BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: February 15th, 2017
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Sarah Large
Ron Crickard
Mark Hemmerlein
David Kammer
Marc Laurin
Kevin Nyhan
Rebecca Martin
Jon Evans
Steve Johnson
Cassandra Burns
Stephanie Micucci
Bill Saffian
Sally Gunn
Don Lyford
Shaun Flynn
Samantha Fifield
C.R. Willkie
Joseph Adams
Michael Licciardi
Jon Hebert
Wendy Johnson
Bob Landry

EPA
Mark Kern

NHDES
Gino Infascelli
Lori Sommer
Pierce Rigrod

NHF&G
Carol Henderson
John Magee

NH Natural Heritage Bureau
Amy Lamb

Consultants/Public Participants
Dawn Tuomala
Jim Bouchard
Lisa Martin
Don Lussier
John Parrelli
Josif Bicja
Kimberly Peace
Sean James
Brad Harriman
Christine Perron
Brian Colburn
Matt Lundsted
Clint Mercer
David Kull
Jed Merrow

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

PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH:
(minutes on subsequent pages)

(When viewing these minutes online, click on a project to zoom to the minutes for that project)

NOTES ON CONFERENCE:

Finalization of January 18th Meeting Minutes
Minutes for one project were missing and were not distributed. We postponed finalizing the minutes until the March 15th, 2017 meeting. Sarah Large sent the minutes (without the last project's minutes) to the attendees after the meeting.

Merrimack, #15841 (X-A004(550))
Lisa Martin, Quantum Construction Consultants, LLC, (QCC) presented the project noting this is an initial review. The project scope is to replace an existing 21-foot corrugated metal pipe (CMP) crossing located at the oxbow of Baboosic Brook. The purpose of the project is to eliminate structural deficiencies and to increase hydraulic capacity of the crossing. Additionally, an abandoned historic short span bridge exists adjacent to the existing crossing on the upstream side.

QCC undertook a hydrology and hydraulics study of Baboosic Brook (Brook) for the crossing and the reach from the US Rte. 3 bridge to the east, through the project area and terminating at the Wire Road crossing upstream. The Bedford Road crossing has a history of routine overtopping of the roadway south of the crossing. The hydraulics analysis for the crossing examined a number of bridge alternatives:

- Multiple flood relief structures to be placed at the roadway overtopping site with small span bridge replacement at the existing crossing, with historic bridge in place,
- Multiple flood relief structures to be placed at the roadway overtopping site with medium span structure at the existing crossing, with historic bridge in place,
- Large span bridge at the existing crossing with historic bridge in place,
- Relocation of large span bridge to site of roadway overtopping, rerouting of the rive with removal of the oxbow, and leaving the historic bridge in place, and
- Large span bridge at the existing crossing with removal of the historic bridge.

Bridge alternatives that included installation of spans at the site of roadway overtopping were discussed with NHDES Wetlands Bureau and with NH Fish & Game. Concerns were expressed by both entities regarding geomorphology changes with increased power of the Brook, increased erosion and sediment transport and recommended elimination of these alternatives.

The Preferred Alternative is to construct 90-foot span at the existing crossing, remove the historic Darrah Bridge as it impedes flow, increase the channel width to approximate the existing Brook, and provide the hydraulic capacity required for passage of the 100-year flood occurrence. The project will raise the roadway to mitigate overtopping of the roadway at the 100-year flood elevation, thus the retaining wall is proposed to accomplish grade changes in close proximity to the Brook.

The project has permanent and temporary wetlands impacts for removal of the existing culvert and Darrah Bridge, construction of the temporary detour road with temporary bridge though the project area, scour protection and roadway retaining wall.

A local concerns meeting has been conducted for the public with abutters requesting that the historic Darrah Bridge be removed due to the flooding impacts and erosion on their properties.

Lori Summer asked if photos of the flood / high water conditions were available. QCC circulated photos showing water passing over the roadway in the Mother's Day floods with severe erosion of downstream roadway embankment. Additional photos taken by abutters of other high flow occurrences were circulated.

QCC was questioned as to the need for the temporary detour roadway through the project site. The Town has requested the detour due to the traffic volume associated with the roadway and the presence of a Merrimack elementary school immediately outside the project work zone. A detour route would route traffic on a circuitous route through Bedford, NH increasing travel times for school buses and Merrimack first responder times to the school and neighborhood.

QCC was questioned if a temporary bridge would be provided. The proposed detour road includes a temporary bridge over Baboosic Brook at the location of the historic Darrah Bridge.

QCC noted that sufficient Right-of-Way and Permanent Highway Construction Easement exists so that all work will be accomplished without impacting abutters. The land to the south is under Permanent Conservation Easement and will not be affected by the bridge replacement. The project is within the flood way but not in the flood plain.

The project is within the Town's aquifer district so precautions will be required of the contractor to prevent contamination.

US Fish & Wildlife has noted migratory birds, and critical habitats for the Northern Long-Eared Bat. NHB noted a rare wildlife plant and/or natural community was present in the vicinity but will not be impacted by the project.

QCC was questioned as to the impacts to the floodplain / floodway. The proposed project lowers the flood elevations for the Brook through the project area and immediately upstream. Overall, the Brook is controlled by the US Rte. 3 crossing downstream which causes backwater conditions. That bridge is scheduled to be replaced, and the larger span will improve the flood elevations for the reach.
Mark Hemmerlein inquired about an Alteration of Terrain (AoT) permit. QCC noted that project will be reviewed with AoT.

Mark Hemmerlein inquired if project is within the Urban Area of Merrimack and subject to MS4's (Municipal Separate Storm Sewer Systems). It was noted that the anticipated bid date for the project is this fall, thereby outside the MS4 time window for when permits become effective.

Lori Summer inquired as to provisions for critter passage and inquired as to bridge span length. QCC noted that the bridge span is 90-foot steel girder bridge. The water way will utilize the same channel bottom width of the 21-foot CMP and will feature 2:1 slope embankments under the bridge that will terminate at a 2-foot wide shelve under the bridge. Riprap will be installed in the channel as removal of the existing CMP will disturb the bottom and subject it to scour. The riprap will continue up the channel embankment for scour protection. Natural occurring material salvaged from excavation will be placed back on the riprap. Presently the crossing has a CMP pipe bottom for the stream, whereas the bridge replacement will feature open bottomed structure allowing for more natural critter passage and fish migration.

QCC noted that NHDES Wetlands Bureau Standard Dredge & Fill Application has been filed, along with a Shoreland Water Quality Protection Act application. Gino Infascelli inquired about permit numbers, QCC offered to provide at a later date, but Gino deferred to the permit reviewer.

