BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: April 16, 2008
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Angela Hubbard
Ansel Sanborn
Bob Landry
C.R. Willeke
Cathy Goodmen
Chris Cadieux
John Butler
Jon Evans
Kevin Nyhan
Kirk Mudgett
Matt Urban
Mike Licciardi
Paul Lessard
Ram Maddali
Steve Liakos
Tom Cleary
Wendy Johnson

Federal Highway Administration
Jamie Sikora
Leigh Levine

NHDES
Gino Infascelli
Deborah Loiselle

NH Fish and Game
Kim Tuttle

New Hampshire Division of Historical Resources
Edna Feighner

Army Corps of Engineers
Rich Roach

Southern NH Planning Commission
Tim White

CLD Engineers
John Byatt

Horizons Engineering
Ed Betz
Steve LaFrance

Wilbur Smith Associates
Bruce Hyman
Michael Morehouse

(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 March 19, 2008 Meeting Minutes

The March 19, 2008 meeting minutes were finalized.

Andover, 14679A (Non-Federal)

Wendy Johnson and Jon Evans presented this project which involves replacing an existing 48" corrugated metal pipe (CMP) culvert that carries Mitchell Brook beneath NH Route 11/ US Route 4 to the east of North Street in Andover. This culvert is undersized and has caused flooding twice in the last 3 years. The most recent flooding event was in May 2006 (a 50-year event) when the waters of Mitchell Brook overtopped the roadway causing damage and a temporary road closure. During events such as this one, the roadway floods not only at the subject culvert, but also along many of the nearby alternative routes. This essentially cuts off portions of the town and requires traffic (including emergency response vehicles) to be detoured all the way down to Concord or up to Canaan to get from one side of town to the other.

The subject culvert can pass a maximum of approximately 140 cubic feet per second (CFS), which is slightly less than the 5-year storm. The intent of this project is to replace the existing culvert with a structure that can pass approximately 375 CFS. Preliminarily, the Department's preferred option is to replace the exiting pipe with two 60" reinforced concrete pipes. This option will have impacts to both adjacent wetlands and properties (one of which is potentially historic). The Department is also investigating the possibility of one box culvert rather than the twin pipes as well as an option that would improve drainage and raise the profile of the road by approximately 1-2 feet. The box culvert and profile change options would require increased right-of-way impacts and would cost substantially more as compared to simply replacing the existing culvert with twin 60" culverts.

Jon Evans showed photos of the area and noted that there is a large wetland system to the south side of the roadway. He also noted that there are several Prime Wetlands both upstream and downstream from the project location. Based upon NHDES' prime wetland GIS data layers these wetlands are not located directly adjacent to the project area. J. Evans asked if further verification of the location of these wetlands would be necessary. Gino Infascelli stated that he had reviewed these Prime Wetland locations prior to the meeting and found that this project, as proposed, would not have an impact on the above noted Prime Wetlands.

Kim Tuttle noted that a single structure would be preferable in this location as it is more conducive to aquatic wildlife passage. She also noted that this appeared to be good Wood Turtle habitat and that the Blackwater River is a known Brook Floater Mussel habitat. Rich Roach also asked if a box culvert would be possible. W. Johnson indicated that the Department would continue to examine this alternative, however it will be more expensive, which will likely have an impact on the Department's final decision.

Jamie Sikora indicated that FHWA Emergency Relief (ER) funds were given for the initial repairs and would pay for 80% of the replacement cost of one 48" CMP. Any additional costs beyond the 48" CMP would not be eligible for FHWA ER funds.

R. Roach asked if the existing culvert could be left in place and a spill way constructed to allow the water to flow over the road during high flow events without damaging the roadway. W. Johnson indicated that this would not be possible, as it would still cause the roadway to flood at a time when many of the nearby alternative routes would be flooded as well. Since the fire station is just to the west of this location, a road closure such as this would prevent emergency vehicles from being able to reach areas to the east of this culvert in a timely manner.

G. Infascelli asked if the railroad (located downstream) has caused some of the flooding problems due to undersized culverts, etc. W. Johnson indicated that this was possible and that the Department is already looking into this as a possible contributor to some of the recent flooding events.

