BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: November 17, 2010
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Cathy Goodmen
Christine Perron
Don Lyford
Joe Patusky
John Butler
Jon Evans
Kevin Nyhan
Kirk Mudgett
Michael Hazlett
Randy Talon

Federal Highway Administration
Jamie Sikora

Army Corps of Engineers
Rich Roach

NHDES
Gino Infascelli
Phil Trowbridge

NH Fish and Game
Carol Henderson
Rich Cook

NH Natural Heritage Bureau
Melissa Coppola

NHOEP
Steve Walker

Town of Sanbornton
David Nickerson
John Thayer

City of Concord
Ed Roberge

Oak Hill Env. Svs.
Amy Lamb
Dan Geiger

Hoyle Tanner
Steve Goddard

McFarland-Johnson
Brian Colburn
Gene McCarthy
Vicki Chase

Clough Harbour (CHA)
Rob Faulkner
Rob Pinckney

Maguire Group
Chris Cucco

(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 October 20, 2010 Meeting Minutes

The October 20, 2010 meeting minutes were finalized.

Sanbornton, 14443 (non-Federal)

Steve Goddard of Hoyle Tanner & Associates began by introducing the project, which involves the reconstruction of Bay Road. from Route 3/11 to Upper Bay Road intersection and Upper Bay Road from Bay Road to the church on the corner of Steele Hill Road, for a total project distance of approximately 3 miles.

The purpose of this project is to improve the deteriorating pavement conditions. The project will involve pavement reclamation and resurfacing in some areas while other areas entail pavement and subsurface soils removal, construction of a new road box and installation of new pavement. Drainage related improvements needed throughout project limits include:

- Installation of underdrain and possible closed drainage if warranted.
- Cleaning, reshaping and improving roadside ditches
- Replacement of cross culverts and driveway culverts as necessary
- Addition of several drainage ditches in areas adjacent to the steep slopes on the north side of Bay Rd. which currently have no drainage ditches.
- Raising the roadway profile along a section of the lower/south end of Upper Bay up to 3 feet because of the high water table in the adjacent wetland associated with Durkee Brook.

Kevin Nyhan asked if raising the profile of the roadway will subsequently result in additional wetland impacts. S. Goddard indicated that raising the profile of that section on Upper Bay Road along with the installation of a 1 ft. gravel shoulder would push the toe of slope out approximately 8’ depending on slope grade and guardrail configuration. This would result in varying wetland impacts in this area ranging from 0’ up to 8’ depending profile raise and proximity of wetland at any given station. The wetland impacts are associated with the wetland areas (M, N, O) along the west side of Upper Bay Road.

Dan Geiger of Oak Hill Environmental Services described the wetlands and wetland impacts associated with this project. Glacial outwash is present on the east end of Bay Road. Glacial till is present through the rest of the project limits and hardpan is present at a depth of 3 ft in many areas, which inhibits infiltration and promotes drainage problems. He presented an overview of the locations and wetland types within project limits. Chapman Brook is a designated prime wetland at the confluence of Lake Winnisquam, on the north side of Bay Road, but will not be impacted by proposed work. Wetland M is a large wetland associated with Durkee Brook with pit and mound topography and over 3 ft of organic matter (histosols) present. This wetland is located on the west side of Upper Bay Rd starting at the intersection with Bay Rd., and is part of a larger wetland system that includes wetland areas N and O. Durkee brook flows from Wetland M under Upper Bay Rd, easterly, through Wetland JJ and then under Bay Rd., south. The brook continues in an easterly flow, south of Bay Rd and crosses under Bay Rd. via a culvert near Lower Bay Rd

intersection on east end of project. Durkee Brook continues under Lower Bay Rd via a 5 ft. CMP and flows northerly to the lake.

Ditches are present along Upper Bay Rd. and in places along Bay Rd. which meet the criteria for jurisdictional wetlands due to prolonged non maintenance. These ditches have low functional value. They are narrow and small providing little sediment trapping and because of hardpan in the subsurface soils, low percolation, which results in standing water that backs up to the roadway. D. Geiger indicated that all cross culverts were identified on the plans and that they will be checked for appropriate size for existing storm flows.

D. Geiger also indicated that a NH Natural Heritage Inventory search indicated that there were no known endangered or state threatened species located in project area.