Carol Henderson requested additional information on wildlife shelf. QCC noted that flatter rocks/stones will be placed to provide for wildlife passage. After the meeting, Amy Lamb spoke with Kim Tuttle of NH Fish & Game about the project. Kim requested that the following wildlife-friendly matting specification be added to this project:

Avoid the use of welded plastic or 'biodegradable plastic' netting in erosion control matting, if required, at this job site. There are numerous documented cases of snakes and other wildlife, including the state endangered eastern hognose snake and the state threatened black racer, which are also a possibility in this area, being trapped and killed in erosion control matting with synthetic netting. Several 'wildlife friendly' options such as woven organic material (e.g., coco matting) are commercially available. Attached is a cut sheet for another acceptable erosion control blanket- it is biodegradable with a coconut fiber matrix and jute netting and is equivalent to the North American Green C125BN specification.
No further concerns were expressed for this project.

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

Keene, #29340
John Parrelli provided an overview of the project.

The Ash Swamp Brook Bridge (Bridge No. 118/051) carries NH Route 10 over Ash Swamp Brook and is a concrete cast-in-place box structure with a clear span of approximately 19 feet and a vertical opening of 11 feet. The bridge carries an estimated annual average of 21,000 vehicles per day and is currently posted "E2" and is on the state's Municipal Red List. The roadway has two lanes of traffic with essentially no shoulder on either side over the bridge. Route 10 (Winchester Street) is classified as one of Keene's "Gateway Corridors" and is one of two north-south truck routes into and out of the City of Keene. The bridge's current and continued deterioration jeopardizes the integrity and future viability of this route. There project has been narrowed down to two alternatives:

- Rehabilitation Option 1 – This option would require the removal of the existing bridge deck and portions of the wingwalls. Portions of the abutment walls would be reconstructed to allow for the construction of a wider deck. New wing walls would be constructed on the upstream and downstream sides. This would allow for one 10' lane in each direction, an 11' center turn lane, and 2'-4" shoulders and 5' sidewalks on both sides of the road. A temporary bridge will be necessary to maintain two lanes of travel during construction.
- Replacement Option 2 – This option would replace the existing culvert with a 28' clear span precast concrete arch frame. This proposed lane configuration is one 12' lane in each direction with 5' shoulders and 5' sidewalks. There would also be a 14' center turn lane. A temporary bridge will be necessary to maintain two lanes of travel during construction for this option as well.

Neither option will pass the 100 year storm as the whole area floods during that size event. Option 1 does not address capacity but option 2 will have an increased hydraulic opening.

Approximately a year ago, the project was reviewed during a Public Listening Meeting in Keene. One of the public's main concerns was to reduce flooding impacts to abutters and to the community.

Mike Hicks stated that this is an EFH stream and that there may be a possible ACOE project in the area and that this project may need to follow the section 408 process. Mike Hicks asked if the project has been consulted through ACOE with 4d form about the bats. John Parrelli noted that there is one tree within the project area and that it may not be impacted. Mike Hicks noted that the bridge should be reviewed as well. Mike Hicks noted to send him the form and he will submit it. Mike Hicks inquired about fill in the flood zone. Don Lussier responded, the city has its own flood ordinance and would comply.

Mike Hicks asked if the sewer pipe will be removed for construction of the new bridge. Don Lussier responded that the sewer line would probably go under the new bridge and will probably end up with a siphon.

Carol Henderson noted that there are two NHB reviews for the project. The first review noted concern with Dwarf Mussels but the second and most latest did not. The Dwarf Mussels are located outside the project area in the Ashuelot River. John Parrelli noted that there are two reviews as it has been over a year since the first review was completed.

Gino Infascelli suggested possibly narrowing the turn lane (replacement option) in order to minimize impacts as mitigation may be required for this.

A preferred alternative has not been selected at this time. All the facts will be brought before the Keene City Council for their determination.

Mark Kern asked if the project had any cost sharing. Don Lussier noted that cost sharing is 80/20 (80% State/ 20% City).

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

Columbia, #41290
The purpose of the project is to repair the scour undermining at the south abutment and southeast wingwall and place riprap to prevent reoccurrence.

Steve Johnson presented information on previous scour that occurred at this site in 2009. A storm event caused scour along the roadway embankment just north of the bridge and scoured the embankment at the southeast wingwall. Repair work was done at that time under an emergency permit. He then presented slides showing the existing conditions.

The stream is very dynamic in this area as evidenced by the bank erosion that is occurring upstream. Currently, the stream is directing it flow at the southeast wingwall which has undermined a section of the southeast wingall, bank, and south abutment. The proposed project would install a toewall to repair the undermining and armor the bank upstream of the southeast wingwall and carry the toe of slope in front of the south abutment for the full length of the abutment to move the thalweg of the stream away from the face of the abutment.

Carol asked if the existing stone would be used for riprap. Steve indicated that larger more angular stone is needed to prevent future erosion. John Magee asked if the Town had done anything at an upstream crossing. Steve was unaware of any work upstream. Lori Sommer indicated that the work would be considered protection of existing infrastructure and mitigation would not be required if the gravel bar material was not removed. Mike asked if Cone Brook was an Essential Fish Habitat. (Subsequent to the meeting, Cone Brook is listed in Appendix C of the Programmatic General Permit -State of New Hampshire as an EHF River). Mike asked about bats and 4d. Any tree removal required will address these concerns prior to the work. Gino noted that the project is just outside the ¼ mile limit for a designated river.

A plan showing the approximate area of impacts was shown. It was indicated that the limits were extended to allow water diversion and access under the structure. It anticipated that the project will take a few weeks and we hope to do the project during a dry period this summer.

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

Hampton Falls, #40503

This project was presented at the Natural Resources meeting in November. At that time, the project did not propose any permanent impacts. Subsequent to the meeting, it was determined that stone fill was necessary at the bank along the northeast wingwall to arrest erosion that was occurring at that location. Steve Johnson indicated that it did not appear that the river was tidal at that area and we would verify. Gino pointed out that his concern was prime wetlands for the Town of Hampton Falls. He recommended looking at the Town report and addressing the prime wetlands delineation. Amy indicated that the NHB information was expired and for the wrong location. A new NHB review will be required and will likely result in fewer hit if not tidal.

This project has been previously discussed at the 8/19/2015 and 11/18/16 Monthly Natural Resource Agency Coordination Meetings.

Bradford, #23819 (X-A002(772))

J. Bicja provided an overview of the project with a PowerPoint presentation. Hoyle, Tanner has been selected by the Town of Bradford to work on the Feasibility Study for the rehabilitation of Bement Covered Bridge. The project is in the early stages of design and the purpose of this meeting is to show the committee members the anticipated environmental impacts and get their input early in the project.

There are some inconsistencies regarding the name of the river that Bement Covered Bridge crosses. NHDOT Bridge Inspection Report states that the Bement Covered Bridge crosses the West Branch of the Warner River. USGS maps also refer to the same name, however, FEMA flood maps and several town officials refer to this section of the river as the Warner River. For the purposes of this meeting the river will be referred to as the West Branch of the Warner River, as that is the most common name used by NHDOT.

