New Hampshire DOT

Roadway Reconstruction

NH Route 16

Categorical Exclusion (Draft)

U.S. Department of Transportation
Federal Highway Administration

Dummer-Cambridge-Errol

16304B

X-A004(699)

NH ROUTE 16
ROADWAY RECONSTRUCTION

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Categorical Exclusion (Draft)

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Introduction

The NH Department of Transportation (NHDOT) is proposing a roadway improvement project along a segment of NH Route 16 in Cambridge, New Hampshire (Figure 1), starting at approximately the Dummer/Cambridge town line and continuing north for approximately 1.3 miles. The entire project is located in Cambridge, an unincorporated place in Coos County. NH Route 16 is one of two major north-south corridors and a vital economic link in northern New Hampshire. The proposed project will address the deteriorating roadway conditions in order to maintain the connectivity of the corridor.

This project is part of a corridor project that seeks to identify and address priority segments of a 10-mile section of NH Route 16 between NH Route 110A and NH Route 26 due to severely deteriorating pavement and concerns with slope stability along the Androscoggin River. Five segments were initially identified as priorities through coordination with NHDOT Maintenance District 1, including the subject project. Project 16304A is located at the southern end of the 10-mile corridor and is currently under construction. Other segments of the corridor have been addressed by District betterment projects. No other projects beyond the subject project are planned within the State's Ten-Year Transportation Improvement Plan.

The 10-mile corridor project was reviewed with the Federal Highway Administration (FHWA) in 2013. At that time, FHWA and NHDOT determined that each priority segment of the corridor has independent utility, meaning that improvements to any one segment would provide a benefit and are not dependent on improvements at any other segment. Therefore, each segment has been reviewed and permitted independently of the other segments.

In accordance with the National Environmental Policy Act of 1969 (42 USC 4332(2)(c)), as implemented in 23 CFR 771.117(d)(3), this Categorical Exclusion addresses the construction of both phases of the above noted project. This document has been prepared using a systematic, interdisciplinary approach to assess the engineering considerations and environmental effects of the subject project.

Statement of Purpose and Need

Project Purpose

The purpose of the project is to address the poor condition of the pavement and road base and provide a sustainable roadway that maintains the connectivity of the corridor, minimizes long-term maintenance and risk resulting from the proximity of the Androscoggin River, and preserves the scenic quality of the surrounding area.

Project Need

The need for this project is evidenced by the following:

- Maintaining NH Route 16 as a safe, reliable corridor is essential to this region of the state. NH Route 16 is one of two major north-south corridors in the North Country. Tourism, outdoor recreation, logging, manufacturing, and other economically vital industries rely on NH Route 16 on a daily basis, as do local residents, with most commuting to jobs located to the south in Berlin and Gorham. The 2015 North Country Council Regional Transportation Plan identifies NH Route 16 as a regional priority in the Berlin-Gorham socioeconomic center.

- The section of NH Route 16 within the project area was constructed in the late 1950s/early 1960s with only minor resurfacing since that time. The road was never formally designed and constructed and there is no structural base under the roadbed. Due to the condition of the road and the influence of the river on the roadbed, frost heaving can be severe in the spring. This

creates a safety concern for the traveling public, results in excessive wear and tear on vehicles, and hinders winter maintenance. The condition of the road is determined by its roughness. The International Roughness Index (IRI) measures the vertical movement, or bumpiness, that occurs along a route, with pavement in good condition having an IRI of less than 95. The IRI throughout much of the project area is classified as poor, with values between 170 and 350. Addressing the poor pavement condition of NH Route 16 is listed as a priority in the 2015 North Country Council Regional Transportation Plan.

- Due to the poor condition of the roadway, the NHDOT must implement seasonal load weight restrictions along this section of NH Route 16 for approximately two months every year. In 2018, weight restrictions were in place from the first week of March to the second week of May. The maximum vehicle weight allowed on the posted road is 15 tons, with most loaded trucks prohibited and required to use lengthier alternative routes (US Route 3/NH Route 26).

- The slopes between NH Route 16 and the Androscoggin River have a history of instability, and a number of slope failures have occurred in recent years to the north and south of the project area. Evidence of slope instability has been observed within the project area in the last year. Slope failures cause concern for public safety, require traffic delays or detours during repairs, and result in negative impacts to the river from sedimentation and loss of riparian habitat.

Existing Conditions

Setting

The project area consists of an approximately 1.3-mile long section of NH Route 16 in Cambridge, New Hampshire. Cambridge is an unincorporated township located in Coos County. Coos County is the least populated, northernmost county in New Hampshire with a population of approximately 33,055 according to the 2010 US Census.

NH Route 16 is a vital north-south corridor along the eastern side of the State. The route originates in Portsmouth, NH at the intersection of Interstate 95 and the US Route 1 Bypass and continues north for approximately 150 miles to the Maine border in Wentworth's Location, New Hampshire. The roadway connects the Seacoast Region to the Lakes Region and the White Mountains. The project area is located in the northern portion of the NH Route 16 corridor, approximately 20 miles south of the northern terminus in Wentworth's Location. The City of Berlin, New Hampshire is located approximately 17.5 miles south of the project along NH Route 16.

The project corridor is located along a remote, rural segment of NH Route 16. The roadway is paralleled by the Androscoggin River immediately to the east along the entire length of the project corridor. The 13 Mile Woods Community Forest is located on the west side of the roadway. There are a few unpaved logging roads located along the west side of the roadway. Except for the existing roadway, the project area is undeveloped. In the early 1970s, a scenic easement was given to the State of New Hampshire by the Brown Company along 11.4 miles of NH 16 in order to preserve this area's scenic and recreational values. The easement holder is NHDOT. This easement extends 125' from the right-of-way to the west and to the edge of the river to the east, beginning in Dummer, continuing through Cambridge, and ending in Errol. The easement boundaries were established through a Federal Aid Landscaping Project (Project LSS 202(2)) in 1974 (Exhibit 1).

Photo 1: NH Route 16 Typical Roadway Section within the Project Area

The surrounding area consists primarily of forested lands. Forests are dominated by the northern spruce-fir vegetation community. Large palustrine forested wetland complexes are located throughout much of the project area, and there are two unnamed perennial stream crossings located within the project area.

Roadway Characteristics

The existing roadway through the project area consists of two 11 to 12-foot travel lanes with two 1 to 2-foot shoulders. The posted speed limit within the project area is 50 mph. The existing controlled access right-of-way (ROW) extends approximately 75 feet from the edge of pavement.

The segment of roadway within the project area is classified as a Minor Arterial. The Functional System is the Federal Highway Administration (FHWA) process of grouping roads according to the character of service they are intended to provide. The Arterial Highway System is the group of roads constituting the highest degree of through traffic movement and largest proportion of total travel. The Annual Average Daily Traffic (AADT) is approximately 1,200 vehicles per day, with a vehicle composition of approximately 14% trucks (greater than the statewide average). The volume of truck traffic substantiates the economic importance of this route.

Alternatives Analysis

Four design alternatives have been developed and evaluated based on the purpose and need of the project. The "no-build" alternative is included as a benchmark against which the impacts of other alternatives can be compared. In addition to evaluating the degree to which each alternative would meet the purpose and need of the project, impacts to the human and natural environment were assessed with consideration given to all possible measures to appropriately minimize and mitigate for unavoidable impacts in order to design a project that would comply with all applicable State and Federal regulatory requirements. The key elements of the human and natural environment that were evaluated include:

- Connectivity of the corridor during construction (i.e. impact to the traveling public)
- Wetlands

- Floodplain
- Androscoggin River
- Water Quality
- 13 Mile Woods Community Forest
- Scenic value of the corridor

More information on these resources and concerns is provided later in this document. Also see the Summary of Regulatory Requirements (Exhibit 2).

Each of the design alternatives described below proposes an 11-4 roadway typical (two 11-foot travel lanes and two 4-foot shoulders) in order to bring the roadway up to current design standards. This typical requires widening the roadway by 2 to 6 feet.

Alternative 1 – "No-Build"

This alternative would provide no improvements to NH Route 16 other than routine maintenance. The poor condition of the pavement and road base cannot be addressed by routine maintenance, and roadway slope instability would continue to be addressed on an as-needed basis. For these reasons, the No Build alternative would not provide a sustainable roadway that maintains the connectivity of the corridor or minimizes long-term maintenance and risk resulting from the proximity of the Androscoggin River. Therefore, this alternative does not meet the purpose and need of the project.

Alternative 2 – Reconstruction on Existing Alignment

Reconstruction on existing alignment would allow for limited box reconstruction by raising the road up by about one foot, the maximum increase that the roadway could be raised without requiring additional fill in the Androscoggin River. The roadway would be widened slightly to the west in order to accommodate the 11-4 roadway typical. Since the roadway would continue to be in close proximity to the river, this alternative would require hard armoring portions of the riverbank to address slope instability. In addition, at least 2,500 feet of guardrail would be required along the river to meet current safety standards.

This alternative only partially addresses the poor condition of the pavement and road base by raising the roadway by one foot; however, this alternative does not minimize the long-term risk resulting from the proximity of the Androscoggin River. Hard armoring portions of the riverbank may not result in long-term bank stability. Furthermore, hard armoring is not conducive to maintaining the scenic quality of the surrounding area, nor is extensive guardrail along the river.

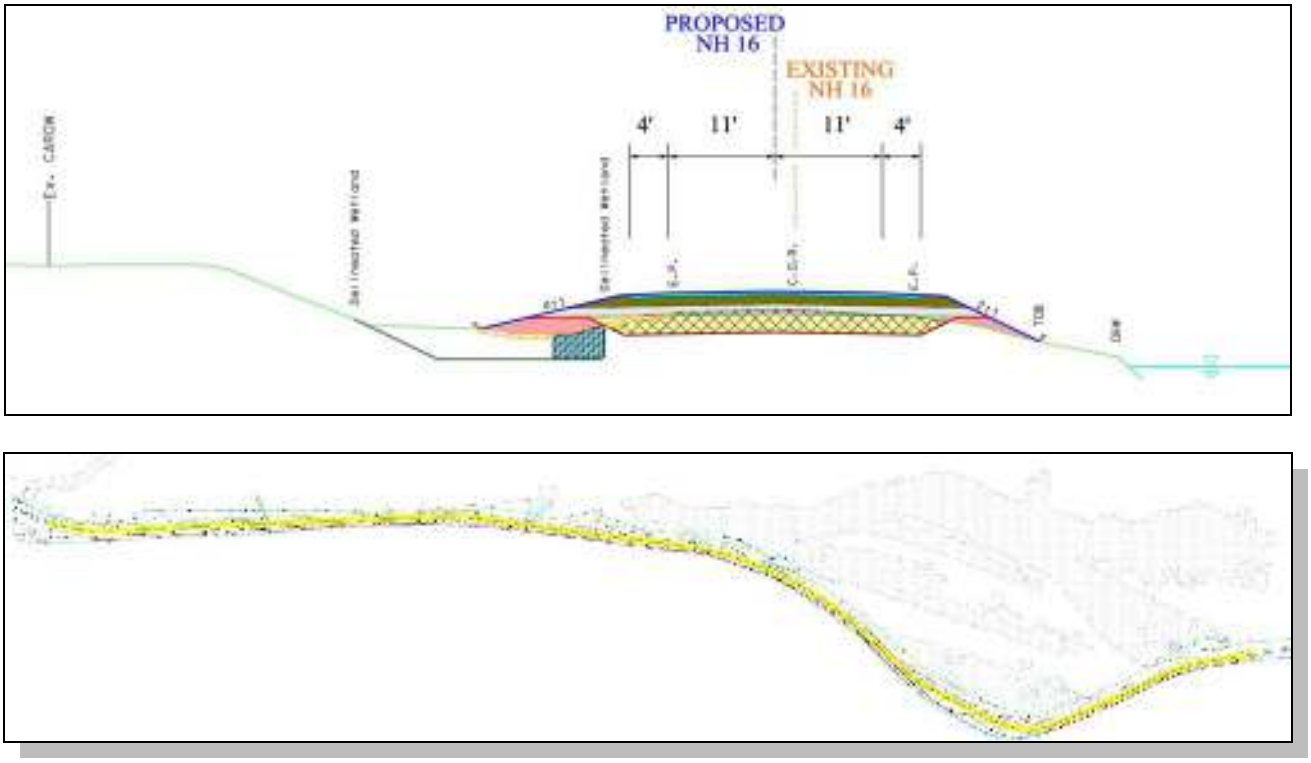
This alternative would not allow for the maintenance of traffic during construction. NH Route 16 provides the most direct route between Gorham and Errol, with a distance of 36 miles. The only alternative routes to Errol require taking US Route 2 into Maine to reach NH Route 26 or taking NH Route 110 west to US Route 3. Both of these alternative routes are roughly double the distance. Maintaining a detour of this length for two construction seasons would substantially impact local commuters, businesses, and tourists in the North Country.

While this alternative would result in the least impact to wetlands of the four design alternatives, it would result in the greatest impact to the bank and channel of the Androscoggin River and would require fill in the regulatory floodway and floodplain of the river. The online alignment would not provide adequate opportunities to mitigate for the loss of flood storage. Also, this alternative would not allow for any stormwater treatment due to the roadway's proximity to the river and the prevalence of wetlands to the west.

This alternative could be constructed within existing right-of-way; therefore, impacts to the 13 Mile Woods Community Forest could be avoided.

This alternative does not meet the purpose and need of the project and results in the greatest impacts to the human and natural environment that could not be fully mitigated. This alternative also has the highest estimated cost at $8.1 million. Therefore, this alternative was not selected.

Plan and section view of Alternative 2, Reconstruction on Existing Alignment



Alternative 3 – Partial Alignment Shift

This alternative would involve shifting the roadway approximately 12 feet to the west, allowing for full box reconstruction. Proposed roadway slopes would tie into the existing riverbank, which would result in some impacts to the river and bank. Slope armoring would also be required in some locations to address slope instability. Approximately 500 feet of guardrail would be required.

This alternative addresses the poor condition of the pavement and road base with full box reconstruction and shifting the road away from the river; however, this alternative does not fully minimize the risk resulting from the proximity of the Androscoggin River. Hard armoring portions of the riverbank may not result in long-term bank stability. Furthermore, hard armoring is not conducive to maintaining the scenic quality of the surrounding area, nor is extensive guardrail along the river.

Traffic could be maintained during construction using alternating one-way traffic; however, the use of only one lane of traffic for extended periods would be a substantial impact to travelers.

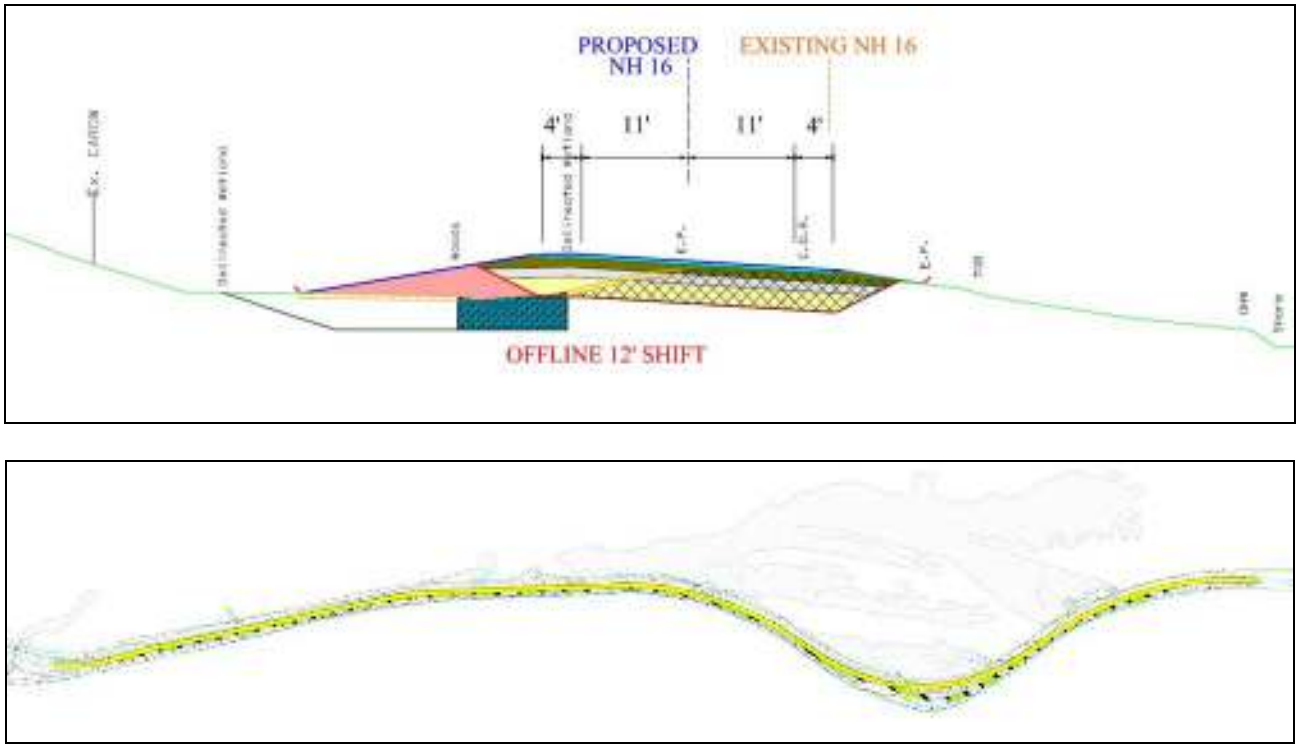
This alternative results in more impact to wetlands than Alternative 2. While it results in less impact to the bank and channel of the Androscoggin River, it would still require fill in the regulatory floodway and floodplain of the river and the partial shift of the alignment would not provide adequate opportunities to mitigate for this loss of flood storage. Minimal stormwater treatment would be possible and the level of treatment that could be provided would not meet regulatory requirements.

This alternative could be constructed within existing right-of-way; therefore, impacts to the 13 Mile Woods Community Forest could be avoided.

The estimated cost of this alternative is $7 million.

This alternative only partially meets the purpose and need of the project and results in impacts to the human and natural environment that could not be fully mitigated. Therefore, this alternative was not selected.

Plan and section view of Alternative 3, Partial Alignment Shift



Alternative 4 – Offline Alignment Shift

The offline alignment shift alternative would shift the roadway approximately a full roadway width to the west (approximately 50 feet from the existing edge of pavement). Proposed roadway slopes would avoid the bank of the river. Slope armoring would not be required to address slope instability since the roadway would be shifted away from the high-risk areas and any impact the roadway currently has on slope instability would be eliminated. No guardrail would be required along the river with this alternative.

This alternative addresses the poor condition of the pavement and road base, fully addresses the long-term sustainability of the roadway, and preserves the scenic quality of the surrounding area.

This alternative would allow for the maintenance of two lanes of traffic throughout construction, with only occasional restrictions to one-way, alternating traffic for short periods.

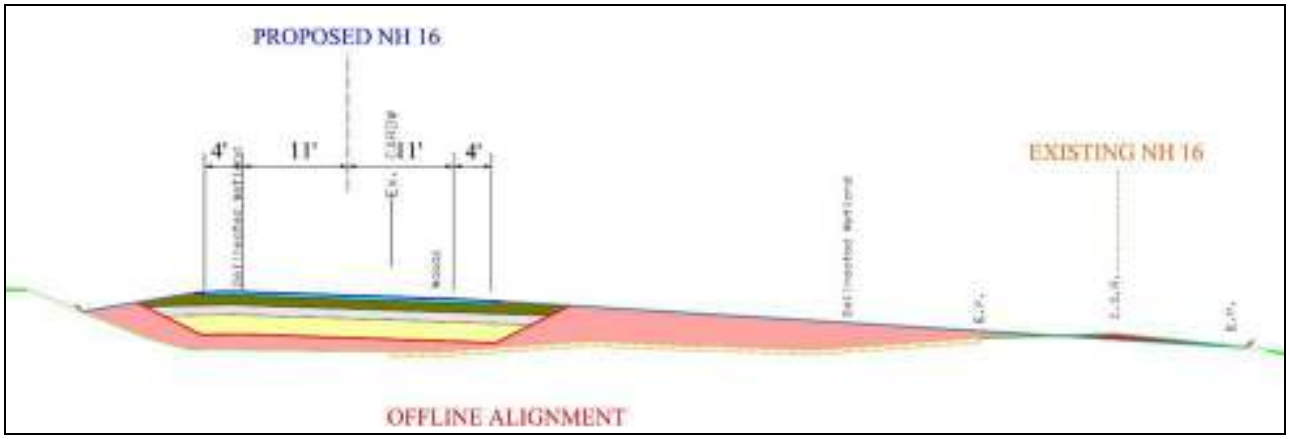
This alternative would result in the greatest amount of wetland and floodplain impact of all the design alternatives. The full alignment shift provides opportunities to partially mitigate for the loss of flood storage; however, mitigating for the entire loss of flood storage would not be possible No bank armoring along the river would be required and there would be no fill in the floodway. This alternative would allow for stormwater treatment that would meet State and Federal regulatory requirements.

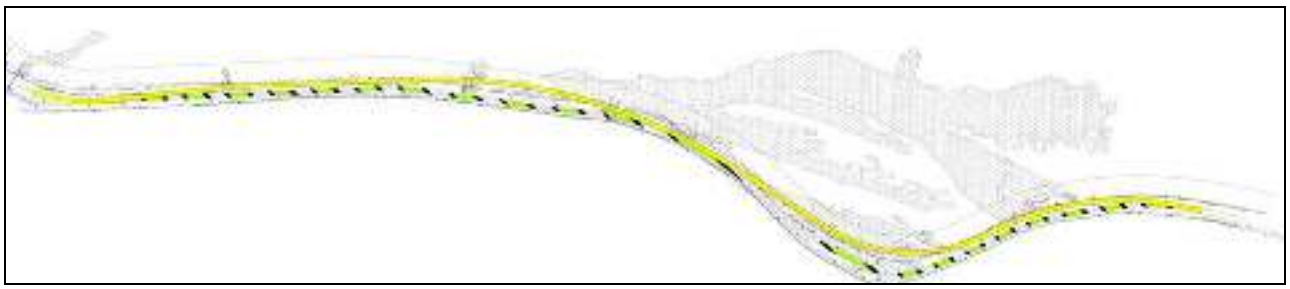
Approximately 10 acres of additional right-of-way would be required for this alternative, all of which would be acquired from the 13 Mile Woods Community Forest. It is assumed that this impact would be approved by all stakeholders and fully mitigated through monetary or land contributions.

The estimated cost of this alternative is $8 million.

This alternative fully meets the purpose and need of the project. It does, however, result in impacts to the floodplain that cannot be fully mitigated. Since another alternative exists that fully meets the purpose and need of the project, reduces impacts, and has a lower cost, Alternative 4 was not selected.

Plan and section view of Alternative 4, Offline Alignment Shift





Alternative 5 – Offline Variation (Proposed Action)

This alternative is identical to Alternative 4 except for a 2,000-foot section of roadway that would be shifted approximately 200 feet west of the existing roadway. This alignment was developed to utilize a linear area located outside the 100-year floodplain to minimize impacts to the floodplain and associated forested wetlands.