Carol Henderson asked if wetland M. is a stream or a swamp. D. Geiger indicated that this wetland has a combination of various types of wetlands. The stream enters from the headwaters to the north, becomes a braided channel mostly until the culvert that passes under Upper Bay where it is channeled. The wetland system is a mix of PFO, PEM, and PSS wetland types.
Project is not expected to affect the functional value of this wetland area.

K. Nyhan noted that State law allows for the maintenance of existing ditches to their original dimensions without a permit. He suggested that project partners look into this further as it may result in some cost savings associated with the permitting and impact mitigation of such areas. S. Goddard responded that the actual impacts have not been completely determined but that they will have more exact numbers shortly.

Gino Infascelli indicated that it appeared that some of the wetland impacts may be within the 100-foot prime wetland buffer for Chapman Brook. D. Geiger indicated that he will follow up with DES on this point.

It was noted that permanent impacts totaling over 10,000 s.f. will require mitigation.

Rich Roach noted that upgrading the box culvert to a bottomless arch should be considered as a potential form of mitigation. G. Infascelli indicated that the stream crossing rules must be addressed. Carol Henderson noted that culvert improvements should incorporate wildlife crossing for turtles, in particular. She asked if the project would require temporary roadway relocation for traffic control purposes. S. Goddard indicated that a system of alternating one-way traffic with flaggers is proposed.

K. Nyhan asked how this project will be funded. S. Goddard indicated that it would be funded by State Aid Highway funds with a local match

Individuals from the Town of Sanbornton indicated that the roadway is nearly impassible at times in the winter with frost heaves. They also indicated that under the current conditions it is difficult to maintain town equipment/vehicles and that the roadway conditions have lead to substantial property damage to both municipal and private vehicles.

It was noted that once this project has been completed, the town will take over the summer maintenance responsibilities which are currently held by the State.

G. Infascelli suggested that the project partners obtain the Notification of Routine Roadway and Railway Maintenance forms to evaluate their potential use for the ditchline reconstruction. He indicated that once the total impacts are known the project partners should discuss the requirements for mitigation and the prime wetland issue with the DES wetlands bureau.

R. Roach indicated that the project partners should get the necessary approvals to perform normal ditch maintenance, subtract this area from total wetland impacts and then determine if mitigation is necessary, and if so, how much. He stated, and it was agreed that as long as the necessary coordination with the DES wetlands bureau was performed, the project would qualify for coverage under the NH Programmatic General Permit and that there was no need to return for another meeting.

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

Jaffrey, M413-07 (non-Federal)

Christine Perron provided an overview of this District 4 maintenance project, which involves replacing the existing 24" x 82' concrete pipe that carries an unnamed perennial stream under US Route 202. The Department generally does not present maintenance projects at the Natural Resource Agency coordination meeting; however with the adoption of the stream crossing rules, the Bureau of Environment made a commitment to bring all Tier 3 stream crossing projects to the meeting. The subject project would qualify for Notification of Routine Roadway Maintenance Activities except that it is located within a ¼ mile of a Designated River (Contoocook River). The crossing's proximity to the Contoocook also automatically makes this a Tier 3 stream crossing according to the new stream crossing rules.

The crossing is a 24" concrete pipe that carries an unnamed perennial stream under US Route 202. The watershed size is 55 acres. The channel upstream of the crossing is located adjacent to a farm field and is highly degraded. Downstream from the crossing, the stream flows into a shrub-scrub wetland before entering the Contoocook River. The slope of the channel is approximately 3%. The outlet of the pipe has a slight perch of 0.2 ft. There are no known records of rare species or exemplary natural communities.

The District originally proposed to replace the concrete pipe with a 24" plastic pipe of the same length and elevation and reconstruct the headers, resulting in approximately 60 sq. ft. of permanent impacts. Based on the stream assessment that was recently completed, the average bankfull width of the downstream channel was 4.9 ft. As a Tier 3 crossing, the new stream crossing rules require a structure that is 1.2x bankfull plus 2 ft, which equates to an 8 ft. span or 3-sided box structure. Since the District does not have funds to install such a large structure at this location, the Department would be requesting approval for an alternative design. C. Perron asked those in attendance for input on what would be acceptable as an alternative design.