The Bement Covered Bridge was built in 1854 and is listed on the National Register of Historic Places. As the majority of the project is funded by a National Historic Covered Bridge Preservation Program (NHCBPP), the design process is following the NHDOT's Local Public Agency (LPA) manual requirements. Additional funding for the project is provided by NHDOT State Aid Bridge and local town funds. The segment of Center Road containing the Bement Covered Bridge generally is oriented north-south from Jones Rd to the south to NH Route 103 to the north.

The bridge substructure is in overall poor to severe condition. The south abutment wingwalls exhibit bulges and the stump of a recently cut multi-stemmed birch tree can be seen in the bulging section of the southwest wingwall. The north abutment has a long running joint in the center of the stem and it appears as though lateral spreading of the stones has occurred. During the 1968 through 1969 rehabilitation, a concrete facing was added to the northeast corner of the north abutment. The remaining portions of the north abutment stem that are not concrete encased are noticeably bulging outward. A number of the larger stones in both the abutment and wingwalls were observed to be cracked. A substandard timber approach railing is located along all four wingwalls. This rail is supported by a cast-in-place concrete cap cast on top of the stone masonry wingwalls.

The proposed project includes full replacement of the north abutment with dry laid stone abutment, rehabilitation of the south abutment wingwalls to correct the wingwall bulges and the construction of new concrete curbs and buried moment slabs to support timber approach rail at each quadrant of the bridge.

Beyond the replacement and rehabilitation of the abutments, the Town is also proposing superstructure rehabilitation including replacement of the worn deck, replacement or strengthening of the floor beams and truss lower chord to support a 6-ton live load and addition of new knee braces to better brace the truss upper chord. The bridge is also proposed to be raised by approximately 6" in order for the stormwater to drain away from the bridge deck. Approximately 230' of the roadway approaches will be repaved.

J. Bicja showed a plan of the impact areas which included temporary access on the northeast and northwest quadrants, river/wetland impacts in front of both abutments and slope impacts. Majority of the river/wetland impacts are expected to be temporary in nature with the exception of the riprap that is proposed in front of the north abutment.

The US Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) online tool was utilized to determine the potential for impacts to federally-listed species and their habitat. Species identified include the federally-threatened Northern long-eared bat (Myotis septentrionalis) and Small Whorled pogonia (Isotria medeloides). A ground survey will be required to identify if these plants are located within the limits of ground disturbance. It is anticipated that this survey will be required to be completed prior to the NEPA review and will take place during preliminary design phase. Based on the results of our consultation with New Hampshire Natural Heritage Bureau (NHB), it was determined that, although there was a NHB record present in the vicinity of the project, the NHB does not expect that it will be impacted by the proposed project. NHDES Onestop website was also check and it showed no hazardous sites with the project limits.

The schedule for the project is as follows:

- Preliminary Design and Permitting (NEPA, NHDES Shoreland PBN and Dredge and Fill Wetland Permit) – March to July 2017
- Final Design – August to October 2017
- Bid Phase – Late December 2017
- Construction – Commence in late Spring 2018 and last for approximately 5 months.

C. Henderson asked if the entire width of the channel will be restricted during construction by the proposed cofferdams. J. Bicja clarified that cofferdams will only be required in front of each abutment as the contractor would need to install temporary timber cribbing or similar support system to support the covered bridge while the substructure work is completed. The plan was shown with the anticipated impact areas.

G. Infascelli asked what type of riprap is proposed and if it will be designed as a scour countermeasure. J. Bicja stated that NHDOT riprap class III is proposed and it will be designed during the design phase of the project. The 100-year flood event river velocity is approximately 6 feet per seconds.

The committee members had no other questions of comments.

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

Ossipee, #23818 (X-A002(771))

S. James provided an overview of the project with a PowerPoint presentation. Hoyle, Tanner has been selected by the Town of Ossipee to complete the Rehabilitation of this historic covered bridge. This is the third and final phase of the project. Phase I of this project consisted of removal of the bridge off of the existing abutments and Phase II consisted of superstructure rehabilitation. This phase of the project it to

replace the Whittier Covered Bridge in its original location founded on historic stone abutments. This project also includes activities to restore and stabilize the bank. The south bank on the upstream and downstream sides of the bridge are scalloped and eroded, resulting in the southern abutment protruding into the channel. The south bank on the downstream side of the abutment is undercut and on the verge of collapsing; continued undermining of the bank could result in mass failure that could impact the stability of the southern abutment. Proposed bank stabilization intended to increase the resistance to erosion and decrease the erosive forces on the banks include the construction of a low floodplain bench along the toe of the eroded bank upstream and downstream from the south abutment such that the bank line will be flush with the northerly face of the abutment so that it no longer protrudes into the channel. The new riverbank would be stabilized using a combination of rounded stone, vegetation and embedded large wood to utilize native materials and retain a natural appearance once vegetation becomes established.

K. Peace showed a plan of the proposed wetland impact areas as a result of the stabilization and restoration efforts. Discussion ensued over the sand island within the river that is proposed for removal. She asked if this could be considered a temporary impact to the riverbed rather than dredging since the intent is to restore the river to prior conditions before the eroded material washed downstream to this location. She also indicated the streambank restoration areas where the floodplain terrace will be constructed has been shown on the plans as a temporary impact for the same reasoning, this work is proposed in order to restore the streambank to prior conditions that will in the end have a more stable configuration than existing conditions.

C. Henderson asked what material comprises the sand island, is it native material? K. Peace stated the material is coarse sand lying overtop a sand/gravel mix that is the streambed.

G. Infascelli asked how long the sand island has been in place? K. Peace stated the material is a result of the streambank scouring and has been going on for maybe 15 years. S. James stated that it has been identified on plans for the project since 1998. B. Harriman stated the island has been very noticeable for at least 10 years.

C. Henderson asked if the location of the material could be identified? K. Peace stated it is probably not foreign to the streambed system but is new to this location and has washed down over time to where it currently sits.

A. Lamb asked since streams are dynamic systems, will the island occur again once it has been removed? K. Peace responded that part of the purpose of the streambank restoration is to prevent further erosion from this location, so any material coming from nearby will stop, and hopefully this will re-direct the streamflow such that the stream will not slow in this location and deposit sediment, but any material in the river column will continue downstream.

L. Sommer asked if the proposed granular fill material will be rounded stone? K. Peace stated yes.
C. Henderson asked about sloping the riverbed and bank into the proposed streambank design. K. Peace and S. James explained the plans provided and clarified the proposed slopes and where the bank will tie into the riverbed. K. Peace added that a wetland pre-application meeting is anticipated to resolve any outstanding plan comments regarding impacts being identified as temporary or permanent.

