to install a memorial to Martin Luther King, Jr. on the site. Addie Kim mentioned that the city does not yet have plans developed for the Martin Luther King, Jr. memorial site. Joyce McKay suggested leaving the language in the MOA flexible so that FHWA and DHR could be working with the city, and it was discussed that the reconstruction of the park should not preclude later city plans for the park. Because the Memorial Park is part of the Scott Avenue Bridge, the effect to this element of the project would still be adverse even though the park would be reconstructed in a configuration similar to the existing or closer to the original design.

Memorial Bridge

John Watters indicated that seven alternatives, including the No Build, a tunnel alternative, limited rehabilitation, and alternatives for complete bridge replacement, were evaluated for the Memorial Bridge, as shown in the matrix that was distributed. Of these alternatives, the lift span rehabilitation and lift span replacement were carried forward for further evaluation. The work on the flanking spans would be the same for either alternative (replacing deck, replace/rehabilitate steel members, replace timber sidewalk, relocate operator's control house to south tower, railing repair). He stated that because of the need to see activity on the bridge, the control house would be relatively transparent. The lift span rehabilitation would involve the same type of repairs, and the steel grating on the deck would be filled in to create solid deck surface. For the lift span replacement, a new lift span would be brought in with solid steel members, but no lacing. The new lift span would not have X-bracing, and would have a more streamlined appearance. The dead weight would be about 200,000 pounds greater, and there would be a new solid

deck on the lift span.

The existing machinery would be replaced, but it was discussed that the sheaves were replaced in the 1930s-1940s, and the ropes have been replaced over time. Mike Johnson of the Maine Historic Preservation Commission indicated that the Historic Structures Report shows that the sheaves were replaced in 1940-1941. It was agreed that the rehabilitation of the lift span would involve (c) on the Effects Form, “otherwise adverse effect may be considered not adverse,” because the rehabilitation preserves the architecture of the bridge. This decision applies only to this element of the district and to this option. Mike Johnson indicated that the MHPC agrees with the no adverse effect finding. Jim Garvin stated that DHR would accept the upgrading of the mechanical system as the inevitable evolution of the structure. The parts of the system were essentially being replaced in kind.

It was discussed that replacement of the lift span would have an adverse effect on the Memorial Bridge and the district. A portion of the mitigation would include documentation, much of which is already complete by preparing the HSR. Consultation with NH DHR would be performed to determine which design plans would be copied. Jim Garvin indicated that the original 1922 contract drawings had been updated by copying selected later plans for updates performed to the bridge over 50 years.

Joyce McKay inquired whether copying of plans would be required for lift span rehabilitation. It was discussed that some selected plans would be copied. Carol Hooper indicated that these plans are not voluminous, there are 12 Waddell period drawings. Jim Garvin indicated that in both instances the plans should be copied archivally. Jim Garvin indicated that the copying of the 12 original plans would transform the finding for the rehabilitation of the lift span to no adverse effect.

Jim Garvin indicated that there would be need for project-wide mitigation for the district if the lift span were replaced. Harry Kinter concurred that memorialization of the bridge should be performed.

Maine Approach Span to Memorial Bridge

For the Maine approach span, also referred to as the Kittery viaduct, the deck and railing would be repaired, the sidewalk surface replaced, and miscellaneous steel repairs would be performed. Mike Johnson indicated that this work would have no adverse effect. Joyce McKay indicated that documentation is in the Historic Structures Report, and large format photos would be sent to the MHPC. They have a copy of the draft HSR. Jim Garvin concurred with the No Adverse Effect finding. Jim Garvin inquired whether the structure was individually eligible for the National Register. Lynne Monroe stated that MHPC evaluated the approach and lift span together. In 1984, there were changes to the bridge. Joyce McKay reiterated that there would be a No Adverse Effect finding.

Badger’s Island Roadway, Badger’s Island Bridge, John Paul Jones Memorial Park

John Watters indicated that limited work is proposed east of the Maine approach span. Grinding down the pavement and repaving would be performed along 50 feet of the approach roadway on Badger’s Island. The reduction of the pavement would also have the effect of regrading the roadway. There is no work proposed on the Badger’s Island Bridge or in John Paul Jones Memorial Park.

