

**NHDOT Natural Resource Agency Coordination Meeting**  
**Wednesday November 16, 2016**  
**John O. Morton Building, 7 Hazen Drive, Concord, NH**  
**9:00 am, Bureau of Environment Conference Room (Room 161)**

**AGENDA**

The following projects/items will be discussed, in approximately this order, at approximately the times listed.

**9:00 Finalize the September 21, 2016 and October 19, 2016 Meeting Minutes**

**9:10 Littleton #41224 (Non-Federal)** Rehabilitate the bridge that carries I-93 over Mullikin Brook (133/094). The existing structure is a metal pipe culvert bridge that has a span of 11'-0". Proposed work consists of the following: place sandbag cofferdams, install concrete invert and place riprap. ([location map & AIR](#)) The Bureau of Bridge Maintenance will be presenting an initial review and discuss wetland impacts. *Environmental concerns:* Wetlands

**9:20 Kingston #41222 (Non-Federal)** Rehabilitate the bridge that carries Rte. 111, Rte. 125 over Powwow River (099/106). The existing structure is a metal pipe culvert bridge that has a span of 12'-0". Proposed work consists of the following: place sandbag cofferdams, install invert, place cutoff wall and place riprap. ([location map & AIR](#)). The Bureau of Bridge Maintenance will be presenting an initial review and discuss wetland impacts. *Environmental concerns:* Wetlands

**9:30 Swanzey #41223 (Non-Federal)** Rehabilitate the bridge that carries Rte. 12 over Troy Brook (166/171). The existing structure is a metal pipe culvert bridge that has a span of 11'-0". Proposed work consists of the following: place sandbag cofferdams, place concrete invert, place cutoff walls, and place riprap. ([location map & AIR](#)). The Bureau of Bridge Maintenance will be presenting an initial review and discuss wetland impacts. *Environmental concerns:* Wetlands

**9:40 Barnstead #16020 (Non-Federal)** The Town of Barnstead proposes to replace Bridge 149/073, which carries Hannah Nutter Road over the Big River. Hannah Nutter Road connects NH Route 126 (South Barnstead Road) and New Road, and is a gravel roadway with an average width of approximately 20 feet. The existing bridge was constructed in 1940 and rehabilitated in 1999. The bridge consists of precast prestressed double tee concrete beams supported by cast-in-place stub abutments, founded on dry-laid stone abutments. The deck is comprised of a 4" concrete overlay with a membrane and 2" of asphalt wearing surface. The existing bridge has a clear span of 34'-6" and has a rail-to-rail width of 22'-4". This project is part of the State-Aid Bridge Program. ([location map & AIR](#)). Christine Perron of McFarland Johnson will be providing an initial review of the project and review the wetland impacts. *Environmental concerns:* Wetlands, Protected Shoreland, Fisheries/Stream Crossings

**9:55 Meredith #10430, STP-F-X-0241(014)** The project is located on US Route 3/NH Route 25 in Meredith Village, beginning just south of the Lake Street/US Route 3 intersection and continuing north to the Pleasant Street/NH Route 25 intersection (Figure 1). The purpose of the project is to make improvements to the overall operation of the US Route 3/NH Route 25/Main Street intersection and its approaches, and to improve pedestrian safety within the project area. ([location map & AIR](#)). The Bureau of Environment and McFarland Johnson, Inc will be presenting on wetland impacts. *Environmental concerns:* Water Quality/Impaired Waters, Wetlands, Protected Shoreland, Fisheries/Stream Crossings

**10:10 Ossipee #10431, (X-MGS-NHS-X-T-0271(032))** The purpose of the project is to rehabilitate 3.4 miles of NH Route 16 from the intersection with NH Route 28 to the intersection with NH Route 16B and to improve safety. The project proposes safety improvements at the NH Route 28 intersection. Three separate treatments are proposed for the roadway. At the southern portion of the project an overlay is proposed, in the middle section there will be full reconstruction of the roadway (new box and pavement) and expanding the road by adding shoulders, and in the northern portion the treatment will be to cold plane 3" of existing pavement and put back 3" of HBP pavement. Existing drainage will be addressed in the project area and a stormwater treatment area is proposed north of the intersection with NH Route 16B. ([location map & AIR](#)). The Bureau of Environment and the Bureau of Highway Design will be presenting a review of alternatives and on wetland impacts. *Environmental concerns:* Water Quality/ Impaired Waters, Wetlands, Fisheries/ Stream Crossings, rare species/ natural communities.

**10:25 Bethlehem #26763 (X-A004(296))** The project proposes replacement of a culvert under US Route 302 between Congress Road and Maple Street. The existing culvert is perched and has been added on to over time, beginning as a mortared stone box, with a formed concrete box added to the inlet and an elliptical corrugated metal pipe added to the outlet end. The existing culvert is approximately 5 feet wide and 7.5 feet tall. The culvert regularly requires repair and when surveyed was found to have deteriorated beyond the point of reasonable rehabilitation. The proposed design for the new culvert is a 4 sided box culvert, 12 feet wide with baffles. The culvert will be longer (215 linear feet) than the existing, which is 170 feet long. There are existing trunk lines that carry stormwater from Main Street east and west of the culvert that connect directly into the sides of to the culvert and stormwater also enters the culvert from a catch basin directly above. The existing side drainage systems will be connected to the new culvert. There are failing concrete retaining walls on the inlet of the culvert that will be removed and are not intended to be replaced. The steep embankment slopes above the outlet of the culvert will be addressed as part of the project. The existing slope through the pipe is approximately 5%, the new slope is expected to be around 3.33%. The new culvert is expected to provide a more uniform flow and resting pools for dissipation of energy and minimization of flow velocity. ([location map & AIR](#)) The Bureau of Environment (Rebecca Martin) and the Bureau of Highway Design will be presenting a review of alternatives for the project, and discuss wetland impacts and wildlife passage. *Environmental concerns:* Water Quality/ Impaired Waters, Wetlands, Fisheries/ Stream Crossings.

**10:40 Roxbury-Sullivan #10439 (F-X-0121(034))** Replace the Red Listed NH Route 9 bridge over Otter Brook in Sullivan. Reconstruct shoulders and widen NH Route 9 from its intersection with Centre Street in East Sullivan Village □2 miles south to the Houghton Ledge Road intersection in Roxbury. Replace existing retaining wall in vicinity of Houghton Ledge road with engineered slope. Minor drainage upgrades. ([location map & AIR](#)). The Bureau of Environment and the Bureau of Highway Design will be presenting on wetland impacts and mitigation issues. *Environmental concerns:* Wetlands, Protected Shoreland, Fisheries/Stream Crossings, Conservation Land, Floodplains/Floodways

**11:00 Concord #28417 (X-A003(741))** Drainage improvement to correct flooding cause by inadequate drainage outfall at I-393 and North Main Street intersection. Project will construct a new outfall from I-393 along N. Main Street and Horseshoe Pond Lane to outlet into Horseshoe Pond. ([location map & AIR](#)). VHB will be presenting on wetland impacts, mitigation issues, and other issues pertaining to Horeseshoe Pond hydrology and water quality modeling. *Environmental concerns:* Water Quality/Impaired Waters, Wetlands, Protected Shoreland, Conservation Land, Floodplains/Floodways

**11:35 Laconia Apt. TW E ext. (SBG-09-13-2017)** Construct Taxiway E extension 2,300+/- feet x 35 foot wide and improve 4,146+/- feet of related airfield drainage, expand the itinerant aircraft parking apron 6,135+/- square yards; and improve 50+/- feet of Runway 8 drainage south of Taxiway A. ([location map & AIR](#)). Jacobs Engineering will be presenting and initial review. [Environmental concerns](#): Unknown

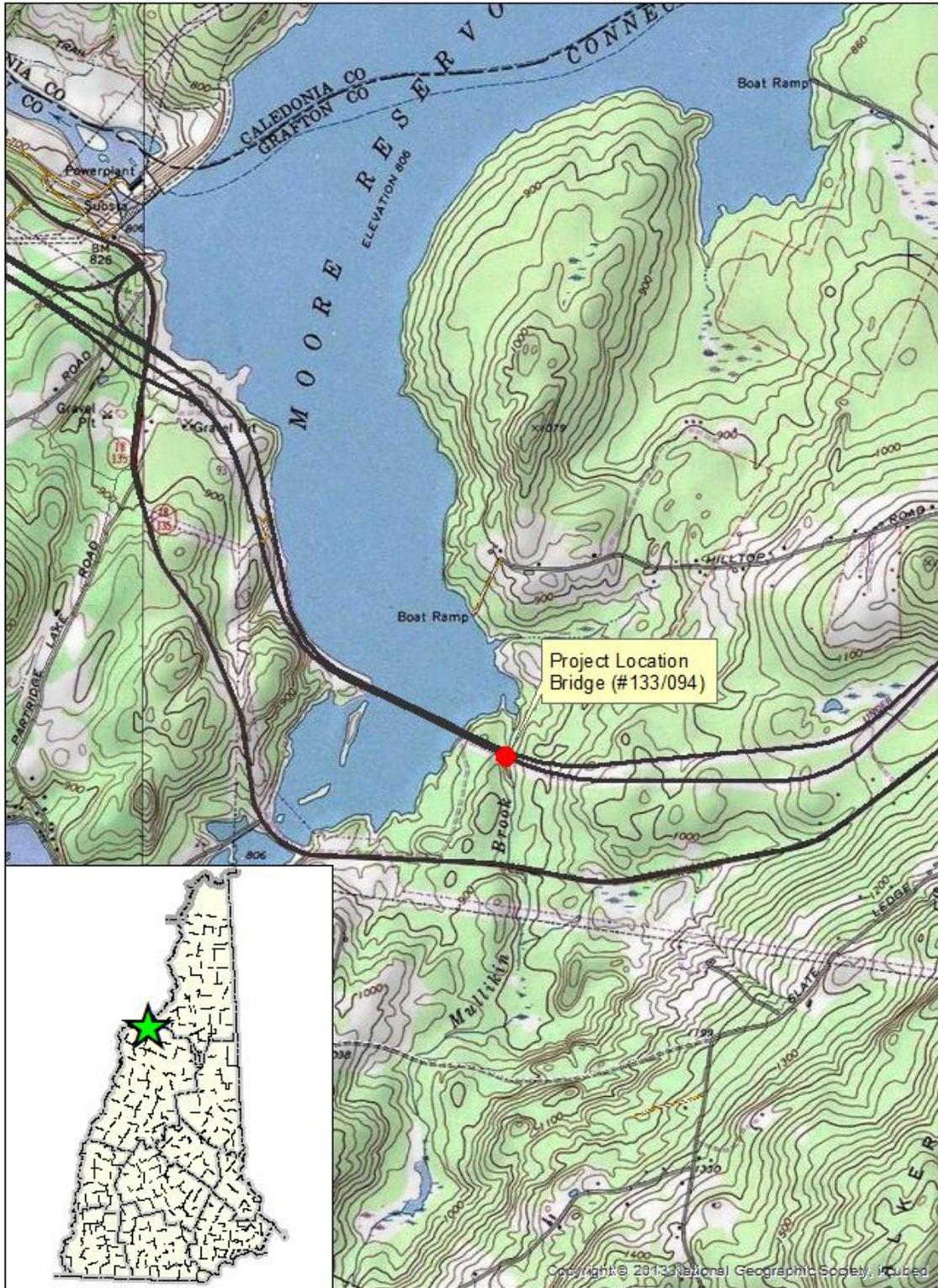
**11:55 Nashua-Merrimack-Bedford #13761 (IM-0931(201))** This project involves widening the three remaining four-lane segments of the F. E. Everett Turnpike (F.E.E.T.) between Nashua and Bedford to add, as a minimum, one northbound and one southbound travel lane, to improve traffic operations and safety. The three highway segments to be widened include Segment 1: Exit 8 in Nashua to Exit 10 in Merrimack (~1.5 miles); Segment 2: Exit 11 in Merrimack to vicinity of Bedford toll plaza (~5.3 miles); and Segment 3: Vicinity of Bedford toll plaza to I-293 (~1.3 miles). The bridges carrying Baboosic Lake Road and Wire Road over the F.E.E.T. will require replacement to span the widened highway. The F.E.E.T. bridge over Pennichuck Brook will require replacement, and the culvert carrying Baboosic Brook will require either replacement or extension. ([location map & AIR](#)). Jed Merrow from McFarland Johnson will be presenting a review of alternatives and on wetland impacts. [Environmental concerns](#): Water Quality/Impaired Waters, Wetlands, Fisheries/Stream Crossings, Rare Species/Natural Communities, Conservation Land, Floodplains/Floodways, Essential Fish Habitat, NH Designated River: Souhegan River.