This alternative addresses the poor condition of the pavement and road base, fully addresses the long-term sustainability of the roadway, and preserves the scenic quality of the surrounding area.

This alternative would allow for the maintenance of two lanes of traffic throughout construction, with only occasional restrictions to one-way, alternating traffic for short periods.

This alternative would result in less wetland impact than Alternative 4 and would require the least impact to floodplain of all the design alternatives. This is the only design alternative that allows for the loss of flood storage to

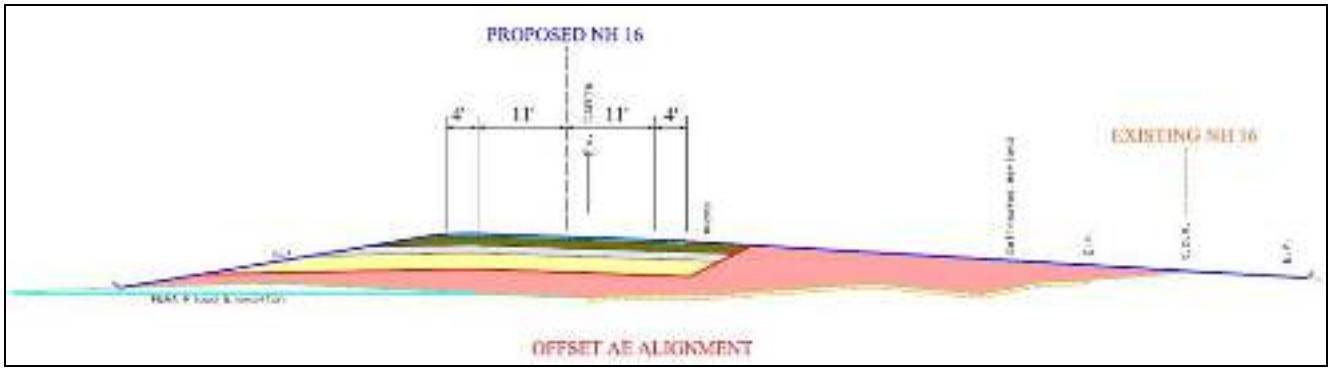
be fully mitigated. As with Alternative 4, this alternative allows for stormwater treatment that fully meets regulatory requirements.

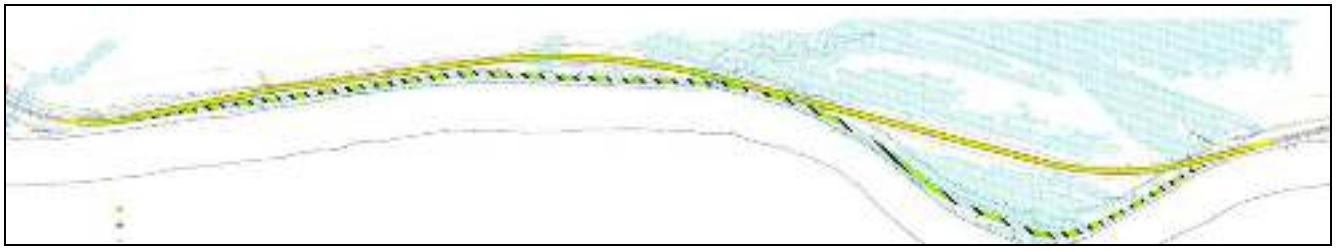
Approximately 12 acres of additional right-of-way would be required for this alternative, all of which would be acquired from the 13 Mile Woods Community Forest. It is assumed that this impact would be approved by all stakeholders and fully mitigated through monetary or land contributions.

The estimated cost of this alternative is $7.8 million.

This alternative fully meets the purpose and need of the project, balances impacts to the human and natural environment, and meets all State and Federal regulatory requirements.

Plan and section view of Alternative 5, Offline Variation (Proposed Action)





Evaluation of Environmental Effects

The effects of the preferred alternative relative to the following social, economic, natural, and cultural resources/issues have been reviewed. Resources/issues that are not discussed in the body of this document were evaluated; however, no impacts were evident, and as such, these resources/issues are omitted from this environmental documentation. Those resources and issues are listed in plain text below. The resources and issues deemed applicable for this project are indicated in **bold** type.

Social/Economic		*Natural*	*Cultural*
Safety	**Air Quality**	**Wetlands**	**Historical**
Transportation Patterns	Noise	**Surface Waters**	**Archaeological**
Community Services	**Farmland Soils**	**Shoreland Protection**	**Stone Walls**
Business Impacts	**Construction Impacts**	**Floodplains/Floodways**	**Aesthetics**
Land Acquisition	Displacements	**Water Quality**	
Environmental Justice	Neighborhoods	**Groundwater**	
Utilities	Land Use	**Wildlife/Fisheries**	
Hazardous Materials	Energy Needs	**Endangered Species**	
Contaminated Properties	Tax Base	**Natural Communities**	
Recreation	**Scenic Byways**	**Invasive Plants**	
Conservation Lands		Wild & Scenic Rivers	
Public Lands		NH Designated Rivers	
		Forest Lands	
		Coastal Zone	

Social and Economic Concerns

Safety/Transportation Patterns/Community Services/Business Impacts

NH Route 16 is classified as a Minor Arterial Roadway. The existing roadway consists of two 11 to 12-foot travel lanes with two 1 to 2-foot shoulders. The AADT is approximately 1,200 vehicles per day, with approximately 14% truck traffic. The posted speed limit within the limits of the project is 50 mph. The project area is undeveloped and does not contain any businesses or residences. However, NH Route 16 is a vital north-south transportation corridor and a critical economic link in northern New Hampshire. The roadway provides access for tourism, outdoor recreation, logging, and manufacturing. The majority of local residents commute through the project area to jobs located in Berlin and Gorham.

The existing pavement is deteriorating and is in poor condition partially due to the severe frost heaving that occurs in the spring. The road requires posting in the spring with load limits, requiring substantial detours for truck traffic. The proposed action would reduce or eliminate the influence of the river on the roadbed, thus providing a longer-term solution to concerns with pavement deterioration.

Crash data from 2007 to 2016 indicate that 17 crashes occurred in the project area in the period. All of the crashes were single-vehicle, 9 involved an animal collision, and 3 involved striking a tree. Only one of the accidents resulted in an incapacitating injury. That accident occurred during daylight hours and dry conditions. Bad pavement condition was mentioned in the report.

There are no reasonable detour routes in the event that NH Route 16 would be closed. Therefore, keeping the corridor open to traffic throughout construction will minimize traffic delays and economic impacts from the proposed project. The proposed alternative would allow for two lanes of traffic to remain open throughout the duration of construction, with only occasional restrictions to one-way, alternating traffic for short periods.

Land Acquisition

The proposed action will require the acquisition of additional right-of-way for the alignment shift to the west. Preliminary right-of-way impacts are estimated to be approximately 12 acres. The impacts outside the existing right-of-way are located entirely within the 13 Mile Woods Community Forest. Coordination with all 13 Mile Woods stakeholders is ongoing (see Conservation Lands section for more information).

The 125' wide scenic easement held by NHDOT will be reestablished based on the new right-of-way line.

Utilities

The project area contains aerial electric, telephone, and cable utilities. It is anticipated that relocation of utility lines and poles will be required for the project as proposed. Any necessary relocations will be confirmed and finalized during the Final Design phase of the project. The Department's Utility Section will continue to coordinate with the appropriate utilities. Disruption to service, if any, will be kept to an absolute minimum.

Hazardous Materials/Contaminated Properties

Remediation Sites

Hazardous waste sites are regulated by both the Federal Resource Conservation and Recovery Act of 1980 (RCRA) (40 CFR Part 261 C) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1986 (CERCLA). NHDES regulations incorporate by reference 40 CFR 260-270 (hazardous waste). The regulations include procedures for identifying hazardous waste, requirements for generators and transporters of hazardous waste, requirements for treatment, storage and disposal facilities, and other provisions.

The NHDES OneStop GIS database, the State database for environmental data, was accessed in February 2020 and reviewed for listed sites within 1,000 feet of the proposed project area. Based on the most recent data available, there are no records of remediation sites, solid waste facilities, hazardous waste generators, automobile salvage yards, aboveground storage tanks, or underground storage tanks in the vicinity of the project. For these reasons the proposed project is not anticipated to involve or encounter any remediation sites, hazardous materials, or contaminated properties.

Per- and Polyfluoroalkyl Substances

Per- and Polyfluoroalkyl Substances (PFASs) are a large group of man-made chemicals that are prevalent in many commercial products, including stain- and water-repellent or nonstick products. They are also used in industrial and manufacturing processes, and certain types of fire-fighting foam. These chemicals do not break down in the environment and are persistent in the human body, causing potential adverse health effects.

In 2016, the US Environmental Protection Agency (EPA) issued drinking water health advisories for two PFAS compounds: perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). NHDES then established Ambient Groundwater Quality Standards (AGQS) based on the EPA health advisories. The three established standards are 70 parts per trillion (ppt) for PFOA, 70 ppt for PFOS, and 70 ppt for PFOA and PFOS combined. Groundwater that has the potential to have PFAS-impacted groundwater above the AGQS may be subject to management through a Groundwater Management Plan.

The NHDES maintains a database of locations that have been sampled for PFAS to date. According to the NHES PFAS Sampling Web Map, accessed on February 12, 2020, there is one surface water sampling site located approximately 2.25 miles west of the project area. The PFAS concentrations at the sampling location did not exceed the AGQS. There are no documented AGQS exceedances located within 4,000 feet of the project area. Also, there are no landfill sites located within 4,000 feet of the project area.

Since there are no reported exceedances of the PFAS AGQS in the immediate vicinity of the project, it is unlikely that PFAS will be a concern. However, the NHDES PFAS database is under constant revision as new sites are sampled. Also, the need for dewatering during construction has not yet been determined. Therefore, as design of the project progresses, coordination between the NHDOT Contamination Program and NHDES will be necessary to confirm that the project will not encounter PFAS-impacted groundwater **(Environmental Commitment 5).**

Asbestos Containing Material

Asbestos consists of a group of silicate mineral fibers that were once commonly used in construction materials used for insulating, waterproofing, fireproofing, and surfacing. When these asbestos containing materials are disturbed, they can break down into microscopic fibers that may become airborne. Once airborne, these fibers can be inhaled and cause health concerns.

Asbestos containing materials that could be encountered during roadway construction include bridge components and utility line conduit. When potential asbestos containing materials are identified in a project, appropriate provisions are included in contract documents to ensure the proper handling and disposal during construction. There are no bridges or asbestos utility line conduit within the project area. For these reasons, asbestos containing materials are not anticipated in the project area.

Limited Reuse Soils

Statewide analytical data collected by NHDOT, as well as nationwide information, indicates that roadside soils commonly contain metals at concentrations above naturally occurring background conditions, and Polycyclic Aromatic Hydrocarbons (PAHs) exceeding acceptable reuse concentrations. These "Limited Reuse Soils" (LRS) excavated from within the operational right-of-way must be addressed in accordance with applicable NHDES rules and/or waivers. Soils that are anticipated to meet the definition of LRS may be subject to management through a Soils Management Plan. Roadside soils currently managed as LRS by the Department include all topsoil within the limits of the existing right-of-way, regardless of its depth. In those instances where there is no measurable topsoil, LRS will be measured from the top of the ground to a depth of six inches.

During final design of the project, it will be determined if LRS will be generated by the project and, if generated, if the material will require reuse on-site, disposal, and/or temporary stockpiling. Any excess materials that result from the project within the operational right-of-way will be addressed in accordance with applicable NHDOT guidance and NHDES rules **(Environmental Commitment 5).**

Recreation

Private Facilities

There are no private recreation facilities located in the vicinity of the proposed project.

Androscoggin River Access

There is no formal river access located in the project area. Unimproved roadside gravel pull-offs in the project area are occasionally utilized for short-term parking.

13 Mile Woods Community Forest

The project is located within the 13 Mile Woods Community Forest, a managed, multi-use, working forest that provides both timber harvesting and recreational opportunities. This area provides outdoor recreational opportunities including hiking, hunting, fishing, wildlife observation, cross country skiing, and snowmobiling. There are several gravel access roads/logging roads located along the west side of NH Route 16 within the project area. There are no formal hiking, skiing, or snowmobile trails or trailheads in the vicinity of the project. Coordination with FHWA has occurred regarding the 13 Mile Woods Community Forest and Section 4(f)

applicability. FHWA has determined that the 13 Mile Woods property is considered a multiple-use property and is not subject to protection under Section 4(f) (Exhibit 3).

Bicycles and Pedestrians

NH Route 16 is identified as a State Designated Bicycle Route (Advanced Bicycle Skills Recommended) within the project area. There are no sidewalks located within the project area, and the existing roadway shoulders are narrow, approximately 1 to 2 feet wide. The posted speed limit through the project area is 50 mph.

Pedestrian and cyclist use of the segment of NH Route 16 located within the project area is likely limited due to the remoteness and accessibility of this area, low population density, narrow shoulders, and high traffic speeds. The Town of Errol is located approximately 10 miles north of the northern limits of the project, and the towns located south of the project include Milan (approximately 10 miles); Berlin (approximately 17.5 miles); and Gorham (approximately 24 miles). There is sparse residential development along NH Route 16 located south and north of the project area, and none within the project area.

The *New Hampshire Statewide Bicycle and Pedestrian Plan* recommends a minimum shoulder width of 4 feet for bicycles. The proposed roadway will meet this recommendation with two 11-foot travel lanes and two 4-foot shoulders.

Conservation Land/Public Lands

Properties Present Within the Project Area

Based on a review of the existing New Hampshire Conservation/Public Lands GIS data layer, the entire project area is located within the 13 Mile Woods Community Forest (Figure 2),a 7,100 acre multi-use forest that is owned and managed by the Town of Errol. The property is protected through a Conservation Easement that involved Federal, state, and local funding, including the US Department of Agriculture (USDA) Forest Legacy Program and the New Hampshire Land and Community Heritage Investment Program (LCHIP).

The conservation and preservation purposes of 13 Mile Woods, summarized from the *13 Mile Woods Stewardship Plan* (2006) and *Economic Impacts of the 13 Mile Woods Community Forest in Errol, New Hampshire* (March 2013), include the following:

- conserve open space
- maintain a sustainable working forest
- enhance and protect public recreational opportunities including hiking, hunting, fishing, cross country skiing, and snowmobiling
- protect natural resources, including wildlife habitat, rare floodplain forest, and trout streams
- protect a lengthy scenic approach to Errol

The proposed action would require the acquisition of approximately 12 acres of the 13 Mile Woods Community Forest. Coordination with LCHIP, Forest Legacy Program, and Town of Errol is ongoing. Approval of the acquisition will require approval from the Forest Legacy Program pending the identification and review of suitable mitigation. LCHIP coordination must follow NH RSA 227-M:13, which defines the review and approval process that the LCHIP Board of Directors must adhere to when the NH Department of Transportation seeks to acquire LCHIP lands for transportation purposes. To date, the LCHIP Board has voted to participate in a joint public hearing with the Department in August 2020. Following the hearing, the Board will reconvene to vote on whether the project and proposed impacts are within their legislative authority to approve. If it is determined that it is not within the Board's authority, the project will require approval from the NH General Court through legislation. Coordination with 13 Mile Woods stakeholders will continue to obtain all necessary approvals and finalize suitable mitigation for impacts **(Environmental Commitment 7).**

Properties Not Present Within the Project Area

The Conservation Land Stewardship (CLS) Program is responsible for monitoring and protecting the conservation values of conservation easement lands in which the State of New Hampshire has invested through the Land Conservation Investment Program (LCIP). The CLS Program is located within the NH Office of Energy & Planning. The project has been reviewed by the CLS Program Coordinator, and it was determined that there are no LCIP properties within the project area (Exhibit 4).

The Land and Water Conservation Fund (LWCF) is a program established by Congress in 1964 to create parks and open spaces; protect wilderness, wetlands and refuges; preserve wildlife habitat; and enhance recreational opportunities. The NH Division of Parks and Recreation is the State LWCF Manager. Section 6(f) of the Land and Water Conservation Act requires all property acquired or developed with LWCF assistance to be maintained perpetually in public outdoor recreation use. Any permanent or temporary use of a LWCF property must be reviewed and approved by the LWCF Manager and the National Park Service, and conversion of LWCF property requires mitigation. Based on a review of their LWCF files, the NH Division of Parks and Recreation has advised that there are no LWCF properties present in the project area (Exhibit 5).

Through coordination with local officials, and review of available GIS data, it has been determined that no other types of conservation land or public lands exist in or adjacent to the project area.

Air Quality

The Clean Air Act Amendments of 1990 (CAAA) requires Federal actions to be consistent with the State Implementation Plan for achieving and maintaining Federal air quality standards. Transportation conformity must be shown at a both a regional and a project level.

The project is located in an attainment area. Moreover, this project is listed in the Statewide Transportation Improvement Program (STIP) but not as a regionally significant project. In accordance with 40 CFR 93, the FHWA includes a finding of regional transportation conformity through the STIP. For these reasons, a regional analysis of the proposed project is not required.

Project-level conformity must demonstrate that a project will not violate National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants (carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide). To determine whether a project may result in any local exceedances of the NAAQS, a microscale analysis is typically completed to determine pollutant concentrations. This analysis generally focuses on carbon monoxide (CO) and particulate matter, the constituents that can be addressed at the project level. Under the CAAA, this analysis is typically only required for projects that are located in a nonattainment or maintenance area. Coos County is in attainment for all the criteria pollutants. Therefore, a project-level conformity analysis is not required for the proposed project under the CAAA.

Although a project-level analysis is not required under the CAAA, NEPA requires Federal actions to consider project-level impacts on air quality regardless of location. In addition to the six criteria pollutants, consideration must be given to Mobile Source Air Toxics (MSAT), which are seven hazardous air pollutants from mobile sources: acrolein, benzene, 1,3-butadiene, diesel particulate matter, formaldehyde, naphthalene, and polycyclic organic matter.

A qualitative assessment of project-level air quality impacts was completed and determined that adverse air quality impacts are not anticipated and quantitative analysis is not warranted. The purpose of the project is to address pavement and slope deficiencies. The project will not involve increases in roadway capacity or substantial alterations to the existing roadway geometry and does not propose to install traffic signals. The project will not change traffic patterns or generate additional traffic that will result in changes in vehicular emissions after

completion of construction. Exceedances of the NAAQS are typically found only where there are high numbers of idling vehicles.

According to the FHWA *Interim Guidance on MSAT Analysis in NEPA Documents* (October 16, 2016), the proposed project has low potential MSAT effects given that the project will improve the pavement condition along NH Route 16 without adding new capacity. Therefore, a quantitative MSAT analysis is not warranted. According to the US Environmental Protection Agency's (EPA) MOVES2014 model, emissions of all of the priority MSAT decrease as speed increases. Further, according to the FHWA, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 90 percent between 2010 and 2050. Although local conditions may differ from these national projections in terms of vehicle mix and turnover, vehicle miles traveled, and local control measures, the magnitude of the EPA-projected reductions is so great that MSAT emissions in the project area are likely to be lower in the future in nearly all cases.

Based on these factors, the project will not contribute to violations of the NAAQS and will not contribute to increases in MSAT emissions; therefore, the constructed project will not result in any long-term impacts on air quality.

Noise

The 2016 NHDOT *Policy and Procedural Guidelines for the Assessment and Abatement of Highway Traffic Noise for Type I & II Highway Projects* contains the NHDOT's policy and procedural guidelines for assessing noise impacts and determining the need, feasibility, and reasonableness of noise abatement measures for both Type I and Type II highway noise abatement projects.

A Type I project is a proposed highway project which involves: the construction of a highway on a new location; a substantial horizontal or vertical alteration of an existing highway, and/or the addition of through-traffic lanes. The definition of a substantial horizontal alteration is a project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition. All Type I projects are required to complete a noise impact assessment during the Preliminary Design Phase of the highway project development process.

The proposed project involves a horizontal realignment of NH Route 16 to the west. However, the project area is located in a rural, undeveloped area and there are no noise receptors in the vicinity of the proposed project. Therefore, the proposed realignment will not result in halving the distance between NH Route 16 and the closest receptor between the existing condition and the proposed future build condition. Based on the absence of noise receptors, the proposed realignment does not constitute a substantial horizontal alteration from a traffic noise perspective. For these reasons, the project is not considered a Type I project.

A Type II project is defined as a proposed project for noise abatement on an existing Tier 1 highway where no highway improvements are programmed, and where there was no prior determination that a Type I or Type II abatement measure would not be either feasible or reasonable. NH Route 16 is not a Tier 1 Highway. Therefore, the proposed project is not a Type II project.

A Type III Project is a defined as a Federal or Federal-aid highway project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis. Therefore, based on the information discussed above, the proposed project is considered a Type III project and does not require a noise impact assessment.

Farmland Soils

The Farmland Policy Protection Act (FPPA), overseen by the Natural Resources Conservation Service (NRCS), was established to minimize the impact that Federal programs have on the conversion of farmland to nonagricultural uses. For the purpose of the FPPA, farmland includes areas where soils are designated as prime farmland soils or farmland soils of statewide or local importance, even if that land is not currently used for farmland. Projects within the existing right-of-way of a public road are not subject to the FPPA.

The project area is underlain by three NRCS mapped Soil Survey Map Units. The soils found in the project area include: Nicholville very fine sandy loam, 0 to 3 percent slopes; Pemi silt loam, 0 to 5 percent slopes; and Wonsqueak muck, 0 to 2 percent slopes. The Nicholville very fine sandy loam, 0 to 3 percent slopes soil series is classified as Prime Farmland and is located in the southern third of the project area and portions of the northern third. The proposed project will result in impacts in these areas located outside the existing right-of-way. The proposed action will result in approximately 12.8 acres of conversion of farmland soils as a result of fill placed for the realigned roadway and associated grading. A Farmland Conversion Impact Rating Form was submitted to NRCS (Exhibit 6). Based on the assessment criteria, the proposed impacts received a score of 117 out of 260 points. According to the FPPA, sites receiving a total score of less than 160 conform to the FPPA. Further consideration of protection of farmland soils is not required and no additional alternatives need to be evaluated.

Scenic Byways

The New Hampshire Scenic and Cultural Byways Program was established in 1992 under RSA 238:19, "… to provide the opportunity for residents and visitors to travel a system of byways which feature the scenic and cultural qualities of the state within the existing highway system, promote retention of rural and urban scenic byways, support the cultural, recreational and historic attributes along these byways, and expose the unique elements of the state's beauty, culture and history." The legislation established the program and the Scenic and Cultural Byways Council to serve as an advisory body for the Scenic and Cultural Byway System. The program is administered through the NHDOT, Bureau of Planning and Community Assistance.

