

BUREAU OF ENVIRONMENT CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting

DATE OF CONFERENCE: June 15, 2011

LOCATION OF CONFERENCE: John O. Morton Building

ATTENDED BY:

NHDOT

Alex Vogt
Amy Lamb
Bob Davis
Bob Hudson
Bob Landry
Kathy Corliss
Cathy Goodmen
Christine Perron
Jason Abdulla
John Hebert
Kevin Nyhan
Marc Laurin
Matt Urban
Mike Servetas
Peter Stamnas
Ron Grandmaison
Steven Babalis

FHWA

Jamie Sikora

Army Corps of Engineers

Rich Roach

NHDES

Gino Infascelli
Lori Sommer

NH Fish and Game

Carol Henderson

**NH Office of Energy and
Planning**

Jennifer Gilbert

**NH Natural Heritage
Bureau**

Melissa Coppola

City of Keene

Jim Donison

**Strafford Region Planning
Commission**

Dan Camara

McFarland-Johnson

Vicki Chase

Clough Harbor & Assoc.

Martin Risley

(When viewing these minutes online, click on an attendee to send an e-mail)

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NOTES ON CONFERENCE:

Finalization of May 18, 2011 Meeting Minutes

The May 18, 2011 meeting minutes were finalized.

Littleton, 16282 (non-Federal)

Christine Perron provided an overview of the project. Work will involve replacing a failed 48" concrete pipe that carries Carpenter Brook under NH Route 135. The stream outlets into the Connecticut River approximately 0.7 miles downstream from the culvert. The crossing has a watershed size of 1,056 acres, making this a Tier 3 stream crossing.

In October 2010, the inlet of this culvert became blocked by debris during a rainstorm. This caused the stream to overtop the roadway and wash out the outlet of the culvert. The damaged culvert and roadway slope were repaired under an emergency authorization from DES. Similar but more extensive damage occurred at this culvert again on May 26, 2011 as a result of a 4" rainstorm. Portions of the southbound lane were washed away and the road is now only open to alternating one-way traffic.

A stream assessment was completed on June 1, 2011. The upstream reference reach has a slope of approximately 5%, a floodprone width of 30', and a bankfull width of 15.8'. The substrate is largely cobble. The stream consists of a lot of riffles and pools, and a large amount of woody debris was evident. If the crossing were designed according to the Stream Crossing Guidelines, a 21' span or 3-sided box would be required (1.2x bankfull width plus 2').

Mike Servatas provided an overview of design alternatives currently under consideration. Survey and geotechnical information has been requested. A preliminary hydraulic analysis has been completed but a more detailed analysis is still being worked on. The preliminary hydraulic analysis showed that a 72" culvert would handle a 50-year storm and likely even a 100-year storm. During a 100-year rain event, the culvert would be about two-thirds full with a flow rate of roughly 700 cubic feet per second, so scour at the outlet would be a concern during such an event. Other options being explored include 1) a 10' wide x 6' tall concrete box embedded 15" and 2) a 20' wide x 4' tall concrete arch on footings.

M. Servatas said that the biggest concern with any selected alternative was time. The project needs to be completed before snowfall so the fastest "off the shelf" option is preferred. The hydraulic study, survey, and geotechnical report will be completed over the next few weeks. The project will be discussed at the July meeting with that additional information.

Carol Henderson asked about the timing of the project and was concerned that another washout would occur if a replacement weren't properly sized. M. Servatas explained that nothing will be constructed in haste and he is waiting for more information before finalizing the size of the replacement.

Gino Infascelli stated that the bigger the structure the better. This site also required repairs in 1998, so there have been three events here that he knows of. A bottomless structure, even if the size doesn't meet the Stream Crossing Guidelines exactly, would likely be better at passing woody debris.

M. Servatas explained that footings for a bottomless structure would need to be 6 to 7 feet below ground. At a 5% slope, scour could be a concern at the footings. The geotechnical borings will show if rock would be a problem. At this time, constructability of a bottomless structure is unknown. Time is also a concern. A 10' box would be a much quicker, easier fix. Embedding is possible but the 5% slope may make it unlikely that material stays in the structure. If material from within the structure is washed out, it could lead to blockages at the outlet.