Carol Henderson commented that John Magee had asked her to find out if the existing 24" culvert is too small compared to bankfull, and to point out that wild brook trout likely occur in this stream.

Rich Roach suggested eliminating the perch by installing a slightly larger pipe (30") and embedding it. He noted that the project would qualify for coverage under the NH Programmatic General Permit.

Gino Infascelli commented that bankfull seemed wider than he would expect for a stream with such a small drainage area. He thought that flow from the slope pipe that discharges at the outlet of the crossing could be influencing the width of the channel.

No one in attendance voiced any concerns with an alternative design consisting of a slightly larger, embedded pipe.

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

Westmoreland-Walpole, X-A000(944), 15749

Kirk Mudgett provided an overview of the project. This is a rehabilitation project on NH Route 12 from NH Route 63 in Westmoreland to Main Street in Walpole, a distance of approximately 6.7 miles. Work will consist of inlay and 1 1/2" overlay (resurfacing) as well as drainage work. Pavement width will not change.

Drainage work includes four existing corrugated metal pipes that the Department proposes to slipline. Three of these pipes are within a ¼ mile of the Connecticut River, a designated river, which makes these Tier 3 stream crossing regardless of watershed size. The three pipes consist of a 48" (262 ac. watershed); 24" (approx. 20 ac. watershed); and 30" (approx. 20 ac. watershed). The two smaller pipes are located on intermittent streams and the largest pipe is located on an unnamed perennial stream. The fourth pipe that may be sliplined also has a watershed size of approximately 20 acres but is not located within ¼ mile of the Connecticut. Therefore, this fourth pipe is a Tier 1 stream crossing. All the pipes are under approximately 30 feet of fill and would require the road to be closed to allow for full replacement. The pipes are in poor condition and two of the outlets have experienced slope failures in the recent past. The clay soils in this area tend to be unstable. The 48" pipe on the perennial stream outlets within 10 feet of another culvert located under a town road. All of these streams are steep and rocky.

Carol Henderson asked about the lifespan of a sliplined culvert. K. Mudgett explained that the conditions at these pipes warrants sliplining with another corrugated metal pipe, which would extend the life of the pipes another 50 years or so.

Kevin Nyhan pointed out that the new stream crossing rules do not address the maintenance of Tier 3 crossings. Since sliplining is considered a maintenance activity, it does not require approval as an alternative design under the new rules. As such, the permit application for the proposed sliplining would be submitted under the 300 rules. Rich Roach stated that if the state issues a

permit for the proposed sliplining, the project would qualify for coverage under the Programmatic General Permit.

K. Mudgett continued his presentation and described another site within the project limits that would involve drainage work. The Department received a complaint from a landowner near NH Route 63 about too much water outletting from the roadway onto this landowner's property, which often leads to ponding. To address this concern, drainage in this area will be reconfigured by installing a drainage pipe along the property, through a corner of a field, and down a wooded slope, where it will outlet at the bank of a perennial stream.

Gino Infascelli asked if there was any way to provide some treatment before the water enters the stream. K. Mudgett said that the water carried by the new 200' of drainage pipe would consist of about 10% roadway runoff; the remaining water would be woodland overland flow. The consensus was the new slope pipe should outlet as far away from the stream as possible and the area between the outlet and the stream should be vegetated. However, K. Mudgett was concerned that the bank is too steep to meet treatment standards and would erode and push sediment into the stream if not stoned. This area would be looked at more closely as final design proceeds.

(NHNHB File #: *NHB10-1451*) *This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.*

Bow-Concord, A000(018), 13742B

This project involves the replacement of the two red-listed bridges that carry Interstate 93 over Interstate 89 and over the Turkey River (Br. No. 135/160 & 136/160). Proposed improvements include ramp work, drainage improvements, and rehabilitation of the culvert that carries Bow Brook under Interstate 93. Gene McCarthy provided an overview of the project and described the proposed bridges and roadway approaches. Because of roadway widening, the roadway will be shifted 40 feet to the west.

Waterways in the study area are Bow Brook, which crosses under I-93 just north of the study area, and the Turkey River, which is crossed by the bridges to be replaced. There are wetlands within all four interchange infields and vegetated swales along the off ramp from I-93 south onto I-89 north. There are also wetlands associated with Bow Brook.