The segment of NH Route 16 located within the project area is part of the Moose Path Trail Scenic Byway. The Moose Path Trail includes NH Route 16 north from Gorham to Errol, and NH Route 26 to Dixville Notch to NH Route 3 north to Pittsburgh. The highlights of this scenic byway include wildlife viewing areas, a National Wildlife Refuge, State Parks, State Forests, and woodland heritage. The portion of the scenic byway that travels through the project area is described as follows in the NHDOT brochure: *North of Pontook, you'll enter the 13 Mile Woods Scenic Area, which meanders along sections of the Androscoggin River. An interpretive center near the entrance to 13 Mile Woods (Bayview Lodge) provides information, lodging, and restrooms for visitors. Along this stretch you'll pass the Androscoggin Wayside, Mollidgewock State Campground, and will enjoy beautiful views of the Androscoggin River.*

The proposed action would not impact any of the key attributes of the scenic byway. Coordination with the Bureau of Planning and Community Assistance will occur during final design **(Environmental Commitment 1).**

Natural Resources

Wetlands and Surface Waters

Description of Wetlands and Surface Waters

Wetland resources were delineated within the limits of the project based on the 1987 US Army Corps of Engineers *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* and the 2012 *Regional Supplement to the Corps Wetland Delineation Manual: Northcentral and Northeast Region*. Wetlands were classified utilizing the *Classification of Wetlands and Deepwater Habitats of the United States*, Lewis M. Cowardin,

US Department of the Interior, Fish and Wildlife Service. Ordinary high water (OHW) and top of bank (TOB) were delineated for surface waters based on hydrologic, topographic, and vegetative characteristics.

The Androscoggin River is the most prominent surface water in the vicinity of the project, flowing south, paralleling NH Route 16 immediately to the east for the entire length of the project. The wetlands found within the project area consist primarily of palustrine forested wetlands located within a broad, flat, low lying river valley associated with the historic floodplain of the Androscoggin River (Figure 3). The flow of the Androscoggin River is now controlled by a series of dams upstream and downstream from the project area, limiting the River's floodplain access. The project area does not have a recent history of flooding.

Vegetation in the forested wetlands was dominated by red maple (*Acer rubrum*), balsam fir (*Abies balsamea*), winterberry (*Ilex verticillata*), nannyberry (*Viburnum lentago*), goldthread (*Coptis trifolia*), and bunchberry (*Chamaepericlymenum canadense*). There are two unnamed perennial stream crossings located within the project area. Stream crossings are discussed further in the following section.

Vernal Pools

A vernal pool survey was completed on May 20, 2020 and a total of six vernal pools were identified in a forested wetland complex (Wetland M) near the northern end of the project (Figure 3). Vernal pool survey methods included visual egg mass surveys, dip net samples of pool substrate for macroinvertebrates and tadpoles, and any other audio or visual signs of vernal pool indicator species. New Hampshire Vernal Pool Documentation and Army Corps Vernal Pool Characterization forms were completed for each vernal pool.

Based on the Corps Vernal Pool Characterization Form, all six vernal pools are considered high value pools. However, the form does not factor in characteristics such as the size of the pool or habitat/productivity (woody material/attachment sites in pool, total number or concentrations of egg masses, etc.). Most of the pools received similar scores; however, based on field observations, vernal pools 1 and 4 provide higher quality amphibian breeding habitat than the other due to their larger size, water depth, and amount of woody material in the pool. Vernal pools 1 and 4 also had a higher number of egg masses, especially for species of mole salamanders.

NH Stream Crossing Rules

The NH Stream Crossing Rules (Chapter Env-Wt 900) regulates all crossings of perennial streams and intermittent streams. Regulations are based on the tier of the crossing, determined by the area of the contributing watershed, as well as the presence of resource concerns such as NH Designated Rivers, surface water impairments, floodplains, rare species, and prime wetlands. In general, regulations pertaining to Tier 1 crossings are least restrictive and those pertaining to Tier 3 crossings are most restrictive. The Stream Crossing Rules require crossings to consider a variety of fluvial geomorphological features, including flood flows, sediment transport, and aquatic organism passage.

As mentioned above, there are two stream crossings located within the project area (Figure 3). Stream E is a small, unnamed perennial stream with a watershed size of approximately 100 acres located in the middle of the project corridor. The existing crossing consists of a 24" corrugated metal pipe (CMP). The average bankfull width of the channel was measured to be approximately three feet. Stream L is an unnamed, perennial stream located approximately 950 feet north of Stream E. Stream L has an approximately 295-acre watershed. The existing crossing consists of a 15" and 18" CMP. The existing undersized stream crossing has created an impounded condition on the upstream side of the crossing. The approximate width of the channel ranges from 34' to 47'. The channel is bordered by a well-developed palustrine emergent/scrub-shrub fringe on both sides, that transitions to forested wetlands further from the stream.

Both streams are tributaries of the Androscoggin River, located immediately east of NH Route 16. The existing culverts at both Stream E and Stream L discharge directly into the Androscoggin River. Based on the size of their respective watersheds, Stream E is a Tier 1 crossing and Stream L is a Tier 2 crossing. However, both stream crossings are located within FEMA mapped 100-year floodplain. Per Env-Wt 904.05(a), a crossing located within a 100-year floodplain can elevate a stream crossing to a Tier 3 crossing. Based on the Stream Crossing Rules both crossings would be classified as Tier 3 crossings. However, based on coordination with NHDES, it is anticipated that a waiver of 904.05(a)(3) will be approved in order to classify both crossings based on watershed size (Exhibit 20). It is further anticipated that approval of an alternative design crossing at Stream L will be required in order to avoid adverse impacts to the impounded wetland system. Coordination with NHDES will continue during final design **(Environmental Commitment 8).**

Impacts to Wetlands and Surface Waters

The proposed action would involve work within areas under the jurisdiction of the NH Department of Environmental Services (NHDES) Wetlands Bureau and the Army Corps of Engineers (ACOE). Based on preliminary design of the project, estimated permanent impacts to wetlands and streams total 5.1 acres, including 634 linear feet of stream channel. Impact calculations will be further refined during the Final Design phase of the project.

The proposed action would result in direct impacts to vernal pools 5 and 6 and would avoid direct impacts to vernal pools 1, 3, and 4. It is anticipated that direct impacts to vernal pool 2 can also be avoided by reducing slope and tree clearing impacts at that location.

Preliminary impacts were discussed at the NHDOT Natural Resource Agency Coordination Meetings on June 19, 2019 and June 17, 2020. Based on proposed impacts, it is anticipated that a major impact permit will be required from NHDES and that the project will require an Individual Section 404 Permit from the US Army Corps of Engineers. All appropriate permits will be secured from the NHDES and the ACOE prior to construction **(Environmental Commitment 3).**

Given the prevalence of wetlands in proximity to the existing roadway, there is no practicable alternative to avoid wetland impacts. The proposed action includes all practicable measures to minimize wetland impacts and suitable mitigation will be provided for unavoidable impacts. The project satisfies requirements of the FHWA Programmatic Wetland Finding for Categorical Exclusions and does not require an individual wetland finding.

Mitigation

Compensatory mitigation will be required for unavoidable wetland and stream impacts. Mitigation will also need to be considered for vernal pool impacts. Based on preliminary impacts of the proposed action, the in-lieu fee for wetland and stream impacts would be approximately $895,000. Suitable mitigation could include a combination of land preservation, stream restoration, and an in-lieu fee payment to the NHDES Aquatic Resources Mitigation Fund.

Input on potential mitigation projects was requested from town officials in Dummer and Errol, The Nature Conservancy, NH Fish & Game, NH Division of Forest & Lands, North Country Council, and the Mahoosuc Land Trust. To date, NH Fish & Game, The Nature Conservancy, and the Mahoosuc Land Trust have provided input on potential land preservation opportunities. These options will be reviewed and coordination with state and federal agencies and other stakeholders will continue in order to develop a suitable mitigation package that satisfies NHDES and ACOE wetland and stream mitigation requirements **(Environmental Commitment 2).**

Shoreland

Based on the stream order classification system, in which first order streams are the smallest streams, the Androscoggin River is considered a 4th order stream. As such, the river is subject to the Shoreland Water Quality Protection Act (SWQPA) (NH RSA 483-B), which applies to any river classified as 4th order or larger, as well as Designated Rivers, lakes, and ponds. The SWQPA establishes minimum standards for activities within the

Protected Shoreland that are designed to protect the water quality of the state's larger water bodies. The Protected Shoreland is defined as all land located within 250 feet of the reference line (natural mean high water level or limit of flowage rights) of public waters. The proposed action will result in earth disturbance and tree clearing within the Protected Shoreland; therefore, a permit from the NH Department of Environmental Services Shoreland Program will be required **(Environmental Commitment 3).**

Floodplains/Floodways

NH Route 16 is located immediately west of the Androscoggin River. The Androscoggin River has an associated Federal Emergency Management Agency (FEMA) mapped Regulatory Floodway along the entire length adjacent to the project (Figure 4). FEMA defines a Regulatory Floodway as the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the surface water elevation more than a designated height. Any increase in the base flood elevation that cannot be mitigated would require coordination with FEMA, completion of a Letter of Map Revision, and buy-in from the affected communities. The proposed action will not result in impacts to the regulatory floodway that will result in an increase in the base flood elevation.

The base flood is the national standard used by the National Flood Insurance Program (NFIP) and all Federal agencies for purposes of requiring the purchase of flood insurance and regulating new development. The base flood is defined as the flood having a one percent chance of being equaled or exceeded in any given year. This is also referred to as the 100-year flood. The project area contains FEMA mapped 100-year floodplains primarily in the northern half of the project area (Figure 4). The mapped floodplains in the project area are associated with the Androscoggin River and the two tributaries. The proposed action will result in 1,920 cubic yards of fill within the floodplain.

Executive Order 11988 requires federal agencies to consider alternatives that avoid adverse effects and incompatible development in floodplains. If the only practicable alternative must be located in a floodplain, federal agencies shall design or modify the action in order to minimize potential harm to or within the floodplain. Given the roadway's proximity to the river, all design alternatives result in impacts to the floodplain. The proposed action results in the least impact to the floodplain of all alternatives that were considered by shifting a 2,000-foot section of roadway further west to an area located above the floodplain. Floodplain impacts that cannot be avoided will be fully mitigated by creating equivalent flood storage areas along the corridor.

Floodplain impacts have been minimized to the maximum extent practicable and avoiding impacts entirely is not practicable due to the location of the existing roadway within the floodplain. Mitigation through the creation of a flood storage areas is proposed in order to further minimize harm to floodplains. Impacts are limited to the periphery of mapped floodplains adjacent to NH Route 16 and will not adversely impact the overall functions and values of the floodplain. The project as proposed will not cause flooding in new areas and will not change the elevation of the floodplain. These impacts do not represent a significant encroachment, which is defined as impacts that result in a considerable probability of loss of human life; likely property damage resulting in substantial cost or loss of vital transportation facility; or a notable adverse impact on floodplain values (DOT Order 5650.2 on Floodplain Management and Protection). For these reasons, the proposed project includes all practicable measures to minimize harm to floodplains and conforms to State and Federal floodplain protection standards.

The project satisfies requirements of the FHWA Programmatic Floodplain Finding for Categorical Exclusions and does not require an individual floodplain finding.

Coordination with the NH Floodplain Manager, FHWA, and ACOE will continue during final design **(Environmental Commitment 10).**

Water Quality

Surface Water Impairments

Section 303(d) of the Clean Water Act requires each state to submit a list of impaired waters to the US EPA every two years to identify surface waters that are impaired by pollutants, not expected to meet water quality standards within a reasonable time, and require the development of a Total Maximum Daily Load (TMDL) study. This list is prepared by NHDES as outlined in the draft *2018 Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology*. According to the NHDES draft 2018 303(d) list (most recent available), the unnamed perennial stream (Stream L, Assessment Unit ID: NHRIV400010602-28) and the Androscoggin River (Assessment Unit ID: NHRIV400010602-04) do not have any water quality impairments listed.

Stormwater Treatment

Runoff from the project area is not currently treated in any formalized treatment areas. In accordance with the NHDES Alteration of Terrain (AOT) Administrative Rules Env-Wq 1500, activities that result in terrain alteration shall not cause or contribute to any violations of the surface water quality standards established in Env-Wq 1700. Per a Permit Exemption signed by NHDES and NHDOT in 2011, NHDOT projects are not required to obtain an AOT Permit but must still comply with AOT regulations. Therefore, permanent stormwater treatment measures must be considered when the project area is greater than 100,000 square feet of land (or more than 50,000 square feet if within a protected shoreland) or there are impacts to any land with a grade of 25% or greater within 50 feet of a surface water. The project area is greater than 100,000 square feet and compliance with AOT regulations will be required.

The proposed action is expected to require an Individual Section 404 Permit from the Army Corps of Engineers; therefore, the project will also require an Individual Water Quality Certification (WQC) from the NHDES Watershed Management Bureau, the WQC permitting authority under Section 401 of the Clean Water Act. Similar to the NHDES AOT permit, the purpose of the WQC is to demonstrate compliance with state surface water quality standards. The WQC will be obtained during final design **(Environmental Commitment 4).**

The proposed project would result in approximately 25,589 square feet of new pavement. Since the pollutant removal efficiency of stormwater treatment practices is less than 100%, NHDOT strives to treat runoff from an area at least twice the size of the area of proposed increased pavement to reduce impacts of additional impervious surface on water quality. The proposed treatment will treat runoff from approximately 57,195 square feet of pavement, an area that is more than 2 times the area of increased pavement.

The proposed treatment method for stormwater runoff would consist of a vegetated buffer, designed according to Env-Wq 1508.09. The vegetated buffer would be located between the new alignment and the Androscoggin River. The purpose of the buffer is to help slow down and filter stormwater runoff before it reaches the river. This treatment method is more consistent with the scenic, rural quality of the project area than more traditional treatment practices such as swales and ponds.

AOT compliance requirements are below in italics:

- *The project must be designed to prevent permanent water quality violations.*
  The proposed vegetated buffer would meet or exceed all requirements of Env-Wq 1508.09 Stormwater Treatment Practices: Vegetated Buffers. Runoff from the roadway would sheet directly into the buffer and the buffer flow path would be at least 50 feet wide. The total proposed buffer would treat runoff from approximately 57,195 square feet of pavement, which is more than twice the area of increased pavement.

- *Temporary measures must be employed during construction to prevent water quality violations.*
  All appropriate erosion and sedimentation control practices will be implemented during construction.

- *Wetlands cannot be utilized for stormwater treatment.*
  The proposed vegetated buffer will not utilize or impact existing wetlands.

- *Invasive plants must be addressed through contract provisions.*
  Invasive plants are located in the project area and appropriate best management practices will be implemented during construction to prevent their spread. Further details can be found in the Invasive Species section of this document.

- *The project cannot result in adverse impacts to State or Federally Threatened or Endangered species or exemplary natural communities.*
  The project will not adversely impact known rare species or exemplary natural communities. Further details can be found in the Endangered Species/Natural Communities section of this document.

Shifting the roadway away from the river and establishing a vegetated buffer between the road and the river is expected to result in equal or lower pollutant loading than currently exists for most pollutants associated with roadways. The vegetated buffer will also enhance the scenic qualities along the roadway and provide a more natural riparian zone that is expected to benefit wildlife, fisheries, and riverbank stability. Details of the vegetated buffer will be finalized as the project progresses through final design.

Road Salt

The primary material used for de-icing roadways in the winter is sodium chloride (road salt), which can impact surface waters and groundwater through stormwater runoff and infiltration. Sodium chloride cannot be treated or filtered with stormwater treatment methods and only dilution reduces its concentration in water. Sodium and chloride in surface waters and groundwater can impact drinking water quality, as well as wildlife, aquatic species, and vegetation that depend on surface waters. There are no drinking water wells in the project area; therefore, this section focuses on aquatic habitats.

NHDES has established water quality standards for chloride in surface waters to assess impacts to aquatic organisms. The chronic (4-day average) standard for chloride is 230 mg/L, and the acute standard (1-hour average) is 860 mg/L (Env-Wq 1700). Water quality data was obtained from the NHDES Environmental Monitoring Database for Bear Brook and the Androscoggin River, the two sampling locations nearest the project area, located approximately 1 mile north. In 2005, the chloride level in Bear Brook was 0.16 mg/L. Between 2014 and 2018, the highest specific conductance reading in the Androscoggin was 34 microsiemens/cm, which equates to a chloride level of less than 20 mg/L.

The proposed project will result in an increase in impervious surface of 25,589 square feet along the 1.3-mile project. Although the proposed action would result in an increase in the area of pavement, the total lane miles is a more accurate measure of potential salt load from roadway de-icing. The lane miles of the existing roadway within the project area total 2.6 miles. The proposed action would result in 2.4 lane miles, a slight decrease due to reduced curves along the new alignment. According to the NHDOT *Winter Maintenance Snow and Ice Policy* (2001), the typical application rate of road salt is 250 to 300 pounds per lane mile. This would equate to approximately 780 pounds of road salt applied within the 1.3-mile project area during any given treatment. The proposed alignment will be slightly shorter than the existing alignment, decreasing lane miles slightly and potentially resulting in a slight decrease in road salt to around 720 pounds per application. Based on the chloride levels just north of the project area in Bear Brook and the Androscoggin River, a 12-fold *increase* in chloride concentration would be required before acute or chronic water quality exceedances would be expected to occur in the river and more than a 1,000-fold increase would be required in the tributaries. This level of increase in

chloride concentrations is not expected to occur, in part because the total lane miles would be decreasing over the existing condition, and in part because the improved pavement surface will allow for more efficient winter maintenance.

Construction Water Quality

Stormwater discharges from construction activities resulting in earth disturbance greater than one acre in size must obtain coverage under an EPA National Pollutant Discharge Elimination System (NPDES) permit. In New Hampshire, such discharges are generally permitted under the Construction General Permit (CGP). Coverage under the CGP requires submittal of a Notice of Intent (NOI) and preparation of a Storm Water Pollution Prevention Plan (SWPPP). Since the proposed project is expected to disturb more than one acre of land, an NOI and SWPPP will be required prior to the start of construction **(Environmental Commitment 12).**

Fish and Wildlife

Wildlife Habitat

The 2015 NH Wildlife Action Plan (WAP) provides the framework for conserving Species of Greatest Conservation Need (SCGN) and their habitats in New Hampshire. The WAP identifies 169 SCGNs and focuses on 27 habitats that support these species. The WAP also includes a habitat-based statewide map that identifies "Highest Ranked Wildlife Habitat," which shows where habitat exists in the best ecological condition. Habitat is ranked in a three-tier system with 1 – Highest Ranked Habitat in New Hampshire (the State); 2 – Highest Ranked Habitat in Biological Region; and 3 – Supporting Landscapes.

The proposed project contains Highest Ranked Habitat in the Biological Region and Supporting Landscapes. The southern end of the project is located adjacent to an area identified as Highest Ranked Habitat in the State (Figure 5). The Highest Ranked Habitat in the State in the vicinity of the project is associated with Bog Brook, near the southern end of the project, on the opposite (east) side of the Androscoggin River and the expansive associated wetland complex. The Highest Ranked Habitat in the Biological Region and Supporting Landscapes located within the project area are associated with the unnamed perennial stream (Stream L) and the associated wetland complex. The majority of the forested area west of the project is identified as Supporting Landscape. Impacts from the proposed project are limited to the edge of these mapped habitat polygons.

The majority of the proposed project area is not located within WAP mapped habitats (Figure 5). According to the WAP mapping, the habitat types in the project area include: Floodplain Forest; Marsh and Shrub Wetland; High-Elevation Spruce-Fir Forest; Peatland. Additional habitat types in the vicinity include: Open Water; Northern Swamp; and Northern Hardwood-Conifer Forest.

Wildlife Connectivity

Senate Bill 376 (SB376), an act relative to wildlife corridors, took effect on August 9, 2016. SB376 requires consideration of existing and needed wildlife corridors, including riparian corridors and potential crossings of transportation arteries. The project area sits within a large block of contiguous, undeveloped lands that remains relative unfragmented by roads and development. NH Route 16 is the primary fragmenting feature in the vicinity of the project.

The Nature Conservancy provided tracking data obtained from one winter of tracking at a location within the project area. The tracking study documented coyote, deer, ermine, fisher, mink, moose, and snowshoe hare crossing NH Route 16.

Measures to improve or enhance wildlife corridors and connectivity will be incorporated into the proposed project:

- The proposed action would remove the existing pavement and roadbed where the roadway will be shifted to the west. This will allow for a wider vegetated riparian buffer, which is expected to improve the wildlife travel corridor along the Androscoggin River.
- The proposed action does not require guardrail, which would also benefit wildlife connectivity across NH Route 16.
- Fencing will not be installed along the right-of-way.
- Drainage structures, including two stream crossings, will be upgraded and improvements for enhancing wildlife passage will be considered during final design.

The proposed 4-foot shoulders will improve motorist safety by improving visibility of wildlife starting to cross the roadway. Moose are common in northern New Hampshire and are often seen along NH Route 16. Given the prevalence of moose habitat within the project area, NHFG has recommended specialized moose crossing signage and moose viewing mitigation (Exhibit 7).

During final design, there will be continued coordination with NHFG and other stakeholders to determine if moose viewing mitigation is warranted and if additional design features can be incorporated into the project to enhance wildlife connectivity **(Environmental Commitment 9).**

Fisheries

There are two streams in the project area. Stream E is a small perennial stream located in the middle of the project area at approximately Station 542+50. The existing crossing consists of a 24" corrugated metal pipe (CMP). The second stream, Stream L, is located approximately 950 feet north of Stream E at Station 552+00. This a larger perennial stream that is currently carried under NH Route 16 via a 15-inch and 18-inch CMP.

According to the NHDES Wetland Permit Planning Tool, both streams are predicted to be cold water fisheries. NHFG was contacted for input on fisheries for the streams in the project area. NHFG did not have any specific data for the streams in the project area; however, based on the results of nearby surveys of NHFG suspected that wild brook trout and slimy sculpin could occur in the perennial stream in the project area (Exhibit 8). NHFG did not identify any additional species or concerns with the proposed project.

Both stream crossings will be upgraded as part of the proposed project. Coordination with NHFG will continue as proposed stream crossing designs are finalized **(Environmental Commitment 9).**

The Androscoggin River and the tributaries in the project area are not listed as Essential Fish Habitat (EFH). There is no EFH in the vicinity of the proposed project.

Rare, Threatened, and Endangered Species/Natural Communities

Federally Listed Species

The proposed project was reviewed using the US Fish & Wildlife Service's (USFWS) *Information for Planning and Consultation* (IPaC) web tool and an Official Species List was generated identifying Federally listed species and critical habitats that could potentially occur in the project area (Exhibit 9). According to the Official Species List, the proposed project is located within the ranges of the Federally threatened northern long-eared bat (*Myotis septentrionalis*) and Canada Lynx (*Lynx canadensis*). No critical habitat has been designated for the northern long-eared bat, and the project is located outside the final critical habitat for Canada lynx. The US Endangered Species Act (ESA) requires Federal agencies to work to conserve Federally endangered and threatened species and to avoid jeopardizing the existence of any listed species. In addition, the project must comply with the Bald and Golden Eagle Protection Act discussed in more detail below.