Kevin Nyhan asked when the project would be advertised. M. Servatas said that it would need to be advertised by July in order to be constructed by winter. If a structure needs to be manufactured, that usually doesn't start until the contract is awarded, which doesn't leave enough time to complete the project by winter. He is looking into availability of pre-cast structures.

Rich Roach said that it was necessary to know the 100-year flow. He preferred a box to a pipe, and also suggested designing the roadway to incorporate a "tear-away" section that would create some kind of sluiceway to carry floodwaters and limit damage to the roadway slope.

John Magee stated that he recently visited this site as well as the Rix Brook and Cow Brook crossings located on Route 135. He said that organic matter has accumulated at the Rix Brook crossing and the water is now near the top of the culvert. The Cow Brook crossing has large logs at the inlet near the top of the culvert. He explained that designing for hydraulic capacity only does not take woody debris into account. He was not supportive of the 72" pipe and stressed that the design should not be based only on the hydraulic analysis. Fish & Game recently installed a 20-foot wide aluminum culvert on a stream that has a 5% slope. He also indicated that the Department's assessment of the stream reflected his observations in the field.

M. Servatas explained that a metal culvert was considered for this site but was rejected because the Department is moving away from using metal culverts.

R. Roach reiterated that the Department needs to plan for what happens when the pipe gets clogged. M. Servatas said that he would explore the sluiceway suggestion.

C. Perron said that the project would be discussed again at the July meeting in order to expedite permitting. She also offered to review the site with Gino if he thought it would be helpful.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Keene, X-A002(089), 20812

Jim Donison, Robert Hudson and Martin Risley appeared to discuss this project.

The City of Keene, NH plans to replace the signalized 4-way intersection of Maple Avenue, Court Street, Old Walpole Road and West Surry Road with a modern roundabout. The purpose of the project is to improve safety and traffic flow at this intersection to better accommodate existing traffic and to improve the intersection's capacity to serve increased traffic flow that is expected to result from construction of a new middle school approximately 0.5 miles west of the intersection. The Ashuelot River is approximately 1,000 feet away.

The work will extend approximately 400 feet from the intersection along Court Street, Maple Avenue and Old Walpole Road, and approximately 300 feet from the intersection along West Surry Road.

Resources/reviews include the following:

- NRCS Soil Map – loamy sands
- FEMA Flood Insurance Rate Map – the project is well out of the floodway and 100-year floodplain
- Vicinity Map – project area is a minimum of 1000 feet from the Ashuelot River
- NHDES One-Stop Program – project abuts but does not encroach upon Dinsmore Woods Conservation Area; neighboring 7-Eleven has USTs and has been a remediation site
- US Fish and Wildlife Service “No Species Present” letter – Dwarf wedgemussel present in the Ashuelot River – project will have no direct affect and is not expected to have any adversely affect on habitat of Rare, Threatened or Endangered Species
- NH Natural Heritage Bureau – “...although there was a NHB record present in the vicinity, we do not expect that it will be impacted by the proposed project”
- NH Division of Parks and Recreation – “...it does not appear that the ...plans at the intersection of Maple Avenue, Court Street, Old Walpole Road and West Surry Road is in the proximity of any LWCF 6(f) properties in Keene, NH”

NHDHR has determined that No Historic Properties will be affected by the project and we are expecting a completed Municipally Managed Effects Memo in early July.

Drainage system will be the same as existing except that portions within the project area will be repaired or replaced where needed. Runoff is expected to decrease due to reduced impervious area.

Because the project is within ¼ mile of the Ashuelot River, the Local River Advisory Committee (LRAC) must be consulted. Marty told the committee that he had contacted the LRAC, provided them with pertinent materials regarding the project, and had talked with Barbara Sculy who said the LRAC would not be meeting until later in June, but that they would respond with any concerns soon after their meeting.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Canterbury, 15806 (non-Federal)