M. Hicks asked how the bank will remain stable, and commented that this will need to be addressed for the ACOE General Permit application? S. James noted the stone fill material proposed for installation below the vegetated floodplain terrace will be designed to withstand flows and provide a stable base for the terrace.

G. Infascelli stated the permit application will need some proposed cross-sections of the work areas to better show the proposed project. He asked for more information on what is occurring below water, and the need for it, and asked that additional information be included in the permit application on a history of the project, particularly the scouring of the banks, when did it start, to what extent, etc.

L. Sommer asked how many linear feet of fill is proposed for the riprap? K. Peace stated she is unsure but if the question is in regard to exceeding the 200 LF threshold for mitigation, that the project probably exceeds that when both banks and the channel are included. L. Sommer indicated that maybe for this situation only the linear feet along the channel where the island is to be removed and the south streambank where the riprap is proposed for installation would be included in that measurement. K. Peace asked if the overall project could be considered self-mitigating because most of the impacts are due to the streambank restoration. L. Sommer stated that was a possibility for the terrace and the island removal but not the stone fill installation, however if the stone fill was under 200 LF then maybe the project would not need additional mitigation. G. Infascelli noted that because it is a Tier 3 crossing, mitigation is required to be reviewed.
G. Infascelli stated he doesn't think it matters if the impacts are considered temporary or permanent, and M. Hicks agreed.

L. Sommer asked for a follow-up as soon as design plans are prepared in regard to the question of the square foot and linear feet of impacts. She also stated that she would coordinate with Dori Wiggin, who will be the NHDES wetland permit reviewer.

M. Hicks stated that the River is considered Essential Fish Habitat for Atlantic salmon, so an EFH Assessment will be required as part of the Categorical Exclusion.

A. Lamb stated NHNHB initially had no concerns regarding state-listed species impacts, but given the additional proposed work in the riverbed and streambanks, she will review the species list again and coordinate with Kim Tuttle at NGF&G to check that they are in agreement with a no effects determination.

K. Peace stated that the USFWS IPAC report listed small whorled pogonia (Isotria medeoloides), but coordination with Suzy VonOettengen resulted in a No Effect determination for this species based on the lack of suitable habitat. The appropriate coordination with USFWS for Northern long-eared bats (Myotis septentrionalis) will occur through NHDOT acting as the lead federal agency for FHWA, but a Not Likely To Adversely Affect determination is anticipated for this species.

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

Roxbury-Sullivan, #10439 (F-X-0121(034))
Cassandra Burns provided an overview of the project. The project limits encompass approximately 2.1 miles of NH 9 from the Granite Gorge Ski Area in Roxbury to Center Street in Sullivan. This stretch of road is one of the last sections of NH 9 to be improved.

This project will replace the existing Red-Listed NH 9 Bridge over Otter Brook (Bridge No. 093/061), provide minimum 4-foot shoulders throughout the project length, replace the existing stone retaining wall east of Granite Gorge Ski Area, and extend the life of the roadway.

The NH 9 Otter Brook Bridge work involves full replacement of the bridge and installing scour protection measures, for which temporary and permanent wetland impacts will be required. Discussion of this bridge work and scour protection took place at the November 16, 2016 Natural Resources Agency Coordination

Meeting and there was no opposition to the proposed work as discussed. Other bridge work on the project includes rehabilitation of the Center Street Bridge over Otter Brook (Bridge No. 094/064), for which no wetland impacts are anticipated.

The proposed horizontal alignment and profile of the road will be similar to the existing, except in the vicinity of the Otter Brook Bridge, where the existing profile will be raised by approximately 7 feet to allow the bridge to pass the 100 year flood volume of Otter Brook. A 4-foot shoulder width will be attained by maintaining the existing right edge of pavement and widening the road to the left, which minimizes impacts to Otter Brook but increases impacts to the left side cut slope.

Roadway improvements include full box reconstruction and replacing the existing stone retraining wall on the west end of the project with a 1.5:1 stone-faced cut slope. Realignment and partial reconstruction of Houghton Ledge Road, a side road near the existing retaining wall, is required as a result of the proposed 1.5:1 cut slope work. The intersections of Valley Road and Center Street with NH 9 will be partially reconstructed/realigned to accommodate a traffic detour during the NH 9 Otter Brook Bridge replacement. The Valley Road intersection with NH 9 will also be reconstructed to accommodate the raise in profile of NH 9 after the NH 9 Otter Brook Bridge has been replaced.

Existing guardrail along the right side of the road will be replaced with a proprietary system that takes up less space to minimize impacts to Otter Brook. Slope stabilization is proposed at spot locations along the fill slopes adjacent to Otter Brook. A 1.5:1 stone-faced cut slope is proposed along much of the left side of NH 9.

The existing drainage system will be improved within the project limits. Approximately 40 crossings will be replaced and/or upsized, and improvements will be made to the existing left side ditch to increase the ditch capacity.

There are four (4) Tier 1 crossings located on this project, but only three (3) will be impacted by the proposed work. The first Tier 1 crossing (Station 137+00) will be upsized from an 18” cmp to a 30” RCP at the same location as existing. The second Tier 1 crossing (Station 150+00) will be upsized from a 24” cmp to a 42” RCP and be installed adjacent to the existing crossing. The third Tier 1 crossing (Station 21+00 on Valley Road), will be upsized from a 30” rcp and 24” cmp system to a single 42” RCP and will be shifted slightly from the existing system.

There are two (2) Tier 2 crossings located on this project, but only one (1) will be impacted. The impacted Tier 2 crossing (Station 208+00) is an existing 18” cmp. An existing 18” cmp about 50 feet downstream of the Tier 2 crossing carries overflow from the Tier 2 crossing. The Tier 2 crossing and overflow pipe will each be upsized to a 30” RCP.

There is one (1) Tier 3 crossing located within the project (at Hubbard Brook), but it will not be impacted.

The shoreland impacts for this project have not been calculated at this time, but will be provided at a later date. A Northern Longed Eared Bat survey was conducted in August 2016 for this project. The results are currently being reviewed and the latest Federal Requirements are being followed.

Approximately 2.3 acres of permanent wetland impacts and approximately 0.4 acres of temporary wetland impacts are anticipated as a result of the proposed roadway and bridge work. Approximately 2,000 LF of bank impacts and 1,200 LF of channel impacts are anticipated.

A Stormwater BMP treatment swale is proposed by the Granite Gorge ski area, adjacent to the parking lot. The treatment swale will treat approximately 70% of the required treatment area, to account for the proposed increase in impervious area on the project.

A separate meeting will take place with NHDES prior to submittal of the Wetland Application package to discuss mitigation and the Aquatic Resource Mitigation (ARM) payment for this project.

Kevin Nyhan asked if the Tier 1 impacts carried unnamed streams. Stephanie Micucci answered yes.