Northern Long-Eared Bat

According to the USFWS Official Species List, the project area is located within the documented range of the Federally threatened (state endangered) northern long-eared bat. The NHB and NH Fish and Game did not report any known winter hibernacula or maternity roost trees in the vicinity of the project. According to the USFWS, suitable summer habitat for northern long-eared bat consists of a variety of forested habitats. This species generally prefers closed canopy forest with an open understory. Potential roost trees include live trees or snags, at least 3" in diameter, with exfoliating bark, cracks, crevices, or cavities. Potential roosting habitat does exist in the project area.

The project will involve tree clearing within potential suitable summer habitat for northern long-eared bat. The proposed project is anticipated to require approximately 9.2 acres of tree clearing for construction of the new roadway on the alignment shift to the west. Approximately 1.3 acres of tree clearing will be located at a distance greater than 300 feet from the existing roadway surface. Therefore, the proposed project constitutes an action outside the scope of the USFWS Range-wide Programmatic Consultation and cannot be evaluated under this agreement.

The project and associated effects on northern long-eared bat was reviewed under the 4(d) Rule and the USFWS verification letter is attached (Exhibit 10). There are currently pending lawsuits against the USFWS challenging the listing of northern long-eared bat as threatened instead of endangered and challenging the 4(d) Rule. In January 2020, the US District Court for the District of Columbia overturned the USFWS decision to list the northern long-eared bat as threatened rather than endangered. The USFWS is currently reevaluating the listing status based on the best available data. During this review process, the threatened status remains in effect, as does the 4(d) Rule. Should the 4(d) Rule be rescinded prior to completion of the proposed project, consultation with USFWS will be re-opened **(Environmental Commitment 6).**

The NHDOT Northern Long-Eared Bat Flyer will be shared with all operators, employees, and contractors working on the project and operators, employees, and contractors will be made aware of all applicable environmental commitments regarding protections for bats **(Environmental Commitment 17).** Additionally, construction personnel will be required to report all sightings of dead or sick bats to the NHDOT Bureau of Environment **(Environmental Commitment 18).**

Canada Lynx

According to the USFWS Official Species List, the project area is located within the documented range of the Federally threatened (state endangered) Canada lynx. As mentioned above, the proposed project is located outside the designated critical habitat of this species. The project area is located within the southern portion of the range of the lynx, although the habitat in the project area is considered to be suitable for sustaining lynx populations. However, the project area represents a small percentage of overall suitable habitat within this part of the state. The habitat in the project area is also disturbed and fragmented by the existing heavily travelled NH Route 16 transportation corridor. There are large, contiguous tracts of forested land located to the east and west of the project area that provide more suitable potential habitat. Coordination has occurred with NH Fish & Game (NHFG) regarding potential impacts to lynx. NHFG indicated that there have been recent lynx reports in the towns surrounding the project area (Exhibit 11).

Any impacts to lynx that may in the project area will be minimal. Temporary impacts from construction activities and noise will be short-term and limited to the duration of construction. Permanent impacts associated with tree clearing and realignment of the roadway are limited to areas in the general vicinity of the existing roadway. The forested areas adjacent to the NH Route 16 provide marginal habitat given the proximity to the existing roadway. The amount of tree clearing will have a negligible effect on the larger, contiguous swaths of forest located to the east and west that provide more suitable potential lynx habitat.

The FHWA proposes to minimize tree clearing to the maximum extent practical to achieve the purpose and need of the project. In addition, all appropriate pollution control measures will be implemented during construction to avoid adverse effects to the species from the proposed project. The proposed project will remove the existing pavement and roadbed where the roadway will be shifted to the west. This will allow for a wider vegetated riparian buffer and wildlife travel corridor along the Androscoggin River.

Overall, the project will result in impacts to a small area relative to the overall area of suitable habitat adjacent to the project. With minimization measures to further reduce impacts, any effects from the project would not be possible to meaningfully measure, detect, or evaluate. Therefore, USFWS has concurred that the project is not likely to adversely affect Canada lynx (Exhibit 12).

State-Listed Species

The proposed project was submitted to the New Hampshire Natural Heritage Bureau (NHB) via the online DataCheck Tool. NHB reviewed the project and reported a documented occurrence of one State-listed rare plant species, common mare's tail (*Hippuris vulgaris*), in the vicinity of the project (Exhibit 13). The documented rare plant population is associated with Bog Brook, a tributary of the Androscoggin River located southeast of the project area, on the east side of the Androscoggin River. Similar suitable habitat exists within the project area in the vicinity of Stream L, approximately 0.8 miles north of the documented population.

A rare plant survey was completed in early July 2020 to review the project area for common mare's tail. Potentially suitable habitat does exist within Stream L and aquatic vegetation was present. However, common mare's tail was not observed (Exhibit 14). Coordination with the NHB will continue to determine if additional surveys for this species are required **(Environmental Commitment 11).**

As mentioned above, NHFG reviewed the project area and had no concerns at this time with state-listed wildlife species. Coordination with NHFG will be ongoing as the project progresses through final design and permitting.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits the "take" of bald eagles and golden eagles, including their parts, nests, and eggs. The Act also prohibits impacts from human activities that result in nest abandonment or the interruption of normal breeding, feeding, or sheltering habits. The Androscoggin River likely provides suitable foraging habitat and nearby forested areas could provide suitable roosting and nesting habitat. However, neither of these species was reported by the NHB, NH Fish and Game, or the USFWS as a potential concern in the project area. No evidence of eagle nests has been observed in or near the project area. The project as proposed is not expected to result in any impact to these species.

Invasive Plants

An invasive plant is a non-native plant that is able to persist and proliferate outside of cultivation, resulting in ecological and/or economic harm. Under the statutory authority of NH RSA 430:55 and NH RSA 487:16-a, the NH Department of Agriculture, Markets & Food and NHDES prohibit the spread of invasive plants listed on the NH Prohibited Species List (AGR PART 3802.01).

The project area was almost entirely free of invasive species, likely due to the remote location and lack of nearby development and disturbance. The only invasive species identified within the limits of the project was purple loosestrife (*Lythrum salicaria*). There was one occurrence of purple loosestrife located in a roadside ditch portion of Wetland D near the southern end of the project area. There was also a patch of Japanese knotweed (*Fallopia japonica*) located south of the project area in the vicinity of the southern intersection of the gravel access road and NH Route 16. However, this area is located outside the limits of the proposed project.

NHDOT Standard Specifications designate invasive plants as Type I or Type II based on the complexity of control measures that are required to prevent the spread of the plants during construction. In general, Type II plants require a greater level of control due to their ability to spread from stem or root fragments. Both purple loosestrife and Japanese knotweed are designated Type II species. If invasive plants within the project area cannot be avoided during construction, all appropriate Best Management Practices will be summarized in an Invasive Species Control and Management Plan and implemented during construction to avoid spreading these plants to new sites **(Environmental Commitment 13).**

Cultural Resources

The Department has coordinated with the NH State Historic Preservation Office (SHPO) and the Federal Highway Administration (FHWA) to locate and identify properties listed on or eligible for the National Register of Historic Places within the project area. The Department also reached out to local officials, boards, and commissions in the Towns of Errol and Dummer since Cambridge is an unincorporated township in Coos County. The Coos County Commission meeting on January 15, 2020 served as the Public Informational Meeting, at which public input on potential historic resources was sought. The project was reviewed by SHPO through submittal of a Request for Project Review (RPR) in January 2019.

Section 106 of the National Historic Preservation Act offers those with a demonstrated interest in historic resources, including town officials and Historical Societies, an opportunity to become more involved in an advisory role during project development as "Consulting Parties." Input was solicited through a letter to Town officials and the Errol Heritage Commission, as well as during the Public Informational Meeting. To date, no one has requested consulting party status and no concerns about historic resources have been raised. The Errol Heritage Commission indicated they were not aware of any historical, cultural, or archaeological resources in the project area (Exhibit 15).

Description of Historic Resources

Architectural Resources

The proposed project is located along a remote and rural section of NH Route 16. The project area is bordered by the Androscoggin River to the east and the 13 Mile Woods Conservation Land to the west along the entire length of the project corridor. There are no structures located within the vicinity of the project area.

Archaeological Resources

The NH Department of Historical Resources (DHR) originally responded to the RPR in January 2019 indicating that the proposed project area is considered archeologically sensitive. A Phase IA/IB Archaeological Survey was completed in 2019. Results of the survey did not identify any archaeologically sensitive sites located within the APE. No further archeological survey was recommended and DHR concurred with the findings.

Stone Walls

No stone walls were identified within the limits of the project area.

Effects on Historic Resources

Effects on historic properties were determined by the FHWA, in consultation with NHDOT and SHPO, based on the Section 106 review process established by the National Historic Preservation Act of 1966 and outlined at 36 CFR 800.9. It was determined that the proposed action will result in No Historic Properties Affected (Exhibit 16).

Construction Impacts

Construction of this project will cause temporary inconvenience to the public and temporary impacts to environmental resources. The following measures will be implemented to minimize or avoid impacts during construction:

- Appropriate Best Management Practices, as outlined in "*Best Management Practices for Roadside Invasive Plants*", will be utilized to avoid the spread of invasive plants within or outside of the project limits **(Environmental Commitment 13).**
- Standard pollution prevention measures will be employed to assure all negative impacts are avoided and/or minimized to the maximum extent practicable **(Environmental Commitment 16).**
- Stringent best management practices shall be utilized to prevent adverse impacts to surface and ground water quality during construction **(Environmental Commitment 14).**
- Construction of this project is anticipated to cause temporary increases in noise and dust levels within the project area. Standard measures will be employed to ensure such increases are minimized to the extent practicable and limited to the construction period **(Environmental Commitment 15).**
- The Contractor will be required to prepare a Storm Water Pollution Prevention Plan (SWPPP), approved by the Department, prior to the commencement of construction activities **(Environmental Commitment 12).**

Coordination & Public Participation

Letters have been sent to various State and local entities to seek input on this project. To date, the only written response received from town officials was from the Errol Heritage Commission (Exhibit 15). The Nature Conservancy also responded (Exhibit 17). Dates are summarized in below in Table 1.

Table 1. Summary of Coordination

Agency/Organization	Contact	Date Sent	Reply Received
Errol Board of Selectmen	Tod Lemieux	1/2/2019	
Errol Town Forest Commission	Pierre Rousseau	1/2/2019	
Errol Planning Board	Richard Nadig	1/2/2019	
Errol Fire Chief	Thomas Freedman	1/2/2019	
Errol Emergency Management Director	Chip Joseph	1/2/2019	
Errol Heritage Commission	Debbie Freedman	1/2/2019	4/1/2019
Dummer Conservation Commission	Faith Kimball	1/2/2019	
Coos County Unincorporated Places Dept	Jennifer Fish	1/2/2019	
Dummer Board of Selectmen	Richard Ouellette	1/2/2019	
The Nature Conservancy	Pete Steckler	1/2/2019	6/19/2019

Meetings have been held with various Federal, State, and local agencies, as well as with the general public, throughout the development of this project. Project review meetings are summarized below in Table 2. Meeting minutes are attached or can be accessed online by clicking on the link in the table.

Table 2. Summary of Project Meetings

Meeting	Date	Minutes
13 Mile Woods	December 13, 2018	Exhibit 18
LCHIP Board Meeting	March 25, 2019	Exhibit 19
NHDOT Natural Resource Agency Coordination Meeting	June 19, 2019	Online
NHDES Wetlands Bureau Meeting	November 25, 2019	Exhibit 20
Coos County Commission/Public Informational Meeting	January 15, 2020	Online
13 Mile Woods	April 23, 2020	Not Available
NHDOT Natural Resource Agency Coordination Meeting	June 17, 2020	Online
LCHIP Board Meeting	June 22, 2020	Online

The NHDOT project website includes links to additional project information:
https://www.nh.gov/dot/projects/dummercambridgeerrol16304b/index.htm

Summary of Environmental Commitments

The following commitments have been made to ensure that environmental impacts are avoided or minimized and that the project remains in compliance with applicable regulations as the project progresses through Final Design and Construction. The NHDOT Bureau responsible for ensuring successful implementation of each commitment is shown in parentheses.

Commitments to be carried out during Final Design

1) Coordination with the Bureau of Planning and Community Assistance regarding NH Scenic and Cultural Byways Program shall occur during final design. (Environment)

2) Coordination with the NH Department of Environmental Services, US Army Corps of Engineers, and US Environmental Protection Agency shall occur to determine appropriate compensatory mitigation for wetland, stream, and vernal pool impacts. (Environment)

3) All appropriate permits from the NH Department of Environmental Services and US Army Corps of Engineers shall be obtained prior to the commencement of any work within jurisdictional wetlands and surface waters. (Environment/Design)

4) An approved Water Quality Certificate shall be obtained prior to construction. (Environment/Design)

5) Coordination with the NHDOT Contamination Program shall occur in regard to PFAS and Limited Reuse Soils. (Environment/Design)

6) The listing status of the northern long-eared bat and applicability and status of the 4(d) Rule will be monitored throughout the entire duration of the proposed project. Should any regulatory changes occur prior to completion of the project consultation with USFWS shall be re-opened to ensure compliance with current regulations. (Environment)

7) Coordination shall continue with all 13 Mile Woods stakeholders, including LCHIP, the Forest Legacy Program, and Town of Errol, to obtain all necessary approvals for the acquisition of land and to determine suitable mitigation for impacts. (Environment/Design)

8) Coordination shall continue with the NHDES Wetlands Bureau regarding proposed stream crossings. (Environment/Design)

9) Coordination shall continue with NH Fish & Game and other stakeholders on measures to address wildlife connectivity and safety. (Environment/Design)

10) Coordination shall continue with the NH Floodplain Manager and Army Corps of Engineers regarding mitigation for floodplain impacts. (Environment/Design)

11) Coordination shall continue with the Natural Heritage Bureau to determine the need for additional rare plant surveys prior to construction. (Environment)

Commitments to be carried out prior to earth disturbance

12) This project will require a Notice of Intent and Storm Water Pollution Prevention Plan (SWPPP) under the NPDES Construction General Permit. There shall be provisions in the contract requiring the Contractor to prepare the SWPPP and NOI. (Environment/Construction)

13) The project area contains plants that are on the NH List of Prohibited Invasive Species (AGR PART 3802.01) (purple loosestrife). Locations of these plants shall be shown on construction plans. The Contractor shall prepare an Invasive Species Control and Management Plan, for the Department's approval, to summarize all appropriate BMPs to be implemented during construction to avoid spreading the plants to new sites. (Environment/Construction)

Commitments to be carried out during construction

14) Stringent best management practices shall be utilized to prevent adverse impacts to surface and ground water quality during construction. (Construction)

15) Construction of this project is anticipated to cause temporary increases in noise and dust levels within the project area. Standard measures shall be employed to ensure such increases are minimized to the extent practicable and limited to the construction period. (Construction)

16) Standard pollution prevention measures will be employed to assure all negative impacts are avoided and/or minimized to the maximum extent practicable. (Construction)

17) The Northern Long-Eared Bat Flyer shall be shared with all operators, employees, and contractors working on the project and operators, employees, and contractors shall be made aware of all applicable environmental commitments. (Environment/Construction)

18) All sightings of dead or sick bats shall be immediately reported to the Bureau of Environment (Rebecca Martin, 271-3226). (Construction)

Figures

16304B Project Area

Town Boundary

0 2,000 4,000

Feet

NHDOT DUMMER-CAMBRIDGE-ERROL 16304B

CAMBRIDGE, NEW HAMPSHIRE

USGS LOCATION MAP

SCALE :	DATE :	FIGURE :
1 inch = 2,000 feet	JULY 2020	1

Hoyle, Tanner & Associates

\\Mjcolo-fsm\18340.03 NHDOT Dummer-Cambridge-Errol 16304B\Draw\GIS\NEPA Figures\16304B Figure 1 - USGS Location Map.mxd

13 Mile Woods Community Forest
Town of Errol

N

NH ROUTE 16

Thirteen Mile Wood Scenic Easement

Thirteen Mile Wood Scenic Easement

Androscoggin River

13 Mile Woods (Weyerhaeuser)

N

Thirteen Mile Wood Scenic Easement

13 Mile Woods Community Forest

Androscoggin River

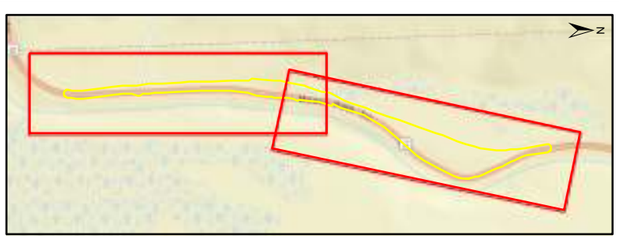
NH ROUTE 16

13 Mile Woods (Weyerhaeuser)

13 Mile Woods (Weyerhaeuser)

16304B Project Area

NH Conservation Lands



0 250 500

Feet

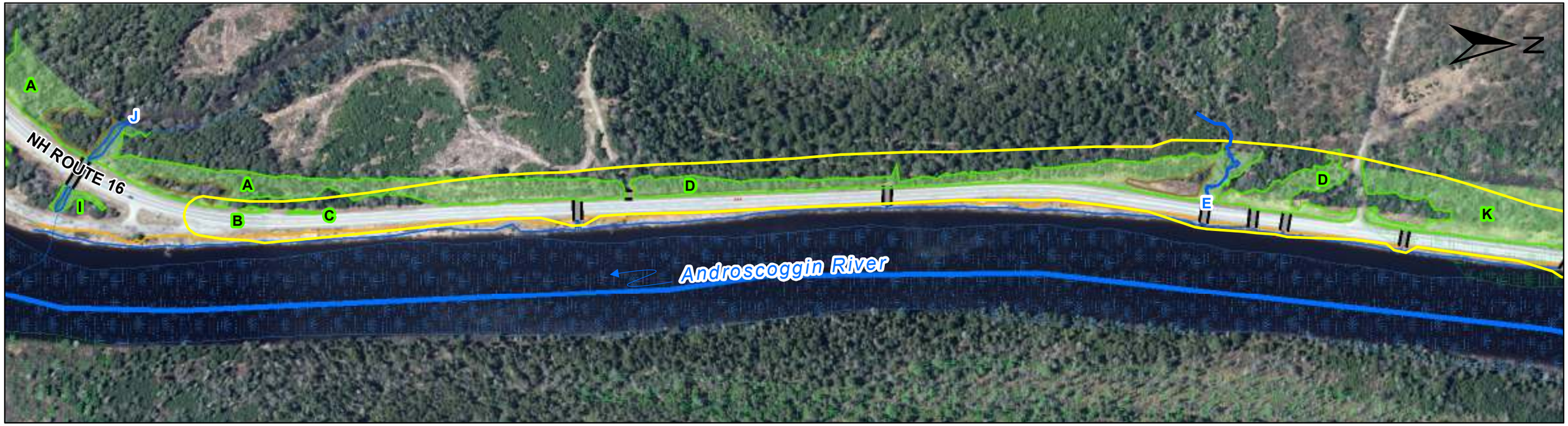
NHDOT DUMMER-CAMBRIDGE-ERROL 16304B
CAMBRIDGE, NEW HAMPSHIRE

CONSERVATION & PUBLIC LANDS

SCALE :	DATE :	FIGURE :
1 inch = 250 feet	JULY 2020	2

Hoyle, Tanner & Associates, Inc.

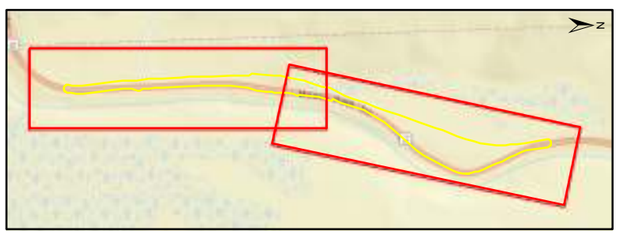
\\Mjcolo-fsm\18340.03 NHDOT Dummer-Cambridge-Errol 16304B\Draw\GIS\NEPA Figures\16304B Figure 3 - Conservation & Public Lands.mxd



16304B Project Area
Rivers & Streams
Existing Culverts

NWI Wetlands
Palustrine
Riverine
Delineated Wetland Areas

Delineated Wetlands & Surface Waters
Wetland Boundary
Ordinary High Water
Upland Inclusions
Top of Bank
Vernal Pools



0 250 500
Feet

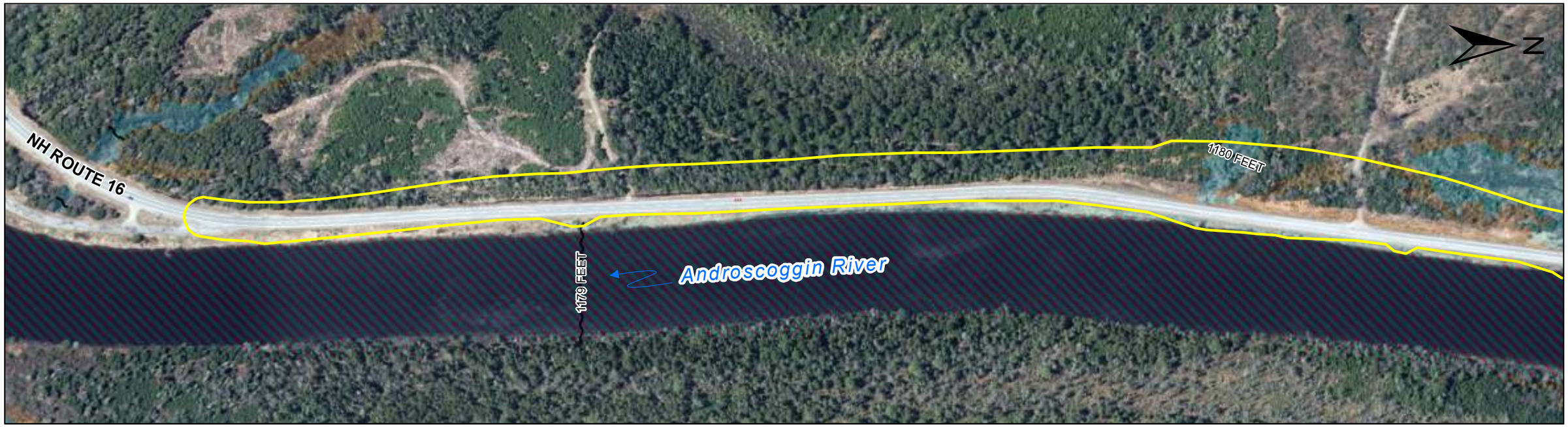
NHDOT DUMMER-CAMBRIDGE-ERROL 16304B
CAMBRIDGE, NEW HAMPSHIRE

WETLANDS & SURFACE WATERS

SCALE :	DATE :	FIGURE :
1 inch = 250 feet	JULY 2020	3

Wetland and Johnson

\\Mjcolo-fs\m\18340.03 NHDOT Dummer-Cambridge-Errol 16304B\Draw\GIS\NEPA Figures\16304B Figure 4 - Wetlands & Surface Waters.mxd