**End Approx: 12:45**

Note: The next scheduled meeting is December 21, 2016 in the Bureau of Environment Conference Room (Room 161).

Littleton #41224 (Non-Federal)

Littleton, 41224 (Bridge # 133/094)



0 0.25 0.5 1 Miles

1:24,000

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NHDOT MONTHLY NATURAL RESOURCE AGENCY  
COORDINATION MEETING  
AGENDA ITEM REQUEST FORM



PROJECT NAME: Littleton 133/094  
FEDERAL NO.: Non-Federal  
STATE NO.: 41224  
AD DATE: \_\_\_\_\_

PROJECT MANAGER: Steve Johnson  
DOT ENV. MANAGER: Matt Urban  
DESIGNER(S): Anthony Weatherbee  
\_\_\_\_\_

**REQUESTED MEETING DATE (click to view possible dates):** November 16, 2016

**PROJECT DESCRIPTION**

Rehabilitate the bridge that carries I-93 over Mullikin Brook (133/094). The existing structure is a metal pipe culvert bridge that has a span of 11'-0". Proposed work consists of the following: place sandbag cofferdams, install concrete invert, place cutoff walls and place riprap.

**TYPE OF REVIEW (check all that apply)**

- |                                                    |                                                     |                                                     |
|----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|
| <input checked="" type="checkbox"/> Initial Review | <input type="checkbox"/> Review of Alternatives     | <input checked="" type="checkbox"/> Wetland Impacts |
| <input type="checkbox"/> Mitigation Issues         | <input type="checkbox"/> Issues during Construction | <input type="checkbox"/> Post-construction Issues   |
| <input type="checkbox"/> Other Issues:             |                                                     |                                                     |

**RESOURCES OR CONCERNS (check all that apply to project)**

- |                                                                    |                                                           |                                                 |
|--------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------|
| <input type="checkbox"/> Water Quality/Impaired Waters             | <input type="checkbox"/> Rare Species/Natural Communities | <input type="checkbox"/> Floodplains/Floodways  |
| <input checked="" type="checkbox"/> Wetlands (File# if applicable) | <input type="checkbox"/> Conservation Land                | <input type="checkbox"/> Essential Fish Habitat |
| <input type="checkbox"/> Protected Shoreland (File# if applicable) | <input type="checkbox"/> Coastal Zone                     | <input type="checkbox"/> Unknown at this Time   |
| <input type="checkbox"/> Fisheries/Stream Crossings                | <input type="checkbox"/> NH Designated River: <u>Name</u> | <input type="checkbox"/> Other:                 |

**NH NATURAL HERITAGE BUREAU FILE NUMBER: NHB16-**

**WHAT IS YOUR GOAL/ DESIRED OUTCOME FOR THIS REVIEW?**

Obtain concurrence on proposed design prior to submitting permit application.

**THIS PROJECT WAS PREVIOUSLY REVIEWED ON THE FOLLOWING DATES:**

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**NAMES AND E-MAIL ADDRESSES FOR ALL NON-DOT ATTENDEES:**

Click here to enter text.

**HOW MUCH TIME DO YOU NEED (including Q&A)? (A normal review takes approx. 15 min.)** 15 minutes

**MINUTES WILL BE PREPARED BY:** Anthony Weatherbee will type Matt Urban's notes

**WILL YOU HAVE A POWERPOINT PRESENTATION?**  YES  NO

**LOCATION MAP ATTACHED**  YES

Kingston #41222 (Non-Federal)

Kingston, 41222 (Bridge # 099/106)



Project Location  
Bridge (#099/106)

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0 0.25 0.5 1 Miles

1:24,000



NHDOT MONTHLY NATURAL RESOURCE AGENCY  
COORDINATION MEETING  
AGENDA ITEM REQUEST FORM



PROJECT NAME: Kingston 099/106  
FEDERAL NO.: Non-Federal  
STATE NO.: 41222  
AD DATE: \_\_\_\_\_

PROJECT MANAGER: Steve Johnson  
DOT ENV. MANAGER: Matt Urban  
DESIGNER(S): Anthony Weatherbee  
\_\_\_\_\_

**REQUESTED MEETING DATE (click to view possible dates):** November 16, 2016

**PROJECT DESCRIPTION**

Rehabilitate the bridge that carries Rte. 111, Rte. 125 over Powwow River (099/106). The existing structure is a metal pipe culvert bridge that has a span of 12'-0". Proposed work consists of the following: place sandbag cofferdams, install invert, place cutoff wall and place riprap.

**TYPE OF REVIEW (check all that apply)**

- |                                                    |                                                     |                                                     |
|----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|
| <input checked="" type="checkbox"/> Initial Review | <input type="checkbox"/> Review of Alternatives     | <input checked="" type="checkbox"/> Wetland Impacts |
| <input type="checkbox"/> Mitigation Issues         | <input type="checkbox"/> Issues during Construction | <input type="checkbox"/> Post-construction Issues   |
| <input type="checkbox"/> Other Issues:             |                                                     |                                                     |

**RESOURCES OR CONCERNS (check all that apply to project)**

- |                                                                    |                                                           |                                                 |
|--------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------|
| <input type="checkbox"/> Water Quality/Impaired Waters             | <input type="checkbox"/> Rare Species/Natural Communities | <input type="checkbox"/> Floodplains/Floodways  |
| <input checked="" type="checkbox"/> Wetlands (File# if applicable) | <input type="checkbox"/> Conservation Land                | <input type="checkbox"/> Essential Fish Habitat |
| <input type="checkbox"/> Protected Shoreland (File# if applicable) | <input type="checkbox"/> Coastal Zone                     | <input type="checkbox"/> Unknown at this Time   |
| <input type="checkbox"/> Fisheries/Stream Crossings                | <input type="checkbox"/> NH Designated River: <u>Name</u> | <input type="checkbox"/> Other:                 |

**NH NATURAL HERITAGE BUREAU FILE NUMBER: NHB16-3408**

**WHAT IS YOUR GOAL/ DESIRED OUTCOME FOR THIS REVIEW?**

Obtain concurrence on proposed design prior to submitting permit application.

**THIS PROJECT WAS PREVIOUSLY REVIEWED ON THE FOLLOWING DATES:**

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**NAMES AND E-MAIL ADDRESSES FOR ALL NON-DOT ATTENDEES:**

Click here to enter text.

**HOW MUCH TIME DO YOU NEED (including Q&A)? (A normal review takes approx. 15 min.)** 15 minutes

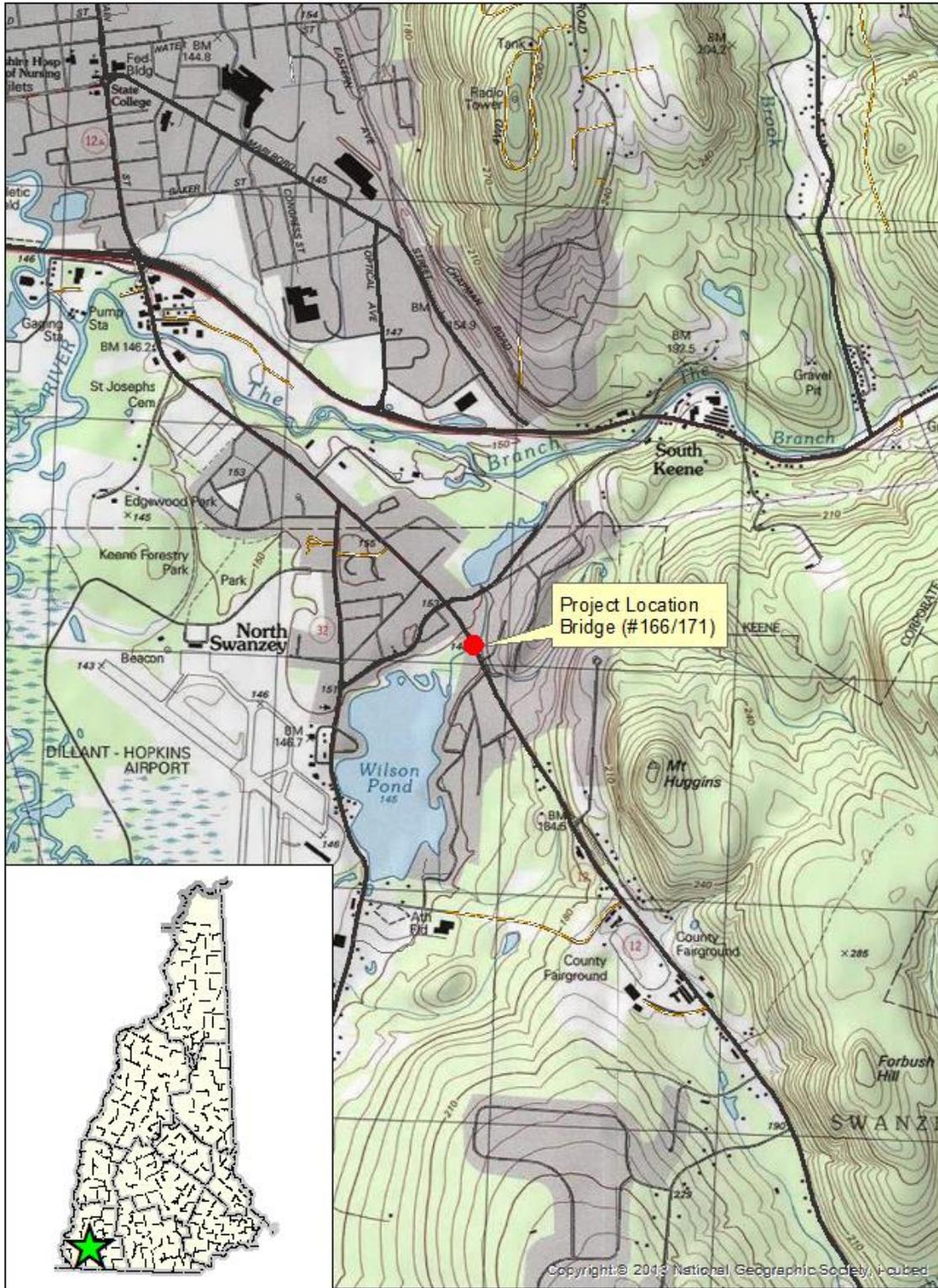
**MINUTES WILL BE PREPARED BY:** Anthony Weatherbee will type Matt Urban's notes

