

# BUREAU OF ENVIRONMENT CONFERENCE REPORT

**SUBJECT:** NHDOT Monthly Natural Resource Agency Coordination Meeting

**DATE OF CONFERENCE:** November 16, 2011

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

**ATTENDED BY:**

**NHDOT**

Cathy Goodmen  
Charlie Blackman  
Jon Evans  
Marc Laurin  
Michelle Marshall  
Richard Faul  
Steve Liakos

**Army Corps of Engineers**

Rich Roach

**NHDES**

Gino Infascelli

**NH Fish and Game**

Carol Henderson

**NH Natural Heritage  
Bureau**

Melissa Coppola

**Town of Sanbornton**

Bob Veloski  
John Thayer

**Fluet Engineering**

Paul Fluet

**Fisher Engineering**

Joel Fisher

**McFarland-Johnson**

Brian Colburn  
Vicki Chase

**Process Pipeline Services**

Mark Wood

**BL Companies**

Jeffrey Shamas  
John Whitcomb

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

**PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH:**

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## **NOTES ON CONFERENCE:**

### **Finalization of September 21, 2011 Meeting Minutes**

The September 21, 2011 meeting minutes were finalized.

### **Tilton, X-A001(178), 16187**

Cathy Goodmen began by giving a brief overview of the project. The project involves the rehabilitation of Bridge # 109/062 carrying NH Route 140 over the Winnepesaukee River in Tilton. Work will include partial and full depth repair of the deck, replacing the membrane, repaving, resetting the approach guardrails, replacing the bearings, replacing the expansion joint and replacing a substandard cable guardrail. No work will be done in the river and no wheeled or tracked equipment will be on the banks. A Shoreland Protection Permit will be necessary as work will be within the 50-foot buffer zone of the Winnepesaukee River.

Gino Infascelli commented that if there is no work in the river or on the banks then there are no wetland impacts.

Carol Henderson noted that she had discussed this project with Kim Tuttle at NH Fish and Game and the only endangered species in the area are bald eagles. Cathy Goodmen stated that since we will not be cutting any trees or other vegetation we should not be impacting the eagles. Carol also asked if the work will require one-way traffic. Cathy showed the plans that outline a 3 step phased construction that will allow two-way traffic while work is completed on part of the bridge. Cathy also noted that the advertising date is February 2011 and work will take place next summer. Carol stated that a new boat launch has been constructed near this bridge.

There were no other questions and no one was opposed to this project.

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

### **Sanbornton, 16081 (non-Federal)**

This project involves the replacement of a concrete abutment and steel beam, wood deck, bridge that is in disrepair on Plummer Road in Sanbornton. The intent of this project is to replace this bridge with a 17' wide x 8' high 4 sided box culvert with an embedded bottom.

Paul Fluet of Fluet Engineering Associates made the presentation for the Town of Sanbornton. Handouts of the Project Summary and Goals were distributed, along with sections of the existing and proposed bridge. USGS maps and aerial photos of the site along with photos of the existing bridge and the newly completed Shute Hill Bridge constructed by the Town in 2010 were circulated. The scope of the project is to replace a deteriorating bridge on Plummer Road across Hermit Brook in Sanbornton. The proposed bridge is a 4 sided box culvert with two 8x8 open boxes. A diversion of the brook with a 36" pipe, and a temporary portable bridge around the east

side of the existing bridge will be installed to divert flow around the bridge, and allow the traffic passage for local residents for the week the new bridge is under construction. Pre cast concrete wing walls will be attached to the box.

Some temporary easements will be needed from abutters. The Town DPW Director has approached the owners. As noted below NHB Report and the Archeological Report have been completed, and there are no issues with historic properties or Archeological concerns.

A question of the status of the Natural Resource Heritage Bureau investigation was asked by Melissa Coppola. Sanbornton has obtained the Report #NHB11-0371, but the number was inadvertently left off the application.

Mr. Fluet discussed the new bridge box culvert would be designed to be level, and the slope of the interior stone and silt contents inside the box would be slope to recreate the existing stream bed slope. This is estimated at 1 percent. The designer was confident that his proposal for a single 12" tall concrete baffle on the outlet at the final precast section would hold the contents inside the box and prevent washout. With this single baffle, there would be no water fall drops inside the box inhibiting aquatic life movement upstream. This could happen with multiple baffle arrangement on a sloped box. The consensus of the committee was that a single 12" baffle on the outlet would be satisfactory.