16304B Project Area

Base Flood Elevations

Flood Hazard Zones

Zone Type

Regulatory Floodway

1% Annual Chance Flood Hazard

0.2% Annual Chance Flood Hazard

0 250 500

Feet

NHDOT DUMMER-CAMBRIDGE-ERROL 16304B

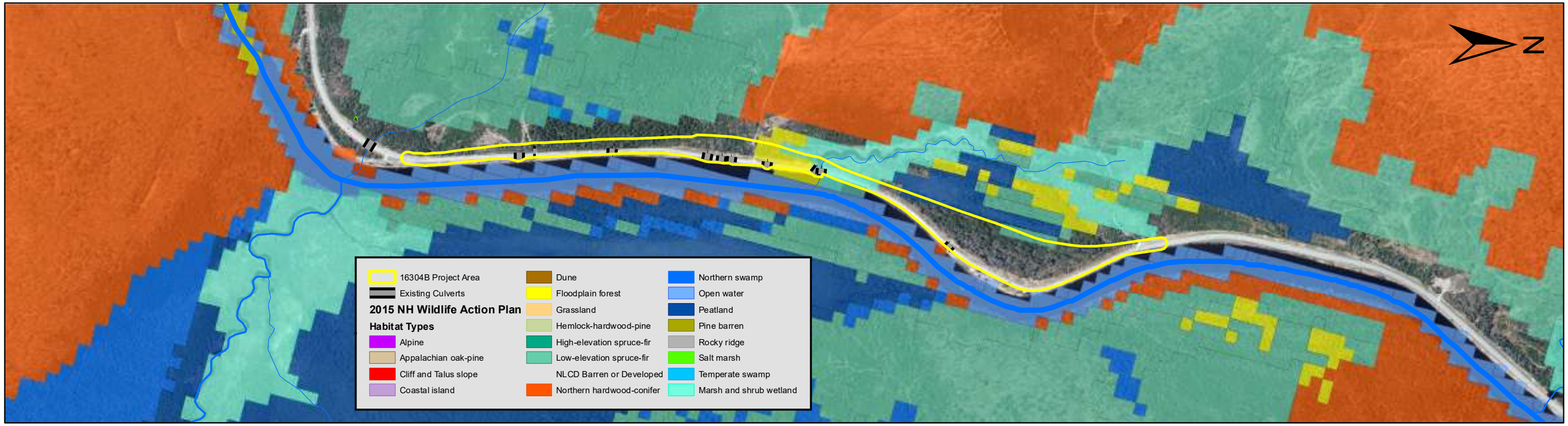
CAMBRIDGE, NEW HAMPSHIRE

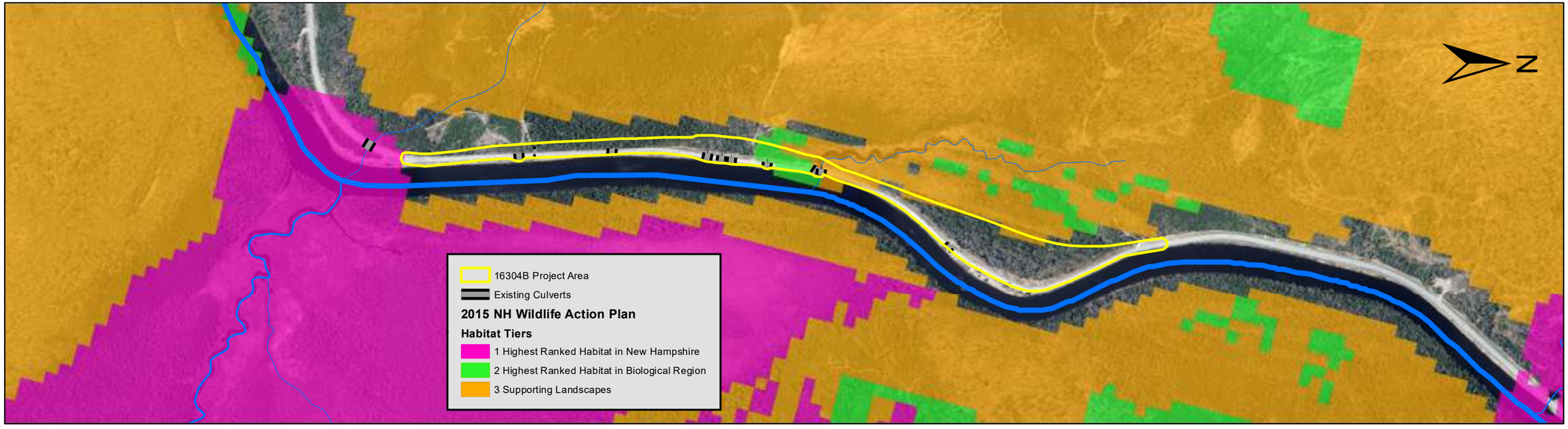
FEMA FLOOD HAZARD AREAS

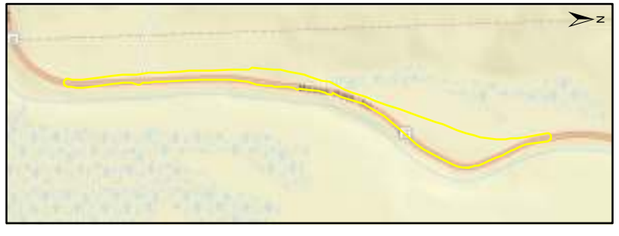
SCALE :	DATE :	FIGURE :
1 inch = 250 feet	JULY 2020	4

McFarland Johnson

\\Mjcolo-fs\m\18340.03 NHDOT Dummer-Cambridge-Errol 16304B\Draw\GIS\NEPA Figures\16304B Figure 5 - Floodway & Floodplain.mxd







0 810 1,620
Feet

NHDOT DUMMER-CAMBRIDGE-ERROL 16304B
CAMBRIDGE, NEW HAMPSHIRE

WILDLIFE HABITATS

SCALE :	DATE :	FIGURE :
1 inch = 833 feet	JULY 2020	5

McFarland Johnson

\\Mjcolo-fsm\18340.03 NHDOT Dummer-Cambridge-Errol 16304B\Draw\GIS\NEPA Figures\16304B Figure 7 - Wildlife Habitat.mxd

Exhibits

INDEX OF SHEETS

SHEET NO. 1 TITLE PAGE
1-A SUMMARY SHEET
7-40 PLAN SHEETS
Detail Sheet #A, Plate #1
Detail Sheet #7-A, Plate #1

STATE OF NEW HAMPSHIRE

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

LENGTH OF PROJECT = 11.5 MILES

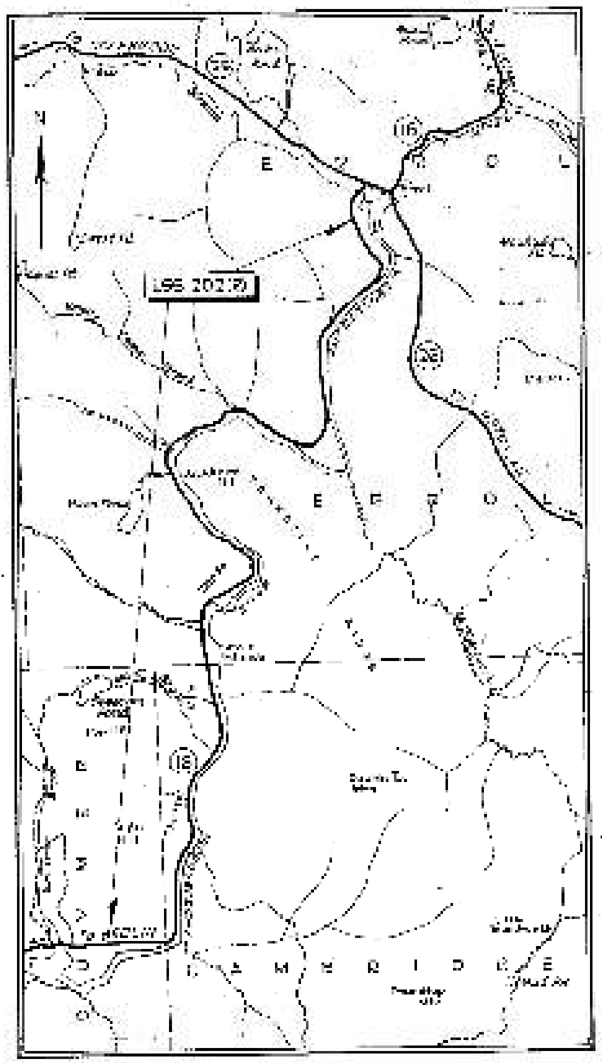
PLANS OF PROPOSED FEDERAL AID LANDSCAPING SECONDARY PROJECT

LSS 202(2)

N.H. PROJECT NO. LE-2410

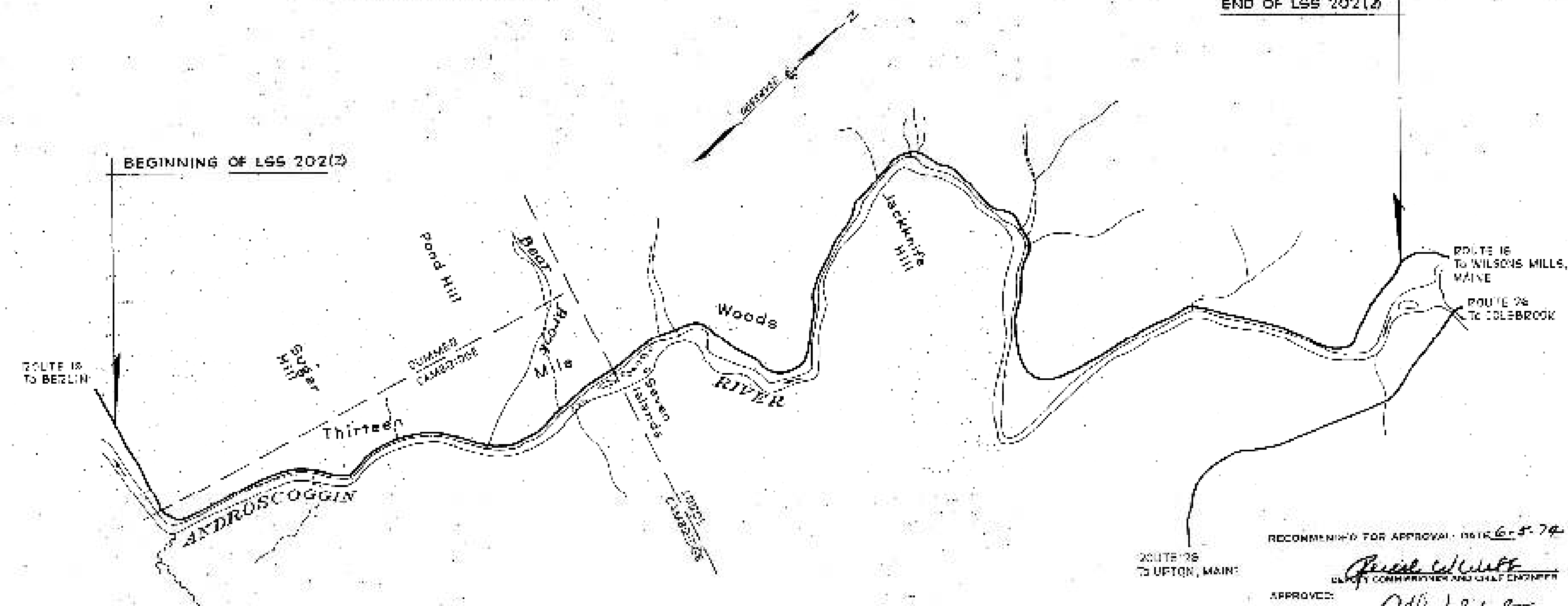
WHITE MOUNTAIN HIGHWAY

SETTING BOUNDS & WITNESS MARKERS



LOCATION MAP

SCALE IN MILES



RECOMMENDED FOR APPROVAL: DATE 6-5-74

DEPUTY COMMISSIONER AND CHIEF ENGINEER

APPROVED:

COMMISSIONER

LAYOUT

SCALE 1" = 2000 FEET

TOWNS OF DUMMER, CAMBRIDGE, AND ERROL

COUNTY OF COOS

CONVENTIONAL SIGNS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED:

DIVISION ENGINEER DATE

Exhibit 1

Dummer-Cambridge-Errol 16304B NH 16 Alternative Matrix - Summary of Regulatory Requirements

Project Purpose and Need: The purpose of the project is to address the poor condition of the pavement and road base and provide a sustainable roadway that maintains the connectivity of the corridor, minimizes long-term maintenance and risk resulting from the proximity of the Androscoggin River, and preserves the scenic quality of the surrounding area. It is needed because the NH 16 is in poor condition and frost heaves impede the winter maintenance activities. Additionally, slope stabilization is needed to maintain the integrity of the existing roadway in its current location.

6/5/2020

REGULATORY AGENCY/PERMIT	TRIGGER	TYPICAL COMPLIANCE MEASURES	ONLINE	PARTIAL SHIFT	FULL SHIFT	FULL SHIFT VARIATION
FEDERAL HIGHWAY ADMINISTRATION - NEPA CONCURRENCE	USE OF FEDERAL FUNDS	MUST DEMONSTRATE COMPLIANCE WITH PROJECT'S PURPOSE AND NEED AND OTHER STATE AND FEDERAL ENVIRONMENTAL REGULATIONS	NOT MET	PARTIALLY MET	FULLY MET	FULLY MET
NHDES WETLANDS BUREAU - STANDARD DREDGE AND FILL PERMIT AND STREAM CROSSING RULES	IMPACTS TO JURISDICTIONAL WETLANDS, INCLUDING RIVER BANKS BELOW TOP OF BANK	MITIGATION THROUGH CONSERVATION/CREATION OF WETLANDS, IMPROVEMENT OF STREAM PASSAGES OR PAYMENT INTO THE ARM FUND	REQUIRED 1.8 AC	REQUIRED 2.6 AC	REQUIRED 5.8 AC	REQUIRED 5.1 AC
NHDES SHORELAND PERMIT	WORK WITHIN 250' OF CERTAIN STREAMS/RIVERS	NA	REQUIRED FOR ALL ALTERNATIVES - NO CONCERNS			
NHDES ALTERATION OF TERRAIN PERMIT	WHEN AN AREA OVER 1 AC IS DISTURBED	STORMWATER TREATMENT FOR TWICE THE INCREASE IN IMPERVIOUS AREA	NO TREATMENT POSSIBLE	NO TREATMENT POSSIBLE	FULL TREATMENT	FULL TREATMENT
US ARMY CORPS OF ENGINEERS - INDIVIDUAL PERMIT	AT THEIR DISCRETION, GENERALLY WHEN WETLAND IMPACTS EXCEED 3 ACRES	WATER QUALITY CERTIFICATION MUST BE OBTAINED	NOT REQUIRED	MAY BE REQUIRED	REQUIRED	REQUIRED
NHDES WATER QUALITY CERTIFICATION	REQUIRED WITH USACOE INDIVIDUAL PERMIT	MUST DEMONSTRATE THAT THERE IS NO INCREASE IN CERTAIN POLLUTANT RUNOFF, ACHIEVED THROUGH THE USE OF STORMWATER TREATMENT BMPS	NOT REQUIRED	MAY BE REQUIRED - CONDITIONS CANNOT BE ACHIEVED	REQUIREMENTS ACHIEVED	REQUIREMENTS ACHIEVED
US ARMY CORPS OF ENGINEERS - FLOOD STORAGE	WHEN FILL IS PLACED IN A FLOODPLAIN OR FLOODWAY	COMPENSATORY FLOOD STORAGE MUST BE PROVIDED, TYPICALLY BY REMOVING FILL ELSEWHERE IN THE FLOODPLAIN	REQUIRED 2970 CY NO PLACE TO REMOVE FILL	REQUIRED 2560 CY NO PLACE TO REMOVE FILL	REQUIRED 4450 CY MAY BE DIFFICULT TO ACHIEVE	REQUIRED 1920 CY CAN BE ACHIEVED
FEMA - COMPLIANCE WITH FLOODPLAIN REQUIREMENTS	WHEN FILL IS PLACED IN FLOODWAY	MUST DEMONSTRATE THAT THERE WILL BE NO INCREASE IN FLOOD ELEVATIONS DUE TO PLACEMENT OF FILL	IMPACTED	IMPACTED	NO IMPACT	NO IMPACT
LCHIP AND FOREST LEGACY APPROVAL	WHEN PROPERTY ON WHICH LCHIP OR THE FOREST LEGACY PROGRAM HOLDS AN INTEREST IS IMPACTED	MITIGATION THROUGH MONETARY OR LAND CONTRIBUTIONS	NO IMPACT	NO IMPACT	IMPACTED 9.7 ACRES	IMPACTED 11 to 12 ACRES
EPA - NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM CONSTRUCTION GENERAL PERMIT (NPDES CGP)	WHEN AN AREA OVER 1 AC IS DISTURBED	FILE NOTICE OF INTENT (NOI) TO DISCHARGE STORMWATER AND PREPARE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP)	REQUIRED FOR ALL ALTERNATIVES - NO CONCERNS			
NHDOT TRAFFIC CONTROL COMMITTEE	REVIEWS ALL PROJECTS TO ENSURE TRANSPORTATION NETWORK IS MAINTAINED		CONCERNS ABOUT ABILITY TO MAINTAIN ANY TRAFFIC	CONCERN WITH ONLY MAINTAINING 1 LANE OF TRAFFIC FOR EXTENDED PERIOD	NO CONCERNS	NO CONCERNS
COST (INCLUDING ANTICIPATED ARM FUND PAYMENT)			$8.1 MILLION	$7 MILLION	$8 MILLION	$7.8 MILLION

Exhibit 2

Christine J. Perron

From: Sikora, Jamie (FHWA) <Jamie.Sikora@dot.gov>
Sent: Thursday, June 20, 2019 3:05 PM
To: Christine J. Perron
Subject: RE: Dummer-Cambridge-Errol 16304B - Section 4(f)

Hi Christine, I would agree, as it's designated as conservation land. I would still work to avoid, minimize and mitigate impacts, but Section 4(f) would not apply.

Jamison S. Sikora
NH Division Environmental Program Manager
Federal Highway Administration
53 Pleasant Street, Suite 2200
Concord, NH 03301
Jamie.sikora@dot.gov
(603) 410-4870

From: Christine J. Perron [mailto:CPerron@mjinc.com]
Sent: Thursday, June 20, 2019 2:22 PM
To: Sikora, Jamie (FHWA) <Jamie.Sikora@dot.gov>
Subject: Dummer-Cambridge-Errol 16304B - Section 4(f)

Hi Jamie,

I'm not sure how familiar you are with the subject project. We discussed the project at yesterday's resource agency meeting. This is another segment of the NH Route 16 corridor, located a few miles north of the 16304A project that is now under construction.

The project is 1.3 miles and there is conservation land along it's entire length. The property is known as the 13 Mile Woods Community Forest, a 7,100 acre multi-use forest, and it's owned and managed by the Town of Errol. The conservation and preservation purposes of 13 Mile Woods, summarized from the *13 Mile Woods Stewardship Plan* (2006) and *Economic Impacts of the 13 Mile Woods Community Forest in Errol, New Hampshire* (March 2013), include the following:

- conserve open space
- maintain a sustainable working forest
- enhance and protect public recreational opportunities including hiking, hunting, fishing, cross country skiing, and snowmobiling
- protect natural resources, including wildlife habitat, rare floodplain forest, and trout streams
- protect a lengthy scenic approach to Errol

There are no trails or other formal recreational features in the project area, and no historic resources. There are a few logging roads within the project area. The 13 Mile Woods property seems to fit the definition of public multiple-use landholding, covered in Question 4 of the 4(f) policy paper, which states "Section 4(f) does not apply to those areas within a multiple-use public property that function primarily for any purpose other than significant park, recreation or refuge purposes." What are your thoughts?

Thanks,
Christine

Christine Perron, CWS

Exhibit 3

Stephen Hoffmann

From: Hollenbeck, Amanda <Amanda.Hollenbeck@osi.nh.gov>
Sent: Wednesday, January 2, 2019 8:40 AM
To: Christine J. Perron
Subject: RE: NHDOT Roadway Project, Dummer-Cambridge-Erroll 16304B

Hi Christine,

Steve forwarded your e-mail to me. There are no LCIP properties in the project area. Thanks for inquiring.

Happy New Year,

Amanda

Amanda Hollenbeck
Stewardship Specialist
Conservation Land Stewardship Program
Office of Strategic Initiatives
107 Pleasant St, Johnson Hall
Concord, NH, 03301
(603)-271-6809
Amanda.Hollenbeck@osi.nh.gov

Exhibit 4

Stephen Hoffmann

From: DNCR: Land & Water Conservation Fund <LWCF@dncr.nh.gov>
Sent: Thursday, January 17, 2019 10:03 AM
To: Christine J. Perron
Subject: RE: NHDOT Roadway Project, Dummer-Cambridge-Erroll 16304B

Christine,

Based on the information provided there are no LWCF Stateside program impacts by this proposed project.

Thanks
Eric

Eric Feldbaum-Community Recreation Specialist/CPRP
Division of Parks and Recreation
NH Department of Natural and Cultural Resources
172 Pembroke Road
Concord, NH 03301
Phone 603.271.3556
Fax 603.271.3553
eric.feldbaum@dncr.nh.gov
www.nhstateparks.org

From: Christine J. Perron <CPerron@mjinc.com>
Sent: Wednesday, January 2, 2019 8:02 AM
To: DNCR: Land & Water Conservation Fund <LWCF@dncr.nh.gov>
Subject: NHDOT Roadway Project, Dummer-Cambridge-Erroll 16304B

Good morning,

The NH Department of Transportation (DOT) is planning the subject project, which will address a section of NH Route 16 starting at approximately the Dummer/Cambridge town line and continuing north for approximately 1.3 miles. A location map is attached. The project is expected to be located entirely within Cambridge. The purpose of the project is to address the deteriorated condition of the roadway. A number of design alternatives will be considered, including shifting the roadway to the west away from the Androscoggin River, which would result in impacts outside the existing right-of-way.

The project is adjacent to 13 Mile Woods, and we have started coordinating with the Town of Errol, the Land and Community Heritage Investment Program (LCHIP) and the NH Forest Legacy Program. I am writing to find out if there are any LWCF interests located in the vicinity of the project.

Thank you,
Christine

Christine Perron, CWS
Project Manager • Senior Environmental Analyst
McFarland Johnson
53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 128

Exhibit 5

Christine J. Perron

From: Jordan Tate
Sent: Monday, March 16, 2020 4:26 PM
To: Whitcomb, Peter - NRCS, Concord, NH
Cc: Christine J. Perron
Subject: RE: NHDOT Dummer-Cambridge-Errol 16304B
Attachments: Dummer AD-1006 Form.pdf

Hello Peter,

I have completed parts VI and VII of the form, and based on the assessment criteria the project received a total point score of 117 out of 260 points. The project is in full compliance with the FPPA. I have attached the completed impact rating form for your records.