**WILL YOU HAVE A POWERPOINT PRESENTATION?**  YES  NO

**LOCATION MAP ATTACHED**  YES

Swanzy #41223 (Non-Federal)

Swanzy 41223 (Bridge # 166/171)



0 0.25 0.5 1 Miles 1:24,000



NHDOT MONTHLY NATURAL RESOURCE AGENCY  
COORDINATION MEETING  
AGENDA ITEM REQUEST FORM



PROJECT NAME: Swanzy 166/171  
FEDERAL NO.: Non-Federal  
STATE NO.: 41223  
AD DATE: \_\_\_\_\_

PROJECT MANAGER: Steve Johnson  
DOT ENV. MANAGER: Matt Urban  
DESIGNER(S): Anthony Weatherbee  
\_\_\_\_\_

**REQUESTED MEETING DATE (click to view possible dates):** November 16, 2016

**PROJECT DESCRIPTION**

Rehabilitate the bridge that carries Rte. 12 over Troy Brook (166/171). The existing structure is a metal pipe culvert bridge that has a span of 11-0". Proposed work consists of the following: place sandbag cofferdams, place concrete invert, place cutoff walls, and place riprap.

**TYPE OF REVIEW (check all that apply)**

- |                                                    |                                                     |                                                     |
|----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|
| <input checked="" type="checkbox"/> Initial Review | <input type="checkbox"/> Review of Alternatives     | <input checked="" type="checkbox"/> Wetland Impacts |
| <input type="checkbox"/> Mitigation Issues         | <input type="checkbox"/> Issues during Construction | <input type="checkbox"/> Post-construction Issues   |
| <input type="checkbox"/> Other Issues:             |                                                     |                                                     |

**RESOURCES OR CONCERNS (check all that apply to project)**

- |                                                                    |                                                           |                                                 |
|--------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------|
| <input type="checkbox"/> Water Quality/Impaired Waters             | <input type="checkbox"/> Rare Species/Natural Communities | <input type="checkbox"/> Floodplains/Floodways  |
| <input checked="" type="checkbox"/> Wetlands (File# if applicable) | <input type="checkbox"/> Conservation Land                | <input type="checkbox"/> Essential Fish Habitat |
| <input type="checkbox"/> Protected Shoreland (File# if applicable) | <input type="checkbox"/> Coastal Zone                     | <input type="checkbox"/> Unknown at this Time   |
| <input type="checkbox"/> Fisheries/Stream Crossings                | <input type="checkbox"/> NH Designated River: <u>Name</u> | <input type="checkbox"/> Other:                 |

**NH NATURAL HERITAGE BUREAU FILE NUMBER: NHB16-**

**WHAT IS YOUR GOAL/ DESIRED OUTCOME FOR THIS REVIEW?**

Obtain concurrence on proposed design prior to submitting permit application.

**THIS PROJECT WAS PREVIOUSLY REVIEWED ON THE FOLLOWING DATES:**

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**NAMES AND E-MAIL ADDRESSES FOR ALL NON-DOT ATTENDEES:**

Click here to enter text.

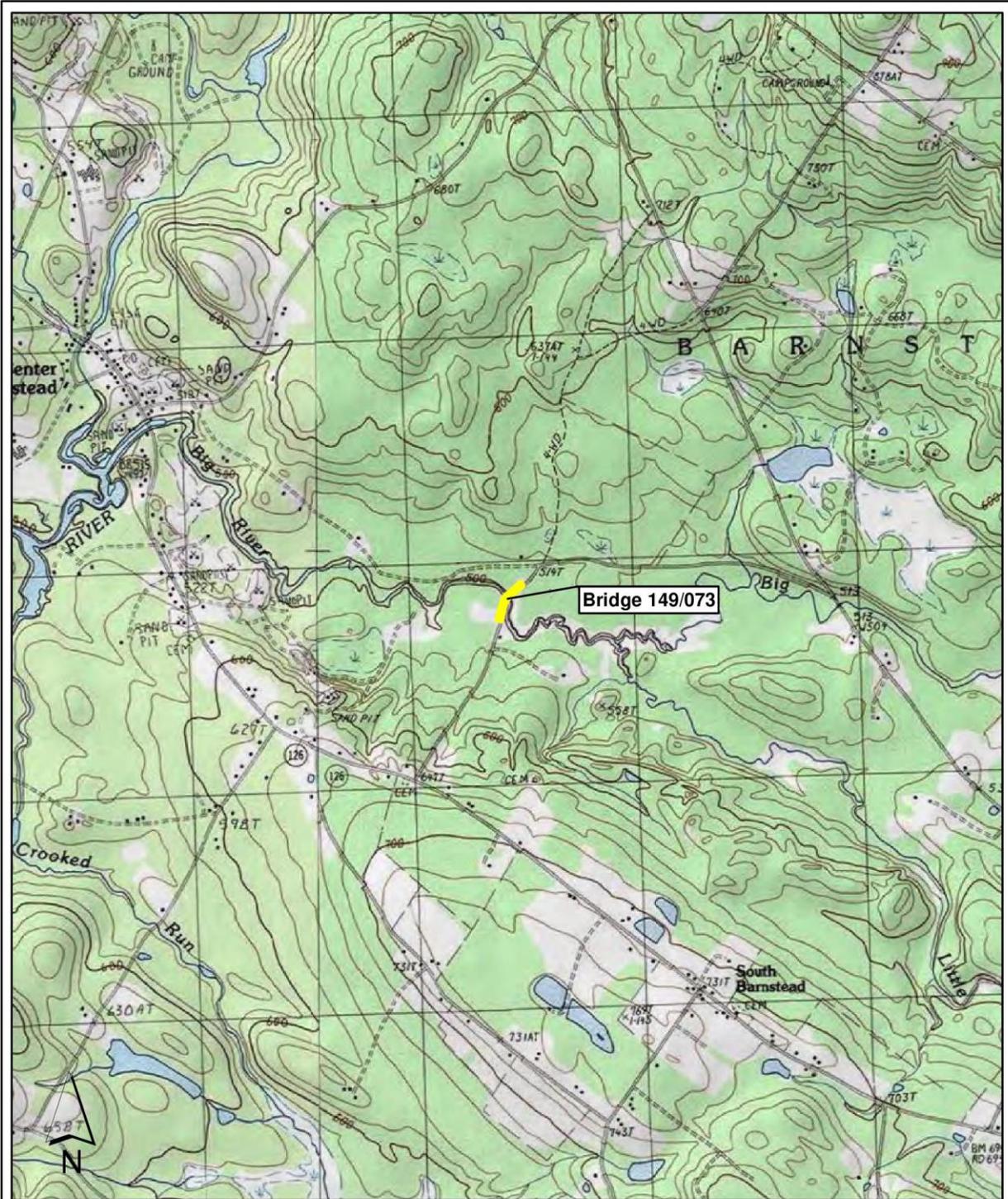
**HOW MUCH TIME DO YOU NEED (including Q&A)? (A normal review takes approx. 15 min.)** 15 minutes

**MINUTES WILL BE PREPARED BY:** Anthony Weatherbee will type Matt Urban's notes

**WILL YOU HAVE A POWERPOINT PRESENTATION?**  YES  NO

**LOCATION MAP ATTACHED**  YES

# Barnstead #16020 (Non-Federal)



 Approximate Project Limits

Town of Barnstead  
Hannah Nutter Road over Big River, Project 16020

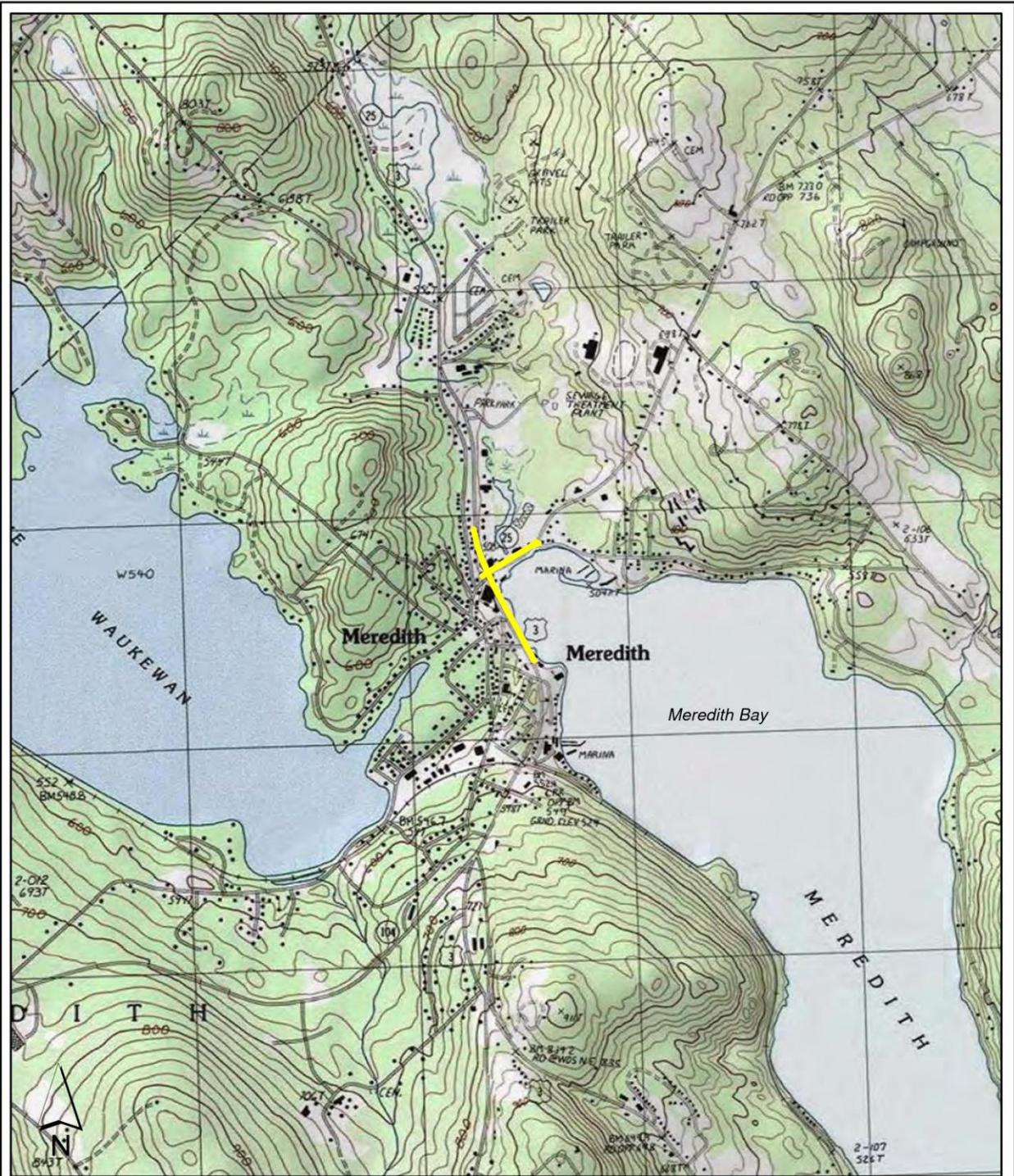
### Location Map

SCALE: 1 inch = 2,000 feet	DATE: October 2016	FIGURE: 1
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 McFarland Johnson