J. Evans noted that this was an initial review and that this project would be reviewed with the Resource Agencies again in the future once an alternative has been chosen and the impacts have been further refined.

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

Whitefield Airport Road Bridge Replacement (Br. No. 066/196)

This project consists of the replacement of the bridge that carries Airport Road over Airport Marsh Outlet. The existing structure is a 12.5' x 8.0' corrugated metal plate pipe arch. The new structure will be downstream from and adjacent to a NH Fish and Game owned dam.

Project Introduction

A description of the project was presented by John Byatt of CLD Engineers. The New Hampshire Department of Transportation (NHDOT) has recommended that Airport Road over the Airport Marsh Outlet be closed due to the failure of an existing galvanized steel plate pipe arch. The Town has temporarily placed a one-lane bridge over the arch in order to maintain traffic until the bridge can be replaced. The road over the bridge is vital to the economic importance of the area as it is the main access to the Mount Washington Regional Airport and a business park. NHDOT has included the project in the 2009 Fiscal Year of their Municipally Managed Bridge Aid Program. The 20% local match will be provided by an Economic Development Authority (EDA) grant.

The bridge was built in 1970. According to the October 10, 2007 NHDOT inspection report, areas of the culvert have completely rusted out and the bridge should be closed to traffic. This bridge is in a low traffic volume, rural location, on a local road; however, there is heavy truck traffic entering and exiting the nearby industrial park.

Immediately upstream of the culvert is a concrete dam and apron that is maintained by the NH Fish & Game Department (NHF&G). The dam maintains the water level of the Airport Marsh for use as a waterfowl management area. The dam and its spillway are constructed of concrete with a concrete apron extending from the overflow side of the weir to the face of the culvert headwall. The weir and apron concrete are poured up to, and are believed to be cast integrally, with the existing wing walls. The weir is approximately 5 feet tall.

There appear to be two appropriate replacement bridge types that will fit the needs of the project. They are a precast concrete box culvert or a precast concrete arch. Sections showing both options were presented.

It was explained that the current preference is the precast concrete box structure. As a precast concrete box does not require separate concrete abutments or footings to be constructed, installation is quick and relatively cost-effective. The top of the arch bottom slab would be set at the top of the concrete apron elevation to reduce undermining of the existing apron. The lack of footings gives an advantage over the arch, as only excavation for the depth of the bottom slab thickness is required. Thus, control of water and shoring depths are more manageable and the potential for undermining the apron is reduced. A naturalized stream bottom could be constructed in the culvert, but this would require the culvert be placed below the dam apron.

It was noted that the Whitefield Conservation Commission favors the concrete box culvert. An e-mail from Dick Mallion, Chair of the Whitefield Conservation Commission, was presented to the group which stated this approval. D. Mallion noted that there is a minor amount of downstream fish passage and no upstream fish passage due to the nature of the dam.

The proposed structure will be approximately the same length as the existing structure, thereby avoiding additional wetland impacts. The wingwalls will tie into the existing dam structure on the south side. U-back type wingwalls will be used on the north side to limit wetland impacts in the pond.

As access over the road is extremely important, the bridge needs to have at least one lane open to traffic at all times during construction. This will be done with a combination of phased construction and a temporary road closure.

During construction, water flow needs to be diverted out of the construction area. If a precast arch with discrete footings is constructed, stream flow could be maintained between the necessary sheet piles.

For either the precast arch or box culvert, water diversion could be accomplished via a temporary by-pass pipe sized for a 1 to 2 year design storm. The invert of the diversion pipe would be at the same elevation as the top of the dam/existing pond elevation. As the backwater area extends well beyond the existing culvert and parallel to Airport Road, the diversion pipe could be trench excavated and placed through the embankment outside of the bridge construction area. This would eliminate the need to pump the water up and over the roadway.

Discussion and Comments

Ed Betz, Chair of the Whitefield Planning Board, spoke to the importance of replacing the bridge soon. He said there were 63 jobs in the area affected by the project and the Town pays $1,200 a month to rent the temporary bridge. E. Betz said that the structure type is not a very significant issue, but the Town would like a quick decision so the bridge can be replaced as soon as possible. He also mentioned that he was aware of a study of water temperatures downstream of the dam.