This project was presented by Mike Servetas. He explained that this project originated as a District effort and had already been permitted. Due to the challenging work space and a limited budget, District asked that Highway Design take over the project. M. Servetas explained that there were challenges with overhead utilities. As a result, he wanted to obtain the agencies input on a new method of sliplining. This new technology consists of a thin plastic and could be installed in extremely limited space. The plastic material that forms the lining snaps together as an automated technology that spirals around the existing culvert. M. Servetas explained that this technique could even be done with water flowing through the existing structure. Gino Infascelli was concerned that this would still be a downsize to the previously proposed replacement. He also made it clear that if the Department did change its design at this point the new design would need to comply with the Stream Crossing Guidelines. As such, M. Servetas explained that the project would not be altered and the Department would find a way to do the work as proposed despite the reduced impacts that this technology would have offered.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Franklin, X-A000(737), 13928A

This project will improve safety at the intersection of US Route 3 and Industrial Park Drive in Franklin, NH. The project will include: widening of US Route 3 to add a southbound right turn lane, improve sight distance at the intersection for the large amount of truck traffic entering and exiting Industrial Park Drive, reconstructing a portion of US Route 3 south of the intersection, and repaving US Route 3 from the intersection, north to the intersection with NH Route 127. A low retaining wall will be installed at the curve just north of the Industrial Park Drive intersection to be able to cut back a steep slope for better sight distance and 2 to 4 foot shoulders will be added to the roadway. Approximately 5 drainage crossings will be rehabilitated/or replaced, likely in-kind.

The only wetland impact will be related to replacing an existing drainage ditch with a new one parallel to the existing. There will be the need for a Shoreland permit as some of the reconstruction of US Route 3 will occur within the 250 buffer of the Merrimack River. The NHNHB report noted Brook floater mussels and Bald eagles in the area, but the project should not impact the Brook floater mussels, and the project will be removing only a few large trees.

Rich Roach asked where the water from the ditches would go. Jon Hebert indicated that it would be directed to new and existing drainage swales, which will ultimately drain to the Merrimack River. There is a remediation site at a former service station adjacent to the project. This site is closed, but the contractor could encounter some contamination from it. Monitoring of the excavation will take place. Rich Roach indicated that the project would qualify for the NH PGP.

This project was previously reviewed on the following dates: 2/18/2004 & 12/17/2008.

Salem-Manchester, IM-IR-93-1(174)0, 10418C

Marc Laurin gave a brief background on the Haigh Avenue mitigation site and the Town of Salem's effort to obtain grants from FEMA to purchase 23 properties on Haigh Avenue that the Department could subsequently use for floodplain mitigation. Nine of the properties were acquired by the Town under Phase I of the FEMA grant application. Unfortunately, the Phase II application for the remaining 14 properties was recently rejected by FEMA. The grant application was resubmitted by the Town and the Department is hopeful that it will be awarded next year. A handout was distributed showing the floodplain impacts and mitigation to be provided along the I-93 corridor. Creation of Phase I would provide ± 9 ac-ft of mitigation, with Phase II providing an additional ± 17.3 ac-ft. If the Phase II mitigation is not constructed the overall I-93 construction floodplain impacts would still be compensated on an approximate one-to-one basis. For the overall I-93 project, the floodplain impacts to ± 19.8 ac-ft would be compensated by the creation of ± 20 ac-ft, in addition to the acre-feet that would be available in the approximately 100 Extended Stormwater Detention Basins that are to be created along the whole corridor, estimated at 10 to 20 ac-ft. Within the Town of Salem, the floodplain impacts would total ± 11.2 ac-ft, and without Phase II the mitigation would be ± 16 ac-ft.

Peter Stamnas stated that the Department is fairly confident that the Phase II grant will be awarded and the Department has engineered the mitigation project for both contingencies depending on the resolution of the FEMA grant. The Haigh Avenue mitigation site is included with the Exit 2 reconstruction contract, which is to be advertised in November 2011. The construction of the mitigation site would not occur until it is known one way or the other if the Phase II application is awarded. If it were not, the Department would just build the Phase I section. Construction of the mitigation would not likely occur until 2013, even if the FEMA Phase II grant were received, as the Town of Salem has the responsibility to remove the residences and utilities prior to the mitigation construction. Rich Roach inquired on the public involvement in the mitigation. Pete Stamnas stated that all owners of the remaining 14 properties have agreed to the buy out with the Town of Salem. Additionally, the Department will update the I-93 Project's Website to discuss the changes in the proposed mitigation for the project. Lori Sommer and Gino Infascelli agreed with the direction the Department was pursuing and stated that this would not need an amendment to the I-93 wetland permit, as this would be handled as a modification to the existing permit. Rich Roach also agreed with the direction the Department was pursuing.

