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ENVIRONMENTAL ASSESSMENT

University of New Hampshire Ocean Mapping Center of Excellence and Innovation Center

Draft

PREPARED BY:

National Oceanic and Atmospheric Administration

July 2025

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COVER SHEET

ENVIRONMENTAL ASSESSMENT

UNIVERSITY OF NEW HAMPSHIRE OCEAN MAPPING CENTER OF EXCELLENCE AND INNOVATION CENTER

a. Lead Agency: National Oceanic and Atmospheric Administration (NOAA)
Cooperating Agency: National Institute of Standards and Technology (NIST)

b. Proposed Action: Construct and operate an Ocean Mapping Center of Excellence and Innovation Center at the University of New Hampshire in Durham, NH.

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d. Designation: Draft Environmental Assessment (EA)

Abstract: The University of New Hampshire (UNH) proposes to construct and operate a joint Ocean Mapping Center of Excellence (CoE) and a UNH Innovation Center, in UNH's "The Edge" redevelopment area on the Durham campus in Strafford County, New Hampshire. UNH has been awarded United States (U.S.) Department of Commerce (DOC) federal grant funds from the National Oceanic and Atmospheric Administration (NOAA) National Ocean Service (NOS) and the National Institute of Standards and Technology (NIST) to design and build this facility. Since UNH is a non-federal entity, NOAA has initiated the environmental impact analysis for UNH's Proposed Action that utilizes federal grant funds. Therefore, NOAA is the lead agency for this EA, and NIST is a cooperating agency.

This EA evaluates the potential environmental impacts associated with two alternatives for this Proposed Action: the Preferred Alternative and the No Action Alternative. Under the Preferred Alternative, UNH would use NOAA and NIST grant funding to construct the CoE and Innovation Center at The Edge, providing a new space on UNH's campus to be used as a nexus for government, private sector, and non-governmental partners, and allowing for increased collaboration across research efforts. The Proposed Action would support the strengthening of hydrographic capabilities by providing spaces for applied training and technical support, and enabling the development of standard approaches across the government and industry, as the national demand for ocean mapping grows. Under the No Action Alternative, UNH would not undertake activities to construct or operate a new CoE or Innovation Center using federal grant funding.

The following environmental resources were analyzed in the EA: land use, air quality, water resources and hydrological processes, socioeconomics and protection of children, cultural resources, flora and fauna, farmland and soils, noise, transportation, utilities and solid waste, visual resources, and hazardous materials. Resources that would not be meaningfully affected by the Proposed Action, including geological and recreational resources were dismissed from detailed analysis. Based on the analysis presented in this EA, NOAA has determined that the Proposed Action would have no significant impacts on the human or natural environment, with incorporation of best management practices and mitigation measures.

This Draft EA and Draft Finding of No Significant Impact (FONSI) are available on the NOAA website at https://www.noaa.gov/administration/environmental-assessment-public-notices.

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ABBREVIATIONS AND ACRONYMS

AADT	Annual Average Daily Traffic
AQCR	Air Quality Control Region
BCC	Birds of Conservation Concern
BMP	Best Management Practice
CAA	Clean Air Act
CCOM	Center for Coastal and Ocean Mapping
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CO	Carbon Monoxide
CoE	Center of Excellence
CZMA	Coastal Zone Management Act
dB	Decibel
dBA	A-weighted Decibel
DOC	U.S. Department of Commerce
EA	Environmental Assessment
EISA	Energy Independence and Security Act
EO	Executive Order
ESA	Endangered Species Act
FPPA	Farmland Protection Policy Act
FONSI	Finding of No Significant Impact
FY	Fiscal Year
HAP	Hazardous Air Pollutants
HTMW	Hazardous and Toxic Materials and Waste
HVAC	Heating, Ventilation, and Air Conditioning
HWMP	Hazardous Waste Management Plan
ICP	Integrated Contingency Plan
IPaC	Information for Planning and Consultation
JHC	Joint Hydrographic Center
JOAMC	John Olson Advanced Manufacturing Center
LED	Light Emitting Diode
MOA	Memorandum of Agreement
MOVES	Motor Vehicle Emission Simulator
MS4GP	Municipal Separate Storm Sewer System General Permit
MUDOR	Multi-Unit Dwelling/Office Research
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NGO	Non-governmental Organization
NHB	New Hampshire Natural Heritage Bureau
NHCP	New Hampshire Coastal Program
NHDES	New Hampshire Department of Environmental Services
NHDFG	New Hampshire Department of Fish and Game
NHDHR	New Hampshire Department of Historical Resources
NHDOT	New Hampshire Department of Transportation
NHPA	National Historic Preservation Act
NIST	National Institute of Standards and Technology
NLEB	Northern Long-eared Bat
NO_x	Nitrogen Oxide
NO_2	Nitrogen Dioxide

NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
NSPS	New Source Performance Sources
O_3	Ozone
ORLI	Office Research Light Industrial
Pb	Lead
$PM_{2.5}$	Particulate matter less than 2.5 micrometers in diameter
PM_{10}	Particulate matter less than 10 micrometers in diameter
PUD	Planned Unit Development
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
SF	Square Feet
SHPO	State Historic Preservation Office
SO_2	Sulfur Dioxide
SWPPP	Stormwater Pollution Prevention Plan
T&E	Threatened and Endangered
TMDL	Total Maximum Daily Load
TOYR	Time-of-Year Restriction
tpy	Ton Per Year
UNH	University of New Hampshire
U.S.	United States
USC	U.S. Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USV	Uncrewed Surface Vehicle
VOC	Volatile Organic Compound

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1.0 PURPOSE AND NEED

1.1 INTRODUCTION

This environmental assessment (EA) evaluates the potential environmental impacts associated with the University of New Hampshire's (UNH) proposal to construct and operate a joint Ocean Mapping Center of Excellence (CoE) and a UNH Innovation Center at the UNH campus in Durham, Strafford County, New Hampshire (see **Figure 1**). UNH has been awarded United States (U.S) Department of Commerce (DOC) federal grant funds from the National Oceanic and Atmospheric Administration (NOAA) National Ocean Service (NOS) and the National Institute of Standards and Technology (NIST) to design and build this facility. Since UNH is a non-federal entity, NOAA has initiated the environmental impact analysis for UNH's Proposed Action with the federal grant funds. Therefore, NOAA is the lead agency for this EA, and NIST is a cooperating agency.

NOAA prepared this EA in compliance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S. Code [USC] 4321, et seq.); NOAA Administrative Order 216-6A and its accompanying Companion Manual; and NIST Suborder 7301.14, *National Environmental Policy Act*.

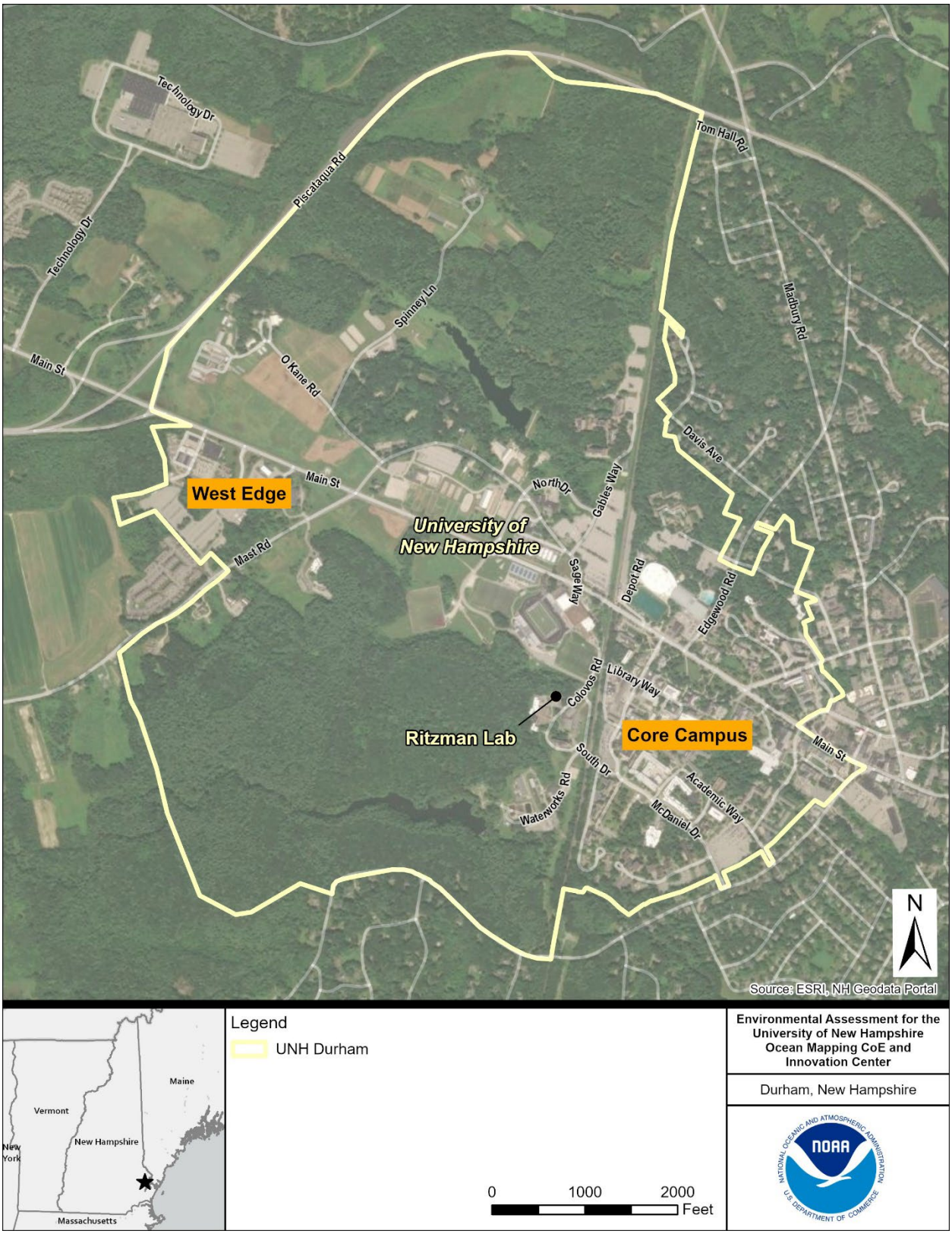
This Draft EA and the associated Draft Finding of No Significant Impact (FONSI) are available on the NOAA website at https://www.noaa.gov/administration/environmental-assessment-public-notices.

1.2 BACKGROUND

NOAA and UNH have maintained a cooperative agreement since 1999 allowing NOAA to operate and maintain the Joint Hydrographic Center (JHC) and Center for Coastal and Ocean Mapping (CCOM) on campus. The centers are intended to operate and maintain a national CoE in hydrographic, ocean, and coastal mapping sciences, and to serve NOAA through research, training, and the development of state-of-the-art ocean mapping technologies and tools (H.L. Turner Group Inc., 2024). The JHC/CCOM was established under Congressional direction and has been subsequently competitively renewed in 2010, 2015, and 2020. The operation of the JHC/CCOM is in direct support of the Hydrographic Services Improvement Act, Coastal and Ocean Mapping Integration Act, and a 2019 Presidential Memorandum on ocean mapping in order to improve the nation's understanding of ocean resources and to advance the economic, security, and environmental interests of the U.S. (H.L. Turner Group Inc., 2024).

Since their foundation, the JHC/CCOM have become internationally recognized for their educational and research programs. Many new approaches to hydrography have been born out of JHC/CCOM research and innovation, including an automated data processing algorithm and an innovative database approach, which are currently used by hydrographic software manufacturers and have been accepted by NOAA and other agencies. The JHC/CCOM have also pursued leading research on uncrewed surface vehicles (USV) for seafloor surveys, provided technical support for mapping systems on international vessels, and engaged in collaborative testing and evaluation programs for industrial partners and NOAA. These research programs have resulted in the development of an ocean mapping curriculum at UNH, providing students with valuable education and opportunities for employment at hydrographic agencies and other institutions (UNH, 2023b). Now, UNH and NOAA have interest in transitioning existing research and technological developments in ocean mapping into real-world operations – including providing applied training for ocean mapping and hydrographic surveying, and technical support for current operators in the field (UNH, 2023b).

Figure 1: Project Site Vicinity



To continue supporting ongoing research, public-private partnerships, and academic-industry collaboration and opportunities, and to continue growing hydrographic and ocean mapping programs, UNH has proposed to build a joint CoE and Innovation Center on campus. The CoE and Innovation Center specifically would facilitate the transition from ocean mapping capabilities to operational practice and would ensure that JHC/CCOM research is responsive to the needs of the industry. The new space would also allow for advanced training in ocean, coastal, and Great Lakes mapping skills (UNH, 2023b).

In support of the CoE and Innovation Center, UNH has received grant funding from NOAA and NIST to construct this facility. NOAA funding for the CoE was appropriated in fiscal year (FY) 2023 and allocated to UNH as a result of the long-standing collaboration between NOAA and UNH (NOAA, 2023). Similarly, NIST funding for the Innovation Center was appropriated in FY 2024 (UNH, 2024a). This grant funding has been provided to further the mission to better understand ocean resources and advance the nation's interests.

1.3 PURPOSE AND NEED

The ***purpose*** of the Proposed Action is to construct and operate a new CoE and Innovation Center at UNH to grow hydrographic and ocean mapping operations in support of the nation's goals regarding ocean and Great Lakes mapping. The proposed CoE and Innovation Center would build upon UNH's existing hydrographic and ocean mapping capabilities developed in conjunction with NOAA and provide new space to be used as a nexus for government, private sector, and non-governmental partners, allowing for increased collaboration and communication across research efforts and providing opportunities to advance research into operational activities. The Proposed Action would strengthen hydrographic capabilities by providing applied training and technical support and enabling the development of standardized approaches across the government and industry, as the national demand for ocean mapping continues to grow.

The Proposed Action is ***needed*** to address the growing demand for ocean mapping capabilities and to support the smooth transition from research to operation, while maintaining standardized practices, approaches, and systems. In addition, the Proposed Action is needed to support growth of the JHC/CCOM and their future ability to provide space and support for new technology developments, applied training, and ocean mapping operators currently located at UNH.