Lori Sommer asked if there are any Natural Heritage Bureau hits for this project. Amy Lamb replied that there are none.

Mark Kern mentioned that it would be helpful for him to be included in the mitigation/ARM discussion between the Department and NHDES. Sarah Large said she could send minutes from that meeting to M. Kern for review.

Mark Hemmerlein asked when the public hearing for this project was. Don Lyford responded that a public meeting was already scheduled and held. Sally Gunn added that this is a "20-year project" and the advertising date is August 15, 2017.

L. Sommer asked where the wetland impacts will be. S. Micucci explained that they will be project-wide in the left side ditches and cut slopes, along the right fill slope adjacent to Otter Brook, and in the vicinity of the NH 9 Otter Brook Bridge.

L. Sommer asked if there were houses located between Valley Road and Center Street. K. Nyhan elaborated on her question and asked if the Center Street Bridge could be removed and Otter Brook restored in that location. S. Micucci responded that if the bridge were removed and traffic redirected along Valley Road, a portion of which is 16 feet wide, it would be narrow for two-directional traffic. The intersection of Valley Road and NH 9 is also currently signed such that traffic is not permitted to enter Valley Road from NH 9. D. Lyford added that the Town of Sullivan probably wouldn't want this part of the road to be removed. L. Sommer said that a narrative about why this bridge is not able to be removed should be included in the application for this project.

Regarding mitigation considerations, D. Lyford mentioned that the left side wetland ditches were previously determined by the Agency to be self-mitigating. L. Sommer asked M. Hemmerlein if he looked at the database for culverts on this project. M. Hemmerlein replied that he hasn't, but noted that some of the culverts on the project are already being improved.

Carol Henderson recommended considering vegetation along the banks of Otter Brook as mitigation, as there is very little vegetation that exists along these slopes. L. Sommer said re-vegetation could be viewed as an enhancement. K. Nyhan mentioned that the Department would be looking to receive credit for this type of effort.

**Note that the wetland impact areas that were presented at the meeting have been slightly adjusted since the meeting, upon further review of the plans.*

This project has been previously discussed at the 10/20/1999, 8/16/2000, 9/18/2003, 3/18/2015, and 12/16/2016 Monthly Natural Resource Agency Coordination Meeting.

Lebanon-Hartford, #16148 (A001(154))
This project was last reviewed at this meeting a year ago. Final design of the project has been progressing and permit applications are now being prepared. The purpose of today's meeting is to discuss proposed impacts and get concurrence on mitigation requirements.

Brian Colburn provided an overview of the project, which consists of the rehabilitation of the Interstate 89 bridges over the Connecticut River between Lebanon, NH and Hartford, VT (Bridges 044/103 and 044/104). The existing superstructure steel will be replaced with new steel and an in-fill will be constructed in the gap between the bridges to provide a single 110'+/- wide bridge deck to facilitate traffic control. The in-fill will require new footings between each of the five pairs of existing piers, four of which are located in the river. The resulting bridge will allow for maintenance of traffic during phased construction. Following construction, the bridge will provide two through lanes in each direction and auxiliary lanes between Exit 20 and I-91 ramps. Three stormwater treatment areas will be constructed to treat runoff. Infiltration basins will be located on the north side of the interstate in both NH and VT, and a treatment swale will be located on the south side of the interstate in NH.

Three piers require scour protection. The fourth, westernmost pier in the river is located on bedrock and does not need scour protection. A-Jacks concrete armor units are proposed for the three piers. Mats of these interlocking units would be constructed on land or a barge and then lowered by crane to the river bottom around each pier. The mats would be placed on top of the channel substrate. Since no excavation or placement of bedding materials will be required for the A-Jacks, the use of cofferdams will be limited to the footprint of the new pier footings.

Due to the new piers and scour protection, the work as proposed would result in an increase in base flood elevation of 0.04'. Since this area does have a history of flooding during 100-year storm events, mitigation will be incorporated into the project to avoid any increase in base flood elevation. Proposed mitigation will entail benching into the VT bank to create a narrow shelf, staying approximately 1' above ordinary high water. To achieve a zero increase in flood elevation, the bank will be benched along a distance of 388 feet. Stone will be placed to stabilize the new slope. Much of this area is located under the bridges and is currently stone. When this project was last discussed with the resource agencies, benching along the NH bank was discussed. It has since been determined that benching on this side of the river would require dredging in the river or cutting into a larger area of bank to achieve a zero increase in flood elevation. The VT bank is steeper and more conducive to benching. The bench will also provide some benefit to wildlife traversing the steep bank.

When reviewing the profile view of the proposed benching, Gino Infascelli commented that it would be helpful to include the location of the State line and OHW on all profile views to more clearly show where impacts are located.

To provide flexibility to the Contractor in locating a temporary construction trestle, a large footprint of temporary impact will be included in the permit application and a work trestle across the full width of the Connecticut River is assumed. Fingers off the main trestle would be needed to access each pier. A temporary causeway/work platform would be needed off each bank of the river to provide a platform from which the trestle would be constructed. A small work platform may also be needed under the bridge between the NH bank and first pier. The trestle and causeways would be in place for the duration of construction, which is expected to be up to four years. The Contract could provide an upper limit of the number of trestle piles that would be allowed. The Contractor will also be given the option to access the Vermont pier from the Vermont side of the river; however, this option will require a temporary railroad crossing, which could become costly due to flagger and insurance requirements. If the Contractor chooses this option, a portion of the trestle would not be needed.

Based on the typical types of boats that would likely be found on this section of the river, between six to eight feet of clearance is needed to pass under a structure. The elevation of ordinary high water in this location is 331' and the 10-year event is 342'. There will be a stipulation in the contract that the Contractor must construct at least one section of the temporary trestle above the elevation of the 10-year event. This would provide adequate clearance for boaters during most flow conditions.

Christine Perron provided a summary of proposed impacts. These totals may change slightly as areas are refined on the wetland impact plans.

Permanent wetland impacts: 1,101 sq ft
Permanent bank impacts from drainage work: 599 sq ft
Permanent channel impacts from the new footings: 3,118 sq ft
Permanent channel impacts from scour protection: 20,559 sq ft
Temporary impacts from causeways: 5,901 sq ft
Temporary impacts from trestle/construction footprint: 88,999 sq ft (Actual impacts from the trestle would be limited to the piles that support the trestle, which would be a total of approximately 600 sq ft.)
Total permanent: 25,377 sq ft
Total temporary: 94,900 sq ft
Temporary impacts to Vermont side of the river: 802 sq ft

C. Perron noted that she has been coordinating with Mike Hicks regarding Section 404/10 permitting. The total area of proposed temporary and permanent fill in the navigable waterway is approximately 0.69 acre in NH and 802 sq ft in VT. Since these impacts are below each State's threshold for an Individual Permit for work in navigable waters, and because there have been no public concerns raised about the project, M. Hicks has confirmed thtat the project can be authorized under each State's general permit. Mike Adams of the Corps confirmed that the application for VT impacts should be sent to the Vermont office.