Kim Tuttle mentioned that there was interest in removing the dam and there was discussion of who owned the dam. It was unclear if the Town or NHF&G owned the Dam. Gino Infascelli mentioned that the NH Department of Environmental Services (NHDES) Dam Bureau web site shows the dam being owned by Fish and Game. Ed Betz mentioned that the dam was built in 1970 by NHF&G and was not maintained by the Town. He also said the Town has never paid the NHDES dam registration fees. Kim recommended that someone at NHF&G Lands Department be consulted. John Byatt said they would look into dam ownership.

Gino Infascelli suggested that, if possible, the water level be lowered by removing the dam splash boards during construction to aid constructability. John Byatt said that lowering the water level would help in water control during construction. There was mention that lowing the water level in the pond behind the dam would adversely affect Whitefield Light and Power. John Byatt said they would look into the effect on Whitefield Light and Power of lowering the water level, temporarily or permanently.

There was coordination following the meeting in regard to the two above topics. John Magee said in an e-mail that NHF&G has no current plans to remove the dam but that they would still prefer an option that would not preclude any future options with regard to the dam. J. Byatt stated that he believed NHF&G owns the dam and leases the land from the Town. He suggested that NHF&G Land Agent Betsy McNaughten or Rich Cook be contacted to confirm this. John also mentioned that the water level was

lowered to study the effect of dam removal but that plant owners asked that the water level be raised so they could continue to withdraw water.

An e-mail was received from Doug York of Whitefield Light and Power. Doug said they would be detrimentally affected by lowering the water level in the pond.

Rich Roach said he preferred the precast concrete arch because he believed that the discrete buried footings would be suitable if the dam were removed as opposed to the culvert. John Byatt responded that the culvert could be just as suitable if a cut-off wall were built on the front of the culvert. R. Roach said he would like to see where the crossing was on the river and in the watershed to evaluate the environmental value of the stream, which would affect whether the structure should be bottomless or not. He said he would also like to see the cost differences between the precast arch and box culvert. He said cost could play a part in their decision.

It was decided that CLD and Horizons should return with structure costs and other information if they would still like to pursue a box culvert. If a bottomless concrete arch were chosen returning would not be needed.

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

Haverhill, 14154 (Non-Federal)

This project was presented by Wendy Johnson and Cathy Goodmen. The project is located in Haverhill, along a 700-foot section of NH Route 10, approximately 1 mile south of the intersection of NH Route 116. The roadway in this location has 1-foot shoulders and 11-foot travel lanes. Settling of the slope on the western side of the roadway has caused the pavement to crack and settle and the guardrail to become unstable and lean away from the roadway. The Department plans to add a drainage ditch on the eastern side of the road, install closed drainage and use fill to create a 2:1 slope and repair the guardrail. A wetland permit is needed and the land adjacent to the right-of-way is conservation farmland.

The following alternatives were examined for this project:

1- Do nothing – This wouldn't correct the slumping and the road would continue to deteriorate.
2- Reconstruct the entire section of roadway – This alternative is costly and outside the scope of work for this project.
3- Decrease the roadway width of this section of roadway -The existing roadway has 11-foot travel lanes with 1-foot shoulders which, if narrowed, would compromise safety.
4- Remove the guardrail and install new guardrail along the shoulder and construct a keyed in, 2:1 stone slope.

Alternative #4 is currently the Department's preferred. This alternative will require approximately 3,600 s.f. of impacts to a small palustrine emergent wetland at the bottom of the existing slope. This alternative would also require impacts to a conservation property managed by the Upper Valley Land Trust (UVLT) and obtained using New Hampshire Land and Community Heritage Investment Program (LCHIP) funds. LCHIP has been contacted and tentatively has no problem with the proposed impacts. A description of the project , a package of plans and a request for comments will be sent to LCHIP and the UVLT in the near future.

Rich Roach asked where the parcel is located in a broader geographic area. C. Goodmen responded that it is located adjacent to a large farm field on the Connecticut River. R. Roach also asked about the size of the

wetland. C. Goodmen noted that it is a small isolated palustrine emergent wetland at the toe of slope. R Roach stated that this project would qualify for coverage under the NH PGP.