Meredith #10430, STP-F-X-0241(014)



— Approximate Project Limits

NH Department of Transportation  
Meredith, 10430

**LOCATION MAP**

SCALE:  
1 inch = 2,000 feet

DATE:  
March 2016

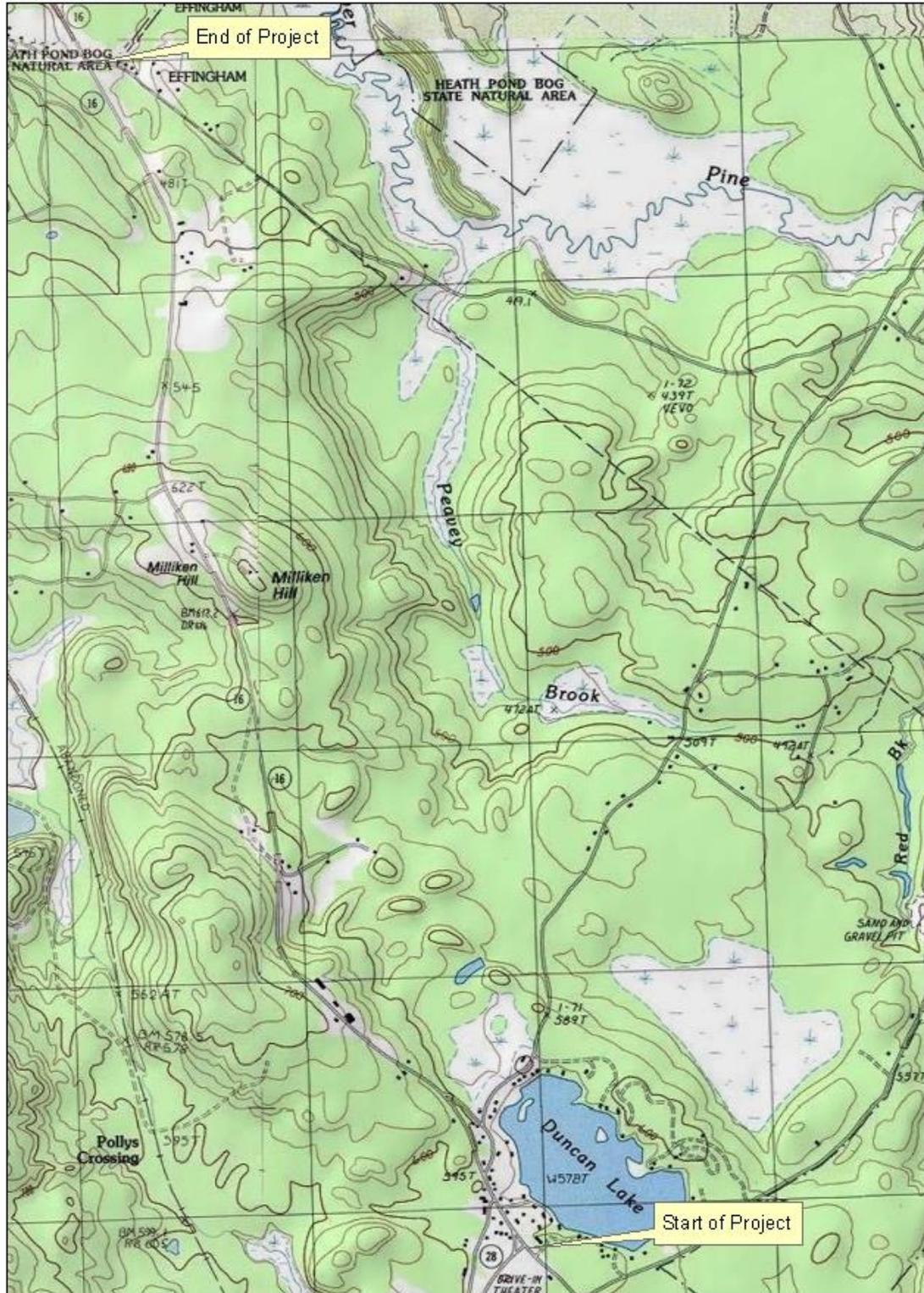
FIGURE:  
1

 **McFarland Johnson**



Ossipee #10431, (X-MGS-NHS-X-T-0271(032))

Ossipee, 10431



1 inch = 2,000 feet



**NHDOT MONTHLY NATURAL RESOURCE AGENCY  
COORDINATION MEETING  
AGENDA ITEM REQUEST FORM**



**PROJECT NAME:** Ossipee  
X-MGS-NHS-X-T-  
**FEDERAL NO.:** 0271(032)  
**STATE NO.:** 10431  
**AD DATE:** June 2019

**PROJECT MANAGER:** Victoria Chase  
**DOT ENV. MANAGER:** Rebecca Martin  
**DESIGNER(S):** Jon Hebert  
Kirk Mudgett

**REQUESTED MEETING DATE (click to view possible dates):** 11/16/2016

**PROJECT DESCRIPTION**

The purpose of the project is to rehabilitate 3.4 miles of NH Route 16 from the intersection with NH Route 28 to the intersection with NH Route 16B and to improve safety. The project proposes safety improvements at the NH Route 28 intersection. Three separate treatments are proposed for the roadway. At the southern portion of the project an overlay is proposed, in the middle section there will be full reconstruction of the roadway (new box and pavement) and expanding the road by adding shoulders, and in the northern portion the treatment will be to cold plane 3" of existing pavement and put back 3" of HBP pavement. Existing drainage will be addressed in the project area and a stormwater treatment area is proposed north of the intersection with NH Route 16B.

**TYPE OF REVIEW (check all that apply)**

- |                                                    |                                                            |                                                     |
|----------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------|
| <input checked="" type="checkbox"/> Initial Review | <input checked="" type="checkbox"/> Review of Alternatives | <input checked="" type="checkbox"/> Wetland Impacts |
| <input type="checkbox"/> Mitigation Issues         | <input type="checkbox"/> Issues during Construction        | <input type="checkbox"/> Post-construction Issues   |
| <input type="checkbox"/> Other Issues:             |                                                            |                                                     |

**RESOURCES OR CONCERNS (check all that apply to project)**

- |                                                                    |                                                                      |                                                 |
|--------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------|
| <input checked="" type="checkbox"/> Water Quality/Impaired Waters  | <input checked="" type="checkbox"/> Rare Species/Natural Communities | <input type="checkbox"/> Floodplains/Floodways  |
| <input checked="" type="checkbox"/> Wetlands (File# if applicable) | <input type="checkbox"/> Conservation Land                           | <input type="checkbox"/> Essential Fish Habitat |
| <input type="checkbox"/> Protected Shoreland (File# if applicable) | <input type="checkbox"/> Coastal Zone                                | <input type="checkbox"/> Unknown at this Time   |
| <input checked="" type="checkbox"/> Fisheries/Stream Crossings     | <input type="checkbox"/> NH Designated River: <u>Name</u>            | <input type="checkbox"/> Other:                 |

**NH NATURAL HERITAGE BUREAU FILE NUMBER:** NHB16-2068

**WHAT IS YOUR GOAL/ DESIRED OUTCOME FOR THIS REVIEW?**

Obtain feedback on the proposed stormwater treatment wetland impacts.

**THIS PROJECT WAS PREVIOUSLY REVIEWED ON THE FOLLOWING DATES:**

8/17/2016					
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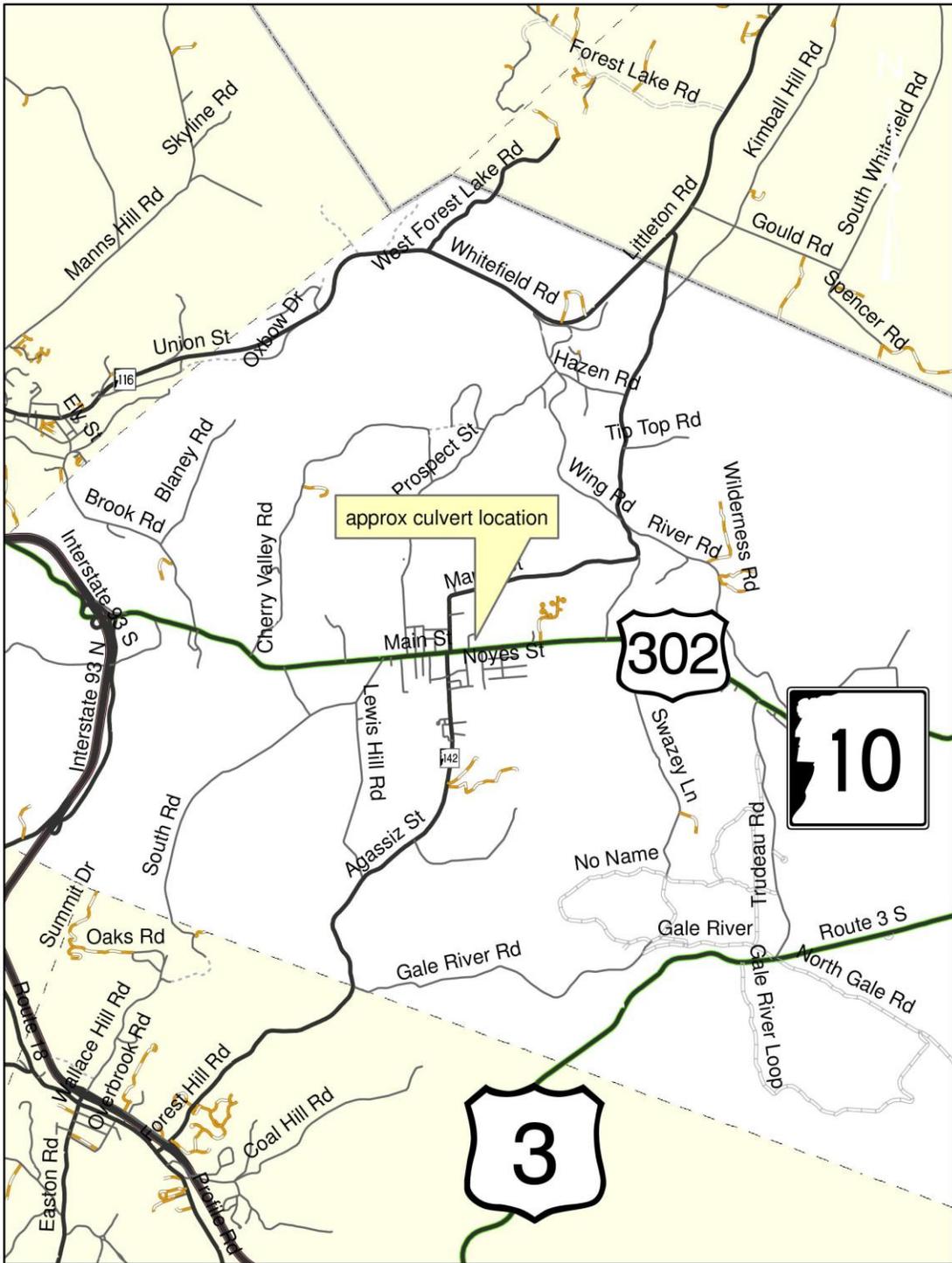
**NAMES AND E-MAIL ADDRESSES FOR ALL NON-DOT ATTENDEES:**