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2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The Proposed Action is to construct and operate a new two-story, 70,400 gross SF (approximately 56,000 SF footprint) joint Ocean Mapping CoE (using NOAA grant funding) and Innovation Center (using NIST grant funding) on the UNH Durham campus. The proposed building would consist of two primary spaces, a 26,400 SF office wing for a variety of administrative work, collaboration, and training, and a 44,000 SF high bay area for research (UNH, 2025). The CoE would provide office, training, and high-bay space to transition research and technology developments and concepts in ocean mapping into operational activities and provide training and support for ocean and Great Lakes mapping missions. The Innovation Center would provide additional support and collaboration space for the CoE and a new facility for the JHC/CCOM and John Olson Advanced Manufacturing Center (JOAMC), which provides UNH students with experience in advanced manufacturing technologies and engineering and requires high-bay space for its programs.

2.2 SCREENING OF ALTERNATIVES

UNH has developed selection standards to evaluate specific reasonable alternatives by which to implement the Proposed Action. “Reasonable alternatives” are those that could be utilized to meet the purpose of and need for the Proposed Action. UNH’s selection standards used to evaluate reasonable alternatives include the following:

1. **Standard 1 – Availability of Space and Infrastructure:** The proposed CoE and Innovation Center should be located in an area that provides sufficient space for other industry partners in the ocean mapping field to co-locate and that already has infrastructure in place to support development. Additionally, surrounding space should be available to expand the CoE and Innovation Center in the future. Lastly, the availability of utilities, existing parking or space for new parking developments, and site access (i.e., roadways, pathways) should be in place to support future development and reduce overall costs. UNH evaluated each alternative based on the potential for future related development and the existing infrastructure.

2. **Standard 2 – Connectivity to UNH Campus:** One of the driving factors behind the development of the CoE and Innovation Center is the ability for the facility to serve as a nexus between the public and private sectors. The CoE and Innovation Center should be located in an area that is easily accessible and relatively connected to the rest of the UNH campus to facilitate the sharing of resources and collaboration. UNH evaluated each alternative based on its proximity to the central core of the UNH campus.

3. **Standard 3 – Limit Disruptions to UNH Campus:** Given the proposed location of the CoE and Innovation Center on an active, occupied college and research campus, UNH seeks to limit disruptions to ongoing activities and classes. The CoE and Innovation Center should be constructed on an area of campus that would minimize impacts on students and staff, such as in an area where no demolition would need to occur, an area removed from main campus hubs, an area where no relocation of programs or functions would be necessary, or an area that is not adjacent to academic or residential buildings currently in use. UNH evaluated each alternative based on the potential for large or extended disruptions to daily UNH campus life.

4. **Standard 4 – Avoid Environmental and Cultural Constraints:** The location of the proposed CoE and Innovation Center should be selected to avoid major environmental resources, including forested areas, surface waters, wetlands, floodplains, critical habitat, and highly varied topography.

In addition, the UNH Historic District, which includes the full UNH property and encompasses various campus buildings, has been determined eligible for listing in the National Register of Historic Places (NRHP). Therefore, the CoE and Innovation Center should also be placed in a location that would minimize potential impacts to the historic district and potentially contributing resources to the extent practicable. UNH evaluated each alternative based on its ability to avoid or minimize impacts to environmental and cultural resources.

2.3 EVALUATED ALTERNATIVES

2.3.1 Preferred Alternative

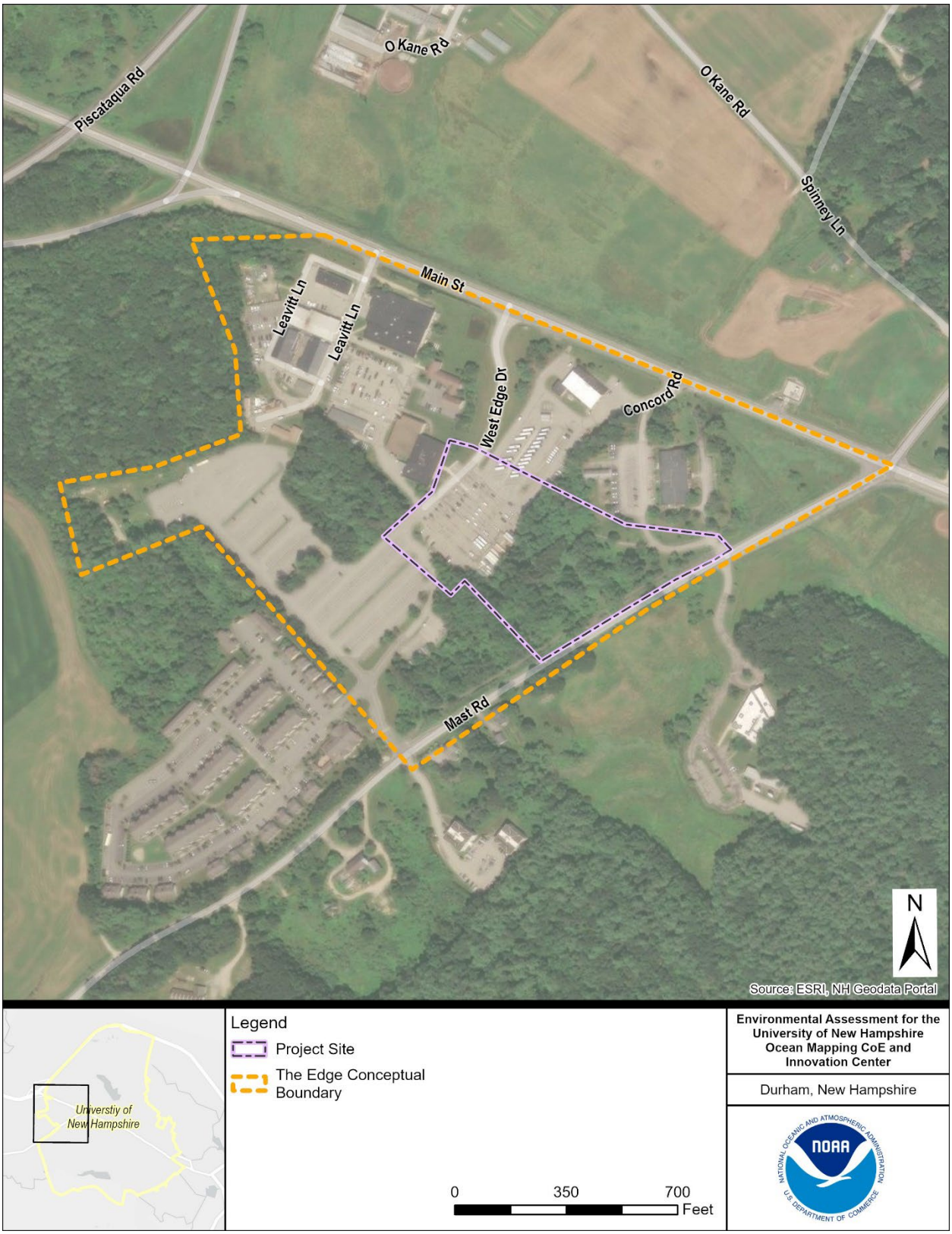
The Preferred Alternative includes the construction and operation of a joint Ocean Mapping CoE and Innovation Center at The Edge redevelopment area on UNH's Durham campus to grow UNH's hydrographic and ocean mapping programs to promote collaboration between and co-locate government, industry, and private partners (see **Figure 2**). The Preferred Alternative includes two primary components, construction and operation of the proposed CoE and Innovation Center, described below.

UNH envisions The Edge as a mixed-use development to be used by federal, business, and industry partners looking to co-locate on UNH's campus. The Edge would combine research, commercial, retail, and residential space, with the intent of allowing UNH faculty, staff, and student researchers to work and live adjacent to professional and governmental partners, and have access to state-of-the-art facilities, equipment, services, and other amenities (UNH, 2024b). The Edge Master Plan presented a multi-phased development program ultimately resulting in the creation of a 750,000 to 1,000,000 SF mixed-use development (Goody Clancy, 2019).[1] The proposed location of the Proposed Action within The Edge currently has sufficient infrastructure (e.g., parking lots, roadways) and utility connections to support construction of the CoE and Innovation Center since the area is already partly developed. While its location on campus would support connectivity to other UNH resources, construction would not interfere with existing uses or result in disruptive demolition. Further, this proposed location would avoid impacting undeveloped areas on campus, such as those spaces associated with the UNH Dairy Complex and the College Woods Natural Area (UNH, 2021a), and minimize potential impacts to the UNH Historic District. Some tree clearing would still be required under this alternative, but it would be limited to a small, previously segmented patch of forest, and would not cause segmentation of larger, untouched forested areas in the site vicinity. Lastly, this location is elevated on a hill as visitors enter The Edge from Main Street, providing a prominent visual focal point to establish The Edge architecturally.

The Preferred Alternative would enable UNH to provide a new space to be used as a nexus for various partners, allowing for increased collaboration across research efforts and opportunities to transition from research to operational activities. Constructing the CoE and Innovation Center would strengthen hydrographic capabilities by providing applied training and technical support and enabling the development of standardized approaches across the government and industry, as the national demand for ocean mapping continues to grow. Therefore, UNH determined that the Preferred Alternative meets each identified selection standard (see **Section 2.2**) and best achieves the purpose of and need for the Proposed Action.

[1] The Proposed Action includes only the construction and operation of the proposed CoE and Innovation Center. Other potential development activities UNH may pursue within The Edge redevelopment area in pursuit of their overall vision for this land would be independent actions beyond the scope of this Proposed Action.

Figure 2: Project Site



2.3.1.1 Construction of Joint Center of Excellence and Innovation Center

Construction of the proposed joint CoE and Innovation Center would occur in the space between West Edge Drive and Mast Road, southwest of an existing U.S. Department of Agriculture (USDA) Forest Service building. The Project Site is approximately 7.9 acres in size; an estimated 5 acres are forested, and the remainder is occupied by impervious surfaces, including a parking lot, footpath, and driveways (see **Figure 2**). The CoE and Innovation Center would provide office, training, and high-bay space for government representatives, private sector partners, and non-governmental organizations (NGOs), including their equipment, that are responsible for ocean, coastal, and Great Lakes mapping missions. Approximately 44,000 SF would be constructed as high bay space (i.e., an "Innovation Bay"), with a clearance height of approximately 30 feet, to be used as research, machinery, and assembly areas, and USV work and storage areas. The high bay space would have a structural floor, two overhead cranes running the length of the building, and sufficient clearance for USV trailers and storage containers. The space would be adjacent to an exterior mobilization area with space for trailered vehicles and a concrete pad for storage and assembly (UNH, 2023b). The remaining approximately 26,400 SF would be built as a training wing with office, laboratory, and classroom space. The training wing would also include conference space and other flexible space, to support hands-on and computer-based learning, as well as lab work (UNH, 2023b). Of this space, approximately 15,000 SF would be dedicated to industry co-location and for the JHC/CCOM and JOAMC, which would benefit from the availability of additional space on campus (UNH, 2025). The remaining building footprint would also include space for loading docks and conference rooms (H.L. Turner Group Inc., 2024).

Construction of the CoE and Innovation Center would include the installation of various utilities and other support infrastructure, including connections to water lines, stormwater drainage, sanitary sewer, electric, telecommunications, and fire suppression. The facility would also be connected to the UNH campus-wide Building Automation System, which is used for building monitoring and control. UNH is considering the use of a geothermal heat pump system and indoor air quality displacement system for the facility's heating, ventilation, and air conditioning (HVAC) system. An emergency generator would be installed for use in the event of electric utility outages (H.L. Turner Group Inc., 2024).

External features would include 15 parking spaces for personnel and 20 visitor parking spaces, room for deliveries by semi-trucks, and eight spaces for shipping container storage. Space for snow storage would also be provided alongside the parking areas (H.L. Turner Group Inc., 2024). Existing pedestrian paths located on the east and south sides of the Project Site would be maintained. Exterior lighting would consist of building-mounted features, and light poles for pedestrian walkways and parking lots. All exterior lights would use light-emitting diode (LED) bulbs and be compliant with DarkSky International criteria (H.L. Turner Group Inc., 2024). The site would be landscaped with native, drought-tolerant ornamental species. Vegetation used would be shade and salt-resistant and create new pollinator habitat.

Construction activities would encompass various phases, starting with site preparation. Prior to beginning construction, UNH would clear the existing trees and demolish the parking lot. Once all clearing has been completed, geothermal wells (if needed for the HVAC system) and utility trenches would be drilled and dug to support the operational needs of the CoE and Innovation Center prior to laying the building foundations. Site preparation would also include grading and excavation, followed by the installation of foundation piles, rebar, and the pouring of a concrete building foundation. The next phases would include erection of the steel structural skeleton, interior construction, and paving of the parking lot (Gilbane & Page, 2024). Landscaping would occur following the completion of all construction activities. Construction of the CoE and Innovation Center is expected to take two years.

Construction activities would be conducted in accordance with the applicable requirements of the U.S Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) and

associated permits to manage the quantity and quality of stormwater discharged from the Project Site and minimize the potential for pollution and sedimentation. UNH is committed to incorporating sustainability and generated carbon reduction in the design and construction of the facility. The CoE and Innovation Center would follow carbon reduction goals outlined in WildCAP21 Climate Action Plan and use low carbon materials and construction methods (UNH, 2024b). The facility would integrate energy, water, and waste efficiency into their design.

2.3.1.2 Operation

Following construction of the CoE and Innovation Center, the facility would be occupied by UNH and NOAA personnel and students, with the potential for additional governmental, industry, and NGO partners to co-locate. Between 35 to 55 personnel are expected to work at the CoE and up to 30 students participating in UNH's ocean mapping curriculum would also be expected to regularly access the facility. The number of personnel at the Innovation Center may vary depending on the industrial partners that utilize the space; however, it is estimated that up to 50 support staff and students may use the JHC intermittently and up to 6 people may use the CCOM. It is expected that a maximum of 121 personnel would need to access the facility at any given time. These personnel, except for UNH students, would likely be new staff using the facility as a result of industrial partners and NGOs leasing the new space. NIST's only role in this Proposed Action is funding the proposed Innovation Center; it would not occupy or conduct any operations at the facility in the long term.

The facility would encourage the co-location of government, private sector, and other NGO partners with the overall goal of transitioning research developments and technology into operational activities. Operation of the CoE and Innovation Center would support ocean mapping training, including a variety of hands-on activities, such as USV staging, assembling, testing, and light manufacturing. These activities are anticipated to occur during normal working hours, between 6 a.m. and 6 p.m. The facility would have an anticipated lifespan of between 50 to 100 years.