Jordan

From: Whitcomb, Peter - NRCS, Concord, NH <peter.whitcomb@usda.gov>
Sent: Tuesday, March 10, 2020 1:21 PM
To: Jordan Tate <jtate@mjinc.com>
Subject: RE: NHDOT Dummer-Cambridge-Errol 16304B

Jordan,

Parts II, IV, and V of form AD-1006, the Farmland Conversion Impact Rating (attached) have been completed. Map Units 28A-Madawaska very fine sandy loam, 0 to 3 percent slopes and 632A-Nicholville very fine sandy loam, 0 to 3 percent slopes are Prime farmland soils and 77B-Marlow fine sandy loam, 0 to 8 percent slopes, very stony and 633A-Pemi silt loam, 0 to 5 percent slopes are Locally Important farmland soils. The Relative Value of the project area is 60.

Please fill out Parts VI and VII. If the total point score is 160 or less, then the project is in full compliance with FPPA and no further action is required. If the total point score is above 160 points, then alternative design or location should be considered that might reduce the total point score. If this is not possible, then an explanation should be provided in Block 5 at the bottom of the form. Additional information about completing the form and the Farmland Protection Policy Act can be found at the following web site: http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/landuse/fppa/.

Please provide a final copy of the completed AD-1006 to me for NRCS records and retain a copy for your records, regardless of the total point score.

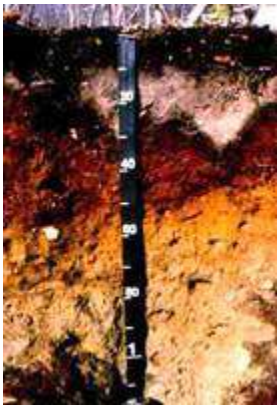
If you have any questions, please feel free to contact me.

Peter

Peter Whitcomb
Assistant State Soil Scientist
Cultural Resources Coordinator
Natural Resources Conservation Service

Exhibit 6

U.S. Department of Agriculture
The Concord Center, 10 Ferry St, Suite 211
Concord, NH 03301
Phone: 603-223-6024
peter.whitcomb@usda.gov



"We are part of the earth
and it is part of us" - *Chief Seattle*

From: Jordan Tate <jtate@mjinc.com>
Sent: Monday, March 9, 2020 1:33 PM
To: Whitcomb, Peter - NRCS, Concord, NH <peter.whitcomb@usda.gov>
Cc: Christine J. Perron <CPerron@mjinc.com>
Subject: NHDOT Dummer-Cambridge-Errol 16304B

Good afternoon,

I am contacting you on behalf of the NH Department of Transportation, which is proposing a roadway improvements along an approximately 1.3-mile segment of NH Route 16 in the Town of Cambridge, Coos County, New Hampshire. The proposed project is part of the larger Dummer-Cambridge-Errol 16304 project. The project will receive funding from the Federal Highway Administration and will require permanent easements beyond the existing right-of-way. The farmland conversion impact rating form is attached with sections 1 & 3 completed, along with a location map and aerial map. Thank you and please let me know if you have any questions.

Jordan Tate
Jordan N. Tate • Environmental Analyst
McFarland Johnson
5 Depot Street • Freeport, ME 04032
Office: (207) 417-4036

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 03/09/2020
Name of Project Dummer-Cambridge-Errol 16304B	Federal Agency Involved FHWA
Proposed Land Use Roadway Realignment	County and State Coos County, New Hampshire
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 3/9/2020 / Person Completing Form: Peter Whitcomb

Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ☑ NO ☐	Acres Irrigated: 0	Average Farm Size: 125
Major Crop(s): corn silage, grass legume hay	Farmable Land In Govt. Jurisdiction Acres: 381,97[illegible]% 40.4	Amount of Farmland As Defined in FPPA Acres: 201,73[illegible]% 21.3	
Name of Land Evaluation System Used: Coos County	Name of State or Local Site Assessment System: NA	Date Land Evaluation Returned by NRCS: 3/10/2020	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating: Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	12.78			
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	28.52			
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	13.8			
B. Total Acres Statewide Important or Local Important Farmland	8.3			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.001			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	7.5			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	60			

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	**Maximum Points**	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	15			
2. Perimeter In Non-urban Use	(10)	10			
3. Percent Of Site Being Farmed	(20)	1			
4. Protection Provided By State and Local Government	(20)	0			
5. Distance From Urban Built-up Area	(15)	15			
6. Distance To Urban Support Services	(15)	15			
7. Size Of Present Farm Unit Compared To Average	(10)	0			
8. Creation Of Non-farmable Farmland	(10)	1			
9. Availability Of Farm Support Services	(5)	0			
10. On-Farm Investments	(20)	0			
11. Effects Of Conversion On Farm Support Services	(10)	0			
12. Compatibility With Existing Agricultural Use	(10)	0			
TOTAL SITE ASSESSMENT POINTS	160	57	0	0	0
PART VII ***(To be completed by Federal Agency)***					
Relative Value Of Farmland *(From Part V)*	100	60	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	57	0	0	0
TOTAL POINTS ***(Total of above 2 lines)***	260	117	0	0	0

Site Selected: Site A | Date Of Selection 03/16/2020 | Was A Local Site Assessment Used? YES ☐ NO ☑

Reason For Selection:

The project involves a partial realignment of NH Route 16 and will require work outside of the existing right of way. Other alternatives were evaluated, however, they did not meet the purpose and need of the project, therefore Site A was selected as the preferred alternative.

Name of Federal agency representative completing this form: Jordan Tate-McFarland Johnson | Date: 03/16/2020

(See Instructions on reverse side)

Form AD-1006 (03-02)

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, http://fppa.nrcs.usda.gov/lesa/.

Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s)of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map**,** or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)

Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.

Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.

Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.

Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.

Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.

2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.
Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \text{ X } 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

Christine J. Perron

From: Henderson, Carol <Carol.Henderson@wildlife.nh.gov>
Sent: Wednesday, March 4, 2020 10:03 AM
To: Christine J. Perron
Subject: RE: NHDOT Project - Dummer-Cambridge-Errol 16304B

We have moose sighting platforms in the north country. I could possibly get you are design for that if interested and the signs that the referenced are the ones that are on highways, so DOT could help with that question. Alerting of moose crossings, etc… Hope all is well with you too. Thanks, Carol

---

From: Christine J. Perron <CPerron@mjinc.com>
Sent: Wednesday, March 4, 2020 9:54 AM
To: Henderson, Carol <Carol.Henderson@wildlife.nh.gov>
Subject: RE: NHDOT Project - Dummer-Cambridge-Errol 16304B

Thanks Carol. Would it be possible to get examples of specialized moose crossing signage that could be considered? Also, I'm not really clear on what is meant by moose viewing mitigation – pull off areas?

Hope all is well!

Christine Perron, CWS
Project Manager • Senior Environmental Analyst
McFarland Johnson
53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 1280
www.mjinc.com

From: Henderson, Carol <Carol.Henderson@wildlife.nh.gov>
Sent: Tuesday, March 3, 2020 3:46 PM
To: Christine J. Perron <CPerron@mjinc.com>
Subject: FW: NHDOT Project - Dummer-Cambridge-Errol 16304B

Hi Christine:

Our Game Program supervisor suggested that signage and a potential moose viewing site, away from the project. His comments are below. If you need any other information, please do not hesitate to give me a call or email. Thanks, Carol

Given the nature of the habitat along that stretch of road, moose crossing will likely always be a risk, so specialized moose crossing signage is also a good idea. If moose viewing mitigation is something that is considered I would think it best to locate these areas in natural habitat, farther from traveled road ways, which are safer for both moose and people.

Dan Bergeron
Game Programs Supervisor
New Hampshire Fish and Game Dept.
11 Hazen Drive

Exhibit 7

Concord, NH 03301
(603) 271-1126

From: Christine J. Perron < >
Sent: Tuesday, February 18, 2020 11:10 AM
To: Oehler, James <James.Oehler@wildlife.nh.gov>
Subject: NHDOT Project - Dummer-Cambridge-Errol 16304B

Good morning Jim,

The NH Department of Transportation (DOT) is planning the subject project, which will address a section of NH Route 16 starting at approximately the Dummer/Cambridge town line and continuing north for approximately 1.3 miles. A location map is attached. The project is expected to be located entirely within Cambridge. The purpose of the project is to address the deteriorated condition of the roadway. A number of design alternatives are under consideration, including shifting the roadway to the west away from the Androscoggin River.

Although impacts to wetlands and streams will be avoided or minimized as much as possible, these resources are extensive throughout the project area and it is anticipated that this project will result in impacts that will require mitigation. As a proactive measure, the DOT is seeking input on preferred/priority mitigation efforts that they can evaluate and consider undertaking once it's determined what level of mitigation will be required. Potential mitigation efforts could include, but are not limited to, problematic culvert/bridge crossings and land preservation in the general vicinity of the project. Lori Sommer (NHDES) suggested that I contact you for input on potential mitigation projects to consider. If you do have any suggestions, it would be helpful to hear back from you by the middle of March. I have also reached out to John Magee and Dianne Timmins, as well as The Nature Conservancy and North Country Council.

Thanks for your time.
Christine

Christine Perron, CWS
Project Manager • Senior Environmental Analyst
McFarland Johnson
53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 1280
www.mjinc.com

Stephen Hoffmann

From: Magee, John <john.magee@wildlife.nh.gov>
Sent: Wednesday, January 2, 2019 8:56 AM
To: Christine J. Perron
Cc: Henderson, Carol; Timmins, Dianne
Subject: RE: NHDOT Roadway Project, Dummer-Cambridge-Erroll 16304B (NHB Review NHB18-3244)

Hi Christine. I checked our fish survey database and we have no data for the tributaries to the Androscoggin in that area (but we do for a tributary to the north, Moose Brook, and one to the south, Newell Brook). Both have wild brook trout in them. Our staff up there did about 40 fish surveys in the Androscoggin River watershed as part of a watershed-wide stream crossings survey (surveyed maybe 1,000+ crossings in 2018). I will speak to Dianne Timmins, who lead that effort for Fish and Game. She is cc'd here.

John

John Magee
M.S., Certified Fisheries Professional
President, Northeastern Division of the American Fisheries Society
Fish Habitat Biologist
New Hampshire Fish and Game Department
11 Hazen Drive
Concord, NH 03301
P 603-271-2744
F 603-271-5829

"NH Fish and Game Department: Connecting you to life outdoors"

***Did you know**...The NH Fish and Game Department protects, conserves and manages more than 500 species of wildlife, including 63 mammals, 18 reptiles, 22 amphibians, 313 birds, and 122 fish. For more information visit: http://wildlife.state.nh.us/Wildlife/wildlife_plan.htm*

***Did you know**...New Hampshire Fish and Game manages 135 free public boat access sites to NH's 930 lakes and Great Ponds, 12,000 miles of rivers and 13 miles of coastline and of the 9,349 square miles within the state boundary of New Hampshire, 397 square miles (4.2%) are covered by water.*

From: Christine J. Perron [mailto:CPerron@mjinc.com]
Sent: Wednesday, January 02, 2019 8:19 AM
To: Magee, John
Cc: Henderson, Carol
Subject: NHDOT Roadway Project, Dummer-Cambridge-Erroll 16304B (NHB Review NHB18-3244)

Good morning John,

Exhibit 8

The NH Department of Transportation (DOT) is planning the subject project, which will address a section of NH Route 16 starting at approximately the Dummer/Cambridge town line and continuing north for approximately 1.3 miles. A location map is attached. The project is expected to be located entirely within Cambridge. The purpose of the project is to address the deteriorated condition of the roadway. A number of design alternatives will be considered, including shifting the roadway to the west away from the Androscoggin River, which would result in impacts outside the existing right-of-way. The project is just getting underway and it is still very early in the design process. We expect to review the project at 3 to 4 NHDOT Natural Resource Agency Coordination Meetings in the coming months, with the first meeting likely taking place in February or March.

There are a number of small stream crossings in the project area that will likely be addressed as part of this project. The stream and wetland delineation will be completed in the spring, and more information will be collected on stream characteristics. As part of our effort to identify all resources of concern, I am asking for your initial input on fisheries in this area. We will continue to coordinate with NHFG as the project progresses.

Happy New Year!
Christine

Christine Perron, CWS
Project Manager • Senior Environmental Analyst
McFarland Johnson
53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 128
www.mjinc.com

Stephen Hoffmann

From: Magee, John <john.magee@wildlife.nh.gov>
Sent: Friday, January 4, 2019 8:57 AM
To: Christine J. Perron
Cc: Henderson, Carol; Timmins, Dianne
Subject: RE: NHDOT Roadway Project, Dummer-Cambridge-Erroll 16304B (NHB Review NHB18-3244)

Hi Christine. I spoke with Ben Nugent who has all the fish data and is working on updating our database and also to Andy Schafermeyer in our Lancaster office. We have no fish data for that area except for Newell Brook to the south (wild brook trout and slimy sculpin) and Moose Brook to the north (wild brook trout and wild rainbow trout). We suspect that small perennial streams in the subject area are likely to have wild brook trout and possibly slimy sculpin. We may be able to do an electrofishing survey there (especially that one small stream on the map in about the middle of the reach) next summer. Please let me know if that would be helpful for the process.

Thank you,

John

John Magee
M.S., Certified Fisheries Professional
President, Northeastern Division of the American Fisheries Society
Fish Habitat Biologist
New Hampshire Fish and Game Department
11 Hazen Drive
Concord, NH 03301
P 603-271-2744
F 603-271-5829

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From: Christine J. Perron [mailto:CPerron@mjinc.com]
Sent: Wednesday, January 02, 2019 8:19 AM
To: Magee, John
Cc: Henderson, Carol
Subject: NHDOT Roadway Project, Dummer-Cambridge-Erroll 16304B (NHB Review NHB18-3244)

Good morning John,

The NH Department of Transportation (DOT) is planning the subject project, which will address a section of NH Route 16 starting at approximately the Dummer/Cambridge town line and continuing north for approximately 1.3 miles. A location map is attached. The project is expected to be located entirely within Cambridge. The purpose of the project is to address the deteriorated condition of the roadway. A number of design alternatives will be considered, including shifting the roadway to the west away from the Androscoggin River, which would result in impacts outside the existing right-of-way. The project is just getting underway and it is still very early in the design process. We expect to review the project at 3 to 4 NHDOT Natural Resource Agency Coordination Meetings in the coming months, with the first meeting likely taking place in February or March.

There are a number of small stream crossings in the project area that will likely be addressed as part of this project. The stream and wetland delineation will be completed in the spring, and more information will be collected on stream characteristics. As part of our effort to identify all resources of concern, I am asking for your initial input on fisheries in this area. We will continue to coordinate with NHFG as the project progresses.

Happy New Year!
Christine

Christine Perron, CWS
Project Manager • Senior Environmental Analyst
McFarland Johnson
53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 128
www.mjinc.com

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To: July 01, 2020
Consultation Code: 05E1NE00-2019-SLI-0109
Event Code: 05E1NE00-2020-E-09529
Project Name: Dummer-Cambridge-Errol 16304B

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2019-SLI-0109

Event Code: 05E1NE00-2020-E-09529

Project Name: Dummer-Cambridge-Errol 16304B

Project Type: TRANSPORTATION

Project Description: The project consists of a 1.3 mile new off alignment roadway including 11ft paved travel lanes and 4ft paved shoulders.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/44.67759940224616N71.17957627944978W

Counties: Coos, NH

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Canada Lynx *Lynx canadensis* Population: Wherever Found in Contiguous U.S. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3652	Threatened
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To: July 01, 2020
Consultation Code: 05E1NE00-2019-TA-0109
Event Code: 05E1NE00-2020-E-09531
Project Name: Dummer-Cambridge-Errol 16304B

Subject: Verification letter for the 'Dummer-Cambridge-Errol 16304B' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Christine Perron:

The U.S. Fish and Wildlife Service (Service) received on July 01, 2020 your effects determination for the 'Dummer-Cambridge-Errol 16304B' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Canada Lynx, *Lynx canadensis* (Threatened)

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Dummer-Cambridge-Errol 16304B

2. Description

The following description was provided for the project 'Dummer-Cambridge-Errol 16304B':

> The project consists of a 1.3 mile new off alignment roadway including 11ft paved travel lanes and 4ft paved shoulders.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/44.67759940224616N71.17957627944978W

Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

   No

3. Will your activity purposefully **Take** northern long-eared bats?

   No

4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

7. Will the action involve Tree Removal?

   Yes

8. Will the action only remove hazardous trees for the protection of human life or property?

   No

9. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

   No

10. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

    No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

9.0

2. If known, estimated acres of forest conversion from April 1 to October 31

5

3. If known, estimated acres of forest conversion from June 1 to July 31

4

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?
0

Christine J. Perron

From: Christine J. Perron
Sent: Monday, March 2, 2020 7:45 AM
To: Kilborn, Jillian; Doperalski, Melissa
Cc: Oehler, James; Tuttle, Kim
Subject: RE: NHDOT Project - Dummer-Cambridge-Errol 16304B

Thanks Jill.

The pavement and roadbed will be removed where any portion of the roadway is shifted away from the river. Those areas will be revegetated, but plantings haven't been determined yet (trees vs shrubs). I haven't been involved in the section of Route 16 to the south that is currently under construction, but it is my understanding that the area between the new roadway and the river will be revegetated.

There is no plan to use fencing along the road.

Let me know if there are any specific measures that could be considered to minimize impacts.

Thanks,
Christine

Christine Perron, CWS
Project Manager • Senior Environmental Analyst McFarland Johnson
53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 1280
www.mjinc.com

-----Original Message-----
From: Kilborn, Jillian <jillian.kilborn@wildlife.nh.gov>
Sent: Friday, February 28, 2020 3:57 PM
To: Christine J. Perron <CPerron@mjinc.com>; Doperalski, Melissa <Melissa.Doperalski@wildlife.nh.gov>
Cc: Oehler, James <James.Oehler@wildlife.nh.gov>; Tuttle, Kim <Kim.Tuttle@wildlife.nh.gov>
Subject: Re: NHDOT Project - Dummer-Cambridge-Errol 16304B

Hi Christine and Melissa

We have had recent lynx reports in all three towns, some in close proximity to the project site.

Is there a plan to pull up the old paved surface and do some riparian restoration associated with moving the road (e.g. tree planting etc)? I was wondering the same for the other section that is currently under construction just to the south in the Dummer Ponds Road vicinity. I was also wondering if there is any plan to use fencing along the road? In general I don't forsee any issues for lynx but as a wide ranging species susceptible to road mortality it would be good to see some measures to try and minimize impacts.

Exhibit 11

Thanks

Jill

_____

From: Christine J. Perron <CPerron@mjinc.com>
Sent: Wednesday, February 26, 2020 11:03:38 AM
To: Doperalski, Melissa; Kilborn, Jillian
Subject: RE: NHDOT Project - Dummer-Cambridge-Errol 16304B

EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.
_____

Thanks Melissa. I'm attaching a few photos in case you or Jill find them helpful. Moving the roadway away from the river would provide a number of benefits, including improving the habitat quality of the riparian zone, improving water quality, and reducing the potential for slope failures.

Christine Perron, CWS

Project Manager • Senior Environmental Analyst

McFarland Johnson

53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 1280

www.mjinc.com<https://urldefense.com/v3/__http://www.mjinc.com/__;!!Oai6dtTQULp8Sw!Asv95H0oU1id_17CYdNuLEC_lEujmWYVx7s1Sfdx-CfZb9Iq_i4Og1u9g3KumXvIb95YmQJmF7YM$>

From: Doperalski, Melissa <Melissa.Doperalski@wildlife.nh.gov>
Sent: Wednesday, February 26, 2020 9:47 AM
To: Kilborn, Jillian <jillian.kilborn@wildlife.nh.gov>; Christine J. Perron <CPerron@mjinc.com>
Subject: FW: NHDOT Project - Dummer-Cambridge-Errol 16304B

Morning Christine,

Thank you for reaching out. I don't foresee that this project would be a concern for Canada lynx; however, I am including Jill Kilborn in on this email so that she may provide her thoughts. In general, although it would result in tree clearing, shifting the road away from the river would most likely be beneficial for the river and riverine habitat (without seeing the site).

-Melissa

From: Christine J. Perron <CPerron@mjinc.com<mailto:CPerron@mjinc.com>>
Sent: Wednesday, February 19, 2020 9:37 AM
To: Doperalski, Melissa <Melissa.Doperalski@wildlife.nh.gov<mailto:Melissa.Doperalski@wildlife.nh.gov>>
Subject: NHDOT Project - Dummer-Cambridge-Errol 16304B

EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.

_____

Good morning Melissa,

NHDOT is planning the subject project, which will address a section of NH Route 16 starting at approximately the Dummer/Cambridge town line and continuing north for approximately 1.3 miles. A location map is attached. The purpose of the project is to address the deteriorated condition of the roadway. A number of design alternatives are under consideration, including shifting the roadway to the west away from the Androscoggin River, which would result in approximately 9 acres of tree clearing along the 1.3 mile corridor.

I have started coordinating with John Magee on fish species of concern since there are two stream crossings in the project area. We did not have any wildlife records in our NHB database review, but the project does require consultation with the USFWS to address Canada lynx. I am seeking input from NH Fish & Game on the likelihood that lynx could occur in the project area and any potential concerns with the proposed project. Any information you can provide would be appreciated.

Thanks,
Christine

Christine Perron, CWS

Project Manager • Senior Environmental Analyst

McFarland Johnson

53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 1280

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

July 2, 2020

Ron Crickard
New Hampshire Department of Transportation
John O. Morton Building
7 Hazen Drive
P.O. Box 483
Concord, NH 03302-0483

Re: Dummer-Cambridge-Errol 16304B, Cambridge, Coos County, NH (TAILS # 2020-I-1911)

Dear Mr. Crickard:

This responds to your request, dated May 8, 2020, and received in our office on May 8, 2020, for our concurrence with your determination that the Federal Highway Administration's (FHWA) and NH Department of Transportation's (NHDOT) proposed NH Route 16 corridor (segment Dummer-Cambridge-Errol 16304) roadway improvement and realignment project (Project) may affect, but is not likely to adversely affect, the federally threatened Canada lynx (*Lynx canadensis*). Your request and our response are made pursuant to section 7 of the Endangered Species Act of 1973, as amended (87 Stat. 884, as amended; 16 U.S.C 1531, et seq.) (ESA).

The FHWA and NHDOT propose to complete the Dummer-Cambridge-Errol 16304 segment of the NH Route 16 corridor roadway improvement and realignment project. The section of NH Route 16 addressed during this segment starts at the Dummer/Cambridge town line and continues north for approximately 1.3 miles within the Town of Cambridge, New Hampshire. The purpose of the Project is to address the deteriorated condition of the roadway and realign the roadway to the west, away from the Androscoggin River. The Project will include approximately 9 acres of tree clearing for construction of the realigned roadway and the duration of construction is anticipated to be 2-3 years. Habitat types within and near the proposed project area include open water, floodplain forest, peatland, low-elevation spruce-fir forest, marsh wetlands, and shrub wetlands. The dominant forest type in the action area is northern spruce-fir interspersed with forested wetlands. Two unnamed perennial streams exist in the project action area and the Androscoggin River runs parallel to NH Route 16 immediately to the east of the roadway.