**HOW MUCH TIME DO YOU NEED (including Q&A)? (A normal review takes approx. 15 min.)** 15 minutes  
**MINUTES WILL BE PREPARED BY:** Rebecca Martin

**WILL YOU HAVE A POWERPOINT PRESENTATION?**  YES  NO

**LOCATION MAP ATTACHED**

# 26763 Bethlehem Rte 302 Culvert Distress



Coord  
N 44-16'-50"  
W 71-41'-09"



**PROJECT NAME:** Bethlehem  
**FEDERAL NO.:** X-A004(296)  
**STATE NO.:** 26763  
**AD DATE:** On-shelf Aug 22, 2017

**PROJECT MANAGER:** Tobey Reynolds  
**DOT ENV. MANAGER:** Rebecca Martin  
**DESIGNER(S):** Kathy Corliss, Jim Kirouac  
Tim Mallette, Joshua  
Lafond, Colleen White

**REQUESTED MEETING DATE (*click to view possible dates*):** 11/16/2017

**PROJECT DESCRIPTION**

The project proposes replacement of a culvert under US Route 302 between Congress Road and Maple Street. The existing culvert is perched and has been added on to over time, beginning as a mortared stone box, with a formed concrete box added to the inlet and an elliptical corrugated metal pipe added to the outlet end. The existing culvert is approximately 5 feet wide and 7.5 feet tall. The culvert regularly requires repair and when surveyed was found to have deteriorated beyond the point of reasonable rehabilitation. The proposed design for the new culvert is a 4 sided box culvert, 12 feet wide with baffles. The culvert will be longer (215 linear feet) than the existing, which is 170 feet long. There are existing trunk lines that carry stormwater from Main Street east and west of the culvert that connect directly into the sides of to the culvert and stormwater also enters the culvert from a catch basin directly above. The existing side drainage systems will be connected to the new culvert. There are failing concrete retaining walls on the inlet of the culvert that will be removed and are not intended to be replaced. The steep embankment slopes above the outlet of the culvert will be addressed as part of the project. The existing slope through the pipe is approximately 5%, the new slope is expected to be around 3.33%. The new culvert is expected to provide a more uniform flow and resting pools for dissipation of energy and minimization of flow velocity.

**TYPE OF REVIEW (check all that apply)**

- |                                                                    |                                                            |                                                     |
|--------------------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------|
| <input type="checkbox"/> Initial Review                            | <input checked="" type="checkbox"/> Review of Alternatives | <input checked="" type="checkbox"/> Wetland Impacts |
| <input type="checkbox"/> Mitigation Issues                         | <input type="checkbox"/> Issues during Construction        | <input type="checkbox"/> Post-construction Issues   |
| <input checked="" type="checkbox"/> Other Issues: Wildlife Passage |                                                            |                                                     |

**RESOURCES OR CONCERNS (check all that apply to project)**

- |                                                                             |                                                           |                                                 |
|-----------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------|
| <input checked="" type="checkbox"/> Water Quality/Impaired Waters           | <input type="checkbox"/> Rare Species/Natural Communities | <input type="checkbox"/> Floodplains/Floodways  |
| <input checked="" type="checkbox"/> Wetlands ( <i>File# if applicable</i> ) | <input type="checkbox"/> Conservation Land                | <input type="checkbox"/> Essential Fish Habitat |
| <input type="checkbox"/> Protected Shoreland ( <i>File# if applicable</i> ) | <input type="checkbox"/> Coastal Zone                     | <input type="checkbox"/> Unknown at this Time   |
| <input checked="" type="checkbox"/> Fisheries/Stream Crossings              | <input type="checkbox"/> NH Designated River: <u>Name</u> | <input type="checkbox"/> Other:                 |

**NH NATURAL HERITAGE BUREAU FILE NUMBER: NHB16-3314**

**WHAT IS YOUR GOAL/ DESIRED OUTCOME FOR THIS REVIEW?**

Obtain concurrence on proposed alternative design.

**THIS PROJECT WAS PREVIOUSLY REVIEWED ON THE FOLLOWING DATES:**

5/20/2015					
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**NAMES AND E-MAIL ADDRESSES FOR ALL NON-DOT ATTENDEES:**

Click here to enter text.

**HOW MUCH TIME DO YOU NEED (including Q&A)? (A normal review takes approx. 15 min.)** 15 minutes

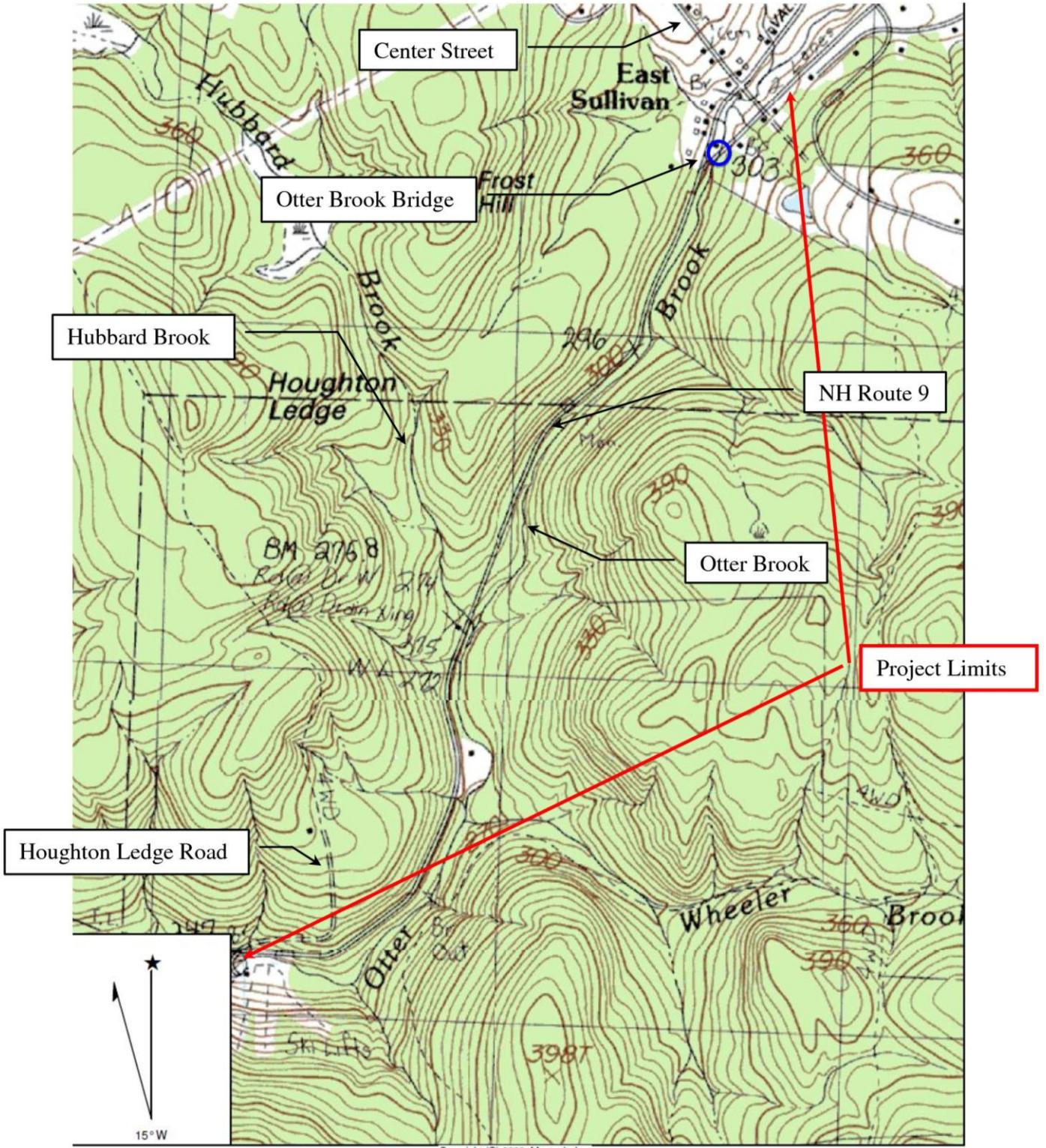
**MINUTES WILL BE PREPARED BY:** Rebecca Martin