Melissa Coppola and Carol Henderson requested a copy of the planting plan, which Marc Laurin subsequently provided electronically.)

This project was most recently presented on the following dates: 1/20/2010, 2/17/2010, 3/17/2010, 5/19/2010, 7/21/2010, 9/15/2010, 12/15/2010 & 5/18/2011.

Lee, X-A000(885), 15692

This project proposes to replace the existing traffic circle in Lee at the intersection of US Route 4 and NH 125 with a two-lane roundabout. There is a high crash history at the intersection, as well as many close calls. During the PM rush hour, traffic queues on US Route 4 eastbound can be up to a mile long.

The only wetland impacts appear to be with drainage updates. The NH Route 125 stormwater on the north side of the roadway will be carried in a closed system to the roundabout and treated. The project is just north of the Oyster River, but there should be no impacts to the River. The NHHB report noted that there are no known endangered species or communities of concern within this project area. Overall there will be an increase in about 0.5 acres of pavement.

The Mobil gasoline station on the southeast corner is a petroleum product remediation site. NHDES is working with a consultant to clean up contaminated soils, but the contractor may encounter some contamination during excavation. The site will be monitored during construction.

Carol Henderson asked how roundabouts could improve safety and how they differ from traffic circles. Steve Babalis noted that roundabouts, on average, are smaller than traffic circles, forcing cars to enter and circulate through the roundabout at slower speeds. This creates safer driving conditions. The two-lane roundabout is able to process more traffic in comparison to the existing traffic circle since it has two circulating lanes and more efficient operations. The slower travel speeds create an easier merging condition, which allows more vehicles to enter the intersection.

Rich Roach indicated that the project would qualify for the NH PGP.

This project was previously reviewed on the following date: 12/10/2009

Epping, X-A000(886), 15693

The project proposes to improve safety at the intersection of NH Route 125 and NH Route 27 in Epping. Currently there are many rear end collisions due to long queues at this intersection. Originally the project was to widen NH Route 125 south from this intersection to the entrance to Wal-Mart, but the project has been scaled back and the widening will only go south to Rail Road Avenue. The project will add a northbound and a southbound through lane on NH Route 125 by removing the wide, raised concrete median and re-striping the shoulders to a narrower width. There will be some new pavement to tie the left turn lanes in with the new intersection layout. The gasoline station on the southeast corner of the intersection is a closed remediation site. The contractor will be made aware that he could encounter some contamination during excavation.

The project will not impact the Lamprey River, which is adjacent to the project. No work will be done in or on the banks of the river. The only work on the bridge will be to replace the membrane and repair and replace the deck and pavement. There may be some wetland impacts due to changes in drainage.

Melissa Coppola asked about the endangered species in the area and requested an updated request for NHB review as the last one was done in 2009. C. Goodmen stated that the endangered species are in the Lamprey River and not directly in the project area, but an updated request for NHB

review will be sent. Carol Henderson agreed, and asked that the Lamprey River Local Advisory Committee be notified of this work. Rich Roach asked that a letter be sent to J. Fosburgh at National Park Service. *After the meeting C. Goodmen recalled that an email with letter, plan and map was sent to Mr. Fosburgh on June 6, 2011. There has been no reply as of June 22, 2011.*

R. Roach indicated that this project would qualify for the NH PGP.

This project was previously reviewed on the following date: 12/10/2009.