E. Feighner asked if this is the Ingalls property. W Johnson responded that this was the Knox-Ingalls property, which is a protected farm land. Edna noted that this property is on the National Register of Historic Places as an archaeological site. W. Johnson and C. Goodmen supplied E. Feighner with plans and a USGS topographic map. E. Feighner indicated that she would go through the SHPO files to see if this project will have an effect on the above noted archaeological resources.

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

Manchester, 14048 (Non-Federal)

This project involves the reconstruction of the Interstate 293 Exit 6 northbound on ramp and the rehabilitation and widening of the bridges that carry the Central Turnpike over Black Brook between Exits 6 & 7 (Br. Nos. 099/066 & 099/067). The existing on ramp is deficient in length, presenting an apparent safety hazard. The bridge will be widened in the median and on the downstream (east) side to allow for the longer on ramp.

The widening will encroach on a backwater of the Merrimack River at the mouth of Black Brook. Three options were reviewed in order to limit the encroachment on the backwater: A 2:1 roadway slope, a 1½: 1 roadway slope and a retaining wall. The retaining wall cost is $250,000 to $300,000 and may be difficult to position, as there is a city sewer line in this location. The 2:1 slope would have approximately 6,000 sq feet of wetland impacts in the backwater area and the 1½:1 slope would have approx 3,000 sq ft of impacts. R. Roach noted that the backwater was probably created by the construction of the Amoskeag Dam. Looking at the aerial photograph, K. Tuttle asked what the large 'paved' area near the project was. C.R. Willeke identified it as the new condominium complex that was constructed several years ago. K. Tuttle noted that Bald Eagles have been known to roost in the area and requested that any trees larger than 12 inches in diameter be inventoried as possible eagle roosting trees. C. Goodmen agreed that the Bureau of Environment would inventory any large trees.

J. Sikora asked if the Department had coordinated with Dave Hall to determine if FHWA needs to be consulted as this project involves improvements to an Interstate highway interchange. J. Evans asked if FHWA's involvement in the project would require some level of NEPA classification. J. Sikora indicated that he was unsure but that he would look into if further and coordinate with C. Goodmen.

R. Roach asked if anyone was concerned about the 3,000 s.f. of impacts. Since no one commented, R. Roach indicated that if the 2:1 slope could be vegetated it would be better condition than a stone 1½: 1 slope. R. Landry indicated that a 2:1 slope could be vegetated.

A. Hubbard reviewed the specifics of the bridgework. She noted that the original bridge was built in 1953-1954 and that the bridges are not red listed, but are in poor condition. The project will remove the deck and repaint and/or replace the girders. She noted that the original stone fill on the slopes under the bridge had been eroded away and the Department would replace it per the original drawings. R. Roach asked if the stone had been removed during a flood. A. Hubbard responded that there was no history of what had happened to the stone fill. R. Roach asked if the bridge was built before or after the dam that is upstream from the bridge on Black Brook. R. Landry said the dam was built ca. 1900 for ice harvesting. D. Loiselle noted that the dam is scheduled to be removed in the winter of 2008-2009. C.R. Willeke noted that it would be difficult to find a good place to treat storm water as the low part of the roadway has wetlands on both sides. R. Roach determined that the project would qualify for SPGP coverage.

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

Statewide, 14069

This discussion consists of SAFETEA-LU consultation & mitigation requirements for the State of NH Long Range Plan led by Leigh Levine, Planning and Development Manager, FHWA. The plan was distributed and discussed. Kevin Nyhan added that resource agency representatives at these monthly meetings found it difficult to do the type of planning sought by L. Levine. In general, the resource agencies offer the following comments on all Long Range Transportation Plans that have come for review:

1. Examining restoration/creation choices.
2. Considering the region's landscape, and tying in the transportation plan to protected wildlife and water supply areas.
3. Utilizing NH Fish & Game's Wildlife Action Plan as a resource. It is available on the Fish & Game website.
4. Considering cumulative impacts and in-lieu fee options for mitigation.
5. Further investigations into impacts on cultural resources. The OEP's State Development Plan is a good example for consideration of cultural resources within a broader planning document. The NHDOT Memorandum of Understanding on cultural resource assessments is a good resource.