**WILL YOU HAVE A POWERPOINT PRESENTATION?**  YES  NO

**LOCATION MAP ATTACHED**

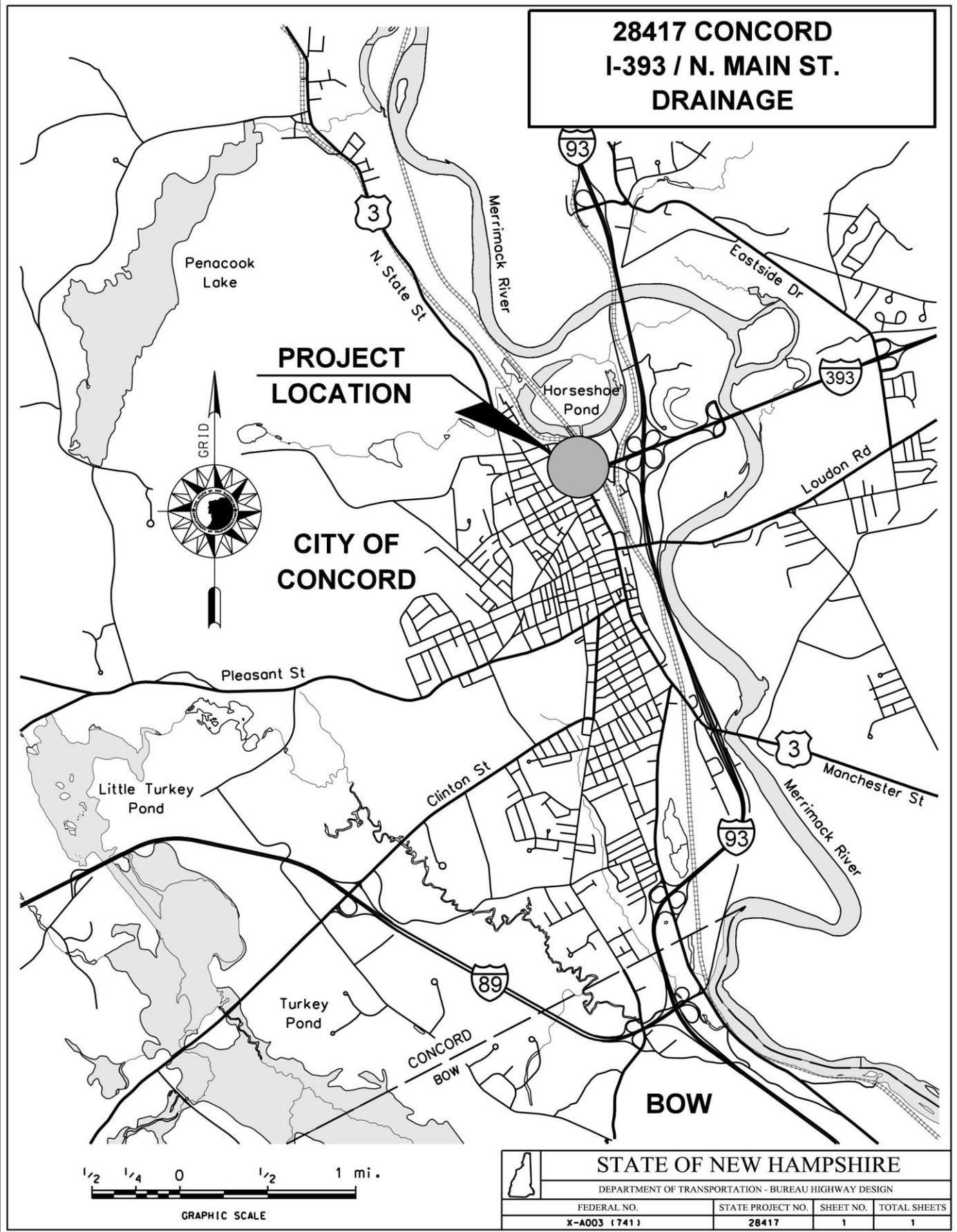
Roxbury-Sullivan #10439 (F-X-0121(034))

Roxbury-Sullivan, 10439





**28417 CONCORD  
I-393 / N. MAIN ST.  
DRAINAGE**



STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION - BUREAU HIGHWAY DESIGN			
FEDERAL NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
X-A003 (741)	28417	1	1



**NHDOT MONTHLY NATURAL RESOURCE AGENCY  
COORDINATION MEETING  
AGENDA ITEM REQUEST FORM**



**PROJECT NAME:** Concord **PROJECT MANAGER:** Tobey Reynolds  
**FEDERAL NO.:** X-A003(741) **DOT ENV. MANAGER:** Marc Laurin  
**STATE NO.:** 28417 **DESIGNER(S):** Christopher Carucci  
**AD DATE:** March 2017

**REQUESTED MEETING DATE (click to view possible dates):** November 16, 2016

**PROJECT DESCRIPTION**

Drainage improvement to correct flooding cause by inadequate drainage outfall at I-393 and North Main Street intersection. Project will construct a new outfall from I-393 along N. Main Street and Horseshoe Pond Lane to outlet into Horseshoe Pond.

**TYPE OF REVIEW (check all that apply)**

- Initial Review
- Mitigation Issues
- Other Issues: Horseshoe Pond hydrology and water quality modeling.
- Review of Alternatives
- Issues during Construction
- Wetland Impacts
- Post-construction Issues

**RESOURCES OR CONCERNS (check all that apply to project)**

- Water Quality/Impaired Waters
- Wetlands (File# if applicable)
- Protected Shoreland (File# if applicable)
- Fisheries/Stream Crossings
- Rare Species/Natural Communities
- Conservation Land
- Coastal Zone
- NH Designated River: Name
- Floodplains/Floodways
- Essential Fish Habitat
- Unknown at this Time
- Other:

**NH NATURAL HERITAGE BUREAU FILE NUMBER: NHB15-2491 & NHB15-2493**

**WHAT IS YOUR GOAL/ DESIRED OUTCOME FOR THIS REVIEW?**

VHB will present summary of the key findings of the hydrologic/hydraulic and water quality modeling of the proposed stormwater overflow pipe designed to minimize flooding in the I-393/North Main Street area and divert excess stormwater to Horseshoe Pond. Summary memo attached. Discuss permitting issues

**THIS PROJECT WAS PREVIOUSLY REVIEWED ON THE FOLLOWING DATES:**

02/21/2006	08/19/2015					
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**NAMES AND E-MAIL ADDRESSES FOR ALL NON-DOT ATTENDEES:**

Martha Drukker, MDrukker@ConcordNH.gov; Bill Arcieri, WArcieri@VHB.com; Ryan Lizewski, RLizewski@VHB.com; Don Kretchmer, dkretchmer@metrocast.net; Peter Clary, PClary@VHB.com; Steve Landry, Stephen.Landry@des.nh.gov

**HOW MUCH TIME DO YOU NEED (including Q&A)? (A normal review takes approx. 15 min.) 35 minutes**

**MINUTES WILL BE PREPARED BY: Bill Arcieri and Marc Laurin**

**WILL YOU HAVE A POWERPOINT PRESENTATION?  YES  NO**

**LOCATION MAP & STORMWATER MODELING SUMMARY ATTACHED**



To: Martha Drukker, City of Concord

Date: October 18, 2016

Memorandum

Project #: 52430.01

From: B, Arcieri, P. Clary, R, Lizewski

Re: Horseshoe Pond/Proposed Stormwater Modeling Summary

The following provides a brief summary of the key findings of the hydrologic/hydraulic and water quality modeling of the proposed stormwater overflow pipe designed to minimize flooding in the I-393/North Main Street area and divert excess stormwater to Horseshoe Pond. More detailed information with regard to assumptions, methods and model results as well as model limitations are described in a separate VHB Hydrologic/Hydraulic Report and in a Water Quality Impact Analysis Report submitted in association with this memo.

### **Hydrologic/Hydraulic Model**

This modeling focused on evaluating the potential water level changes and the effects of additional phosphorus loading from the proposed overflow pipe discharging to Horseshoe Pond. The proposed stormwater overflow pipe was designed to convey excess stormwater that typically floods the Kimball-Jenkins property when the City stormwater drain system surcharges in the vicinity of the I-393/N. Main St area. The existing storm drain system is controlled by an 18-inch pipe that drains to the Merrimack River east of Fort Eddy Road. The 18-inch pipe is undersized and the system floods even in small rain events of less than a 2-year reoccurrence interval. VHB used the EPA SWMM Model to simulate hydraulic flow conditions for both the existing storm drain system, the proposed overflow pipe and the effect on water levels in Horseshoe Pond based on existing hydraulic controls. Since the Pond is segmented by railroad and road crossings, the physical dimensions of the hydraulic controls associated with these crossings were included in the model using recent survey data, GIS data and data from NHDOT preliminary design plans. Potential changes to the hydraulic controls were also evaluated dredging the outlet channel and modifying existing culverts. As described further in the Hydrologic/Hydraulic Model Report, Horseshoe Pond was modeled as having four (4) separate basins including the North Basin, West Basin, small Triangle basin (between RR and the Farm Access Rd) and the East Basin. The latter being closest to abutting farm fields.

The SWMM model was run both on a design storm event basis (i.e., 2, 5, 10, 50 and 100-year storms) and on an annual basis to predict annual runoff volumes and phosphorus loads from the proposed stormwater overflow pipe during typical dry, wet and average years based on daily rainfall records from the Concord Airport going back to 1939.

The model results confirm that the existing I-393/N. Main Street storm drain system surcharges during small storms of less than a 2-year reoccurrence interval and that the proposed stormwater overflow pipe could convey the excess stormwater up to a 10-year storm to Horseshoe Pond. The system is still predicted to surcharge (i.e., flood) for the 10-year storm and higher but with less overall stormwater volume than what currently occurs as shown in Table 1.

**Table 1. Predicted Stormwater Surchage Volume (acre-feet) Resulting in Street Flooding under Existing & Proposed Conditions**

Storm	Existing	Proposed
2-year	0.24	0.00
5-year	1.48	0.00
10-year	2.74	<0.01
50-year	6.48	1.70
100-year	8.22	2.55

Table 2 presents the predicted peak water surface elevations in Horseshoe Pond under existing conditions and with the predicted stormwater inflow from the proposed overflow pipe. The discharge from the proposed overflow pipe is predicted to raise peak water levels in the East Basin by 0.02 feet (0.25 inch) and 0.09 feet (1.1 inches) during the 2 and 10-year design storms, respectively. For the larger 50 and 100-year design storms, the predicted peak water level rise is between 0.05 and 0.16 feet or 0.6 and 1.9 inches. During these larger storms, even higher peak water levels are expected in the East Basin from flood waters associated with the Merrimack River, however, the timing of these higher levels will likely occur a day or two after the peak flow discharge passes from the Horseshoe Pond watershed. The East Basin represents the pond area that closely abuts adjacent properties in agricultural use.

**Table 2. Predicted Peak Water Surface Elevations (WSE) in Horseshoe Pond under Existing and Proposed Conditions**

Storm	S1 (West Basin)			S3b (Triangle Basin)			S3a (East Basin)		
	Existing	Proposed	Diff	Existing	Proposed	Diff	Existing	Proposed	Diff
2-year	228.24	228.39	0.15	228.24	228.39	0.15	226.35	226.37	0.02
5-year	229.66	229.72	0.06	229.66	229.72	0.06	226.78	226.87	0.09
10-year	229.95	230.03	0.08	229.92	229.99	0.07	227.37	227.46	0.09
50-year	230.93	231.06	0.13	230.47	230.52	0.05	229.05	229.10*	0.05#
100-year	231.57	16.19	0.11	230.67	230.70	0.03	230.10	230.26*	0.16

**Note:** These predicted WSE increases only pertain to the peak flows from the Horseshoe Pond watershed and do not account for the potential flood elevations associated with the Merrimack River during the 50 and 100-yr storm events. #The smaller increase for 50-yr storm is due to the fact that the flood waters at this elevation are predicted to begin spread across portions of the farm field allowing more flood storage.