Because of the road widening and shift in alignment, there will be approximately 30,000 square feet of wetland impact.

Existing impervious area within the project area measures 13.9 acres. Proposed impervious area measures 15.5 acres, a difference of 1.6 acres. Currently, none of the stormwater from this area is formally treated. Following construction, 8.7 acres of impervious area will be treated. Stormwater treatment will be provided by two detention basins in the northeast and northwest interchange infields and by using the existing depression (wetland and upland) in the southeast interchange infield. This area, a portion of which is wetland, provides informal treatment and detention, and stormwater is directed toward it from two stormwater drains directing flow from I-93 north. The area drains via an 18" pipe that directs flow from the infield under the off ramp into

the Turkey River. Under proposed conditions, an outlet structure would be built at the existing outlet, and would cause the wetland to be inundated for a longer duration after storm events than it is currently. The wetland presently provides some flood storage, as well as sediment and nutrient attenuation.

Gino Infascelli indicated that the use of existing wetland for detention is generally frowned upon. Rich Roach noted that because of the proposed changes to this wetland, the entire wetland (38,000 s.f.) should be added to wetland impacts for the project, and should be mitigated for. Phil Trowbridge added that the site should be brought up to NH Alteration of Terrain (AoT) standards. He also recommended that existing informal treatment (such as swales along the northern portion of I93 northbound in the study area) be evaluated to see how much treatment is currently being provided.

No mitigation has been planned for the proposed impacts. Kevin Nyhan suggested that perhaps there was a way to perpetuate the existing use of the area without counting it as impacts. P. Trowbridge asked how much water is currently being treated – McFarland-Johnson (MJ) has not yet compared how close the existing condition is to meeting AoT standards.

Additional impacts to Bow Brook will occur due to the roadway shift to the west. Approximately 230 linear feet (8,480 s.f.) of perennial stream will be shifted westward. The area slopes steeply to the west, and the stream relocation is confined by this slope and by existing right of way. This portion of the stream was previously shifted and consists of a rock lined swale. In addition, the culvert carrying Bow Brook under I93 will be extended. During inspections related to this project, it was revealed that the culvert was in need of repair, so the proposed impacts will also include sliplining of the existing culvert. Bow Brook is a Tier 3 stream, and rehabilitation or repair of Tier 3 crossings is not addressed in the new Stream crossing rules (Env-Wt 900 et seq.). NHDOT proposes to submit an application that is not necessarily an "Alternative Design" application, but to submit an application under the former stream crossing rules (as they would for other proposed projects previously discussed on this day). Gino asked if the sliplining would have an effect on the wood turtles. Upstream, Bow Brook is not typical wood turtle habitat, (step and rocky) so it seems unlikely that sliplining would affect their habitat. The velocity of the stream through the culvert would be increased from 13 to 13.5 feet per second.

Rich Roach offered that replacing the Bow Brook culvert with a bridge did not seem to be a practicable expenditure of state funds. It was suggested that perhaps the extra culverts within the northeast infield could be removed for part of the mitigation to be offered. Kevin suggested that a meeting be scheduled with NHDOT, NHDES, and ACOE to discuss mitigation for the project, and then return to the resource agencies for their review.

(*project website*) *This project was previously reviewed on the following date: 6/16/2010.*

Concord, BRF-X-5099(021), 12004

This project was presented by Cathy Goodmen and John Butler. The project involves the rehabilitation of the bridge that carries Sewalls Falls Road over the Merrimack River, and construction of a new bridge adjacent to it. The project involves impacts to the NH Fish and Game

boat launch and parking lot on the southwest side of the road and a Land Conservation Investment Program (LCIP) conservation property managed by NH Fish and Game, on the northwest side of the road.

This project is being managed by the City of Concord with assistance from NHDOT. Cathy Goodmen noted that it was presented November 8, 2010 to the City Council and approved for construction. NHDOT and the City have received a letter from NHF&G, agreeing that the project is needed and acknowledging that right-of-way will need to be acquired from the two parcels noted above. J. Butler noted that at the September meeting a request was made to address the loss of the approach spans and allow passage for wildlife. The pedestrian underpass, originally designed to be approximately 10 feet wide by 10 feet high and 70 feet long, has been enlarged to be approximately 24 feet wide and 8-10 feet high and approximately 70 feet long.