2.3.2 No Action Alternative

Under the No Action Alternative, UNH would not undertake activities to construct or operate a new CoE or Innovation Center using federal grant funding, hindering NOAA's and the University's ability to advance its existing hydrographic and ocean mapping programs in collaboration with external partners. While the No Action Alternative would not meet the Proposed Action's purpose and need, it is analyzed in this EA to provide a comparative baseline for the Preferred Alternative.

2.4 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

UNH initially considered two additional alternatives to achieve the purpose of and need for the Proposed Action: replacement of Ritzman Laboratory and a multi-building development at West Edge. UNH eliminated these alternatives from further consideration because they did not meet one or more of the selection standards (see **Section 2.2**), as described below.

2.4.1 Replacement of Ritzman Laboratory

UNH considered locating the proposed CoE and Innovation Center at an on-campus site currently occupied by Ritzman Laboratory, off of Colovos Road. This location would have been adjacent to the Chase Ocean Engineering Building and the Health Sciences Simulation Center. This location would have allowed the CoE and Innovation Center to be in close proximity to other related research, studies, and programs occurring at the Chase Ocean Engineering Building and would have provided easy connectivity to the

central core of the UNH campus. Ritzman Laboratory is currently used as office space for the Campus Stewardship at UNH and is connected to available utilities.

However, replacing this building with the proposed CoE and Innovation Center would displace UNH staff and personnel working within Ritzman Laboratory and demolition and new construction could also cause disruptions to students and other staff at the adjacent academic buildings. Further, the CoE and Innovation Center would be constrained by the size of the lot occupied by Ritzman Laboratory, and future development to support other government and industry partners in the ocean mapping field would not be possible in that location. Finally, Ritzman Laboratory is a contributing resource to the UNH Historic District, and its demolition may affect the overall eligibility of the District for the NRHP. Therefore, this alternative did not meet Selection Standards #1, #3, and #4, and thus was eliminated from further consideration.

2.4.2 Multi-Building Development at West Edge

UNH considered constructing the CoE and Innovation Center to be a multi-building compound on a larger, approximately 10-acre parcel at the same location between West Edge Drive and Mast Road as proposed for the Preferred Alternative. This location would provide the same benefits as under the Preferred Alternative; however, under this alternative, the CoE and Innovation Center would consist of multiple office, lab, training, and high-bay buildings. It would also include a large, paved loading area for vehicle deliveries and staging. This alternative would involve approximately 132,000 SF of new, impervious development that would occur in the forested area between Mast Road and the existing parking lot, with potentially major impacts to existing environmental resources. The majority of the forested area would be cleared and approximately 4,500 SF of wetlands would be filled. Additionally, the separated buildings of the CoE and Innovation Center may hinder collaboration between UNH students, government, and industry partners. Therefore, this alternative did not meet Selection Standard #4, and thus was eliminated from further consideration.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 INTRODUCTION

This chapter describes the affected environment and potential environmental consequences for resource areas that could be affected by the Preferred Alternative. Resources dismissed from detailed analysis in the EA, and the justification for their dismissal, are presented in **Table 1**.

Table 1: Resources Dismissed from Detailed Analysis in the EA

Environmental Resource	Justification
Geological Resources	The Project Site is located in an area of moderate seismic hazard (USGS, 2022). The CoE and Innovation Center would be designed and constructed to account for seismic hazards. No unique geologic features are known to exist, and topography in the Project Site is sloped gradually downward to the southwest (Tighe & Bond, 2024c). While some grading would occur, it will not significantly impact the overall topography of the site. The possible installation of geothermal heat pumps would not require fracturing or otherwise damaging bedrock underneath the Project Site (National Geographic, 2024).
Recreational Resources	The Project Site is not located within a recreational area nor has it been used for recreational activities.

3.2 LAND USE

Land use is the classification of either natural or human-modified activities occurring at a given location. Natural land use includes open or undeveloped areas. Human-modified land use classifications include residential, commercial, industrial, recreational, and other developed areas. Land use is regulated by management plans, policies, and regulations determining the type and extent of land use allowable in specific areas and protection specially designated for environmentally sensitive areas.

The Region of Influence (ROI) for land use is the parcel comprising the Project Site, and parcels that are adjacent to or that may be affected by land use changes occurring within the Project Site.

3.2.1 Affected Environment

The Project Site is located in southeastern Strafford County, New Hampshire, approximately 1.37 miles away from the Town of Durham's downtown district and 0.79 mile away from the UNH core campus (Google Earth Pro, 2024; UNH, 2021b). The parcel is located near the western border of UNH's campus and consists of both developed and undeveloped forested land (Town of Durham, 2015). Surrounding land is predominantly owned by UNH, and consists of forested areas, including the College Woods, a designated natural area; agricultural fields used to support UNH programs; and developed areas that contain UNH buildings or otherwise support University functions. Additional surrounding features include the UNH West Edge Parking Lot (i.e., Parking Lot S), UNH Transportation Center, UNH Institute on Disability, and regional offices for USDA Forest Service and New Hampshire Department of Fish and Game (NHDFG) (NH GRANIT, 2024).

Land cover in the northwestern portion of the Project Site is largely developed with asphalt-paved parking structures, pedestrian pathways, and impervious surfaces. Land cover in the southeastern portion of the Project Site is primarily undeveloped and consists of forested land and dense vegetation. The adjacent

property to the west contains forested wetlands and the adjacent property to the east contains the USDA Forest Service building (Tighe & Bond, 2024c).

Since UNH is a public state university, it is considered a "governmental entity." As such, UNH is not subject to local land use regulations established by the Town of Durham, although it has been marked as an "Institutional" zone. UNH also owns property outside of this zone and within Durham's Central Business, Multi-Unit Dwelling/Office Research (MUDOR), Office Research Light Industrial (ORLI), Residential, and Rural districts (Town of Durham, 2015). The Project Site is zoned as ORLI. Properties surrounding the parcel are zoned as MUDOR, ORLI, single-family duplexes, multi-family apartments and townhouses, forest, wetland, and agriculture (NH GRANIT, 2024). UNH is consulting with the Town of Durham Planning Board to prepare a draft Planned Unit Development Ordinance (PUD) for The Edge redevelopment area, including the Project Site, to allow for additional flexibility and independence from zoning, site plan, and subdivision requirements otherwise applicable to the Project Site. The PUD would allow UNH to negotiate with the Town of Durham in determining the selection of land uses, density, setbacks, buffers, building heights, lot sizes, lot dimensions, parking requirements, and site design and development standards (UNH, 2020).

3.2.2 Environmental Consequences

The determination of land use and land cover impacts is based on the degree of land use sensitivity in the area. In general, an impact to land use would be considered significant if it would 1) be inconsistent or non-compliant with applicable land use plans or policies, or 2) incompatible with adjacent or nearby land use to the extent that public health or safety is endangered.

3.2.2.1 Preferred Alternative

Implementation of the Preferred Alternative would change the land use of the parcel owned by UNH, from developed land used for parking and undeveloped, forested land, to a developed parcel used for institutional research. Although the land use would change slightly on this parcel, this shift would not be incompatible with surrounding land uses and it would be consistent with current zoning. The Proposed Action involves creation of a new office and light industrial facility to advance research and application capabilities related to ocean mapping, and would occur on the campus of an educational institution intended to pursue such activities (NH GRANIT, 2024).

Approximately 5 acres of forest/open space would be converted to developed land. However, this loss of undeveloped land would be small relative to the overall size of forested land located on UNH-owned property surrounding the Project Site. The Project Site represents less than 0.5 percent of approximately 250 acres of forested land within the adjacent College Woods located approximately 0.15 mile to the south (UNH, 2025). Due to the change in land use, but given that this change would still be compatible with other adjacent land uses and not change or affect off-site land uses, the Proposed Action would have *long-term, negligible adverse impacts* on land use.

3.2.2.2 No Action Alternative

Under the No Action Alternative, the CoE and Innovation Center would not be constructed, and the Project Site would not be repurposed for research and institutional use. The current land uses at the Project Site would remain the same and there would be *no impact* to land use.

3.3 AIR QUALITY

Air quality conditions at a given location are a function of several factors including the quantity and type of pollutants emitted locally and regionally, as well as the dispersion rates of pollutants in the region. Primary factors affecting pollutant dispersal include wind speed and direction, atmospheric stability, climate and temperature, and topography.

Air quality is affected by stationary emissions sources (e.g., boilers, emergency generators, and industrial processes), mobile sources (e.g., motor vehicles, construction equipment, and aircraft), and area sources (e.g., vehicle and aircraft fuel transfer, storage, and dispensing). The ROI for air quality is the Merrimack Valley-Southern New Hampshire Interstate Air Quality Control Region (AQCR), which includes Strafford County.

3.3.1 Affected Environment

3.3.1.1 Criteria Pollutants

Under the Clean Air Act (CAA) and its amendments, the USEPA identifies air pollutants that cause or contribute to the endangerment of human health and/or environmental welfare and establishes air quality "criteria" that guide the establishment of air quality standards to regulate these pollutants (42 U.S.C. Sections 7408 - 7409). To date, the USEPA has established such criteria for six air pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$), particulate matter less than ten micrometers in diameter (PM_{10}), and sulfur dioxide (SO_2). The USEPA created National Ambient Air Quality Standards (NAAQS) for these six pollutants meant to safeguard public health (i.e., primary NAAQS) and environmental welfare (i.e., secondary NAAQS). Current NAAQS are presented in **Table 2**.

USEPA and state/local air quality control agencies monitor and evaluate outdoor air quality for compliance with the NAAQS. Areas where monitored outdoor air concentrations are within an applicable NAAQS are considered in attainment of that NAAQS. If sufficient ambient air monitoring data are not available to determine NAAQS compliance, the area is instead deemed attainment/unclassifiable. Areas where monitored outdoor air concentrations exceed the NAAQS are designated by the USEPA as nonattainment areas. Nonattainment designations for some pollutants (e.g., O_3) can be further classified based on the severity of the NAAQS exceedances. Lastly, areas that have historically exceeded the NAAQS, but have since instituted controls and programs that have successfully remedied these exceedances, are known as maintenance areas.

The New Hampshire Department of Environmental Services (NHDES) Air Resources Division operates various programs, including ambient air monitoring and air quality permitting, to carry out NHDES's regulatory duties under state and federal law in New Hampshire. Strafford County was previously considered in serious nonattainment of the now-revoked 1979 8-hour O_3 NAAQS. In 2004, a portion of the county, which includes the Town of Durham, was re-designated to moderate nonattainment of the 1997 8-hour O_3 NAAQS. This portion of the county was re-designated to maintenance for the 1997 8-hour O_3 NAAQS on March 4, 2013. The 1997 8-hour O_3 NAAQS was subsequently revoked on April 6, 2015. However, this portion of the county is still considered in maintenance of the 1997 8-hour O_3 NAAQS to prevent "backsliding" into nonattainment of current O_3 NAAQS. Strafford County is currently considered in attainment/unclassifiable for all other NAAQS (USEPA, 2024d).

Table 2: National Ambient Air Quality Standards

Pollutant	Averaging Time	Level	Form
CO	8-hour	9 ppm	Not to be exceeded more than once per year
	1-hour	35 ppm	
Pb	Rolling 3-month average	0.15 µg/m^3	Not to be exceeded
NO_2	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, 3-year average
	Annual	53 ppb	Annual mean
O_3	8-hour	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, 3-year average
PM	$PM_{2.5}$ Annual (primary)	9.0 µg/m^3	Annual mean, 3-year average
	$PM_{2.5}$ Annual (secondary)	15 µg/m^3	Annual mean, 3-year average
	$PM_{2.5}$ 24-hour	35 µg/m^3	98th percentile, 3-year average
	PM_{10} 24-hour	150 µg/m^3	Not to be exceeded more than once per year, 3-year average
SO_2	1-hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, 3-year average
	3-hour	10 ppb	Not to be exceeded more than once per year

Notes: ppb = parts per billion; ppm = parts per million; µg/m^3 = micrograms per cubic meter of air.
Source: (USEPA, 2024f)

3.3.1.2 Clean Air Act Conformity

The General Conformity Rule (40 CFR Part 51, Subpart W) requires federal agencies to prepare written Conformity Determinations for federal actions in or affecting NAAQS in nonattainment areas to demonstrate that their actions will not cause or contribute to violations of the NAAQS, except when the action is covered under the Transportation Conformity Rule or when the action is exempt because the total increase in emissions is insignificant, or *de minimis*. Because the Proposed Action would occur in an area considered in maintenance for O_3, a General Conformity applicability analysis is required to determine if the General Conformity Rule applies.

3.3.1.3 Other Air Quality Considerations

Under the CAA, USEPA established New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPs) to minimize emissions of criteria pollutants and hazardous air pollutants (HAPs) from man-made emission sources. Although typically present in minimal quantities in the ambient air, HAPs have high toxicity which may pose a threat even at low concentrations. NESHAPs primarily apply to “stationary sources,” which are emission sources that have a fixed location (e.g., fuel-burning boilers and generators, entire facilities/plants, etc.), as opposed to “mobile sources,” which are emission sources that have the ability to move from one location to another (e.g., motor vehicles, ships, airplanes, etc.).

Major source facilities are required to obtain a Title V operating permit. The USEPA defines a “major source” as stationary sources, or groups of stationary sources, with a potential to emit more than 100 tpy of any

criteria pollutant, 10 tpy of any HAP, or 25 tpy of any combination of HAPs. On September 16, 2024, the NHDES Air Resources Division issued a Title V Operating Permit (permit number TV-0010) to the University System of New Hampshire (including the Durham campus), which is valid until August 31, 2029 (NHDES Air Resources Division, 2024). Permitted sources include a variety of boilers, emergency generators, and combustion turbines, a supplemental utility flare, and a thermal oxidizer. The permit contains NESHAP, NSPS, and Reasonably Available Control Technology provisions and requirements for permitted sources. The permit additionally requires recordkeeping, annual emissions reporting, semi-annual boiler fuel certification, biennial boiler certification reports, a semi-annual permit deviation and monitoring report, and semi-annual landfill gas compliance reporting.

3.3.2 Environmental Consequences

Because the region is considered in maintenance of the O_3 NAAQS and located within the Ozone Transportation Region (40 CFR 81.457), a General Conformity applicability analysis is required for both construction and operations emissions that would result from the Proposed Action. Impacts to air quality would be significant if emissions would 1) exceed the General Conformity *de minimis* thresholds, or 2) result in non-compliance with UNH's existing Title V permit.