The potential effect of dredging the outlet channel was also evaluated using the model. The model indicates that the peak water levels in the East Basin could be lowered by approximately 0.39 feet (~4.7 inches) during a 2-year design storm and by approximately 0.21 feet (~2.5 inches) during a 50-year design storm. The model indicates essentially no change for the 100-year design storm. The predicted water level increase from the overflow pipe would need to be subtracted from the predicted water level change gained by dredging to get the net effect with proposed overflow pipe and dredging, (e.g., 2-year storm, 0.39 feet – 0.02 feet = 0.37 feet net effect with bypass). The predicted dredging effects do no account for any flooding resulting from the Merrimack River, especially during the larger storms.

If existing sediment sources within the watershed are not adequately controlled in the future, the potential benefits of dredging could be short-lived as the channel bottom slope is very flat and even a small amount of sediment re-deposition (~6 inches), aquatic vegetation or even a fallen tree branch could essentially negate the benefits of the channel dredging. Full scale dredging or channel modification for the entire length of channel may have some permitting challenges and could be relatively costly. The Commercial Street and I-93 culverts were determined to be adequately sized to convey the predicted outflow from Horseshoe Pond up to a 100-yr storm event, however, backwater from the Merrimack River during storms larger than a 10-yr storm may have an overriding factor on flow releases from the Pond.

The installation of a new culvert beneath the RR tracks at north end to connect the West Basin (near Woods Brook) to North Basin was also evaluated. The proposed connection would allow more storage and distribute the added runoff volume. However, in order to minimize water level changes in the other pond segments, another new culvert would

be needed to connect the North Basin to the Merrimack River. This option is not likely to be viewed favorably by the resource agencies and pipe-jacking a new culvert beneath the railroad would be a costly endeavor. Also, this option could reduce flushing of the East Basin which may end up having an adverse water quality effect in the East Basin. Flow into the pond from Woods Brook, the main inlet stream, currently provides a relatively quick flushing rate or short residence time in the East Basin, which helps to limit the extent of water quality degradation that occurs.

**Water Quality Modeling Summary**

DK Water Resource Consulting performed water quality modeling of Horseshoe Pond to predict potential changes in the in-lake phosphorus and chlorophyll a concentrations (i.e., indicator of algal growth) resulting from the estimated added annual phosphorus load associated with the proposed stormwater overflow pipe. The model accounts for the estimated differences in pond volumes, flushing rates and annual total phosphorus (TP) load inputs for the various watersheds contributing to each basin or segment of the Horseshoe Pond. As noted above, the pond is segmented into four separate basins due to the railroad and farm access road crossings,

The model was calibrated to observed Horseshoe Pond TP concentrations based on three different sampling events conducted by NHDES this summer. Due to the lack of rainfall and minimal stormwater inputs this past summer, the observed TP concentrations are likely to have been lower than usual. NHDES was not able to collect any stormwater samples to assist in the modeling of stormwater quality data due to the lack of rainfall. The initial stormwater quality data used to develop phosphorus load estimates from the proposed bypass were based on stormwater quality data compiled by the US Geological Survey in a highway runoff sampling study conducted in Massachusetts.

Table 3 presents the predicted annual phosphorus loads to various Horseshoe Pond basins under existing and proposed conditions with the overflow pipe during representative dry, average and wet years.

**Table 3: Predicted Annual Phosphorus Loads (kg/yr) in the West and East Basins under Existing and Proposed Conditions.**

Representative Year	West Basin			East Basin		
	Existing	Proposed	Net	Existing	Proposed	Net
Dry	79.9	82.7	+2.8	111.6	113.3	+1.7
Average	79.9	86.4	+6.5	112.8	116.8	+4.0
Wet	81.0	102.8	+21.8	114.6	127.6	+13.0

As expected, annual phosphorus load increases are predicted to be disproportionately higher in wet years compared to dry and average years given the greater number of discharges and overall discharge volume. The wet year loading represents the general worst-case conditions. In an average year, the annual phosphorus load is predicted to increase by approximately 8.1 and 3.5% in the West and East Basins, respectively. In a wet year, the annual phosphorus load is predicted to increase by approximately 27 and 10% in the West and East Basins, respectively. As flow travels west to east through Horseshoe Pond some of the additional phosphorus is predicted to be retained in each of the basins.

Tables 4 and 5 summarize predicted changes in the West and East Basin, respectively, in terms of in-pond phosphorus concentrations, chlorophyll *a* levels, Secchi disk transparency (i.e., indicator of water clarity) and the percent of time that chlorophyll *a* levels may exceed 10 µg/l during the growing season (i.e., > 10 µg/l suggests algal blooms).

**Table 4. West Basin: Predicted Water Quality Parameters under Existing and Proposed Conditions**

Scenario	Phosphorus (µg/l)	Chlorophyll a (µg/l)	Secchi Transparency (m)	Probability of Algal Bloom > 10 µg/l (% of time)
Natural Background (ave)	10	3.2	3.9	1
Current Conditions-Dry Year	35	14.8	1.5	70
Current Conditions-Average year	32	13.3	1.6	63
Current Conditions Wet year	30	12.3	1.7	56
Proposed Conditions-Dry Year	36	15.3	1.5	73
Proposed Conditions-Average year	34	14.4	1.6	68
Proposed Conditions Wet year	37	16	1.5	76

**Table 5. East Basin: Predicted Water Quality Parameters under Existing and Proposed Conditions**

Scenario	Phosphorus (µg/l)	Chlorophyll a (µg/l)	Secchi Transparency (m)	Probability of Algal Bloom > 10 µg/l (% of time)
Natural Background (ave)	9	2.6	4.5	0
Current Conditions-Dry Year	41	18.4	1.3	83
Current Conditions-Average year	38	16.7	1.4	78
Current Conditions Wet year	36	15.4	1.5	73
Proposed Conditions-Dry Year	42	18.6	1.3	84
Proposed Conditions-Average year	39	17.2	1.4	80
Proposed Conditions Wet year	39	17.2	1.4	80

Existing in-pond phosphorus concentrations were predicted to range between 30 and 35 µg/l and 36 and 41 µg/l, depending on the year, for the West and East basins, respectively. These concentrations are similar to those observed in the field and well above 28 µg/l, which NHDES considers to be the threshold between eutrophic and hypereutrophic lakes and ponds. With the proposed overflow pipe, the phosphorus concentrations are predicted to increase by 3 and 7 µg/l in the East and West Basins, respectively, during a wet year. These predicted increases are generally small relative to existing pond concentrations but nonetheless may affect water quality conditions in each basin. For the East Basin, the amount of time when chlorophyll *a* concentrations are expected to be above 10 µg/L is predicted to increase by approximately 5 percent, which likely translates to about 7 more days over the course of a 150 day growing season when algal blooms may be apparent. This magnitude of change may not be visually noticeable given the existing chlorophyll *a* concentrations were already estimated to be above 10 µg/L for at least 125 of 150 days during the 2016 growing season.

In order to have no net increase in phosphorus loading in either the West or East Basins, the existing phosphorus loads to these basins would need to be reduced by approximately 22 kg/yr or 13 kg/yr, respectively. This could be done through implementation of storm water treatment Best Management Practices (BMPs) in existing developed areas and/or agricultural lands. Much would depend on the selected BMP used, site conditions, the land use type and the amount of impervious area vs pervious area treated but approximately 25 to 30 and/or 10 to 15 acres of existing commercially developed areas would need to be treated by stormwater BMPs, in the West and East Basin watersheds,

respectively, assuming a BMP removal efficiency of 50 percent in order to result in no net increase in phosphorus load with the proposed overflow pipe. Use of stormwater BMPs in the West Basin watershed would benefit both the West and East Basins, however, there may be more feasible opportunities in the East Basin watershed associated with the City-owned and commercial properties along Commercial Street. Load reductions could also be achieved through modifications to existing agricultural practices and additional good housekeeping measures (i.e., street sweeping and catch basin cleaning). A comprehensive watershed management plan would need to be completed to help to evaluate and identify appropriate cost-effective measures for nutrient control and water quality improvements.

## Conclusions

1. The proposed overflow pipe is predicted to eliminate street flooding in the I-393/ North Main Street intersection (Kimball-Jenkins property) for storm sizes of less than a 10-year reoccurrence interval and would reduce the extent of flooding for larger storms as well.
2. Peak water surface elevations in the East Basin are predicted to increase by 0.25 and 1.1 inches during 2-year and 10-year storm events, respectively, as a result of the proposed overflow pipe.
3. The largest predicted water level increase in the East Basin is 0.16 feet or 1.9 inches, which would occur during a 100-year storm event. Higher peak water levels can be expected in the East Basin during the 50 and 100-year storms if the Merrimack River also floods due to the same precipitation event.
4. Dredging the outlet channel could lower water levels in the East Basin by approximately 0.39 feet (~4.7 inches) and would offset predicted water level increases associated with the proposed overflow discharge. The potential for obtaining permit approval for this proposed action would need to be explored and the benefits of dredging are likely to be short-lived as any minor amount of sediment re-deposition in the future could negate the benefits.
5. Under average annual conditions, the proposed overflow pipe is predicted to increase the existing phosphorus loads to the West and East Basins by less than 10 and 5 percent, respectively. This additional load is expected to have a marginal effect on current water quality conditions.
6. During representative wet years, the proposed overflow pipe is predicted increase the annual phosphorus load by approximately 23 and 10 percent in the West and East Basins, respectively. This predicted change in the East Basin is expected to increase the amount of time when algal blooms are prevalent during the growing season by about 5 percent. This magnitude of change is not likely to be visually noticeable given that algal blooms are estimated to be prevalent approximately 70 to 80 percent of the time under current conditions.
7. To achieve a result of no net increase in phosphorus loading, stormwater BMP retrofits could be installed in the future to treat existing developed or agricultural areas in the watersheds of the West and East basins. Non-structural measures such as increased buffer widths, modifying fertilizer practices, increased street sweeping and catch basin cleaning could also be used to reduce existing phosphorus loads.