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

Hinsdale, X-A000(426), 14540N

Jon Evans and Kirk Mudgett began by giving a brief overview of the project, which was previously presented at the March 15, 2006, August 23, 2006 and the January 16, 2008 Resource Agency Meetings. The proposed project is located on NH Route 63 beginning approximately 800 feet to the north of its intersection with NH Route 119 and extending north approximately 2,200 feet. The project involves the reconstruction of NH Route 63 to permanently fix this severely damaged stretch of roadway. The subject roadway was damaged during the floods of October 9, 2005 after floodwaters in adjacent Kilburn Brook undermined the roadway, causing the collapse of a large section of the northbound travel lane and portions of the southbound lane. In order to restore safe vehicular passage through this area, a temporary bypass road was constructed immediately following the flood event.

The NH Department of Transportation is requesting an amendment to the previously submitted permit. This project will remain a Major impact project. The amendment is requested to accommodate additional impacts in 2 locations. These additional impacts address concerns with the stability of the proposed slope stabilization efforts as a result of further geotechnical investigations. In order to address these stability concerns the stone slope will need to be extended approximately 30 feet to the south and will need to be keyed in at the bottom to a depth of approximately 3 feet. These changes will require impacts below the ordinary high water mark in several locations.

The total permanent wetland and bank impacts will increase 520 s.f. and 3,560 s.f., respectively. The total temporary impacts will decrease 750 s.f. The total linear bank and channel impacts will increase 30 and 65 ft., respectively. The updated impacts will total 14,845 s.f., an increase of 3,330 s.f. As was agreed at the January 16, 2008 meeting, humus and seed mix will be added to the stone fill above the Q-50 flood

elevation to help fill in the gaps and facilitate the growth of natural vegetation. This treatment will be extended to the new impact areas.

Gino Infascelli asked what the slope would be for the main slope reconstruction area. K. Mudgett replied that it varies from 1.4:1 to 1.75:1, but will mostly be 1.5:1.

J. Evans noted that the project advertises in early May. Therefore the Department would be submitting an amendment to the permit (DES No. 2007-02961) sometime in the near future.

Rich Roach indicated that this project would still qualify for coverage under the NH PGP. He also indicated that since these changes are relatively minor and this project was already reviewed several times by the Army Corps, additional written confirmation of PGP coverage would not be necessary once the amended permit is issued by NHDES, and that work can begin immediately upon receipt of the Wetlands Bureau permit amendment.

This project was previously reviewed on the following dates: 3/15/2006, 8/23/2006 & 1/16/2008.

Manchester, X-A000(220), 14170

Jon Evans began by giving a brief overview of the project which was previously reviewed at the August 15, 2007 Resource Agency meeting. This project consists of the replacement of the bridge that carries Island Pond Road over Interstate 93 (Br. Nos. 166/124 & 166/125). This project will also include the construction of a sound wall protecting the Pinebrook Place and Cranwell Drive neighborhoods from noise contributed by I-93.

J. Evans reviewed the wetland impact locations and provided the final wetland impact totals which were not available at the previous meeting. These impacts are as follows: Permanent Wetland: 8,099 s.f. Permanent Bank: 0 s.f. Temporary: 6,801 s.f. Total: 14,900 s.f. J. Evans also noted that two severely deteriorated 54" corrugated metal arch pipes located at the eastern end of the Island Pond Road bridges would be replaced with an 8' wide, 5' Tall, 117' long concrete box culvert. The new culvert, will be constructed with two 9" wide concrete shelves to allow for the passage of snakes and other small organisms.

Gino Infascelli asked what would happen with the existing drainage, particularly along the length of the soundwall. J. Evans indicated that stormwater runoff from the Pinebrook Place neighborhood flows from several outfalls to the west of the proposed soundwall location. The drainage of this area has been studied and several short culverts will be strategically placed so as not to change the overall drainage of the area. No one objected to the project as proposed and no mitigation was requested.

This project was previously reviewed on the following date: 8/15/2007.

The next meeting will be held on May 16, 2008.