Northern long-eared bat

The applicant will address potential impacts to the federally threatened northern long-eared bat (*Myotis septentrionalis*) through the northern long-eared bat key within the Information for Planning and Consultation (IPaC) system and the associated *Programmatic Biological Opinion of Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions*.

Canada lynx

The proposed Project is located within the southern range of the Canada lynx. Canada lynx and their prey, the snowshoe hare, require spruce-fir forest habitat with gently rolling terrain and persistent, deep snow cover. The habitat in the project area is considered to be suitable for Canada lynx due to the presence of spruce-fir forest habitat, lack of development, and bordering undeveloped forested lands. Recent Canada lynx reports from Dummer, Cambridge, and Errol indicate that this species may occur in close proximity to the project action area and may utilize suitable habitat throughout the area, although the New Hampshire Natural Heritage Bureau did not report any records of this species within the project action area itself. The proposed Project may affect Canada lynx temporarily during construction activities and noise, and through the conversion of some marginal habitat along NH Route 16.

The FHWA and NHDOT would implement these measures to avoid adverse effects to the Canada lynx from the proposed Project:

- tree clearing will be minimized to the maximum extent practical to achieve the purpose and need of the Project; and
- appropriate pollution control measures will be implemented during construction to avoid adverse effects to the species.

We concur with your determination that the proposed Project may affect, but is not likely to adversely affect, the Canada lynx. Our concurrence is based on the following:

- tree clearing will convert some of the spruce-fir forest habitat available to Canada lynx along NH Route 16 and the original pavement and roadbed will be removed when the roadway is shifted to the west; however, the effects would be insignificant, because tree clearing will be minimized to the extent possible and will only convert marginal habitat in close proximity to NH Route 16. In addition, the amount of tree clearing proposed will not impact the availability of large contiguous areas of suitable habitat to the east and west of the action area. Finally, tree removal and road relocation will not prevent Canada lynx from moving through the area and the wider vegetated riparian buffer resulting from the Project may have increased value as a wildlife corridor;
- temporary impacts from construction activities and noise may disturb Canada lynx in the vicinity or cause them to avoid the action area; however, the effects would be insignificant, because these impacts will be temporary and limited to the duration of the Project and Canada lynx are only expected to utilize the area temporarily while moving between less fragmented areas of spruce-fir forest habitat and may already experience noise from the heavily trafficked NH Route 16 transportation corridor; and

- pollution from construction activities could result in adverse effects if freshwater streams in the action area were impacted; however, the likelihood of this occurring would be discountable due to appropriate pollution control measures that will be implemented during construction.

Further consultation with us under section 7 of the ESA is not required at this time. If the proposed action changes in any way such that it may affect a listed species in a manner not previously analyzed or if new information reveals the presence of additional listed species that may be affected by the Project, the FHWA and NHDOT should contact us immediately and suspend activities that may affect those species until the appropriate level of consultation is completed with our office. Thank you for your cooperation, and please contact Eliese Dykstra of this office at (603) 227-6427 if you have questions or need further assistance.

Sincerely yours,

THOMAS CHAPMAN
Digitally signed by THOMAS CHAPMAN
Date: 2020.07.02 13:49:23 -04'00'

Thomas R Chapman
Supervisor
New England Field Office

cc: Christine Perron, McFarland Johnson (CPerron@mjinc.com)
Reading file
ES: EDykstra:jd:7-2-20:603-227-6427

CONFIDENTIAL – NH Dept. of Environmental Services review

Memo

NH Natural Heritage Bureau
NHB Datacheck Results Letter

To: Jordan Tate, McFarland Johnson
5 Depot Street
Suite 25
Freeport, ME 04032

From: Amy Lamb, NH Natural Heritage Bureau
Date: 4/8/2020 (valid for one year from this date)
Re: Review by NH Natural Heritage Bureau
NHB File ID: NHB20-0897 Town: Cambridge Location: NH Route 16 in Cambridge, NH
Description: The project consists of a 1.3 mile new off alignment roadway including 11ft paved travel lanes and 4ft paved shoulders. (NHB18-3244)

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments: Previous communication about this project indicated that a survey for common mare's tail would be completed at "Stream L" delineated within the project area, during the summer of 2019. Please send NHB survey results when available.

Plant species	State[1]	Federal	Notes
common mare's-tail (*Hippuris vulgaris*)	T	--	Threats include water pollution and direct destruction from recreation.

[1]Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Exhibit 13

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

Christine J. Perron

From: Christine J. Perron
Sent: Tuesday, July 14, 2020 9:13 AM
To: 'Lamb, Amy'
Cc: Ron Crickard
Subject: RE: Mare's tail
Attachments: 20200707_112518.jpg; 20200707_110736.jpg

Good morning Amy,

A survey for mare's tail was completed at Stream L on July 7. Two photos are attached and I'll send a few more in a separate email due to the large file size. All of the submersed and floating vegetation that was observed had finely divided, branched leaves, and some of this could be identified as bladderwort due to the presence of tiny bladders along the leaves. No submersed stems with blade-shaped, whorled leaves were observed, and there were no erect stems emerging from the water.

I know that the survey was a bit earlier than you had preferred. Let us know if you would like to see any follow up actions taken.

Christine

Christine Perron, CWS
Project Manager • Senior Environmental Analyst
McFarland Johnson
53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 1280
www.mjinc.com

From: Lamb, Amy <Amy.Lamb@dncr.nh.gov>
Sent: Tuesday, June 23, 2020 12:28 PM
To: Christine J. Perron <CPerron@mjinc.com>
Subject: RE: Mare's tail

Hi Christine,

The later the better for the survey; like I mentioned, most of our records are from Aug/Sept, but we do have one from mid-July. Is next week the latest you can go out?

Thanks!
Amy

Amy Lamb
Ecological Information Specialist
(603) 892-5162 – work cell
amy.lamb@dncr.nh.gov

NH Natural Heritage Bureau
DNCR - Forests & Lands
172 Pembroke Rd
Concord, NH 03301

Exhibit 14

NHB DataCheck Tool

From: Christine J. Perron <CPerron@mjinc.com>
Sent: Tuesday, June 23, 2020 12:25 PM
To: Lamb, Amy <Amy.Lamb@dncr.nh.gov>
Subject: RE: Mare's tail

EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.

Hi Amy,

Photos from my visit to the stream on Route 16 are attached. The water is very low. I noticed a few aquatic plants, including a bladderwort species (shown in photos), pickerel weed, and watershield. The survey for mare's tail will be completed via kayaks. Would you have any concerns if this survey is completed next week?

Stay cool!
Christine

Christine Perron, CWS
Project Manager • Senior Environmental Analyst
McFarland Johnson
53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 1280
www.mjinc.com

From: Lamb, Amy <Amy.Lamb@dncr.nh.gov>
Sent: Wednesday, June 17, 2020 3:34 PM
To: Christine J. Perron <CPerron@mjinc.com>
Subject: RE: Mare's tail

Sure, no problem – I wish the other sites were more accessible!

Thanks for coordinating, and do let me know what you find during your site visit. I hope that it's cooler up there tomorrow!

Amy

Amy Lamb
Ecological Information Specialist
(603) 892-5162 – work cell
amy.lamb@dncr.nh.gov

NH Natural Heritage Bureau
DNCR - Forests & Lands
172 Pembroke Rd
Concord, NH 03301

NHB DataCheck Tool

From: Christine J. Perron <CPerron@mjinc.com>
Sent: Wednesday, June 17, 2020 3:21 PM
To: Lamb, Amy <Amy.Lamb@dncr.nh.gov>
Subject: RE: Mare's tail

Thanks for looking into this Amy. It doesn't sound like we'll be able to check one of the known populations before completing the survey for the project – our budget is pretty lean at this point and all of the options sound too time consuming. I do have a site visit planned in Shelburne tomorrow and hope to drive up to Cambridge to do a roadside scan of the stream to be surveyed, just to get a better sense of current conditions. I'll let you know how it looks!

From: Lamb, Amy <Amy.Lamb@dncr.nh.gov>
Sent: Wednesday, June 17, 2020 3:05 PM
To: Christine J. Perron <CPerron@mjinc.com>
Subject: RE: Mare's tail

Hi Christine,

You're right, that does sound a bit complicated to get to! I think I had seen what looked like a road or trail on topo maps on the opposite side of the river, and assumed you could drive in.

I looked at our other records, and the rest in the north country (there are 6 others) are in Pittsburg, pretty far from the site.

There is also one outlier population in Stoddard, in the part of Highland Lake that is below NH Route 123.

None of these seem convenient to get to in relation to the Cambridge project. It looks like you can also get to the Cambridge record by driving to the end of Ferry Road (Class V) in Dummer, driving 2 miles on logging roads and then bushwhacking in to the site. But this is also described in the Directions section of the letter, and the surveyor suggested that canoeing would be easier.

Are you still interested in further info about any of the other records?

Hope all is well with you too!
Amy

Amy Lamb
Ecological Information Specialist
(603) 892-5162 – work cell
amy.lamb@dncr.nh.gov

NH Natural Heritage Bureau
DNCR - Forests & Lands
172 Pembroke Rd
Concord, NH 03301

NHB DataCheck Tool

From: Christine J. Perron <CPerron@mjinc.com>
Sent: Wednesday, June 17, 2020 1:46 PM
To: Lamb, Amy <Amy.Lamb@dncr.nh.gov>
Subject: Mare's tail

Hi Amy,
Thanks for your input at this morning's meeting. I was just reviewing the directions to the nearby mare's tail population shown in the NHB memo, and it sounds pretty time consuming to get to. Do you happen to have a different record from northern NH that is more accessible?
Hope all is well with you!
Christine

Christine Perron, CWS
Project Manager • Senior Environmental Analyst
McFarland Johnson
53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 1280
www.mjinc.com

Errol Heritage Commission
P.O. Box 100
Errol, NH 03579

April 1, 2019

McFarland Johnson
53 Regional Drive
Concord, NH 03301-8500
ATTENTION: Christine Perron, CWS

Re: NHDOT Roadway Project
Dummer-Cambridge-Errol, 16304B

Dear Ms. Perron:

Thank you for your letter regarding the above project.

Concerning Paragraph Three (#3) historical, cultural or archeological resources – we are currently unaware of any. However, we would respectfully request that if any digging for such items is to occur (before or after this project is completed,) that the Errol Heritage Commission be notified in order that one or two members might be present. We would also request that any items found be turned over to the Errol Heritage Commission for proper preservation and storage of any items found.

Thanks very much for your attention to this matter.

Sincerely,

Deb Freedman

Deb Freedman, Chairperson
Errol Heritage Commission

DJF/1
cc. Errol Selectmen

10378

New Hampshire DOT
Department of Transportation

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

Victoria F. Sheehan
Commissioner

RECEIVED
FEB 11 2020

William Cass, P.E.
Assistant Commissioner

Dummer-Cambridge-Errol
X-A004(699)
16304B
RPR 10378

No Historic Properties Affected Memo

In order to assist the Federal Highway Administration (FHWA) in complying with Section 106 of the National Historic Preservation Act of 1966 and its amendments, The New Hampshire Department of Transportation (NHDOT), in consultation with the New Hampshire Division of Historical Resources (SHPO), has reviewed this undertaking according to the standards and procedures detailed in the 2018 Programmatic Agreement regarding the Federal-Aid Highway Program in New Hampshire.

Project Description:
The proposed project will address a deteriorating section of NH Route 16 located along the Androscoggin River in Cambridge, New Hampshire. The proposed project begins just northeast of the Dummer-Cambridge Town Line and continues north along NH Route 16 for approximately 1.3 miles. The proposed alternative involves shifting the alignment of the existing roadway to the west in order to improve the safety and integrity of the roadway.

Analysis:
Based on a review pursuant to 36 CFR 800.4 of the cultural, architectural, archaeological, and/or historical significance of resources located within the Area of Potential Effect (APE), we agree there are no such properties located within the APE.

A Phase IA/IB Archaeological Survey was completed in 2019. Results of the survey did not identify any archaeologically sensitive sites located within the APE. No further archeological survey was recommended.

Public Consultation:
The proposed project was presented and discussed at a Coos County Commission meeting on January 15, 2020. This meeting was open to the public and served as the public informational meeting for the project. Initial contact letters seeking input on the project were sent to various town officials, boards, and commissions in Errol and Dummer. A response from the Errol Heritage Commission dated April 1, 2019 stated that they are not aware of any historical, cultural, or archaeological resources in the project area. The Errol Heritage Commission also requested to be present during any archaeological investigations and that any items found be turned over to the Commission for preservation. No other concerns have been raised to date and the project has no Consulting Parties.

Determination of Effect:
Applying the criteria of effect at 36 CFR 800.5, we mutually agreed that the above actions will result in no historic properties affected. No additional survey is required for the project as proposed.

RECEIVED
BUREAU OF ENVIRONMENT
FEB 19 2020
NH DEPARTMENT
OF TRANSPORTATION

JOHN O. MORTON BUILDING • 7 HAZEN DRIVE • P.O. BOX 483 • CONCORD, NEW HAMPSHIRE 03302-0483
TELEPHONE: 603-271-3734 • FAX: 603-271-3914 • TDD: RELAY NH 1-800-735-2964 • INTERNET: WWW.NHDOT.COM

Section 4(f) (to be completed by FHWA)	*There Will Be:*	☒ **No 4(f);**	☐ **Programmatic 4(f);**	☐ **Full 4 (f);** or
	☐ **A finding of *de minimis* 4(f) impact as stated:** In addition, with NHDHR concurrence of no adverse effect for the above undertaking, and in accordance with 23 CFR 774.3, FHWA intends to, and by signature below, does make a finding of *de minimis* impact. NHDHR's signature represents concurrence with both the no adverse effect determination and the *de minimis* findings. Parties to the Section 106 process have been consulted and their concerns have been taken into account. Therefore, the requirements of Section 4(f) have been satisfied.			

In accordance with the Advisory Council's regulations, we will continue to consult, as appropriate, as this project proceeds.

Jill Edelmann — 2/7/2020

Jill Edelmann
Cultural Resources Manager

Concurred with by the NH State Historic Preservation Officer:

Nadine Miller, DSHPO — 2/13/2020

Nadine Miller — Date
Deputy State Historic Preservation Officer
NH Division of Historical Resources

c.c. Chris St. Louis, NHDHR
Jamie Sikora, FHWA
Christine Perron, MJ
Stephen Hoffmann, MJ
Ron Crickard, NHDOT
Jennifer Reczek, NHDOT

S:\Environmental\PROJECTS\DUMMER\16204B\Dummer-Combridge-Final 16204B No Historic or Archaeo Properties Affected, draft 2.2020.docx

Christine J. Perron

From: Peter Steckler <psteckler@TNC.ORG>
Sent: Wednesday, June 19, 2019 3:45 PM
To: Christine J. Perron
Subject: RE: NHDOT Roadway Project, Dummer-Cambridge-Erroll 16304B
Attachments: 13-Mile_tracks.xlsx

Thanks for following up about this, Christine. I am sorry I never got back to you—I have been completely straight out for, well, quite a long time now.

At the link below you will find TNC's wildlife connectivity study for northern NH. It highlights that stretch of road running between 13 mile woods as important from a wildlife connectivity standpoint (map 8, page 28 of the pdf). Not so much as a wildlife corridor, but as a fragmenting feature that runs through what we call a "landscape-scale conservation area", which served as the nodes that the models ran between, and that provide connectivity in and of themselves.

20130222_NEK-NNH_final.pdf (open link)

We also have some tracking data for a portion of that segment of road. I've attached a summary. This is from one winter of surveying, and I think the tracker was out there three separate times. Some of the observations record multiple tracks at one crossing, which included observations of <5, 5 to 10, or <10 sets of tracks.

If you want to dig into this more and discuss potential mitigation options I'd be glad to engage, but would need a better sense of the proposed wetland impacts, including functional values. Maybe it makes sense to get together when you have that information compiled?

In the meantime, please let me know if you have any questions.

Thanks,

Pete

From: Christine J. Perron <CPerron@mjinc.com>
Sent: Tuesday, June 18, 2019 8:12 AM
To: Peter Steckler <psteckler@TNC.ORG>
Subject: RE: NHDOT Roadway Project, Dummer-Cambridge-Erroll 16304B

Hi Pete,

Just checking in to see if you've had a chance to consider the email I sent earlier this year. The project team is especially interested in any input you may have on potential local mitigation projects that can be considered as the project moves forward.

We are just starting to discuss specific alternatives with the resource agencies. A preferred alternative will likely be selected by the end of the summer, at which point we will begin taking a closer look at mitigation options.

Thanks,
Christine

Christine Perron, CWS

Exhibit 17

Project Manager • Senior Environmental Analyst
McFarland Johnson
53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 1280
www.mjinc.com

From: Christine J. Perron
Sent: Tuesday, January 08, 2019 7:37 AM
To: 'Peter Steckler' <psteckler@TNC.ORG>
Subject: RE: NHDOT Roadway Project, Dummer-Cambridge-Erroll 16304B

Hi Pete

Initial feedback by mid-February would be helpful, but any feedback after that time will still be valuable.

Thanks,
Christine

Christine Perron, CWS
Project Manager • Senior Environmental Analyst
McFarland Johnson
53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 128
www.mjinc.com

From: Peter Steckler <psteckler@TNC.ORG>
Sent: Tuesday, January 08, 2019 7:28 AM
To: Christine J. Perron <CPerron@mjinc.com>
Subject: RE: NHDOT Roadway Project, Dummer-Cambridge-Erroll 16304B

Hi Christine,

When are you looking for feedback by?

Thanks,

Pete

From: Christine J. Perron <CPerron@mjinc.com>
Sent: Wednesday, January 02, 2019 7:47 AM
To: Peter Steckler <psteckler@TNC.ORG>
Subject: NHDOT Roadway Project, Dummer-Cambridge-Erroll 16304B

Good morning Pete,

The NH Department of Transportation (DOT) is planning the subject project, which will address a section of NH Route 16 starting at approximately the Dummer/Cambridge town line and continuing north for approximately 1.3 miles. A location map is attached. The project is expected to be located entirely within Cambridge. The purpose of the project is to address the deteriorated condition of the roadway. A number of design alternatives will be considered, including shifting the roadway to the west away from the Androscoggin River. Engineering studies are underway to refine the scope and limits of work necessary for this project. A Public Informational Meeting will be scheduled in the coming months to provide an update on the status of these studies.

The DOT has retained the consulting firm McFarland Johnson to help evaluate the potential impacts associated with the project. To assist in this evaluation, **we are asking for your input on the project's potential impacts to environmental, social, economic, or cultural resources.** Please consider and respond to the following questions:

1. Are there any existing or proposed community or regional plans that might have a bearing on this project?
2. The project is adjacent to the Androscoggin River. Are there any other natural resources of significance in the vicinity of the project? (e.g. prime wetlands, floodplains, rare species, etc.)
3. Are there any cultural resources of significance in the vicinity of the project? (e.g. stonewalls, cemeteries, historical or archeological resources, etc.) *Please note that Section 106 of the National Historic Preservation Act offers those that possess a direct interest in historical resources, including town officials, Historical Societies, and Historical Commissions, an opportunity to become more involved in an advisory role during project development as "Consulting Parties." Those interested should contact the DOT*.
4. The project is adjacent to 13 Mile Woods. Are there any public parks, recreation areas, other conservation lands, or wildlife/waterfowl refuges in the vicinity of the project? Have Land & Water Conservation Funds been used in the project area?
5. Are there any locally or regionally significant water resources or related protection areas in the project vicinity? (e.g. public water supplies, wellhead protection areas, aquifer protection districts, etc.)
6. Are there any water quality concerns that should be addressed during the development of this project? (e.g. stormwater management, NPDES Phase II, impaired waters, etc.)
7. Are you aware of any existing or potential hazardous materials or contaminants in the vicinity of the project? Are there asbestos landfills or asbestos containing utility pipes located within the project limits?
8. Do you have any environmental concerns not previously noted (e.g. noise impacts, farmland conversion, etc.) that you feel the DOT should be aware of for this project?
9. Will the proposed project have a significant effect upon the surrounding area? If so, please explain.
10. Are you aware of any existing roadside populations of non-native invasive plant species (such as Japanese knotweed, phragmites, or purple loosestrife) in the project area?

Although impacts to wetlands and streams will be avoided or minimized as much as possible, these resources are extensive throughout the project area and it is anticipated that this project will result in impacts that will require mitigation. ***As a proactive measure, the DOT is seeking input on preferred/priority mitigation efforts that they can evaluate and consider undertaking if it is determined that the project will, in fact, require mitigation. Please provide input on mitigation efforts that you would like the DOT to consider.*** Potential mitigation efforts include, but are not limited to, problematic culvert/bridge crossings, land protection, and habitat restoration.

If no input is provided on local mitigation priorities, the DOT will pursue mitigation through the Stream Passage Improvement Program (SPIP). If it's determined that no viable options exist through the SPIP, the DOT will pursue a payment into the Aquatic Resource Mitigation Fund (ARM Fund), at which time those funds will become competitively available for local projects through the ARM fund grant process.

This letter has been sent to the entities listed below. Since Cambridge is unincorporated, this letter has been sent to town officials in Dummer and Errol. The DOT is also coordinating with State and Federal resource agencies, as well as the Land and Community Heritage Investment Program (LCHIP) and the NH Forest Legacy Program.

- Errol Board of Selectmen (via email)
- Errol Town Forest Commission
- Errol Planning Board
- Errol Fire Chief
- Errol Emergency Management Director
- Errol Heritage Commission
- Dummer Board of Selectmen (via email)
- Dummer Conservation Commission

- Coos County Unincorporated Places Department
- Staying Connected Initiative: Northeast Kingdom, Northern New Hampshire to Western Maine Linkage (The Nature Conservancy) (via email)

The tentative advertising date for this project is August 2021. Please feel free to contact me if you need additional information regarding the questions above. Thank you for your assistance.

Christine

Christine Perron, CWS
Project Manager • Senior Environmental Analyst
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Sent from Box for Office

53 Regional Drive
Concord, NH 03301

Tel: (603) 225-2978
Fax: (603)225-0095

McFARLAND JOHNSON
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MEETING NOTES

PROJECT: Dummer-Cambridge-Errol, 16304B

DATE OF MEETING: December 13, 2018 **TIME:** 10:00-11:00 AM

LOCATION: NH Department of Transportation
7 Hazen Drive
Room 112/113

SUBJECT: Existing Scenic and Conservation Easements

ATTENDEES:

NHDOT	**NH DNCR Division of Forests and Lands**	**LCHIP**
Jennifer Reczek	Tracey Boisvert	Paula Bellemore
Ron Crickard	Susan Francher	
Margarete Baldwin	Maggie Machinist	**MJ**
Steve LaBonte		Christine Perron

NOTES ON MEETING:

The project area includes a scenic easement as well as conservation easements associated with the conservation land known as 13 Mile Woods. The purpose of the meeting was to develop a better understanding of existing easements and restrictions, confirm all stakeholders and their roles, and identify the steps that will be necessary to move forward with the project.