# Laconia Apt. TW E ext. (SBG-09-13-2017)

Jacobs - P:\2016\22473714 - LCI Taxiway E Extension\700 CAD\Shetho\LCI\NR Agency Meeting.dwg [Layout] November 08, 2016 1:22pm [lgonan]



IMPROVE EXISTING DRAINAGE  
(REMOVE & REPLACE 50' +/- PIPE AND RELATED STRUCTURES)

EXPAND ITINERANT AIRCRAFT PARKING  
(496' +/- SY NEW PAVEMENT)

EXPAND ITINERANT AIRCRAFT PARKING  
(RECONSTRUCT 5639' +/- SY EXISTING PAVEMENT)

NEW TAXIWAY E EXTENSION 2300' +/- X 35' W  
(8,761' +/- SY NEW PAVEMENT)

IMPROVE EXISTING DRAINAGE  
(REMOVE & REPLACE 4,146' +/- PIPE AND RELATED STRUCTURES)



REV. NO.	DATE	DESCRIPTION	BY

LACONIA MUNICIPAL AIRPORT, GILFORD, NH		SCALE: AS SHOWN	PROJECT DESIGNER:
TAXIWAY E EXTENSION PROJECT		DATE: NOV 2016	<b>JACOBS</b> 2 Executive Park Drive Bedford, MA 03110 PHONE: (603) 665-7100 FAX: (603) 665-7100
NATURAL RESOURCES AGENCY MTG.		DESIGNED BY: JG	
		DRAWN BY: JG	
		CHECKED BY: JP	
		APPROVED: JG	

SK-1  
SHEET 1 OF 38



NHDOT MONTHLY NATURAL RESOURCE AGENCY  
COORDINATION MEETING  
AGENDA ITEM REQUEST FORM



PROJECT NAME: Laconia Apt. TW E ext. PROJECT MANAGER: \_\_\_\_\_  
FEDERAL NO.: \_\_\_\_\_ DOT ENV. MANAGER: \_\_\_\_\_  
STATE NO.: SBG-09-13-2017 DESIGNER(S): Jacobs Engineering  
AD DATE: \_\_\_\_\_

REQUESTED MEETING DATE (click to view possible dates): 11/16/16

**PROJECT DESCRIPTION**

Construct Taxiway E extension 2,300+/- feet x 35 foot wide and improve 4,146+/- feet of related airfield drainage, expand the itinerant aircraft parking apron 6,135+/- square yards; and improve 50+/- feet of Runway 8 drainage south of Taxiway A.

**TYPE OF REVIEW (check all that apply)**

- Initial Review
- Mitigation Issues
- Other Issues:
- Review of Alternatives
- Issues during Construction
- Wetland Impacts
- Post-construction Issues

**RESOURCES OR CONCERNS (check all that apply to project)**

- Water Quality/Impaired Waters
- Wetlands (File# if applicable)
- Protected Shoreland (File# if applicable)
- Fisheries/Stream Crossings
- Rare Species/Natural Communities
- Conservation Land
- Coastal Zone
- NH Designated River: Name
- Floodplains/Floodways
- Essential Fish Habitat
- Unknown at this Time
- Other:

NH NATURAL HERITAGE BUREAU FILE NUMBER: \_\_\_\_\_

**WHAT IS YOUR GOAL/ DESIRED OUTCOME FOR THIS REVIEW?**

To obtain agency feedback on permits required for the project.

**THIS PROJECT WAS PREVIOUSLY REVIEWED ON THE FOLLOWING DATES:**

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**NAMES AND E-MAIL ADDRESSES FOR ALL NON-DOT ATTENDEES:**

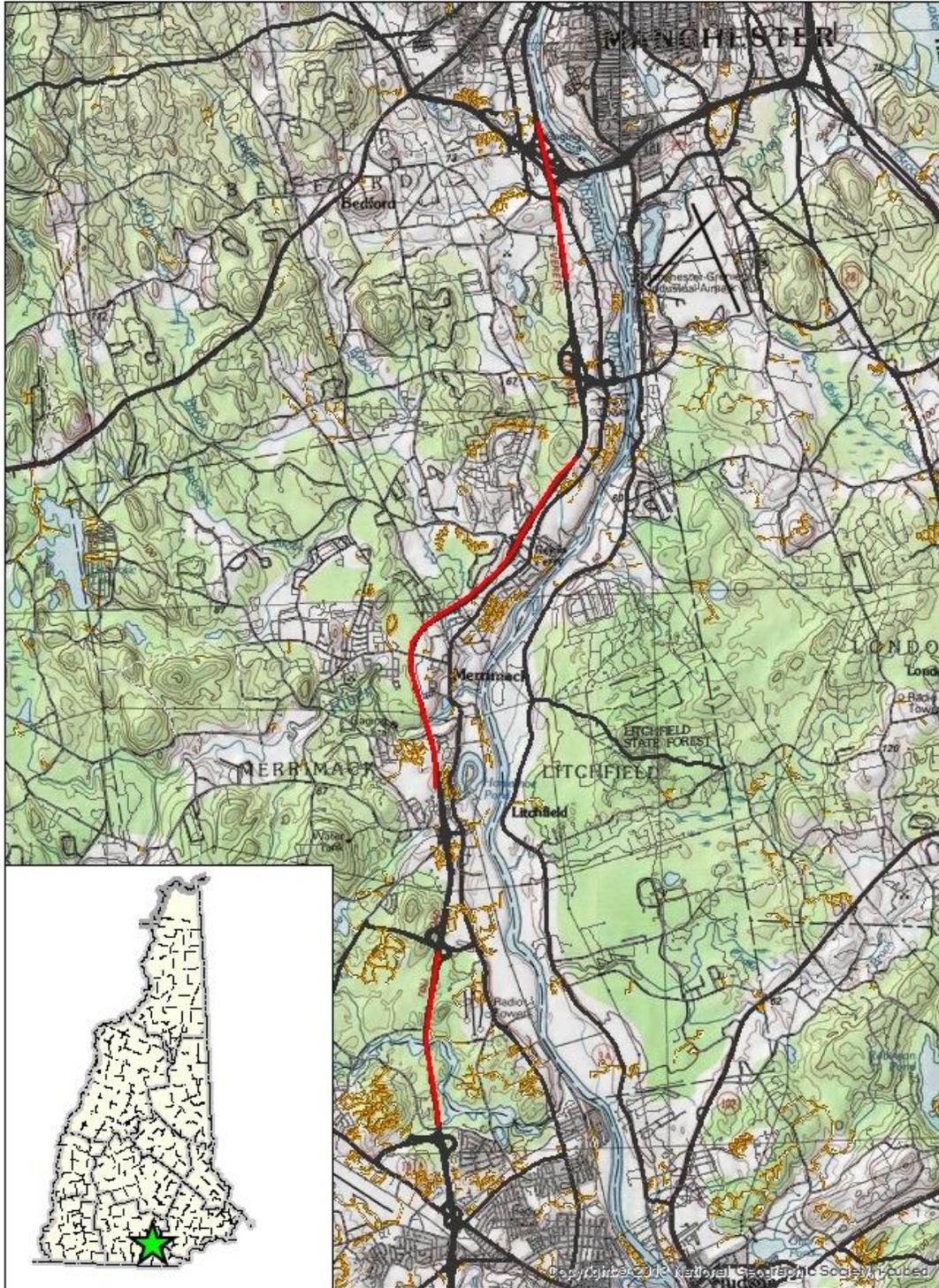
John Gorham –john.gorham@jacobs.com; Marv Everson – marv.everson@laconiaairport.com

HOW MUCH TIME DO YOU NEED (including Q&A)? (A normal review takes approx. 15 min.) 20 minutes  
MINUTES WILL BE PREPARED BY: John Gorham

WILL YOU HAVE A POWERPOINT PRESENTATION?  YES  NO  
LOCATION MAP ATTACHED

Nashua-Merrimack-Bedford #13761 (IM-0931(201))

Nashua-Merrimack-Bedford #13761



0 1 2 4 Miles

1:100,000



**NHDOT MONTHLY NATURAL RESOURCE AGENCY  
COORDINATION MEETING  
AGENDA ITEM REQUEST FORM**



**PROJECT NAME:** Nashua-Merrimack-Bedford                      **PROJECT MANAGER:** Wendy Johnson  
**FEDERAL NO.:** \_\_\_\_\_                      **DOT ENV. MANAGER:** Jon Evans  
**STATE NO.:** 13761                      **DESIGNER(S):** CHA  
**AD DATE:** 2020                      McFarland Johnson Inc.

**REQUESTED MEETING DATE (click to view possible dates):** November 16, 2016

**PROJECT DESCRIPTION**

This project involves widening the three remaining four-lane segments of the F. E. Everett Turnpike (F.E.E.T.) between Nashua and Bedford to add, as a minimum, one northbound and one southbound travel lane, to improve traffic operations and safety. The three highway segments to be widened include Segment 1: Exit 8 in Nashua to Exit 10 in Merrimack (~1.5 miles); Segment 2: Exit 11 in Merrimack to vicinity of Bedford toll plaza (~5.3 miles); and Segment 3: Vicinity of Bedford toll plaza to I-293 (~1.3 miles). The bridges carrying Baboosic Lake Road and Wire Road over the F.E.E.T. will require replacement to span the widened highway. The F.E.E.T. bridge over Pennichuck Brook will require replacement, and the culvert carrying Baboosic Brook will require either replacement or extension.

**TYPE OF REVIEW (check all that apply)**

- Initial Review                       Review of Alternatives                       Wetland Impacts
- Mitigation Issues                       Issues during Construction                       Post-construction Issues
- Other Issues:

**RESOURCES OR CONCERNS (check all that apply to project)**

- Water Quality/Impaired Waters                       Rare Species/Natural Communities                       Floodplains/Floodways
- Wetlands (File# if applicable)                       Conservation Land                       Essential Fish Habitat
- Protected Shoreland (File# if applicable)                       Coastal Zone                       Unknown at this Time
- Fisheries/Stream Crossings                       NH Designated River: Souhegan River                       Other:

**NH NATURAL HERITAGE BUREAU FILE NUMBER: 16-2791**

**WHAT IS YOUR GOAL/ DESIRED OUTCOME FOR THIS REVIEW?**

**Discuss Baboosic Brook crossing issues and alternatives. Discuss potential wetland and waterway impacts along main line. Would like to begin discussion of rare species issues. Hope to get feedback from agency staff regarding alternatives and some direction regarding rare species issues.**

**THIS PROJECT WAS PREVIOUSLY REVIEWED ON THE FOLLOWING DATES:**

10/19/2016					
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**NAMES AND E-MAIL ADDRESSES FOR ALL NON-DOT ATTENDEES:**

**Jed Merrow (McFarland Johnson, [jmerrow@mjinc.com](mailto:jmerrow@mjinc.com)), Mike Long (MJ, [mlong@mjinc.com](mailto:mlong@mjinc.com)), Dave Kull (MJ, [djull@mjinc.com](mailto:djull@mjinc.com)), Steve Hoffmann (MJ, [shoffmann@mjinc.com](mailto:shoffmann@mjinc.com)), Ben Martin (CHA, [benmartin@chacompanies.com](mailto:benmartin@chacompanies.com))**

**HOW MUCH TIME DO YOU NEED (including Q&A)? (A normal review takes approx. 15 min.)** 30 or 45 minutes  
**MINUTES WILL BE PREPARED BY:** Jed Merrow

**WILL YOU HAVE A POWERPOINT PRESENTATION?**     YES                       NO

**LOCATION MAP ATTACHED**