Impacts requiring mitigation were reviewed. Permanent impacts from the new footings (158 linear feet) and drainage work (50 linear feet) will require mitigation. Permanent palustrine wetland impacts (1,100 sq ft) will also require mitigation. The temporary impacts from the causeways may also require mitgiation since these will be in place for up to 4 years. Since the river is designated as Essential Fish Habitat, Lori Sommer asked that Mike Johnson be contacted for input on the need for providing mitigation for the temporary causeways. Subsequent to the meeting, C. Perron contacted M. Johnson, and he requested that the NOAA Habitat Equivalency Analysis be used to determine the appropriate area to mitigate for temporary habitat loss from the causeways. The Sarah Mildred Long bridge project constructed a causeway that will be in place for three years. A recovery time of 3 years was used for this impact. Using this example, mitigation for the proposed causeway impacts in the Connecticut River would need to account for the duration of construction (4 years) plus full recovery time (3 years).

The Department's preference for mitigation is an in-lieu fee payment. L. Sommer asked that the City of Lebanon and Upper Valley Land Trust be contacted to determine if there are any appropriate projects that could be funded as mitigation. Following this coordination and the completion of the Habitat Equivalency Analysis, a mitigation proposal will be confirmed with DES. The in-lieu fee should be determined by using the DES stream calculator for linear feet of impact to the river and banks and the wetland calculator for square feet of impact to palustrine wetlands.

Carol Henderson asked if Mike Johnson was already aware of the proposed scour protection. C. Perron clarified that the scour protection had been included in the EFH Assessment that M. Johnson approved two years ago. The temporary causeways were not previously reviewed by M. Johnson.

Other resources were reviewed. Dwarf wedgemussels occur one mile downstream of the project and the USFWS had no concerns regarding this species when contacted in 2013.. Subsequent to the meeting, the USFWS confirmed that there are still no concerns regarding this species. Time of year restrictions will be implemented for tree clearing to avoid potential impacts to northern long-eared bat. The bridge was reviewed with binoculars for signs of bat usage, and close-up bridge inspection photographs of the bridge were also reviewed. No evidence of roosting has been observed. There are no known maternity roost trees or hibernacula in the vicinity of the project. A Project Submittal Form has been sent to USFWS by NHDOT with a finding of May Effect, Not Likley to Adversely Affect. The project was reviewed with NH Fish & Game and there were no concerns regarding bald eagle or cobblestone tiger beetle. Section 106 consultation has resulted in a determination of No Historic Properties Affected. The US Coast Guard has concurred that the project is exempt from a Bridge Permit under Section 144(h).

M. Hicks asked if there is a local harbor master or similar entity for this area that could be notfied about impacts to recreational boating during construction. The Connecticut River Joint Commissions is aware of the project and will receive a copy of the permit application. M. Hicks also asked about the substrate of the river, which is predominantly sand and gravel at the bridge site. M. Hicks asked about public input received on the project. There has been one Public Officials Meeting with Lebanon City Officials and a Public Informational Meeting. Letters have also been sent to Lebanon and Hartford boards and organizations. No concerns about the project have been raised.

A survey for the state listed mudflat spikesedge was completed in October 2015 and the plant was not found in the project area. Amy Lamb noted that a number of new occurences of this species were located along the river during the recent drought when the water level was lower than normal. She recommended checking the project area again for this plant if the water levels remain low enough.

The permit application is expected to be submitted to DES in late April.

This project has been previously discussed at the 5/21/2014, 11/19/2014, and 2/17/2016 Monthly Natural Resource Agency Coordination Meetings.

Walpole-Charlestown, #14747 (X-A004(487))

Jon Evans began by providing a brief overview of the project's history to date and that the project had been reviewed at several prior meetings with the last being March 16, 2016. J. Evans also noted that the goal of this meeting was to review current estimated wetland impacts and determine USACE permitting needs. Matt Lundsted took over by running through a short presentation summarizing that the current proposed alternative (western alignment shift away from the railroad and Fall Mountain) removes physical impacts to the railroad tracks (property encroachment only), minimizes environmental impacts from blasting, avoids the rock cut and tree clearing to the east of the railroad, eliminates impacts to Fall Mountain State Forest and cuts construction costs and duration.

The presentation went on to outline typicals of what the slope work along the banks of the Connecticut River and Meany's Cove would look like detailing specific cross sections at three stations (one in the southern portion of the project into the Connecticut River, one through the Meany's Cove segment and one in the northern portion of the project into the Connecticut River). Finally permanent and temporary wetland and bank impacts in each community were summarized.

Lori Sommer inquired what the intent of the "potential construction platform" was for. Clint Mercer explained that the slope work to the southern end of the project is too high to construct from the top of

slope so temporary work platforms would likely be needed. This would ultimately be determined by the Contractor since he is responsible for means and methods however the impacts shown are intended to illustrate the maximum probable extent.

M. Lundsted went on to note that the project team had met previously with Gino Infascelli and L. Sommer sometime last year to discuss stream crossings such as Crossing #9 (unnamed brook) and that impacts to the east of Route 12 to these streams have been eliminated. In summary, permanent wetland impacts are under 3 acres at 2.94 acres and the resulting ARM calculation is $2.58M. It was noted that the impacts shown are the maximum amount and they may be reduced pending further geotechnical work.

Mike Hicks noted that USACE considers all impacts (permanent + temporary) regarding general versus individual federal permits. The wetland threshold is under 3 acres and impacts within the Connecticut River are under 1 acre within the water to be eligible for the general permit. Mark Kern noted at the impact levels currently shown an Individual Permit would be required and based on the current way that the PGP is written it wouldn't be worth the effort to try to "slip" under those thresholds and raise concerns with the various regulatory agencies.

L. Sommer inquired as to the duration of the impacts within the river. C. Mercer estimated a 20 month total construction duration with a total of approximately 8 months within the river.

M. Kern inquired about the break down in how the ARM fee was calculated. J. Evans noted that the biggest component is linear footage of bank impact with some portion of the square footage of wetland impact (portions not overlapping bank impacts which take precedence but do not get "double counted") comprising the balance. L. Sommer asked that the latest revision to the ARM calculator was used and inquired whether the communities been queried regarding potential ARM projects. J. Evans confirmed it was the latest form and replied that the communities had been contacted in prior years once wetland impacts were calculated for the previous version of the project and neither community identified any local opportunities. Culvert improvements may be a feasible use of funds. L. Sommer also noted that either the Upper Valley Land Trust or the Ausbon Sargent Land Preservation Trust may have potential mitigation opportunities which she will email about.