Construction and operational mobile equipment (e.g., bulldozers, backhoes) and vehicle (e.g. material delivery, employee commute) emissions were estimated using the USEPA's Motor Vehicle Emissions Simulator (MOVES) model, by applying MOVES-derived emission rates to typical equipment and vehicle types and operating parameters, construction dimensions, material delivery quantities, and employee and staffing levels associated with the Preferred Alternative. For a conservative analysis, all construction emissions were assumed to occur within a single year. Emissions from emergency generator operation were estimated using USEPA's Compilation of Air Emissions Factors from Stationary Sources (AP-42).

3.3.2.1 Preferred Alternative

Criteria Pollutants: The Preferred Alternative would have *short-term, less-than-significant adverse impacts* to the existing air quality environment in the vicinity of the Project Site during facility construction. Construction emissions would include exhaust emissions from construction equipment used for site preparation (e.g., forest and land clearing, grading, utility excavation), building construction, and equipment installation. No open burning would occur during land clearing or other proposed construction activities. Site preparation and grading activities would generate particulate matter (e.g., windblown dust). Fugitive VOCs would be emitted during parking lot paving and architectural coating application. Fuel combustion in construction employee commute vehicles would contribute to the short-term increase of construction-related criteria pollutant emissions.

The Preferred Alternative would have *long-term, less-than-significant adverse impacts* to the existing air quality environment in the vicinity of the Project Site during facility operation. Operational emissions would include occasional fuel combustion in the emergency generator that would be installed at the site and fuel combustion in new employee commute vehicles. Construction and operational emissions resulting from the Preferred Alternative are expected to create only localized air quality impacts to the area surrounding the Project Site within the ROI.

Best Management Practices (BMPs) would be implemented during construction to reduce potential impacts on air quality, such as eliminating visible emissions such as dust or wind-blown soil. Control measures could include applying water or using other stabilization measures on unpaved roads, areas of bare soil or soil piles, and covering dump trucks that transport materials that could become airborne. Additionally, contractors would be required to maintain construction equipment in accordance with manufacturers'

specifications and USEPA regulations for non-road engines (40 CFR Parts 89 and 1039) to reduce exhaust emissions.

Construction and operational criteria pollutant emissions that would result from the Preferred Alternative are depicted in **Table 3**.

Table 3: Annual Criteria Pollutant Emissions (Tons Per Year)

Timeframe	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2	VOC
Construction Year	8.512	13.031	1.598	0.642	0.019	1.619
Operations (Annual)	3.055	3.317	0.116	0.105	0.003	0.917

Source: (USEPA, 2024e; USEPA, 1996)

General Conformity: Since New Hampshire is located within the Ozone Transport Region, the General Conformity *de minimis* thresholds for the O_3 precursors of oxides of nitrogen (NO_x), SO_2, and volatile organic compounds (VOC) are 100 tons per year (tpy), 100 tpy, and 50 tpy, respectively (40 CFR 93.153). As shown in **Table 3**, annual emissions from both construction and operation of the Preferred Alternative would be well below applicable *de minimis* thresholds. Therefore, the General Conformity Rule does not apply, a Conformity Determination is not required, and no further analysis is warranted.

Other Air Quality Considerations: Prior to installation of the emergency generator, UNH would be required to coordinate any necessary air quality permitting actions, including modifications to the existing permit to include the proposed emergency generator, through the NHDES Air Resources Division. The installed equipment would be subject to and comply with any applicable NSPS and NESHAP requirements.

3.3.2.2 No Action Alternative

Under the No Action Alternative, the CoE and Innovation Center would not be constructed, and the Project Site would not be repurposed for research and institutional use. No land would be cleared, no new employees would access the site, and there would be *no short-term or long-term impact* to air quality. The ambient air quality environment would remain in its current conditions.

3.4 WATER RESOURCES AND HYDROLOGICAL PROCESSES

Water resources and hydrological processes analyzed in this EA include surface water, stormwater, wetlands, floodplains, groundwater, and the coastal zone. Surface water resources comprise lakes, rivers, and streams and are important for a variety of ecological, economic, recreational, aesthetic, and human health reasons. Stormwater generally consists of water flowing off-site and into a nearby receiving surface water body. Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE, 1987). Wetlands serve a variety of functions including flood control, groundwater recharge, maintenance of biodiversity, wildlife habitat, recreational opportunities, and maintenance of water quality. Floodplains are belts of low-lying, level ground on one or both sides of a stream channel and are subject to either periodic or infrequent inundation by flood water. A 100-year floodplain has a one percent chance of inundation in any given year. Groundwater can be defined as subsurface water resources that are interlaid in layers of rock and soil and recharged by surface water seepage. Groundwater is important for its use as a potable water source, agricultural irrigation, and industrial applications. The coastal zone is a state-designated area within which federal activities are regulated by the Coastal Zone Management Act of 1972 (CZMA).

The ROI for surface water, stormwater, wetlands, floodplains, and the coastal zone includes the boundaries of the Project Site, as well as the down-gradient waterbodies receiving stormwater runoff within 0.5 mile of the Project Site. The ROI for groundwater includes the portion of the groundwater basin that underlies the Project Site.

3.4.1 Affected Environment

Surface Water and Stormwater: The Edge redevelopment area is located in the Oyster River watershed. Oyster River is located approximately half a mile south of the Project Site (see **Figure 3**). It has both freshwater and saltwater portions, which are separated by Mill Pond Dam in Durham. In 2011, the freshwater portion of the Oyster River — which starts 1.75 miles southeast of the Project Site — was named a designated river as part of the New Hampshire Rivers Management and Protection Program. Its inclusion in this program is intended to protect its unique environmental and recreational resources, as well as protect its use as a drinking water source (NHDES, 2024c). The Project Site is not located within its freshwater corridor, which includes the land area located within 1,320 feet of the normal high-water mark or to the landward extent of the 100-year floodplain as designated by the Federal Emergency Management Agency, whichever distance is larger (NHDES, 2023).

The closest surface water feature to the Project Site is College Brook, which is located approximately 275 feet northeast of the Project Site (see **Figure 3**). Stormwater runoff and sedimentation have contributed to chloride contamination and oxygen depletion that have negatively impacted the aquatic life in College Brook. This stream is listed as impaired by the NHDES for aquatic life integrity, fish consumption due to mercury, and contact recreation from *Escherichia coli* (*E. coli*) (USEPA, 2022). The stream is also listed as a waterway that requires action to address water quality issues under the Northeast Mercury Total Maximum Daily Load (TMDL) program, which sets limits on mercury to reduce accumulation in water bodies, which subsequently impacts fish consumption and the health of aquatic life. College Brook is also part of the New Hampshire Statewide Bacteria TMDL, which outlines reductions necessary to meet water quality standards, focusing on reducing *E. coli* levels through addressing stormwater management and improving septic system performance (USEPA, 2022).

The Project Site's surface drainage flows southeast towards Mast Road and southwest into an existing drainage swale and wetland. Site diagrams also indicate drainage structures in the northeast and southwest areas of the of the parking lot adjacent to the Project Site (i.e., the UNH Transportation Center parking lot). An existing closed drainage system within the UNH Transportation Center parking lot channels stormwater northwest to the UNH Stormwater Center Study Facility. The remaining stormwater flows southeast under Mast Road toward the main campus, and eventually into College Brook (H.L. Turner Group Inc., 2024).

The NPDES in New Hampshire is administered through the USEPA, with technical assistance and funding provided by NHDES (NHDES, 2018). UNH operates its own stormwater system under the NPDES Small Municipal Separate Storm Sewer System General Permit (MS4GP). UNH has developed its own stormwater management program and has undertaken a range of measures (e.g., catch basins; bioretention systems; permeable pavements; specific procedures for street sweeping, fertilizer application, vehicle washing, winter road maintenance, etc.) to comply with the MS4GP and prevent harmful pollutants from entering local water bodies (UNH, 2017; UNH, 2019). The University is actively engaged in stormwater management practices.

Wetlands: The ROI contains five wetlands (see **Table 4** and **Figure 3**). The wetlands provide several key functions, including groundwater recharge, flood flow alteration, sediment retention, and nutrient removal. These wetlands are characterized by the presence of invasive species, and Wetlands 3, 4, and 5 are man-made wetland drainage features (Tighe & Bond, 2024e). Tighe & Bond conducted a vernal pool study in April 2024 to assess the presence of vernal pools within the Project Site and its surrounding area. While a

portion of Wetland 1 exhibits the physical characteristics of a vernal pool, it lacks the biological indicators necessary to confirm its functional classification as one (Tighe & Bond, 2024b).

Table 4: Wetland Classifications and Sizes

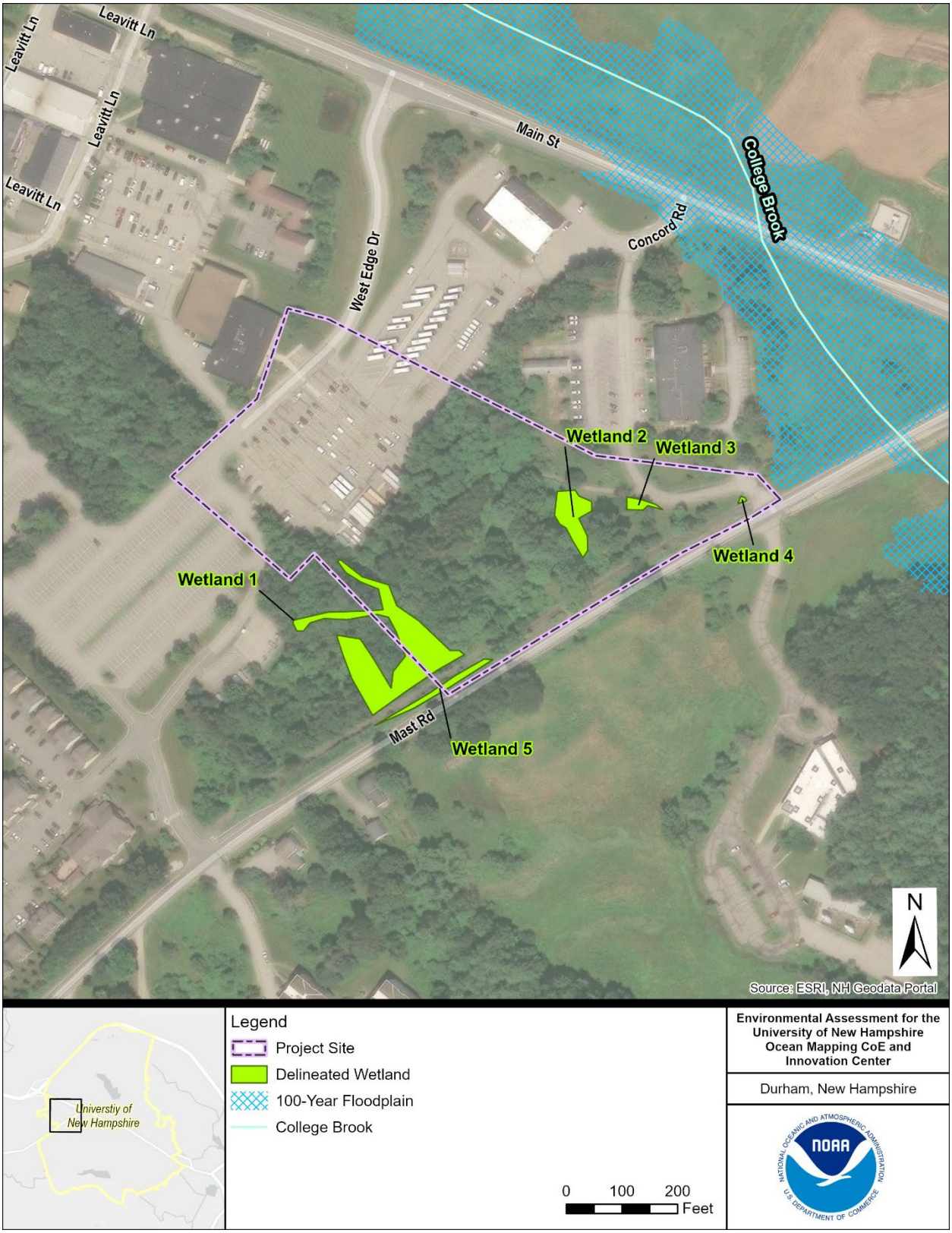
Wetland ID	Classification	Size (Acre)
1	Palustrine forested, broadleaf deciduous, and seasonally flooded-saturated	0.478
2	Isolated palustrine scrub shrub, and seasonally saturated	0.103
3	Manmade, small topographic depression which flows into an ephemeral drainage swale towards wetland 4	0.019
4	Manmade topographic depression that receives flow through the ephemeral swale from wetland 3 and drains into a 16-inch high-density-polyethylene culvert before continuing easterly, outside of the Project Site	0.002
5	Manmade linear roadside drainage feature	0.046

Floodplains: There is no floodplain within the Project Site. However, the 100-year floodplain of College Brook is located approximately 200 feet from the Project Site, across the access road that serves as the entrance to the USDA Forest Service building (see **Figure 3**).

Groundwater: The porous rock surrounding and beneath the Oyster River supports a robust groundwater system that includes natural springs and aquifers. The Spruce Hole Aquifer underlies UNH and is used by the Town of Durham as a supplemental water source (NHDES, 2024c). Artificial recharge basins have been constructed by the Town within the Spruce Hole Aquifer to enhance its productivity, enabling higher groundwater withdrawals during peak demand periods. This approach has allowed UNH and the Town of Durham to safeguard existing water resources and potentially avoid the need for additional groundwater development in the future (GZA, 2024). Depth to groundwater at the Project Site is generally between 13 to 15 feet below ground surface, although a shallow water table has been identified on the western edge of the Project Site, with a depth of 2.3 feet below ground surface (Tighe & Bond, 2024c; AECOM, 2025a). No sole source aquifers are located within or near the Project Site (USEPA, 2024b).

The New Hampshire Geological Survey (operating within NHDES) maintains a Groundwater Level Monitoring Network, containing information about 43 monitoring wells across the state. Measurements are made manually at least once per month in each well, and the state has equipped 20 of the wells with sensors that record water levels on an hourly basis. Each well acts as a gauge of regional hydrologic conditions, reflecting changes in the water volume of known aquifers. Monitoring wells with at least 10 years of data are placed into statistical categories reflecting groundwater levels. The closest analyzed well is located approximately 6 miles southwest of the Project Site, in Epping, New Hampshire. The well is classified as having normal groundwater levels (25th to 75th percentile) (NHDES, 2024a).