Rich Roach of the Army Corps of Engineers noted that there should be no drop in the stream at the outlet of the box culvert where it transitions back to the natural stream. This would allow fish and aquatic animals to meander upstream uninhibited. The new box will be designed with the lower curb wall in the downstream section be set at the bottom of the existing stream elevation. The interior contents inside the box should be replace with the contents of rock and silt that currently exist in the stream.

Gino Infascelli asked about the rock shown on the plan view of the bridge in the stream bed. Gino stressed that the stream should have the rocks sloped to the middle to allow a center water flow that would allow aquatic life to move upstream with minimal effort. The fact that there have been no historical problems with the existing bridge being blocked by debris should be mentioned in the Wetlands application relative to applying for a bridge with a center divider/support wall.

Committee members commented that the new bridge would be a great improvement over the existing bridge from a hydraulic capacity point, by increasing the width back to the original channel width, and not restricting the outlet width to 6 feet. The problem of stream scouring present with the existing bridge abutments would be mitigated by using a four sided box.

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

### **Portsmouth, STP-X-5379(025), 13455**

This project's first construction contract (13455A) involves the reconfiguration of the US Rte 1 Bypass interchange with US Rte 1 (Lafayette Road). The existing southbound US Rte 1 overpass

will be removed and the interchange replaced with an at-grade, signalized T-intersection of US Rte 1 with the Bypass. The existing US Rte 1 culvert to the Sagamore Creek tidal marsh will be replaced and the existing drainage ditch into the marsh will be re-established. Subsequent contracts replace the red-listed bridges spanning the Bypass at: Middle Road & Islington Street (13455B); Woodbury Avenue & Stark Street (13455 D); and, Maplewood Avenue (13455 C).

Brian Colburn of McFarland-Johnson reviewed this project's first construction contract (13455A) which involves the reconfiguration of the US Route 1 Bypass interchange with US Route 1 (Lafayette Road). The existing southbound US Route 1 overpass will be removed and the interchange replaced with an at-grade, signalized T-intersection of US Route 1 with the bypass. A portion of the stormwater from the site will be directed to a gravel wetland that will be constructed east of the existing flyover bridge in an area that includes a forested wetland. Additional stormwater drainage will not be treated and will be carried south and will outlet into an existing ditch in tidal wetlands adjacent to Sagamore Creek. The existing outlet is undersized and blocked with silt. In order to pass a ten-year storm, the existing 15" RCP will be replaced with two 30" pipes. The existing ditch is proposed to be re-established. This ditch was previously permitted with the previous project several years ago and Phragmites have built up in the ditch. The proposed impervious area will end up being approximately 0.3 acres less than the existing impervious area. The volume of water directed to the ditch will not increase from the existing condition.

Melissa Coppola noted that NHNHBB had provided conditions to protect the known occurrences of a rare plant (salt marsh gerardia) that grows just outside the project limits. NHNHBB requests that the plant population be flagged prior to construction. She also provided a corrected NHB database number.

Carol Henderson asked about how the invasive species in the area were going to be removed. It was explained that the Contractor has the option to use an herbicide in the area or to dig out the invasive and bury them somewhere on site. Melissa Coppola noted that the use of herbicide near the rare plant species should be restricted and suggested that if the herbicide was to be used near the rare plants that it be applied in a manner that would limit the potential for the herbicide to impact the existing rare plants.

Vicki Chase provided information about the proposed wetland impacts. There are a total of 13,442 square feet of wetlands proposed to be impacted, of which 7,788 square feet would be permanent. Proposed tidal wetland impacts are 686 square feet, which include the ditch dredging, placement of 40 linear feet of Class B stone, with concrete to be poured between the stones. The purpose of the concrete is to exclude the re-growth of Phragmites in the ditch. The purpose of the stone is to abate the projected flows in the ditch.

Rich Roach asked why a forebay had not been incorporated into the design, and asked if there were any means proposed to treat stormwater flowing into the marsh. B. Coburn explained that a forebay would greatly increase the impacts to the tidal wetland, and distributed information about an oil water separator proposed for the site. R. Roach said that if such a method were used that there would have to be conditions in the permit that it would be appropriately maintained to protect the tidal resource. R. Roach also requested that the previous finding that there would be no impacts to Essential Fish Habitat be revisited and confirmed.