Mike Johnson indicated that repaving of the Badger’s Island roadway would have no adverse effect. He indicated that he would have to look at the plans for archaeology. John Watters clarified that regrading would involve stripping the pavement. Mike Johnson indicated that this would be no adverse effect, and he would look at the specifics. But, it sounded like there would be no impact on potential archaeological resources. Joyce McKay indicated that Kathy Wheeler, IAC archaeologist, spoke with MHPC regarding archaeological impacts, and there were no issues of concern identified in Maine at that time.

Memorial Bridge Historic District

The umbrella aspect of the impacts on the entire historic district were discussed. It was discussed that the Badger’s Island Bridge was not built as part of the Memorial Bridge Historic District; it is a replacement bridge. Mike Johnson verified that the existing control house would stay where it is on top the Memorial Bridge lift span. John Watters indicated that the control house will stay in place and that the operator’s house will be relocated. Jim Garvin

indicated the NH DHR also thinks that it is important that the control house remain on the lift span. It was decided that the lift span rehabilitation would involve no adverse effect on the district.

The lift span replacement was discussed. Its replacement would adversely effect the Memorial Bridge and the district. Harry Kinter indicated that mitigation for the entire district should involve memorializing what the original bridge looked like, with educational materials, such as a park marker. Jim Garvin commented that, at this point, there is no interpretive exhibit in place. If the lift span is replaced, an interpretive exhibit could be included in the mitigation. Consultation between the parties would be required. Linda Wilson stated that, if the lift span were replaced, further consultation with all parties about the design and memorialization would be needed. Mike Johnson emphasized that, if the lift span is replaced, a good, concise justification for why this alternative was chosen should be prepared.

Harry Kinter indicated that a Programmatic Section 4(f) Evaluation would be prepared, since the taking of the Scott Avenue Bridge will have an adverse effect. If the lift span replacement is proposed, he mentioned that an individual 4(f) may apply to the Memorial Bridge. Kevin Nyhan indicated that this would still be a programmatic 4(f). Harry Kinter stated that Scott Avenue would not have an adverse effect on the entire district, so that (c) on the Effects Form would apply, since they would be mitigating the Scott Avenue replacement, and the replacement of Scott Avenue does not have a district-wide effect. Linda Wilson indicated the design of the replacement lift span would be in consultation with all parties. Jim Garvin stated that the details of the existing and proposed lift spans differ. The existing bridge has gusset plates, the proposed lift span would have welded joints with no gusset plates and the truss would look different.

Portsmouth Historic District

The committee agreed that the rehabilitation alternative would not have an adverse effect on the larger historic district in downtown Portsmouth. Harry Kinter indicated that the only issue would be with replacement of the lift span, producing visual impact from Prescott Park and the river walk. Mitigation for this effect would be the same as for the Memorial Bridge Historic District. Jim Garvin indicated that an exhibit within Prescott Park from the old Walker Cove area, part of the historic district, would be the logical place. The exhibit would be determined in coordination with the municipality, FHWA, and NHDHR. Linda Wilson indicated that NH DHR preferred rehabilitation of the lift span. Harry Kinter indicated that there could be a public education component, with a pamphlet developed for the school system, as part of the memorialization.

Historic Cement. Participants: Linda Wilson and Glen Roberts

Linda Wilson had requested that this topic be placed on the agenda. She observed that Historic Harrisville has discovered what appears to be natural hydraulic cement in use on the buildings there and perhaps throughout the Monadnock Region. She was wondering whether Materials and Research could determine whether it is natural cement. Identifying the source in New Hampshire would be of great benefit to municipalities that are trying to maintain their historic buildings.

Glen Roberts stated that their chemists routinely tested Portland cement for their constituents. Materials and Research does perform testing for different agencies. He indicated that Materials and Research was now taking application for research projects and that this could be a possible candidate. The deadline is April 3. Application involves only the submission of a short problem statement including the value of the projects and its potential impacts. One outcome of such a project would be to set up standardized testing protocols.

****Memos:** Stoddard 14540G; Newington Dover 11238, Lee-Epping 14452

Submitted by Joyce McKay, Cultural Resources Manager

c.c.	J. Brillhart	K. Cota	N. Mayville	Bill Cass
	C. Barleon, OSP	C. Waszczuk	D. Lyford	
	V. Chase	R. Roach, ACOE	H. Kinter, FHWA	