Figure 3: Water Resources at the Project Site



Coastal Zone: The Project Site is located within New Hampshire's designated coastal zone. Under the CZMA, projects within a coastal zone must demonstrate consistency with the enforceable policies of the state to address potential impacts to coastal resources. The CZMA regulations at 15 CFR Part 930 identify different categories of activities under which the effects of a project must be evaluated for their potential impacts on coastal resources and the state's enforceable policies. In addition, guidance from the New Hampshire Coastal Program (NHCP) provides information on specific activities and funding programs that may have the potential to affect coastal resources (NHCP, 2024).

NOAA and NIST are providing funding to UNH to construct the joint CoE and Innovation Center. Since UNH is a non-federal entity, NOAA has completed a federal consistency determination in accordance with Subpart C of the CZMA regulations.

3.4.2 Environmental Consequences

A water resources impact would be significant if it would 1) substantially reduce water availability or interfere with the water supply to existing users; 2) create or contribute to the overdraft of groundwater basins or exceed decreed annual yields of water supply sources; 3) substantially adversely affect surface or groundwater quality; 4) degrade unique hydrologic characteristics; or 5) violate established water resources laws or regulations.

3.4.2.1 Preferred Alternative

Surface Water and Stormwater: Since the Project Site is not located within the Oyster River designated corridor, UNH is not required to consult with NHDES or the local river management advisory committee (NHDES, 2024b). While the Preferred Alternative would not involve any direct discharge to or fill of streams, construction could potentially impact College Brook from stormwater runoff due to its close proximity to the Project Site. UNH would obtain an NHDES Alteration of Terrain permit, which requires that stormwater be treated on-site before it is discharged off-site. UNH would collect, detain, and treat the required amount of stormwater as stipulated by the permit regulations. The Preferred Alternative would comply with the requirements of UNH's existing MS4GP, and UNH would also obtain a NPDES CGP, since construction would involve ground disturbance of more than one acre. Under the CGP, UNH's contractor would develop a site-specific Stormwater Pollution Prevention Plan (SWPPP) to identify pollution prevention controls, including erosion and sedimentation control measures to minimize pollutants and reduce stormwater runoff from construction. UNH would also comply with Section 438 of the Energy Independence and Security Act (EISA) to manage stormwater runoff from the Project Site, by incorporating low-impact development features where applicable to allow for stormwater infiltration. The facility design would include the incorporation of bioswales and catch basins around the perimeter of the Project Site, as well as rain gardens and other drainage connections to the east and west of the Project Site, near Mast Road and West Edge Drive, to assist with stormwater management and reduce runoff (H.L. Turner Group Inc., 2024; UNH, 2025).

Therefore, the Preferred Alternative would have *short-term, less-than significant adverse impacts* on surface waters and stormwater in the ROI.

While College Brook is downstream of the Project Site and receives stormwater from the area, no discharges of biological or mercury-containing materials would occur under the Preferred Alternative that would contribute to *E. coli* or mercury contamination. Therefore, the Preferred Alternative would adhere to the requirements of the existing TMDLs. BMPs and proper stormwater management, as outlined in the SWPPP, would minimize the potential effects from stormwater runoff and sedimentation on the stream's integrity. Therefore, construction of the CoE and Innovation Center would not hinder efforts to improve water quality in College Brook, and the Preferred Alternative would have *short-term, negligible adverse impacts* on impaired streams.

Wetlands: The design of the CoE and Innovation Center would avoid wetlands and construction activities would not result in the fill of, or direct discharge to, wetlands. Although no wetland fill would occur, nearby wetlands could be indirectly impacted by increased erosion and sedimentation during construction. However, these impacts would be temporary and would be minimized through adherence to a site-specific SWPPP. Therefore, the Preferred Alternative would have *short-term, negligible adverse impacts* on wetlands in the ROI.

Floodplains: The Preferred Alternative would not take place within a floodplain. The final design of the CoE and Innovation Center would not encroach on the floodplain along College Brook, nor encourage other development within the floodplain (Tighe & Bond, 2024d). Therefore, there would be *no impact* to floodplains in the ROI.

Groundwater: Construction of the CoE and Innovation center would not involve groundwater withdrawals, impact existing municipal or domestic use wells, or intentionally release or inject materials into groundwater resources. Drilling associated with the possible installation of the geothermal heat pumps may intersect groundwater depending on the system configuration that is selected (e.g., vertical or horizontal). Both of these systems are closed-loop systems made of high-density, plastic-type tubing that would contain the material used for heat transfer (DOE, 2024). No releases of this material into groundwater would occur, nor would groundwater have the potential to enter the geothermal heat pump system if installed. Any groundwater encountered during the drilling process would be captured, treated appropriately, and released into the stormwater management system.

The Preferred Alternative would require potable water and the installation of associated utilities but would not substantially increase the demand for potable water in Durham. Potential impacts to groundwater may occur from the accidental spill of petroleum products or other liquids on the sites during construction activities. However, UNH manages hazardous and toxic materials and waste (HTMW) and addresses spills in compliance with local, state, and federal regulations (see **Section 3.13**). With the implementation of BMPs, such as carrying out routine inspections of equipment, maintaining spill-containment materials on-site, and adhering to UNH's HTMW management plans, the potential for impacts to groundwater would be minimized. Therefore, the Preferred Alternative would result in *short-term, negligible adverse impacts* to groundwater in the ROI.

Coastal Zone: NOAA prepared a federal consistency determination on behalf of UNH in accordance with Subpart C of the CZMA regulations for the Proposed Action (see **Appendix A**). NOAA has determined that the Proposed Action would be *consistent to the maximum extent practicable* with the enforceable policies of the NHCP. The consistency determination was submitted to the NHCP for review.

3.4.2.2 No Action Alternative

Under the No Action Alternative, the CoE and Innovation Center would not be constructed, and there would be *no impact* on water resources.

3.5 SOCIOECONOMICS AND PROTECTION OF CHILDREN

Socioeconomics refer to the attributes of the human environment, and include demographic and economic characteristics such as age, race, income, and employment. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, directs federal agencies to consider the potential adverse impacts of their activities on children.

The ROI for socioeconomics includes four different block groups (see **Figure 4**). All components of the Proposed Action are located within census tract 802.03, block group 1. In addition, census tract 802.04,

block group 1; census tract 801, block group 2; and census tract 805, block group 2 are adjacent to the block group containing The Edge and within a 1-mile radius of the Project Site. These four block groups are where impacts from the Proposed Action would be most directly felt and where the potential for impacts should be evaluated.

3.5.1 Affected Environment

Demographic data, including population and economic data, are shown in **Table 5**, which provides an overview of the socioeconomic environment in the ROI. In addition to data for the ROI, **Table 5** includes data for the Town of Durham and Strafford County, New Hampshire, which serve as reference communities for comparative purposes and to demonstrate larger trends in the region. Economic characteristics vary slightly across the ROI. Census tract 802.03, block group 1 and census tract 802.04, block group 1 have lower median household incomes than the other two block groups in the ROI, as well as the selected reference communities, likely due to the high percentage of college students living in those communities. The ROI includes both The Lodges at West Edge (census tract 802.03, block group 1) and The Cottages of Durham (census tract 802.04, block group 1), both of which are off-campus student housing, in addition to the typical on-campus student dormitories located in the core campus of UNH within these block groups.

Table 5: Socioeconomic Characteristics in the ROI

Location	Total Population	Population Change, 2010-2022	Median Household Income	Unemployment Rate	Population under 18 Years
Strafford County, NH	130,965	6%	$83,212	4%	18%
Durham, NH	10,789	4%	$93,542	3%	6%
Tract 802.03, Block Group 1	4,720	8%	$40,070	4%	1%
Tract 802.04, Block Group 1	4,735	14%	$45,391	4%	4%
Tract 801, Block Group 2	1,153	-11%	$138,889	3%	24%
Tract 805, Block Group 2	954	10%	$68,167	14%	14%

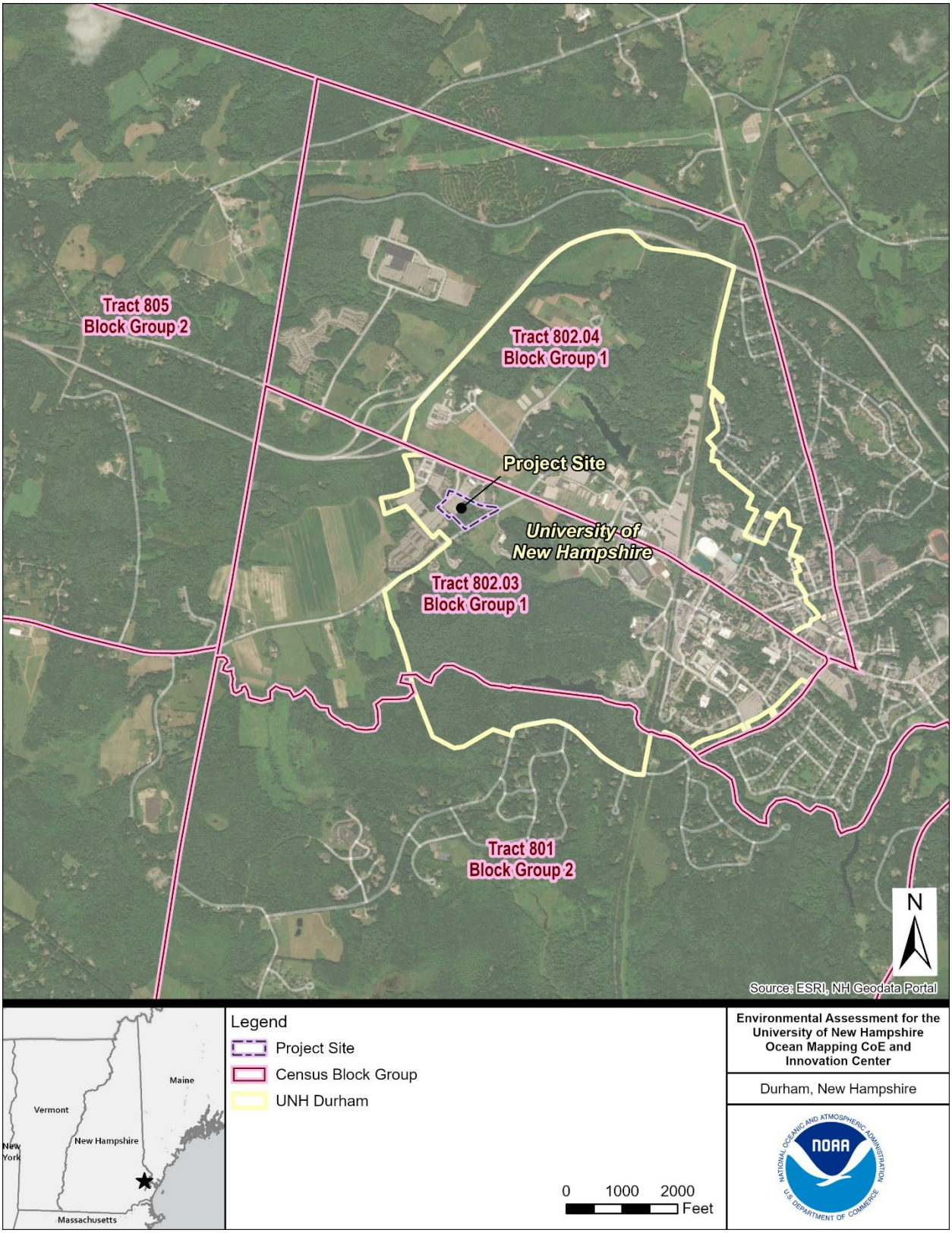
Sources: (U.S. Census Bureau, 2022a; U.S. Census Bureau, 2010; U.S. Census Bureau, 2022b; USEPA, 2024c)

The population of children under 18 years of age is lower in those block groups as well, which likely can also be attributed to the population of college students. The population under 18 years in census tract 801, block group 2 is higher than that of Durham, but is not substantially higher than the population under 18 years in Strafford County. Unemployment rates are relatively consistent across the ROI and reference communities; census tract 805, block group 2 is the only outlier, with a 14 percent unemployment rate. Total population across the region has generally increased at a consistent rate; the only outlier is census tract 801, block group 2, which saw a population decline of 11 percent.

Public services include fire protection, emergency medical services, law enforcement, schools, libraries, and parks. The Project Site is located on UNH's campus, within the Town of Durham. The Project Site is located within 1 mile of the Durham Fire Department, the UNH Police Department, the UNH libraries, and a couple of nature preserves. Oyster River Middle School and High School are within 2 miles of the Project Site, while Wentworth-Douglass Hospital is the closest hospital, approximately 6 miles north of the Project Site.

Site, while Wentworth-Douglass Hospital is the closest hospital, approximately 6 miles north of the Project Site.

Figure 4: U.S. Census Block Groups in the ROI



3.5.2 Environmental Consequences

A socioeconomic impact would be significant if it would 1) substantially alter the location and distribution of the local population, or 2) change the current economic conditions in the ROI in a way that would be notable and harmful for surrounding communities and residents.

3.5.2.1 Preferred Alternative

Construction of the Preferred Alternative would result in temporary economic benefits for local contractors who would be hired to perform this work. In the long-term, up to 121 support staff positions would be created to operate the CoE and Innovation Center, including student research positions. The operation of the CoE and Innovation Center is anticipated to have negligible long-term benefits to employment opportunities in the ROI. Public community and emergency services would not be impacted during construction or operation. Therefore, implementation of the Preferred Alternative would result in *short- and long-term, beneficial impacts* on local socioeconomic conditions.

The total population under 18 years of age in the ROI does not substantially exceed that of Strafford County. However, any children in the surrounding area would not be permitted near an active construction site; the site would be secured to prevent unauthorized or accidental access. With site monitoring, access controls, and standard air quality controls in place, the Proposed Action would not have the potential to disproportionately impact children. Therefore, protection of children does not warrant special consideration under EO 13045 for the Preferred Alternative, as it would have *no impact*.

3.5.2.2 No Action Alternative

Under the No Action Alternative, the CoE and Innovation Center would not be constructed, and there would be *no impact* on socioeconomic conditions or the protection of children in the ROI.

3.6 CULTURAL RESOURCES

Cultural resources are historic properties as defined by the National Historic Preservation Act of 1966 (NHPA); cultural items as defined by the Native American Graves Protection and Repatriation Act (NAGPRA); archaeological resources as defined by the Archaeological Resources Protection Act; sacred sites as defined by EO 13007, *Indian Sacred Sites*, to which access is afforded under the American Indian Religious Freedom Act, and collections and associated records as defined by 36 CFR 79.