Portsmouth, NH – Kittery, ME, A000(911), 13678F

Kevin Nyhan discussed this project, which involves the replacement of Memorial Bridge (US Route 1 over the Piscataqua River). It was discussed with NHDES at a previous meeting how to proceed with permitting since the design has not been developed and the contractor's means and methods are not yet known. DES agreed that for the NH Standard Dredge and Fill permit application, wetland impacts could be quantified as "impacts not to exceed [a specific amount]." Using this approach, impacts were conservatively estimated so that additional impact areas would not have to be added during final design. Currently, wetland impacts include approximately 1,200 sf of permanent at Pier 1 within the river, with 600 sf of temporary impacts. Work on the fendering system at Pier 2 involves 4,700 sf of temporary impact. In addition, there is approximately 15,000 sf of temporary tidal buffer zone impacts. Total project impacts are approximately 20,300 of temporary impact and 1,200 sf of permanent impacts. Based on the type of impacts (temporary and stone stabilization for the pier), DES indicated that mitigation would not be required. The Army Corps of Engineers agreed, unless another Federal agency indicates that mitigation should be required. Rich Roach indicated that this project would qualify for the NH Programmatic General Permit. He also stated that his conversations with his counterpart in Maine indicate the Maine work would also qualify for a Programmatic General Permit.

R. Roach indicated concern with maintaining the navigational channel and offered to provide survey limits of the channel for the Department's plans. Jamie Sikora indicated that the Department and FHWA are working with the US Coast Guard on this issue. R. Roach also clarified that the stone around the piers would count as fill but would be covered under the Programmatic General Permit.

Carol Henderson asked if any eelgrass was located around the bridge. Based on coordination with UNH, there is not. An Essential Fish Habitat Assessment has been completed for the project, as well as a Biological Assessment for shortnose sturgeon and Atlantic sturgeon, rare marine species that are known or suspected to occur in the Piscataqua River.

This project was previously reviewed on the following dates: 10/202010 & 4/20/2011.

Bow-Concord, 13742B (non-Federal)

This project involves the replacement of the two red listed bridges that carry I-93 over I-89. Work also includes ramp work, drainage improvements, and rehabilitation of the culvert that carries Bow Brook under the roadway.

Kevin Nyhan provided an update to the design of the inlet to the pipe that carries Bow Brook under I-93. Previous designs included stone riprap and a large headwall. After further consideration, construction of this headwall would not be feasible within the right-of-way. As such, the Department proposes to extend the pipe approximately 50', which would avoid this issue. This does not change the wetland footprint impacts. There was some discussion, but no one objected to the updated design. Carol Henderson asked if the culvert would be embedded. It will not since the culvert is not perched at the outlet, and nor would it be after construction. John Magee requested involvement during construction to relocate fish and provide input on rock placement in the brook. Language would be included in the contract to address this.

During the development of the mitigation package for this project, Rich Roach, Army Corps of Engineers, and Lori Sommer, DES Wetlands Bureau, requested that the Department evaluate the potential to mitigate project impacts to Bow Brook at the Interstate 89 / Interstate 93 interchange by restoring impacted segments of Bow Brook. Late last year and early this year, the Department proposed to upgrade several segments of Bow Brook at the State Hospital grounds in Concord, as discussed during resource agency meetings and during a field review in the fall of 2010. Mitigation was proposed to include the removal of invasive plants, pavement removal, increasing the ability of Bow Brook to access its floodplain, riparian landscaping, as well as a payment into the Aquatic Resources Mitigation (ARM) Fund at DES.

Subsequently, the Department filed a wetland application with this conceptual mitigation package. After this submission, McFarland Johnson, the Department's consultant working on this project, completed detailed drainage analyses to determine the level of improvements that could be made to this segment of Bow Brook at the State Hospital. A report submitted to the Department concluded that, because of a few factors (very flat terrain, the stream channel bottom being determined by the culvert inverts, and a lot of drainage from the detention basin just south of the channel) the one-year storm currently, and as proposed, goes well outside of the existing channel. Essentially this area is already floodplain and the culvert on the downstream side of the area confines the stream. This culvert will not be replaced by this project. Moreover, there would be a need to stone armor the channel at the culvert outlet, which does not have the desired effect of stream restoration.

K. Nyhan asked what the agencies would prefer for mitigation: limited improvements at the site (plantings), or an ARM fund payment. The agencies agreed that an ARM fund payment for all the impacts would be appropriate. G. Infascelli indicated that the Department should notify the conservation commissions of this change in mitigation.

This project was previously reviewed on the following dates: 6/16/2010, 11/17/2010, & 1/19/2011.