The necessary right-of-way acquisition on the LCIP conservation land is approximately 0.85 acres with some additional temporary construction easements. There will be approximately 2,800 sq. ft right of way acquisition for the new slopes of the roadway and approximately 1.1 acres for permanent drainage easements. The permanent wetland impacts will be approximately 8,000 sq. ft. Jamie Sikora asked if the boat launch can be used by the public during construction. J. Butler said that the boat launch will be open during construction of the bridge, but will need to be closed for a short time when installing the drainage culvert from the detention area, probably for only one or two days. Carol Henderson noted that NHF&G does not have permission to allow use of this land for road construction. John Butler and Rich Cook noted that they were aware that the proposed right of way has to go to the legislature for final approval. R. Cook also noted that they are waiting for an appraisal of the land before developing the final mitigation proposal. R. Cook also asked for a plan to show the new layout of the drainage swale near the parking area. (C. Goodmen sent this to NHF&G and the Conservation Land Stewardship (CLS) Program after the meeting).

It was also noted that the new design removes a smaller amount of trees than the previous design. Rich Roach indicated that the project would qualify for coverage under the NH Programmatic General Permit.

(*project website*) (NHNHB File #: *NHB10-0354*) *This project was previously reviewed on the following dates: 1/17/2001, 8/15/2007, & 9/15/2010*

Littleton-Waterford, A001(041), 15926

Joe Patusky (NHDOT) introduced the project and provided a brief summary of work to be performed. The project involves rehabilitation of Bridge Nos. 105/135 and 104/136 that carry I-93 NB and SB, respectively, over the Connecticut River. Scope of work includes replacement of the NB bridge deck, rehabilitation of the SB bridge deck, complete painting of structural steel on both bridges, bearing and joint replacement, and concrete repairs at the abutments. As part of the construction contract, Clough Harbour & Associates (CHA) will include scour mitigation details for both bridges. Because of its close proximity, scour countermeasures will also be provided at the NH Route 18 Bridge (Bridge No, 109/134) over the Connecticut River located directly

upstream. No other deficiencies on the NH Route 18 Bridge will be addressed at this time. J. Patusky then introduced Rob Pinckney of CHA to discuss scour countermeasures.

R. Pinckney discussed Federal requirements regarding scour monitoring/countermeasures on bridges. In this case counter measures are required. Based on depth of water and velocity, CHA recommends the use of 2 piece precast modular A-Jacks interlocking concrete armor units. These units would be placed in an interlocking pattern a maximum of 20 ft. around each pier. At this time it is assumed that countermeasures are required at each pier on all 3 bridges. Based on this, impacts are estimated to be 12,000 S.F. at the NH Route 18 Bridge and 21,000 S.F. at I-93 for total of ±33,000 S.F. The A-Jacks units will be assembled into mats on shore and placed by a barge supported crane with guidance from a diver. Turbidity curtains will be used during placement. The most likely location for staging and access to the river is from a state-owned boat launch located adjacent to the NH Route 18 Bridge. Access to the boat launch is by land owned by TransCanada Inc. Construction is anticipated to take a maximum of 6 months.

Melissa Coppola inquired whether a Natural Heritage database check had been done. Chris Cucco of Maguire Group indicated he believed it was and that there were no records of sensitive species. Ms. Coppola was surprised that no species were listed and asked that the review be verified.

Carol Henderson asked if a mussel survey would be completed and Rich Roach asked if an Essential Fish Habitat assessment had been performed. Rob explained that these issues were just starting to be addressed. The project would be presented again at a future meeting once more information is obtained.

When asked if mitigation would be required for the proposed wetland impacts, Gino Infascelli responded that he didn’t think so because the Rules exempted protection of infrastructure from mitigation.

R. Roach said that if a Coast Guard permit is required, then the project would qualify for coverage under the NH Programmatic General Permit. However, he expected the project to be exempt from needing a Coast Guard permit, and there would be impacts in Vermont to consider as well. It was likely that the proposed impacts could be covered by the two State PGPs but this would need to be confirmed at a future meeting. The location of the NH-VT state line was discussed without reaching a consensus. The location will be determined prior to attending a future meeting.

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