Historic properties covered by the NHPA include any prehistoric or historic district, site, building, structure, or object with known or potential significance with regard to pre- or post-American history, architecture, archaeology, engineering, or culture. Section 106 of the NHPA requires federal agencies to consider the effect an undertaking may have on historic properties. The Preferred Alternative is considered an undertaking and is required to comply with Section 106, including consultation with the New Hampshire Division of Historical Resources (NHDHR) (i.e., the State Historic Preservation Office [SHPO]). All Section 106 correspondence with the SHPO for the Preferred Alternative is provided in **Appendix B**.

No federally identified Tribes have been recognized in New Hampshire. However, UNH has a standing relationship with a local Tribe, the Cowasuck Band of Pennacook-Abenaki People, whom NOAA has contacted as a stakeholder for this EA (see **Section 4.0**). A copy of this correspondence is included in **Appendix A**.

The ROI for cultural resources is the area of potential effects (APE) as defined by the NHPA. The APE for architectural history consists of an 800-foot buffer around the conceptual footprint of the proposed CoE and

Innovation Center building. The APE for archaeological resources consists of the entire Project Site (see **Figure 5**).

3.6.1 Affected Environment

Architectural History: UNH was initially founded in the 1860s as a land grant college after farmland was willed to the state to be used as an agricultural college and was renamed to UNH in 1923. The 1,558 acres of UNH encompass the UNH Historic District, which includes the historic property and campus buildings associated with the period of significance. In 2016, NHDHR determined that the UNH Historic District is eligible for listing on the NRHP (NHDHR, 2016). The West Edge is located within the NRHP-eligible historic district, but the resources within the West Edge were not previously evaluated for their contributing status due to the relatively newer age of the buildings at the time.

NOAA conducted a Resource Evaluation in May 2025 to evaluate the NRHP eligibility of architectural resources in the APE. Since the prior establishment of the UNH Historic District in 2016, an additional four resources within the APE have reached historic age. Three of these resources were evaluated for their contributing status to the UNH Historic District: 1 Leavitt Lane, 6 Leavitt Lane, and 213 Main Street. One resource, which is located on the UNH campus but not affiliated with the University, was evaluated for individual NRHP-eligibility: the USDA Forestry Sciences Laboratory (AECOM, 2025b).

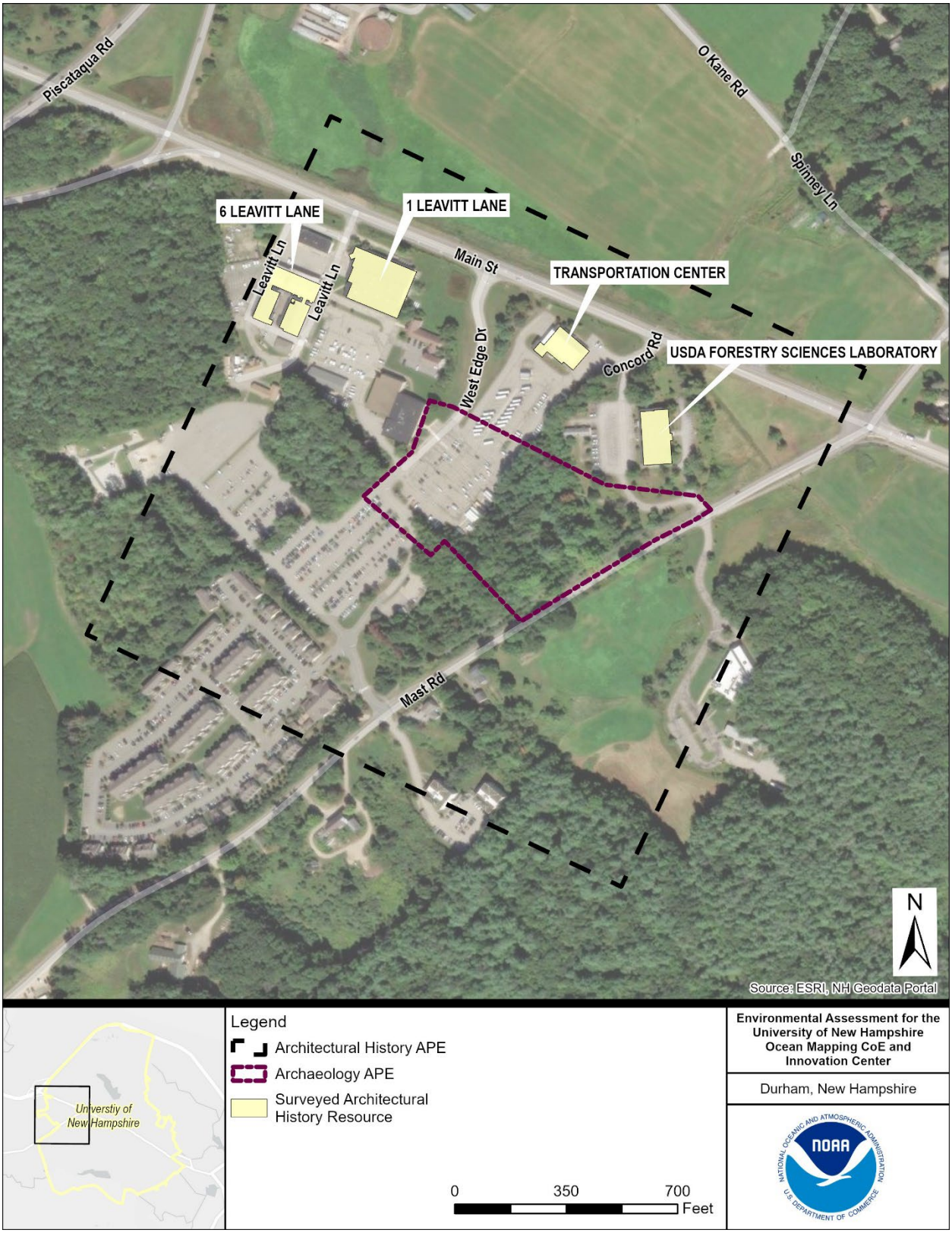
Of the three resources evaluated for the UNH Historic District, 6 Leavitt Lane and 213 Main Street were recommended as contributing resources to the UNH Historic District under Criterion A for their contributions to the University and community. 1 Leavitt Lane was not recommended as a contributing resource to the UNH Historic District because its function and the exterior of the building have changed drastically since the building's original construction. Finally, the USDA Forestry Sciences Laboratory was recommended as not eligible for listing in the NRHP. NOAA submitted the architectural history Resource Evaluation and an Individual Inventory Form for the USDA Forestry Sciences Laboratory to the NHDHR for review on June 18, 2025. NHDHR concurred with the recommendations for the three resources within the UNH Historic District in memoranda dated June 20, 2025. The NHDHR separately determined that the USDA Forestry Sciences Laboratory is eligible for listing in the NRHP in a memorandum dated July 3, 2025 (see **Appendix B**).

Archaeological Resources: A combined Phase IA/IB archaeological survey was conducted in April and May 2025. The Phase IA survey found that the APE had a high sensitivity for historic architectural occupation and potential pre-contact utilization, and the Phase IB survey was conducted to identify potential archaeological sites or deposits potentially eligible for inclusion on the NRHP. The Phase IB survey included a pedestrian reconnaissance throughout the entire APE and shovel testing on a systematic grid of unpaved portions of the APE (AECOM, 2025a).

No pre-contact artifacts were found within the APE. However, the archaeological survey identified the presence of one historic-age archaeological site within the APE: the Bunker Farmstead. The site is approximately 1.6 acres and is associated with a historic farmstead that dates to the 1850s. Historic artifacts, primarily domestic materials, were found in the soils at this site, likely related to the property's nineteenth and twentieth-century occupations (AECOM, 2025a). NOAA submitted a memorandum of the Phase IA/IB survey results to the NHDHR on June 10, 2025.

While further testing (i.e., a Phase II archaeological survey) would be recommended to evaluate the integrity of the Bunker Farmstead site and determine its eligibility for listing in the NRHP, due to funding limitations beyond NOAA's control, securing sufficient funding for a typical Phase II evaluation is currently unfeasible. Therefore, in a letter provided to the NHDHR on June 18, 2025, NOAA suggested alternative methods for fulfilling its Section 106 responsibilities while accommodating these financial constraints.

Figure 5: Cultural Resources APE



3.6.2 Environmental Consequences

A cultural resources impact would be significant if it would 1) constitute an unresolved adverse effect as defined in Section 106 of the NHPA (36 CFR 800.5); or 2) alter, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the NRHP in a manner that would diminish the integrity of its location, design, setting, materials, workmanship, feeling, or association.

3.6.2.1 Preferred Alternative

Architectural History: The primary way in which the Proposed Action could affect architectural resources is by altering the viewshed. While the proposed CoE and Innovation Center would introduce a new visual element into the APE, the building is expected to be of a similar scale to several other buildings in the area. Additionally, the West Edge portion of campus is relatively non-historic compared to other areas of the UNH Historic District given the development there has occurred much more recently. There would also be no physical impacts from the Proposed Action on any contributing resources to the UNH Historic District or the USDA Forestry Sciences Laboratory. Therefore, it is anticipated that the Proposed Action would have no adverse effect under the NHPA to NRHP-eligible architectural resources, equating to a *less-than-significant adverse effect* under NEPA.

NOAA will submit its effect determinations to NHDHR for concurrence pursuant to the Section 106 process. This analysis assumes that NHDHR will concur with a finding of no adverse effect under the NHPA. If NHDHR non-concurs with that determination, NOAA will continue to consult with NHDHR to establish methods to fully mitigate any potential adverse effects to the UNH Historic District or USDA Forestry Sciences Laboratory. The Proposed Action would not be implemented until NHDHR either concurs with a finding of no adverse effect, or all parties commit to mitigation by signing a Memorandum of Agreement (MOA) or similar binding document. Through completion of the Section 106 process, there would be no unresolved adverse effects to historic properties, nor any diminishment of integrity for historic properties. Therefore, the Proposed Action would have *less-than-significant adverse effects* on architectural resources.

Archaeological Resources: Due to the funding constraints precluding a Phase II evaluation of the Bunker Farmstead site, NOAA has suggested alternative methods for fulfilling its Section 106 responsibilities to the NHDHR. NOAA would treat the Bunker Farmstead site as a potentially eligible historic property under Section 106 and proceed directly to mitigation rather than pursuing a Phase II evaluation. Proposed mitigation efforts include:

- Attempting project redesign to avoid key features of the archaeological site.
- Protecting the cultural surface in place by importing protective fill.
- Archaeologically monitoring deep drainage work at the location of the former dwelling house to document any remnant structures.

This information would then be used for interpretive mitigation by detailing some of the Bunker Farmstead site's history on the UNH campus. These steps will be codified in a MOA to be agreed upon and signed by NOAA, NIST, UNH, and NHDHR. The implementation of this MOA will conclude the Section 106 process for the project. NHDHR concurred with this approach to fulfilling Section 106 requirements on June 20, 2025, and indicated that the proposed mitigation were appropriate steps to resolve any adverse effects that may arise from the Proposed Action. Therefore, the Proposed Action *would not have significant effects* under NEPA.

3.6.2.2 No Action Alternative

Under the No Action Alternative, the CoE and Innovation Center would not be constructed, and the Project Site would not be repurposed for research and institutional use. There would be *no impact* on cultural resources at the Project Site or within the UNH Historic District.

3.7 FLORA AND FAUNA

Flora and fauna consist of vegetation, wildlife, and special status species. Special status species relevant to this EA are those protected under the federal Endangered Species Act of 1973 (ESA), Bald and Golden Eagle Protection Act of 1940, Migratory Bird Treaty Act of 1918, or under applicable state laws or regulations.

The ROI for flora and fauna includes vegetation and water resources present within the Project Site and wildlife present on-site or within 0.25 mile of the Project Site boundary (i.e., within the noise ROI).

3.7.1 Affected Environment

Vegetation and Wildlife: The Edge is situated on the western edge of the UNH campus, and this area is primarily characterized by a mix of developed areas, disturbed lands, and patches of wooded vegetation. The UNH campus and nearby areas provide habitat for a range of wildlife species, including common small mammals, bird species, some amphibians, and insects. Migratory bird species are also likely to pass through the area, as the site lies within migration pathways. The Project Site is partially wooded, consisting of upland forest with low shrubs and trees, while the remainder of the site is an existing parking lot with no vegetation. Tree species present within the Project Site include sugar maple (*Acer saccharum*), American elm (*Ulmus americana*), shagbark hickory (*Carya ovata*), red maple (*Acer rubrum*), and black cherry (*Prunus serotina*), among others. As discussed in **Section 3.4.1**, numerous invasive species were identified in the wetland delineation, including burning bush (*Euonymus alatus*), multiflora rose (*Rosa multiflora*), Asiatic bittersweet (*Celastrus orbiculatus*), and Norway maple (*Acer platanoides*). While these species may provide refuge and food sources for small mammals and birds, their abundance threatens the integrity of the native community (Tighe & Bond, 2024e). The Project Site is located nearby other large, forested areas, including the College Woods, which is a designated natural area on UNH's campus, and agricultural fields.

Special Status Species: NOAA queried the USFWS Information for Planning and Consultation (IPaC) database to identify federally listed threatened and endangered (T&E) species with the potential to occur within the Project Site. IPaC identified three federally listed species: the northern long-eared bat (NLEB; *Myotis septentrionalis*), which is listed as endangered; the tricolored bat (*Perimyotis subflavus*), a proposed endangered species; and the monarch butterfly (*Danaus plexippus*), a proposed threatened species. No critical habitat was identified within the Project Site (USFWS, 2024). Suitable habitat for the NLEB and the tricolored bat is present in the forested portion of the Project Site since numerous individual trees possess the necessary characteristics for potential roosting habitat for the NLEB and tricolored bat (crevices and loose or peeling dead bark). Further, suitable habitat for these bats exists in nearby large, forested areas, like College Woods. The Project Site provides only marginal habitat for monarch butterflies, with no milkweed plants (*Asclepias spp.*) identified at the site and limited flowering plants present along the forest edge.

IPaC identified 23 Birds of Conservation Concern (BCC) with the potential to occur within the Project Site. BCCs are both migratory and non-migratory bird species that are not listed as T&E species, but still represent conservation priorities for the USFWS. The bald eagle (*Haliaeetus leucocephalus*) was also identified as potentially present; while it is not considered a BCC in this area, it is still protected under the

Bald and Golden Eagle Protection Act (USFWS, 2024). The nearest suitable habitat for bald eagles is the forested shoreline of Durham Reservoir approximately 0.4 mile northeast of the Project Site.