Gino Infascelli suggested that a vortechnic type unit might be more effective at this site. G. Infascelli also noted that the city of Portsmouth has submitted prime wetlands documentation to DES and that this wetland has been nominated to be a prime wetland. DES has not yet accepted the designation of Prime Wetlands for the City but is in the process of reviewing the submittal.

Michelle Marshall explained that the ditch re-establishment was meant to replicate what was constructed in the original 1998 design. Gino questioned if the ditch dredge needed to extend into the salt marsh as far as proposed as the last permit issued after an inspection found it was not needed and it did not appear that the 1998 project was built as designed. The extent of the ditch dredge is necessary to provide a means for stormwater to flow from the culverts.

The Department will revisit the proposed design to investigate additional means and methods for stormwater treatment.

*This project was previously reviewed on the following dates: [05/16/2007](#) & [05/18/2011](#).*

### **Granite State Gas Transmission, (Associated with Newington-Dover, 11238)(no Federal #)**

Granite State Gas Transmission (GSGT) currently has a 1,500-ft segment of 10-inch diameter pipeline crossing Little Bay between Newington and Dover, NH suspended below the Little Bay Bridge (Spaulding Tpk). As part of the Department's Newington – Dover (11238) project, GSGT must relocate off the new bridge. GSGT proposes to perform a Horizontal Directional Drill (HDD) under Little Bay from Newington to Dover, NH.

John Whitcomb, Project Manager for BL Companies began by giving a brief review of the project. This project consists of the installation of a 10 inch high pressure gas transmission line via HDD to the east of the new Little Bay Bridge. Since the last presentation the design team has chosen drill path alternate "A". This functions well for the logistics, constructability, and permitting needs of this project.

GSGT owns and operates an 87-mile long (492 psig MAOP) interstate transmission pipeline that begins in Haverhill, MA, travels through NH and terminates in Portland ME. The pipeline, which consists mostly of 8 and 10 inch coated steel, crosses the Little Bay River (adjacent to the Piscataqua River) between Dover and Newington NH. The 1500-ft segment of pipeline crossing the river is 10-inch in diameter and is currently suspended below the Little Bay Bridge (US-RTE-16).

After examining possible alternative locations for the replacement pipe on the new bridge, GSGT decided to replace the pipeline with 10-inch coated steel via a HDD under the river. It is anticipated that the majority of the drill path will be within rock; the drill path will be approximately 30 feet below the Little Bay channel bottom.

A discussion of how HDD is accomplished was presented. Topographic and bathymetric survey has been completed. Geotechnical report is coming. Four rock cores have been completed to a depth of (-95) as this will allow for the HDD to be drilled deeper if necessary.

There were some questions regarding HDD practices and the intended standard procedure will encompass the concerns.

#### Environmental, Social and Historic Impacts

- Temporary disruption to property for staging areas.
- Temporary disruption to use of part of public parking area on north side of river.
- Temporary construction impacts with the Shoreland Protection zone.
- Potential for inadvertent drilling mud release.
- No direct impacts to vegetation, wildlife, coastal resources, structures. Minor clearing will be needed on the south side of Little Bay.

#### Potential Permits, approvals sign-offs

- USACOE Section 404 WQ Permit
- NHDES 401 WQ Permit
- NHDES Shoreland Permit
- USCG Jurisdictional Sign-Off
- NHDHR FONSI
- NHDES Wetland permit

The applicant was asked about schedule. The current anticipation is to start construction in late 2012 with completion within the winter of 2013 using a construction schedule of 4 months.

In terms of disturbance the applicant noted that the main disturbance will consist of the excavated drill pits that will be required on each landing. The selection of the preferred alternative is based on minimizing the impacts due to these pits.

The Pit locations as shown on the preferred alternative are also suitable for the large laydown/staging area necessary for the pipe pull. Moving either pit further inland may impair the laydown area and become a constructability issue.

The need for utility easements will be researched as the utilities are not located within highway right of way. They are located solely on State property.

*This project was previously reviewed on the following date: [08/17/2011](#)*

#### **Informational Session: Stream Baffle Design and Construction**

John Magee (NH Fish & Game) provided a presentation on the design and construction of baffles/weirs in culverts and bridges.