M. Kern asked about how the bank will look/vegetation. S. Fifield went into more detail on the proposed slope/bank noting that the intention is for it to be a "green" slope as much as possible. Below the water line will be stone however the upper bank will be planted with native species. The Department is currently performing an audit of existing trees to propose like species. M. Kern inquired as to the proposed depth of stone. S. Fifield noted that the detail shows three feet however the geotechnical engineers are still looking at options for the design of the slope.

J. Evans requested clarification on how the ARM fund transfer actually works. L. Sommer responded that DES prefers that you provide funds directly to a land trust and J. Evans noted that may be difficult for the Department administratively. L. Sommer said that DES can write a condition within permit that funds get designated to the land trust with payment through/to DES and DES sends funds to the land trust. Don Lyford asked that if the land trust's plan for the funds falls through whether the funds still go to DES and into standing ARM funds which was confirmed.
M. Kern noted that with an individual USACE permit, a water quality certificate (WQC) would be required. Mark Hemmerlein noted that the WQC will be a challenging effort for this particular project since opportunities for water quality improvements have been studied extensively throughout the duration of design and few opportunities exist for stormwater BMPs particularly with the river being stressed for nitrogen (N). Geotechnical concerns with soil, ledge and groundwater conditions limit opportunities along

the river side and the proximity of the railroad limit opportunities to the east of Route 12. It would be close to impossible to obtain the amount of N treatment needed.

Discussion took place regarding options for permitting the project individually by town to potentially get under thresholds but it was noted that the impacts in Walpole alone exceed "general permit" levels. D. Lyford inquired if Meany's Cove was considered part of the river and whether a distinction would impact thresholds. It was noted that impacts outside the river exceed thresholds anyway.
Although M. Kern expressed support for obtaining an individual Army Corps permit he noted that if in the future it was determined through project modification or coordination with the resource agencies that the project would in fact qualify for coverage under the NH Programmatic General Permit, the EPA would not object and thus would not request an individual permit be obtained for this effort.

L. Sommer inquired as to what the current drainage is doing in this location and whether any culverts would be retrofitted. S. Fifield noted that much of the runoff is sheet runoff or is collected at around five locations in pipes (which will be extended through the proposed slope). D. Lyford noted that an underdrain is proposed along the railroad side. M. Hemmerlein noted that another concern regarding water treatment ponds or infiltration is shear failure of the slope into the river from added soil water pressure and noted this continues to be researched.

M. Hicks reiterated that the numbers appear to push the project into an individual USACE permit and that the combination of section 10 (believe 1 acre in CT River) and 404 (at 3 acres) impacts affect how to come up with a rational basis for splitting the project and to convince USACE.
Note: Subsequent to the meeting, M. Hicks discussed the project with J. Evans on February 21, 2017 and corrected his original conclusion regarding the anticipated section 10 impacts. M. Hicks indicated during this phone conversation that section 10 is only applicable to navigable tidal waters and as this section of the CT River is non-tidal and has limited navigability due to numerous downstream dams, the 1 acre section 10 limit requiring an individual 404 permit was not applicable in this case. During this conversation M. Hicks confirmed that in order for the project to qualify for coverage under the NH Programmatic General Permit, the total permanent and temporary impacts within Army Corps jurisdiction would need to be less than 3 acres. M. Hicks also confirmed during this conversation that given the support for PGP coverage expressed by M. Kern during the meeting, if the project impacts were revised to total less than 3 acres, he felt the project would qualify for PGP coverage and thus would not require an individual 404 permit.

This project has been previously discussed at the 4/18/2007, 8/20/2008, 5/20/2009, 10/29/2009, 4/21/2010, 6/16/2010, 1/20/2016, and 3/15/16 *Monthly Natural Resource Agency Coordination Meetings.*

Nashua-Merrimack-Bedford, #13761 (IM-0931(201))
This project involves widening approximately 7.5 miles of Everett Turnpike from two lanes to three in each direction. The purpose of this agenda item was to discuss the ongoing alternatives analysis of the Pennichuck Brook and Baboosic Brook crossings.

Pennichuck Brook Alternatives 2, 4, 5, 6, and 7 had been discussed at the October 19, 2016 meeting, and it was agreed they could be eliminated from consideration.

Alternative 3 would maintain the existing turnpike centerline but would also require a temporary bridge to construct. The temporary impacts and costs would be higher than the corresponding versions of Alternative 1 without other benefits. It was agreed Alternative 3 could be eliminated from further consideration.

Alternative 1 involves a 14-foot shift of the centerline. There are four versions of Alternative 1: 2:1 side slopes, 1.5:1 side slopes, retaining walls, and retaining walls with "net zero" impacts below ordinary high water (OHW). The NHDOT would prefer not to construct retaining walls, due to their higher construction cost and long-term maintenance costs. The 2:1 slope option would have greater impact below OHW but could accommodate vegetated slopes. The 1.5:1 option would have less impact below OHW but would have large stones (Class D, 2 to 3 feet in diameter) on the slopes and be less easily vegetated. Mark Kern prefers vegetated slopes in general. Gino Infascelli noted that exposed rock could result in higher temperatures of runoff into the water, and Pierce Rigrod stated that higher temperatures and turbidity could contribute to blooms which regularly occur in the water body. Mark Hemmerlein asked if the roadway could be shifted further east and the west bank left intact (or vice-versa). This will be investigated. There was no clear consensus on which option the agencies would prefer.

There was a question about the relative mitigation costs, and why there were not greater differences among options. Jed Merrow had previously discussed cost calculation methods with Lori Sommer and the costs are based on linear foot rather than square footage. After the meeting, Mr. Merrow determined that costs had been calculated using $490 per linear foot for impacts both above and below OHW, and $250 per linear foot for impacts above OHW only.

There was a question whether expanding and restoring the channel under the bridge would have some mitigation value. The new abutments would be constructed behind the existing abutments, then the existing abutments would be cut off or removed, and an embankment constructed. The composition of the embankment has not been addressed yet. Restoration value might depend on how it is constructed, but it would most likely simply be replacing what will be removed.

There were also questions about stormwater management, including highway runoff and spill protection. This has not yet been designed but, considering the water supply, will be an important consideration. There will be curb and guard rail, so closed drainage is feasible.

Mr. Rigrod inquired about construction impacts and the duration of construction in the water. These details will not be addressed till later in design, but is an important consideration for this project. Environmental commitments could be made pertaining to BMPs for this area if necessary.

Because water flows east and there are intakes downstream, impacting the west or upstream side could be desirable, but it was not clear whether this would have any effect on long-term impacts. Mr. Rigrod asked if Pennichuck Water Works (PWW) had been consulted. Mr. Merrow had spoken with PWW's Don Ware, who had expressed particular interest in the bridge impacts, construction impacts, and stormwater treatment. Mr. Ware noted that they constructed a stormwater basin in the Tinker Road area, upstream of a major intake, two years ago. This is near the southern terminus of the project.