The New Hampshire Natural Heritage Bureau (NHB) is a division of the NHDFG that is responsible for tracking and managing the state's rare and T&E species, as well as significant natural communities and habitats. The NHB, in coordination with other state agencies, maintains an online data screening tool (DataCheck Tool) that screens for known locations of rare species and exemplary natural communities. Results from the NHB DataCheck Tool indicated that there is an NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity of the Project Site, although details were not provided.

3.7.2 Environmental Consequences

A flora and fauna impact would be significant if it would 1) substantially reduce regionally or locally important habitat; or 2) substantially diminish a regionally or locally important plant or animal species.

3.7.2.1 Preferred Alternative

Vegetation and Wildlife: Under the Preferred Alternative, UNH would clear up to 5 acres of trees and shrubs, although likely less due to wetland avoidance, to allow for the construction of the CoE and Innovation Center. Based on an estimate of 197 trees (5 inches or greater in diameter) per forested acre across the state of New Hampshire (USDA Forest Service, 2020), up to approximately 985 trees may be cleared as a result of construction. Much of the shrubby vegetation that would be cleared consists of invasive species. Following construction, the University would plant a diverse array of native species compatible with the surrounding native landscape, including shade- and salt-resistant grasses and drought-tolerant ornamental vegetation that would not require regular watering or an irrigation system. To allow for snow plowing, only low-growing, ground-level plant varieties would be considered within 3 feet of parking or paved areas. Screening landscaping would be added between the existing pedestrian path through the forested area that connects Mast Road to the parking lot, and the new facility (H.L. Turner Group Inc., 2024). This screening landscaping would provide visual separation, improve aesthetics, and potentially create a buffer to reduce noise or other impacts from the development on the path users. Additionally, contractors would be required to minimize the introduction or spread of invasive species through the use of mandatory BMPs, such as cleaning all construction equipment and vehicles before entering and leaving the Project Site, establishing designated cleaning stations, and properly disposing of invasive species. Therefore, the Preferred Alternative would have *short-term, less-than-significant adverse impacts* on vegetation from clearing, but would also result in a *beneficial impact* on native vegetation from the removal of invasive species and replacement with native species.

While wildlife species may be physically displaced during construction, mobile species, like birds and small mammals, would likely relocate to areas of similar habitat nearby. In addition, impacts from disturbance, displacement, or inadvertent wildlife mortality from construction impacts would occur at the individual level, rather than the population or species level. Construction of the CoE and Innovation Center would not inhibit the continued presence of common wildlife populations and species in Durham. Contractors would also re-vegetate the site with native plants to create pollinator habitat with rolling blooming seasons. Therefore, the Preferred Alternative would have *short-term, less-than-significant adverse impacts* on wildlife.

Special Status Species: Suitable habitat for the NLEB and tricolored bat in the 5-acre wooded area of the Project Site would be cleared to accommodate construction of the CoE and Innovation Center. NOAA completed the NLEB and tricolored bat range-wide determination key in IPaC, which resulted in a determination of *not likely to be adversely affected* for the NLEB and *may affect* for the tricolored bat. However, UNH and its contractors would adhere to time-of-year restrictions (TOYR) by not clearing trees during the active season of the bats, between April 15 and October 31. Construction would begin in the

existing cleared areas on the Project Site sometime between July and October 2025, with tree clearing beginning in November. Therefore, the Preferred Alternative is *not likely to adversely affect* either bat species. While transient monarchs may occasionally stopover at the Project Site, they are unlikely to be disturbed by project activities and would avoid active construction. Further, tree clearing would not begin until after the monarch's southern migration. Therefore, the Preferred Alternative is also *not likely to adversely affect* the monarch butterfly. NOAA provided its effect determinations for federally listed species to USFWS in a letter dated January 15, 2025. USFWS concurred with NOAA's determinations in a letter dated April 29, 2025 (see **Appendix A**). Based on these species' determinations and adherence to the TOYR, the Preferred Alternative would have *long-term, less-than-significant adverse impacts* on T&E species.

Of the 23 identified BCCs with the potential to occur within the Project Site, only the bald eagle, red-headed woodpecker (*Melanerpes erythrocephalus*), and rusty blackbird (*Euphagus carolinus*) would have the potential to be present during construction (USFWS, 2024). Due to the proximity of the Project Site to major roads and the marginal availability of quality habitat for these species on-site, they are unlikely to use the Project Site for nesting, instead favoring the higher-quality large, forested habitat in the surrounding area (e.g., College Woods), but they may use the Project Site for foraging. Tree clearing would not begin until November, which is outside of the breeding season of these birds; therefore, it is not expected that any nesting individuals that may use the Project Site would be present at that time. If any birds are present during construction, they would likely relocate to another suitable habitat nearby. Therefore, the Preferred Alternative would have *short-term, less-than-significant adverse impacts* on BCCs.

The NHB DataCheck Tool results letter determined that while there is an NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity of the Project Site, it is not expected to be impacted by the Preferred Alternative. NOAA provided this NHB DataCheck Tool results letter to the NHDFG as part of agency consultation performed for the Draft EA (see **Section 4.3**). A copy of this letter is provided in **Appendix A**.

3.7.2.2 No Action Alternative

Under the No Action Alternative, the proposed CoE and Innovation Center would not be constructed and related impacts on vegetation, wildlife, and special status species associated with the Preferred Alternative would not occur. Therefore, there would be *no impact* on flora and fauna associated with the No Action Alternative.

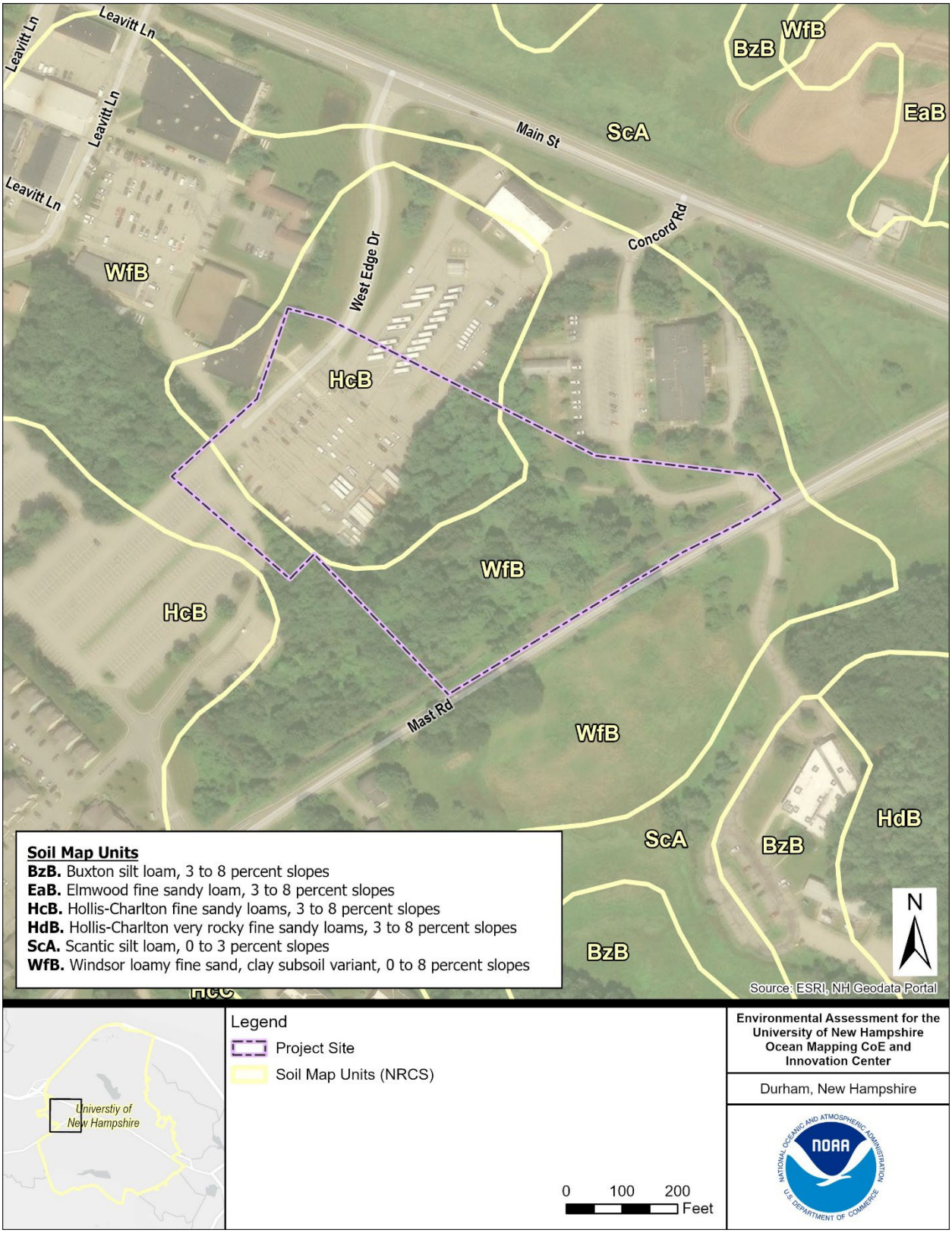
3.8 FARMLAND AND SOILS

The Farmland Protection Policy Act (FPPA) (7 USC 4201 et seq.) of 1981 states that federal agencies must "minimize the extent to which federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses." The resources protected by the FPPA include prime and unique farmland, which are categorized by the Natural Resources Conservation Service (NRCS) based on underlying soil characteristics.

Hydric soils are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions near the soil surface. Under natural conditions, these soils are able to support growth and reproduction of hydrophytic vegetation. Presence of hydric soils is one of the criteria used to identify and delineate wetlands.

The ROI for soils is equivalent to the Project Site as shown on **Figure 6**.

Figure 6: Soil Resources in the Project Site



3.8.1 Affected Environment

Surface soils within the Proposed Action area are described predominantly as sandy fill. Two soil map units are identified within the Project Site: 1) Hollis-Charlton fine sandy loam, 3 to 8 percent slopes, and 2) Windsor loamy fine sand, 0 to 8 percent slopes. Both soils are classified as well drained with low run-off. Neither of the soil types are hydric soils (see **Table 6**) (NRCS, 2024).

Table 6: Soil Characteristics for the Project Site

Soil Type	Map Unit	Prime/Unique Farmland	Farmland of Local Importance	Hydric
Hollis-Charlton fine sandy loam, 3 to 8 percent slopes	HcB	No	Yes	No
Windsor loamy fine sand, clay subsoil variant, 0 to 8 percent slopes	WfB	Yes	No	No

Source: (NRCS, 2024)

The Hollis-Charlton fine sandy loam is considered farmland of local importance. The soil is located primarily within the northwestern half of the Project Site. The majority of this area is currently paved as Parking Lot S, and thus is assumed to be degraded. The Windsor loamy fine sand is considered prime farmland. The soil is located within the southeastern portion of the Project Site, and currently consists of undeveloped, forested land (NRCS, 2024). As described in **Section 3.2.1**, the Project Site is zoned as an ORLI district, and is not used for farming or other agricultural purposes (Town of Durham, 2024a).

3.8.2 Environmental Consequences

Impacts to soils and prime farmland would be considered significant if 1) construction or operation would substantially reduce the availability of prime farmland soils, or 2) implementation of the Proposed Action would substantially increase potential occurrences of erosion or sedimentation.

3.8.2.1 Preferred Alternative

During construction of the CoE and Innovation Center, soil disturbance and removal would occur to lay the building foundations, pave the driveway and parking lot, and add stormwater management features on-site. The presence and operation of construction equipment and materials in undeveloped areas within the Project Site, including staging locations, would also result in soil disturbance or compaction. The proposed location of the CoE and Innovation Center where it intersects with Parking Lot S would not result in the disturbance of new areas of farmland of statewide or local importance (NRCS, 2024). However, construction activities in the forested portion of the Project Site would disturb up to 5 acres of previously undisturbed prime farmland soils (see **Figure 6**). Construction would not disturb any farmland outside of the Project Site and operation of the CoE and Innovation Center is not expected to involve any future disturbance of farmland soils. Although some prime farmland soils would be precluded from future agricultural use as part of the Proposed Action, no soils currently used, or available for use, for agricultural purposes would be impacted.

In accordance with requirements under the FPPA, NOAA has completed NRCS Form AD-1006 to determine the farmland conversion impact rating for the Project Site (see **Appendix A**). This form is used to assign relative scores to farmland sites proposed for development. Projects with scores that equal or exceed 160 points should consider mitigation to reduce impacts. NOAA initiated consultation with NRCS on January 15, 2025, and received a response on January 17, 2025, confirming the Project Site is exempt from the FPPA, and no mitigation to reduce adverse impacts from the loss of farmland would be required

for the Proposed Action. Therefore, the Preferred Alternative would have *long-term, less-than-significant adverse impacts* on farmland.

Soils in the Project Site would be disturbed by construction and tree clearing activities. Since total disturbance would exceed 1 acre of land, a NPDES CGP would be obtained for the Proposed Action pursuant to the Clean Water Act. As discussed in **Section 3.4**, the NPDES program in the state of New Hampshire is administered by the USEPA, with NHDES providing technical assistance and funding (NHDES, 2018). Coverage under the CGP would require development of a SWPPP, which would identify potential sources of pollutants, describe all pollution prevention activities that would be implemented on the site, and establish erosion and sediment controls to manage stormwater discharges. In addition, since the Proposed Action would disturb more than 100,000 SF of contiguous land, UNH would acquire an Alteration of Terrain permit from NHDES, which requires the use of soil erosion controls and stormwater management. To minimize erosion and run-off, construction crews would adhere to BMPs outlined in the SWPPP, and the erosion and sediment controls would be implemented prior to land-disturbing activities and maintained in good working order for the duration of construction. The Preferred Alternative would result in *short-term, less-than-significant adverse impacts* to soils from runoff and erosion during construction. Operation of the CoE and Innovation Center is not expected to involve any additional ground disturbance and would have *no impact* on soils.

3.8.2.2 No Action Alternative

Under the No Action Alternative, the CoE and Innovation Center would not be constructed, and underlying farmland and soils would not be disturbed. The current site characteristics would remain the same and there would be *no impact* to farmland or soils.