The project will address a section of NH Route 16 starting at approximately the Dummer/Cambridge town line and continuing north for approximately 1.3 miles. The entire project length is bordered by the Androscoggin River to the east and 13 Mile Woods to the west. Extensive wetlands exist to the west.

The purpose of the project is to address the deteriorated condition of the roadway. Due to the condition of the road and the influence of the river on the road bed, frost heaving can be severe in the spring and the NHDOT District 1 needs to post the road. At these times, trucks are prohibited and must use much lengthier alternative routes. Because this route is a major corridor in the North Country, eliminating these seasonal weight restrictions would benefit the local economy. In addition to the roadway condition, the project will also consider long-term slope stability. The slopes between NH Route 16 and the Androscoggin have a history of instability, and a number of slope failures have occurred in recent years to the north and south of the project.

Three categories of design alternatives will be studied: 1) reconstruction on the same alignment; 2) partial alignment shift away from the river (approximately one lane width); and 3) a complete alignment shift away from the river (approximately full roadway width). The project could involve a combination of these three

options. Another important element of the alternatives analysis will involve looking at raising the grade of the roadway above the influence of the river. Important considerations that will need to be weighed for all alternatives include wetland impacts, river impacts, stormwater treatment options, and traffic control during construction.

The project is just getting underway and it is still very early in the design process. The tentative advertising date is August 2021, with a DOT public hearing anticipated in August 2019.

Key discussion points regarding the scenic and conservation easements are summarized below.

Scenic Easement

This easement was given to the State by the Brown Company in the early 1970s along 11.4 miles of NH Route 16. The easement extends 125' from the controlled access Right-of-Way to the west and to the edge of the river to the east. The layout of the easement is shown on NHDOT plans titled "Federal Aid Landscaping Secondary Project LS S-202(1)".

Tracey noted that the easement was signed in 1972. She would provide a copy of the signed easement to DOT in case a signed copy is not already in the file.

Following review of the easement language and discussion at the Division of Forests and Lands, Tracey believes that NHDOT is the easement holder.

Maggie noted that at one time there was a committee established to monitor the scenic easement. She would send information to NHDOT on this committee.

Jennifer commented that the apparent intent of the scenic easement was to keep the roadway rural/undeveloped. That same intent could be met with a new easement layout if the roadway is shifted to the west.

Forest Legacy Easement

The Forest Legacy Program is a USDA Forest Service program. The easement is located on 13 Mile Woods and extends to the center of the river.

Susan noted that Federal approval would be required for any impacts to this easement area. The request for approval would need to clearly justify the need for the project, emphasizing safety concerns that will be addressed by shifting the roadway to the west, and documenting why an online alternative is not preferred (i.e. river impacts, bank stabilization, etc.).

In general, the approval timeline is expected to be similar to the LCHIP process noted below.

LCHIP

The LCHIP easement is located on 13 Mile Woods and it is assumed that it follows the same boundaries as the Forest Legacy easement (to the center of the river).

NH RSA 227-M:13 outlines an approval process for impacts from State DOT roadway projects on LCHIP lands. Allowable impacts are defined in the RSA: "Permissible expansion, modifications, or alterations under this section shall include drainage easements, slope easements, lane widening, the addition of a passing, climbing, or turning lane, or similar adjustments, but shall not include construction of a new highway or portion thereof, construction of a bypass for an existing highway, or similar major alterations. Approval shall not be granted if reasonable and prudent alternatives exist nor if individual or cumulative approvals are likely to materially impair the conservation or preservation purposes for which the parcel

was originally protected. Projects determined by the authority to be outside of the scope permitted by this chapter shall require approval from the general court."

Paula recommended that a written summary of the "worst case scenario," with full shift roadway alignment and anticipated impacts, be provided for review at an LCHIP board meeting to seek consensus that the proposed project falls within the scope of the RSA. The LCHIP Board will meet on March 25, 2019. Materials should be submitted no less than 3 weeks in advance (by March 4, 2018). The next Board meeting will be June 24, 2019, with materials due no later than June 3, 2019. This written summary will also be provided to the Division of Forests and Lands.

If the LCHIP Board concurs that the project falls within the scope of the RSA, then the approval process would be 3 to 6 months and follow the process outlined in the RSA. An LCHIP public hearing would be required. Subsequent to the meeting, Paula confirmed that a joint LCHIP/NHDOT hearing was held for a project in Haverhill. If the LCHIP Board does not consider this project to be within the scope of the RSA, the next step is uncertain.

Mitigation

NHDOT recognizes the need for mitigation to compensate for any impacts to the existing easements.

Paula noted that RSA 227-M:13 requires mitigation for impacts to LCHIP lands. Mitigation can take the form of replacement land or monetary compensation based on the fair market value of the property.

Maggie noted that inholdings do exist within 13 Mile Woods and could present potential mitigation opportunities. These inholdings are also not currently subject to the scenic easement.

Maggie asked what would happen with the old road bed if the roadway is shifted. Jennifer replied that this would need to be discussed further as the project moves forward. In general, it is recognized that trees would not be desirable if they blocked the view of the river. There may be an opportunity to work with the local maintenance district to develop a specific mowing schedule where scenic views are desired.

Additional Stakeholders

In addition to the stakeholders in attendance, it was noted that coordination with the property owner(s) would be necessary. The 13 Mile Woods property was protected in phases, resulting in different ownerships (see map below):

- 13 Mile Woods II includes the property located to the west of the project. This property is owned by the Town of Errol.
- 13 Mile Woods I is located to the east of the river, except for a small area located between the river and the roadway just south of the Dummer/Cambridge town line. This property is owned by the Weyerhaeuser Company.

The Forest Legacy and LCHIP easements exist on 13 Mile Woods I and II.

The Town of Errol Board of Selectmen oversees 13 Mile Woods II with the assistance of the Errol Town Forest Commission. The chair of the Forest Commission is Pierre "Butch" Rousseau. Maggie will provide an email address for Butch.

The NHDOT Initial Contact Letter will be sent to the Board of Selectmen to introduce the project and potential impacts. Follow-up coordination will take place after that. A Public Informational Meeting will also be scheduled at a later date, and this meeting is generally coordinated with town officials.

Impacts to 13 Mile Woods I, south of the Dummer/Cambridge town line, would require coordination with Weyerhaeuser. At this time, impacts in this location are not anticipated but it is too early to be certain.

Schedule/next steps
The alternatives analysis and NEPA process will be carried out over the next 8 months or so.

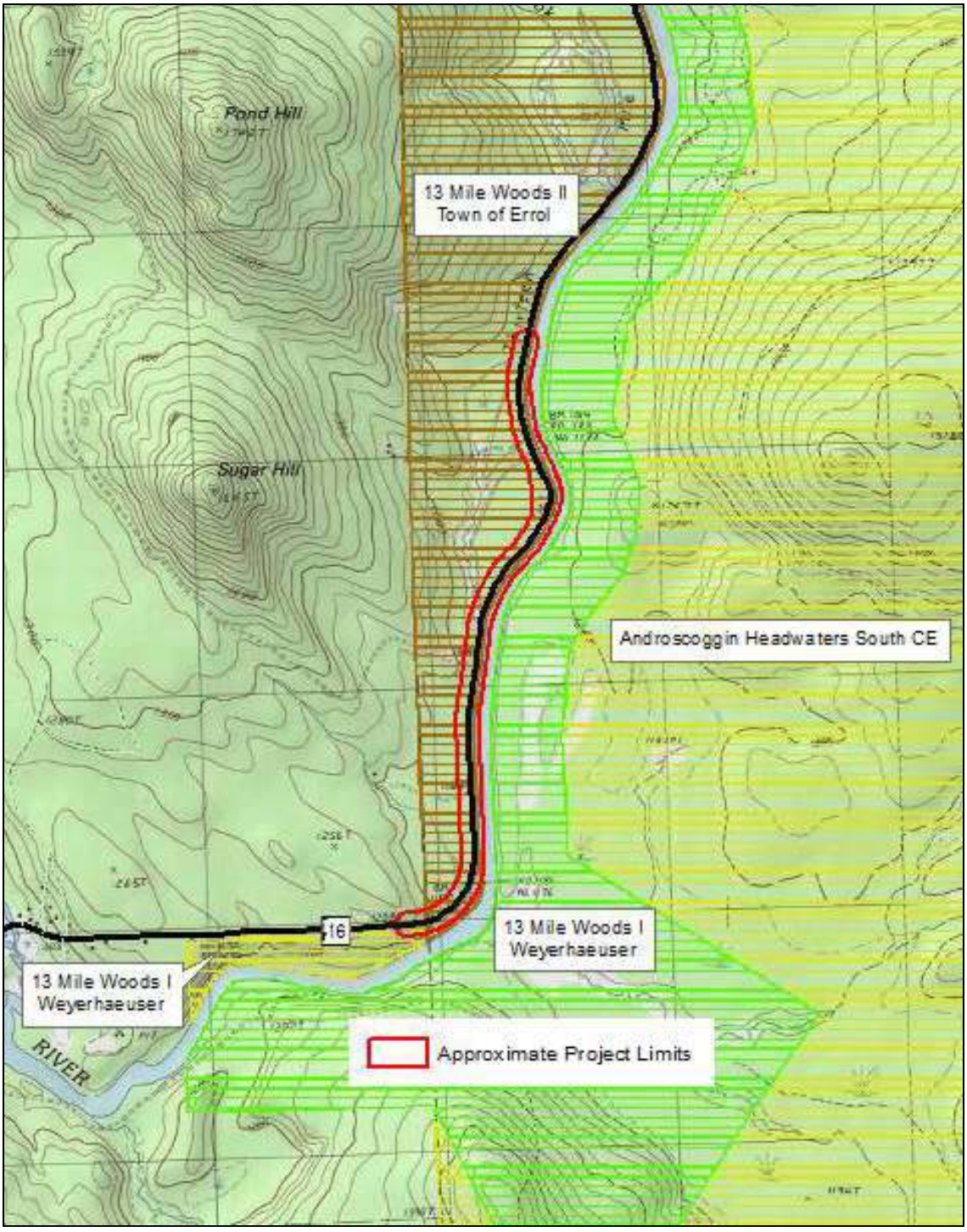
The project will be reviewed at 3 to 4 NHDOT Natural Resource Agency Coordination Meetings during that time, with the first meeting likely taking place in February or March.

Other Issues
Maggie noted that NH Fish & Game has been doing a lot of stream restoration and fisheries work in the area. She recommended coordinating with John Magee on the project. Christine said that she would contact John.

Submitted by:

Christine Perron
McFarland Johnson, Inc.

Copy (via email):
Attendees
Jason Abdulla, NHDOT Highway Design


Pond Hill
Sugar Hill
13 Mile Woods II
Town of Errol
Androscoggin Headwaters South CE
16
13 Mile Woods I
Weyerhaeuser
13 Mile Woods I
Weyerhaeuser
RIVER
Approximate Project Limits

LCHIP

Land & Community Heritage Investment Program

Board of Directors Quarterly Meeting
Pillsbury Free Library, Warner
Amanda Merrill, Board Chair
Monday, March 25, 2019
Draft Notes – Meeting was unofficial due to a lack of quorum

Attendance
Voting members: Chick Colony, Bob Giuda, Harold Janeway, Mandy Merrill, Susan Slack, Ben Wilcox
Nonvoting members: Susan Francher, Shawn Jasper, Beth Muzzey, Jim Oehler, Pierce Rigrod, Brad Simpkins, Stephen Walker
LCHIP Staff: Barb Beers, Paula Bellemore, George Born, Dijit Taylor
Others: Michael Simon, Chair of the Library Board of Directors, Nancy Ladd, Library Director, Christine Perron, McFarland Johnson Project Manager and Jennifer Reczek, NHDOT Project Manager

Introductions
Michael Simon, Chair of the Library Board of Directors, welcomed us and explained how LCHIP funded gutters and rain diverters that enabled interior improvements to the building.

Review and modification of the agenda
The agenda was modified so that the DOT discussion could take place first. Hinkson's Carding Mill added as an Action Item. Addition minor sequencing changes were made.

DOT query – proposed highway relocation south of Errol
A portion of Route 16 near the Dummer/Cambridge town line that passes through a 5269 acres tract of land conserved with assistance from LCHIP is deteriorating. The NH Department of Transportation (NHDOT) is evaluating alternative approaches to address a 1.3-mile-long section of the road and the long-term stability of the slope between the roadway and the Androscoggin River. LCHIP's enabling legislation creates a procedure for LCHIP to address certain kinds of road changes. Proposed projects with greater impact require approval of the general court.

NHDOT is seeking guidance from the LCHIP Board about whether or not the proposed changes are likely to fall within the scope of the Board's authority under NH RSA 227-M:13 as "permissible expansion, modifications, or alterations." Maps and materials pertaining to this were provided in the BOD Packet and at the meeting.

Jennifer Reczek, NHDOT Project Manager, and Christine Perron, McFarland, Johnson Project Manager, explained that they are in the early stages of devising a solution to a long-term road problem. For the past ten years, wash outs and unstable slopes on Route 16 between Dummer and Errol have required seasonal road closures. Route 16 is the major access route to northern parts of the state, so these road closures have a negative impact on the economy and safety of the region. Approaches that are being considered include road reconstruction on the same alignment, or a partial or complete alignment shift away from the river. Other important considerations include traffic pattern during construction and impacts on the river, floodplain,

wetlands and storm water drainage.

The presentation and discussion focused on the possible change with the greatest impact, the complete alignment shift. This would move the roadway up to 200 feet away from the current alignment, for a total impact of about eleven acres. Mitigation would be a necessary part of the project. Shawn Jasper observed that the percentage of impacted property is minor, but asked if those acres are unique? Susan Francher opined that the Forest Service, which also holds an interest in the conserved land through Forest Legacy funding, would likely approve the plan.

During extensive discussion, the Board considered the conditions for a permissible project under RSA 227-M:13. Lacking a quorum present, the Board took a straw poll on the following question: "Do you feel this project is not within the scope of LCHIP's authority?" Twelve of the thirteen Board members present voted "yes."

Financial Topics

January 2019 Finance Report

Ben Wilcox, newly elected Board vice chair, is also the new chair of the Finance Committee. He reported that the January financials show income is above budget, mainly because of timing of the moose plate payments and expenses slightly below budget even with increased rent at new office.

With a new Chair of the Finance Committee, Dijit suggested this is a good time to assess membership on the Finance Committee. Two current members are either resigning or considering resigning from the committee. Former BOD member Neal Kurk is willing to serve as a non-board member. Former Finance committee chair Doug Cole has suggested that LCHIP needs to create a method for how and when to move people into and out of committee assignments and suggested that Ben draft a procedure for the Finance committee. Any BOD members who are interested in serving on the Finance Committee are asked to let Dijit know.

Trust Fund and CCE funds information as provided in the BOD packet:

- Trust Fund Income YTD $2,635,920 (same month previous year $2,811,746)
- CCE Market Value $4,625,137 (same month previous year $4,606483)

Bear Pond, Canaan - proposed transfer of fee interest, authority of Executive Director

An LCHIP grant award of $150,000 in 2002, helped the Mascoma Watershed Conservation Council (MWCC) to acquire 923± acres in Canaan known as Bear Pond. LCHIP holds an Executory Interest in the fee deed. A conservation easement held by the Upper Valley Land Trust (UVLT) was also placed on the property. LCHIP's deed requires that MWCC get approval from LCHIP prior to transferring ownership, and that the land remain in the public trust. MWCC, facing possible organizational dissolution, is requesting approval to transfer fee ownership of the Bear Pond property to UVLT. LCHIP staff reviewed the request with the Attorney General's office and determined that the transfer is allowed. UVLT is a larger, stronger organization, better positioned to carry out the purposes of the LCHIP grant award and the protection of natural resources found on the Bear Pond property.

Lacking a quorum, the Board was unable to vote on the request. The transfer is scheduled to take place prior to the next LCHIP Board meeting. The request also raises a question about the extent of the Executive Director's ability to approve project changes, based on *LCHIP Criteria, Guidelines and Procedures* section 9 3 The Board agreed by consensus that in this individual situation, because the proposed transfer does not represent a substantial difference in resource

protection, the Executive Director is authorized to make a decision, subject to the approval of the Department of Justice.

Hinkson's Carding Mill
In 2017 the Grafton Historical Society (GHS) received an LCHIP grant for windows, clapboards and trim work. New leadership at GHS believes that roof work should be done before any other future work and that without that the building will be lost and is therefore requesting a change in the scope of work. The Board is sympathetic to the issue, but lacking a quorum is unwilling to vote. Board recommends that GHS begin to develop the new scope of work, find a roofer, and to provide this information prior to the June Board meeting.

Conflict of Interest Forms and Board Contact Information
Board members were reminded that those who have not submitted forms need to do so. Updated contact information was provided in the Board Packet. Changes should be sent to either Dijit or Barb.

Legislation of Interest to LCHIP
SB 74 LCHIP fee increase from $25 to $35 - Status: Headed to the Senate Finance Comm
SB 200 Adds wildlife corridors and strongholds to LCHIP's interest - Status: Passed Senate with amendment, referred to Fish and Game and Marine Resources Committee.
SB 285 Allows use of LCHIP money for "high havens" to save resources from rising sea levels, Status: Report filed - passed Senate

White Paper Review
Dijit asked BOD members to read this explanation of how LCHIP finances work and bring any questions back to the June board meeting. A request was made to send both the White Paper and the updated Guidelines to the BOD as separate documents.

Project Updates:
NHPA has withdrawn grant award acceptance for the Josiah Bartlett House (2014, $22,000/$46,500).
Kimball Jenkins has changed its corporate formation.
CCE allocation for 2018 grants were included in the BOD packet. The total needed was $88,000 less than estimated. The additional money will be added to the next year's grant money.

Projects completed January—February 2019
Details of were provided in the BOD packet: Candia/Hooksett, Tower Hill Pond; Croydon/Newport/Grantham, W.F. Ruger Wildlife Management Area; Dover, Woodman House Planning Study; Durham, Bedard Farm (Harriman); New Durham Meetinghouse; Westmoreland, Chickering Farm

Grant workshops to be held: Natural Resource on April 9 and Historic Resource in Concord on April 29 and Littleton on April 30.

Other Business and **Public Comments** - None

Adjourn: 5:00 p.m.

Next Meeting: Monday, June 24, 2019, 2:30 – 4:30 p.m., Flag Hill Winery, Lee

Respectfully Submitted,

Barbara A. Beers
LCHIP Office Manager

Amanda Merrill
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MEETING NOTES

PROJECT: Dummer-Cambridge-Errol 16304B
(MJ Project No: 18340.03)

DATE OF MEETING: November 25, 2019

LOCATION: NHDOT Bureau of Environment Conference Room

SUBJECT: Meeting with DES Wetlands Bureau– DRAFT minutes

PROJECT REPRESENTATIVES:

NHDOT: Jennifer Reczek, Margarete Baldwin, Jason Abdulla, Ron Crickard

NHDES: Lori Sommer, Karl Benedict

MJ: Christine Perron

NOTES ON MEETING:

The project is the next segment of the NH Route 16 corridor project, which is located between NH Route 110A and NH Route 26 along the Androscoggin River. The 16304B project is a 1.3-mile segment a few miles north of 16304A, starting at approximately the Dummer/Cambridge town line. The entire project is located entirely in Cambridge, an unincorporated place in Coos County.

The project was reviewed at the June 19, 2019 NHDOT Natural Resource Agency Coordination Meeting to provide an initial overview of conceptual design alternatives and impacts. The purpose of the current meeting was to discuss NHDES permitting issues regarding stream crossings and mitigation.

There are two stream crossings within the project limits, both of which outlet directly into the Androscoggin River. One crossing is located near the north end of the project at approximately Station 552 and consists of two pipes (18" and 15") that carry a perennial stream under NH Route 16. Based on a watershed size of 0.46 square miles, this would be a Tier 2 stream crossing; however, under the NHDES stream crossing rules the tier is elevated to Tier 3 since the crossing is located within the 100-year floodplain. The estimated bankfull width of the stream is 8.5'. The actual measured bankfull width ranges between 34' and 47' due to the impounded condition of the stream that has been created by the undersized culverts.

The second crossing is located near the center of the project at approximately Station 542+50 and consists of a 24" pipe. Based on a watershed size of 0.15 square miles, this would be a Tier 1 stream crossing; however, this crossing is also located in the floodplain and its tier is elevated to Tier 3. The estimated bankfull width of the stream is 4.9' and the actual measured bankfull width is 3'.

The impounded condition at the Tier 2 crossing was discussed. Replacing the existing pipes with a span that fully complies with the stream crossing rules would change the entire stream system by removing the impoundment. Karl suggested that an analysis should be completed to show what a full span would do to the stream system. Ultimately, the proposed replacement structure should provide some improvements to hydraulic capacity and aquatic organism passage but not be designed as a geomorphically compatible structure that passes the 100-year storm. The permit application would need to justify the proposed structure by providing background on the existing conditions and demonstrating how a geomorphically compatible structure could result in more impact to the overall stream system.

It was discussed that a waiver request could be submitted to DES to downgrade the tier of each stream crossing to the watershed-based tier designation. It is anticipated that a fully compliant crossing structure can be provided at the Tier 1 crossing. The proposed Tier 2 crossing will need to be approved as an alternative design that requires mitigation.

Since approval of an alternative design for the Tier 2 crossing is critical to the alternatives analysis and project budget, it was suggested that a narrative justifying the proposed design be provided to DES in the near future, during the NEPA review, so that more formal buy-in from DES can be obtained before the project design is advanced. Christine will prepare the narrative based on design information provided by NHDOT.

An overview was provided to summarize the design alternatives and conceptual impacts that were originally presented at the June resource agency meeting. The project will result in impacts to the 100-year floodplain. All impacts and potential mitigation for those impacts will be within the same floodplain system. Floodplain impacts are lowest for the most offline alternative ("Zone AE" alternative), and this alternative also provides the most opportunity to provide compensatory flood storage. Stormwater treatment will need to be provided, and locations for treatment need to be considered in the alternatives analysis since there would be no or insufficient opportunities for treatment with the online alternatives.

Mitigation for wetland and stream impacts was discussed. If the project will require mitigation for stream impacts, Lori would like consideration given to the Stream Passage Improvement Program (SPIP). She is aware of a project that NH Fish & Game is working on that may be a good potential candidate. However, federal mitigation requirements will likely not allow a culvert improvement project to mitigate for wetland impacts. Once wetland and stream impacts are identified, and the need for stream mitigation is confirmed, there will need to be a discussion with the Army Corps and EPA on an appropriate mitigation package that satisfies federal wetland mitigation requirements as well as State stream mitigation.

Lori suggested contacting the Conservation Fund and Jill Killborn and Jim Oehler at NH Fish & Game to ask about potential local land protection opportunities.

It was noted that impacts to 13 Mile Woods may also require the protection of additional land. Opportunities to combine this with the wetland mitigation package should be explored.

The project schedule was discussed. A Public Informational Meeting is tentatively planned for early 2020, and the advertising date is expected to be in 2022.

Submitted by:

Christine Perron
McFarland Johnson, Inc.