The Baboosic Brook crossing was discussed. Alternatives 1, 2 and 3 involve replacing the culvert with new or extended culverts. The 100-year flood would overtop each of these designs by 6 to 7 feet. The NHDOT thinks this is unacceptable and has set 1 foot of freeboard (space above the flood elevation within the structure) as the minimum acceptable.

Providing 1 foot of freeboard requires a bridge structure and raising the elevation of the roadway. Alternatives considered include 90-, 60-, and 66-foot spans with or without sloping embankments in the structure. (Eliminating sloping embankments provides more flood capacity, which in turn allows the bridge and highway to be lower). Alternatives 4a, 5a, and 6 would have full height abutments without sloping embankments. They would result in only a slightly lower roadway profile, would lack stream

banks within the structures, and would cost more than alternatives with sloping embankments. Therefore, they are proposed to be eliminated from consideration.

Alternative 4b would have a 90-foot span and Alternative 5b would have a 60-foot span, and both would have sloping embankments. Alternative 5b would accommodate the full bankfull width (times 1.2 plus 2 feet) along with wildlife shelves on each bank, is substantially less costly than Alternative 4b, and would allow a smaller highway profile change. Alternative 5b is therefore the preferred design. There was general agreement with this conclusion.

This project has been previously discussed at the 10/19/2016 and 11/16/2016 Monthly Natural Resource Agency Coordination Meetings.

Cutts Cove Advanced Mitigation Discussion Update (Portsmouth, #15731)
Federal highway is interested in having input from other Natural Resource Agencies on the NHDOT's proposal for advance mitigation payment to the UNH ARM fund grant. UNH has received an ARM fund grant to place oyster shell substrate and restore 200 feet of living shoreline within Cutts Cove. Their application originally had asked for 800 feet of living shoreline restoration. If NHDOT can provide additional advanced mitigation of $200,000 dollars, UNH would be able to complete the remainder of the 800 feet of mitigation and conduct years 1 and 2 of monitoring underneath that figure. Federal highway has said that they would like support and/or concurrence that other agencies want to move forward with this effort. Federal highway would then supply NHDOT with a letter stating that this is low risk, and NHDOT, under functional replacement of the NH Port, would have at least $200,000, possibly up to $600,000, of mitigation effort/funds that would be a credited towards this advanced mitigation.

Lori Sommer added that NHDES is supportive of this and there have been many conversations in her office about it. She said that NHDES has sat down with Bob Landry and others to discuss how this could be budgeted.

Mark Kern added that Mike Johnson and he have been supportive of this the whole time. It is logical, low risk and he is happy to raise his hand or do whatever to show their support. L. Sommer stated that in her last meeting/discussion with Mike Johnson, she thought that he was somewhat quiet after many questions and she interpreted that as him considering this to be reasonable. L. Sommer talked to Fred Short after that meeting that water quality is improving in the area and that they should start thinking of locations for eel grass re-establishment. M. Kern said he is slightly suspicious just because it is so hard to predict water quality in the Piscataqua River area and whether this is going to work long term. All of the plantings EPA did 18 years ago for the Port Authority mitigation are gone and none of it survived. He would hate to invest a lot of resources into that effort without being pretty sure it is going to work.

Mike Hicks asked if some of the species ever comes back all of a sudden, if they are absent for a few years then come back, but he reiterated that this is probably very difficult to predict. L. Sommer added that there is also water clarity issues in that water and appropriate depth issues.

M. Kern added that 90% of eelgrass in this area is gone, there are only a few patches hanging on. As long as we don't invest too much money into it and Mike Johnson wants it, it's fine. Fred Short

has some vested interested in doing this. L. Sommer said that this amount would be a third of the total amount assigned to the project. And timing of planting is critical.

L. Sommer stated that DES is in a position where they are ready to send a letter over to DOT within the next week. She asked Bob Landry if this type of feedback is needed. B. Landry responded that either an email or letter would be fine. B. Landry, once he gets any responses it will provide a copy or cc Jamie Sikora, and if DOT can get relative reassurance from Federal Highway they will move forward with providing the additional funds. NEPA has already been completed for the Sarah Mildred Long bridge replacement project, and the impacts of the overall project have been completed (taking out the side wharf).Therefore DOT needs to do functional replacement of the wharf and Federal Highway has already approved of this. DOT and the Port Authority just need a design consultant on board. Then once approvals have been made DOT and the Port would be out doing the work fairly quickly to do the NEPA and permitting processes for that functional replacement.

Jed Merrow (MJ) mentioned that there is about an acre of dredging plus additional impact for wharf expansion at both ends as well, but he does not yet know what that footprint will be. He anticipates that the design would move fairly quickly. L. Sommer said that there will be an ARM fund fee for the dredging.

M. Hicks asked about which project's mitigation was funding this effort; Sarah Mildred Long bridge or the functional replacement dredging? L. Sommer responded that a portion of the funding is from the dredging. The first portion has already been advertised and some of the funding went to the living shoreline, another portion to oyster shell substrate restoration project, and to a land conservation project. M. Hicks asked if there was any money left? L. Sommer said no. M. Hicks said then that most of the funding is then coming from the dredging. L. Sommer agreed. It is estimated to be about $600,000 so again this could be about one-third to a little less than one-half of that amount.

B. Landry showed a map of Cutts Cove and the location of the living shoreline plan. He discussed cleaning up the outer Cutts Cove and potential locations for the eel grass. Basically the $200,000 would fund the complete inner section, the whole 800 total feet of living shoreline work. M. Hicks asked if Dave Keddell, the Army Corp staff working on this project, has a set of plans. L. Sommer said that the 800 feet have been permitted by the DES. DES treated it as a minimum impact 303.04(t) under the restoration minimum impact rule and after more discussion it should probably be classified as a minor or major because of the Army Corp's jurisdictional area being impacted. So it doesn't have to be an individual Corps permit. DES is willing to amend that permit to include language about this advanced mitigation and classify it as a major so that ACOE has the 30 day review and advanced mitigation credit can be delegated. M. Hicks will touch base with Mike Johnson. L. Sommer offered to help with that conversation.

B. Landry asked for concurrence from Army Corp that they support this work. M. Hicks will send an email. B. Landry said that this will help make Jamie from Federal Highway feel much better about the additional advanced mitigation funding to have DES's, Army Corp's and also EPA's support. He suggested that if they plan to send an email to him, to feel free to cc Jamie and Mike

and Ruth too because that is who he will be sending any concurrence from the agencies to in the end.

This project has been previously discussed at the 6/19/2013, 9/18/2013 , 1/15/2014 , 3/19/2014, and 1/18/2017 Monthly Natural Resource Agency Coordination Meetings.