3.9 NOISE

Sound is vibrations in the air, which are known as compression waves. Just like a pebble dropped into a pond creates ripples, the compression waves, formed of air molecules pressed together, radiate from a source and decrease with distance. If these vibrations reach a human eardrum at a sufficient rate and intensity, it is perceived as sound. Generally, sound becomes noise to a listener when it interferes with normal activities. Sound within the range of human hearing is measured on a logarithmic scale, known as the decibel (dB). The human ear does not hear all frequencies equally; the A-weighted decibel scale (dBA) is used to reflect the selective sensitivity of human hearing (USEPA, 1974). Normal speech has a sound level of approximately 60 dBA. Sound levels above 120 dBA begin to be perceived as uncomfortable, while sound levels between 130 and 140 dBA are considered painful (Cowan, 1994). The common sound levels encountered in daily life are shown in **Table 7**.

The two most common types of noise are point sources and line sources. Point source noise is usually associated with one or more sound sources that generally remain in one place for extended periods of time, such as with most construction activities, and are described within an area having a largest dimension that is much smaller than the distance from this acoustical point source to a receptor of interest. A few examples of point sources of noise are pile drivers, jackhammers, rock drills, or excavators working in one location. A construction site is typically considered a point source. Line source noise is generated by moving objects along a linear corridor. Highway traffic on a busy road is a good example of line source noise (FTA, 2018).

Natural factors such as topography, vegetation, temperature, and relative humidity can further reduce noise over distance. Acoustically “hard” sites (i.e., sites with a smooth reflective surface along the direct sound path between the source and the receiver, such as paved parking lots or bodies of water) offer little or no ground attenuation due to acoustical absorption. “Soft” sites, on the other hand, are porous ground surface conditions characterized by loose soils, fresh-fallen snow, grass, or scattered bushes and trees that yield

an excess ground attenuation value (i.e., over and above what geometric divergence already provides) of 1.5 dBA per doubling of distance (Crocker, 2007).

Table 7: Common Sound Levels

Sound Source	Sound Pressure Level (dBa)
Air Raid Siren at 50 feet	120
Maximum Levels at Rock Concerts (Rear Seats)	110
On Sidewalk by Passing Heavy Truck or Bus	90
On Sidewalk by Typical Highway	80
On Sidewalk by Passing Automobiles with Mufflers	70
Typical Urban Area	60-70
Typical Suburban Area	50-60
Quiet Suburban Area at Night	40-50
Typical Rural Area at Night	30-40
Isolated Broadcast Studio	20
Audiometric (Hearing Testing) Booth	10
Threshold of Hearing	0

Source: (Cowan, 1994)

A large object in the direct path between a noise source and a receiver can significantly attenuate noise levels at that receiver location. The amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels—the lower the frequency, and hence the larger the wavelength, the less noise reduction the barrier provides. Natural terrain features such as hills and dense woods, as well as fabricated features such as buildings and walls, can significantly alter noise levels. Linear occlusion (i.e., a break in the line of sight between a noise source and receiver) due to natural terrain can generally reduce noise levels at the receiver up to 10 dBA for relatively close-range receivers (WSDOT, 2020).

The ROI for noise includes areas within 0.25 mile of the Project Site. At this distance (approximately 1,320 feet), most noise emitted from construction equipment attenuates to background levels of around or below 60 dBA.

3.9.1 Affected Environment

The ambient noise level in the vicinity of the CoE and Innovation Center includes noise associated with commercial land use sites, including noise from existing UNH facilities, facility maintenance and operations from nearby buildings, and traffic in the surrounding area (such as along Mast Road (Route 155A), Main Street, West Edge Drive, and within the on-site parking lot). The terrain is surrounded by tall vegetation and buildings, which may facilitate noise absorption. Half of the Project Site would be considered a "hard" site due to the presence of the parking lot and roadways which may allow noise to travel greater distances, while the other half would be a "soft" site given the presence of the undeveloped forested area.

Sensitive receptors typically include residential dwellings, schools, and hospitals, or other noise-sensitive land uses. Sensitive receptors nearest to the Project Site include the UNH Institute on Disability (approximately 0.02 mile from the Project Site), the UNH Information Technology Department (approximately 0.10 mile from the Project Site), the New Hampshire Public Broadcast System (approximately 0.10 mile from the Project Site), the Lodges at West Edge off-campus student housing (approximately 0.12 mile from the Project Site), and two private residences (approximately 0.05 and 0.10 mile from the Project Site). Vegetation, roadways, and other structures provide some limited buffering between the sensitive receptors and the Project Site.

The Town of Durham maintains a Noise Ordinance in its municipal code which establishes noise prohibitions based on time of day. The ordinance does not include specific dB restrictions, but does prohibit the generation of excessive, unnecessarily loud noise or any noise which either annoys, disturbs, injures or is likely to endanger the comfort, repose, health, peace or safety of others within the town limits. Noise generated from loading, unloading, or handling of boxes, crates, or building materials is prohibited from 10:00 p.m. to 6:00 a.m. Noise generated from the operation of construction and agricultural vehicles, tools, or equipment is prohibited between 10:00 p.m. to 7:00 a.m. unless the stated construction activities are designated as emergency work or are conducted by or for a municipal entity (Town of Durham, 2010).

3.9.2 Environmental Consequences

A significant adverse noise impact would occur if generated noise would 1) be permanently intrusive to nearby sensitive receptors, 2) exceed applicable noise thresholds, or 3) cause harm or injury to people or communities.

3.9.2.1 Preferred Alternative

Construction activities associated with the Proposed Action, including site excavation, backfill, material transportation, and building of physical structures would result in a temporary increase in noise levels within the vicinity of the Project Site. Equipment such as backhoes, excavators, graders, loaders, and trucks would be used, and would be the primary source of noise during implementation of the Proposed Action. Noise impacts would be the greatest at the Project Site and would decrease with distance. Buildings located along West Edge Drive and Mast Road would be the closest receptors to the Project Site (within approximately 0.02 mile). **Table 8** provides sound levels typical of construction equipment up to a distance of 2,500 feet (approximately 0.5 mile). These noise levels would continue to attenuate at further distances from the Project Site.

Table 8: Construction Equipment Noise Levels at Certain Distances from Source (dBA)

Source	Distance from Source (feet)							
	0	**50**	**100**	**200**	**400**	**1,000**	**1,700**	**2,500**
Heavy Truck	95	84-89	78-93	72-77	66-71	58-63	54-59	50-55
Dump Truck	108	88	82	76	70	62	58	54
Concrete Mixer	108	85	79	73	67	59	55	51
Jackhammer	108	88	82	76	70	62	58	54
Scraper	93	80-89	74-82	68-77	60-71	54-63	50-59	46-55
Bulldozer	107	87-102	81-96	75-90	69-84	61-76	57-72	53-68
Generator	96	76	70	64	58	50	46	42
Crane	104	75-88	69-82	63-76	55-70	49-62	45-48	41-54
Loader	104	73-86	67-80	61-74	55-68	47-60	43-56	39-52
Grader	108	88-91	82-85	76-79	70-73	62-65	58-61	54-57
Pile driver	105	95	89	83	77	69	65	61
Forklift	100	95	89	83	77	69	65	61

Source: (Tipler, 1976)

Proposed construction activities are expected to take 18 months to complete and would generate the most noise during the site preparation and construction phases of the Proposed Action (i.e., installation of

foundation, construction of facility, and pavement of driveway and parking areas). To adhere to TOYR restrictions for T&E species (see **Section 3.7.2.1**), the site preparation phase (i.e., tree clearing, site grading and excavation, and demolition of the existing parking lot), would occur at different times of year within forested and unforested sections of the Project Site. Site preparation within existing cleared areas would occur between July and October, while tree clearing in forested areas would occur starting in November, potentially prolonging the amount of time that noise associated with site preparation would occur. Although adverse noise impacts are anticipated during construction, UNH's contractor would adhere to standard construction BMPs to limit noise impacts to the extent practicable, including turning off equipment when not in use, prohibiting unnecessary idling of internal combustion engines, and equipping all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. These BMPs, as well as compliance with the Town of Durham's Noise Ordinance, would minimize noise impacts to surrounding areas and sensitive receptors during construction. Therefore, the construction activities under the Preferred Alternative would result in *short-term, less-than-significant adverse impacts* to the overall noise environment. To further reduce impacts, UNH may contact sensitive receptors prior to beginning construction work to inform them of upcoming activities and discuss any additional BMPs that may be warranted. Since several of the nearby sensitive receptors are affiliated with UNH, it is likely that these receptors would already be aware of the construction plans and timeframes.

Following construction, changes to the noise environment would be negligible and not discernable to nearby sensitive receptors. During operation of the CoE and Innovation Center, noise would primarily be generated by visits from support staff and students and the infrequent loading and unloading of equipment and vehicles. Engineering activities that would occur in the high bay space, such as those related to building or testing electronics and ocean mapping machinery, would be expected to generate industrial or warehouse-type noises. Any such noises, however, would be expected to be contained within the CoE and Innovation Center. Any external noises would be buffered by the planting of screening vegetation at the Project Site. Operation of the facility would be consistent with time-of-day restrictions on noise in accordance with the Town of Durham Noise Ordinance and existing institutional noise levels from other University operations. Therefore, operations under the Preferred Alternative would have a *long-term, negligible adverse impact* to the overall noise environment.

3.9.2.2 No Action Alternative

Under the No Action Alternative, the CoE and Innovation Center would not be constructed, and existing noise levels would not be changed. The current noise levels surrounding the Project Site would remain the same and there would be *no impact* to the noise environment.

3.10 TRANSPORTATION

Transportation infrastructure includes federal, state, and local roads, public transit, sidewalks, parking lots, and associated features, like traffic signals. The analysis of potential transportation impacts considers factors like increased traffic demand, which may place additional stress on existing infrastructure, and changes to the transportation network that could potentially introduce new hazards. Average annual daily traffic (AADT) is a measure that represents the average number of vehicles passing a specific point on a roadway each day over the course of a year and is an essential metric for analyzing and forecasting traffic volume.

The ROI for transportation consists of transportation infrastructure within 0.5 mile of the Project Site.

3.10.1 Affected Environment

Roadways surrounding the Project Site include West Edge Drive to the southwest, Mast Road to the southeast, and Main Street to the north. West Edge Drive is a small roadway that provides direct access to the Project Site and runs along its northwestern boundary, connecting to Main Street to the north and Mast Road to the south. Main Street is a primary roadway that runs through UNH's campus, linking the University to downtown Durham, with an AADT count of 7,827 vehicles. It runs just north of the Project Site (NHDOT, 2023). Main Street also connects the West Edge to Route 4, which is located approximately 0.25-mile northwest of the Project Site. Route 4 is a major east-west highway in New Hampshire connecting the areas by the coast to inland areas of the state. Mast Road provides the West Edge area additional connectivity to residential areas and campus facilities and has an AADT count of 3,684 vehicles (NHDOT, 2023).

Public transportation services, including the Wildcat Transit and Campus Connector buses operated by UNH, are available in the area and open to the public. These services include bus stops along Main Street providing access to other parts of campus and nearby communities. The West Edge Express is a bus route that is part of the Campus Connector system and provides convenient transportation between the West Edge parking lots and other key locations on the UNH campus. The West Edge parking lot bus stops are located less than a quarter mile southwest of the Project Site (UNH, 2023a). Sidewalks extend along the east and south sides of the Project Site, offering pedestrian access to nearby facilities and transit stops. Parking infrastructure in the ROI includes the large West Edge parking lots located within and adjacent to the Project Site.

3.10.2 Environmental Consequences

A transportation impact would be considered significant if it 1) results in a noticeable degradation of road conditions, 2) overloads parking facilities, or 3) substantially impairs pedestrian infrastructure. These impacts could occur if the traffic volume resulting from the Proposed Action exceeds the existing capacity of roadways or parking lots, creates safety hazards, or causes substantial delays. Similarly, an impact would be significant if the increase in demand leads to overcrowded sidewalks, permanently obstructed pedestrian routes, or compromised access without providing alternate options or unimpeded routes for pedestrian site access, negatively affecting overall mobility and safety for both vehicles and pedestrians.

3.10.2.1 Preferred Alternative

The Preferred Alternative would involve constructing a driveway entrance off Mast Road to provide direct access to the CoE and Innovation Center. Additionally, the facility design would include a dedicated tractor-trailer turnaround area to ensure trucks can maneuver on-site without blocking traffic or causing congestion along Mast Road. Construction occurring under the Preferred Alternative would result in a temporary increase in construction-related traffic at the site that would include workers' personal commuting vehicles and heavy construction vehicles. However, this increase is not expected to exceed the existing capacity of the surrounding roadways. Once operational, the addition of support staff and students at the new CoE and Innovation Center would result in a slight increase in traffic flow post-construction, and there may be a slight increase in truck traffic for deliveries, which could potentially affect the relatively small roadways surrounding the Project Site. However, the maximum anticipated 121 daily building occupants are not anticipated to materially impact traffic volumes to the site, as Mast Road currently accommodates approximately 3,684 trips daily and would not exceed the roadway capacity. These individuals would also be expected to utilize a range of transportation methods, including personal vehicles, public buses, and pedestrian paths. Further, it is unlikely that all 121 potential personnel would access the CoE and Innovation Center at the same time given the varying occupants and irregular student schedules.

Operation of the CoE and Innovation Center might result in a slight increase in demand for bus routes serving the area. However, this increase would not exceed the capacity of the existing transit system nor cause delays or disruptions to service. The existing pedestrian paths located on the east and south sides of the Project Site would be either maintained as-is or reconstructed as part of the proposed site plan, and the Preferred Alternative is not expected to significantly increase foot traffic along the sidewalks. As a result, there would be no overcrowding or obstruction of pedestrian routes. During construction, there may be loss of access to the pedestrian path that runs from the USDA Forest Service building to the West Edge parking lots. However, this disruption would be temporary and alternate routes would be available for pedestrians. The Preferred Alternative would convert 2.9 acres of Parking Lot S located at the West Edge, resulting in a loss of up to 175 parking spaces used by students and UNH's Transportation Services. At this time, UNH does not have any established plans to compensate for the loss of parking; any future work to address parking shortages, if determined necessary, would occur under a separate action (see **Section 3.14**). However, the CoE and Innovation Center would include 35 parking spaces to accommodate the support staff and visitors at the new facility. Therefore, the loss of parking spaces is not expected to result in an insufficient number of available spaces or overcrowding of existing lots.

Overall, the Preferred Alternative would not result in a noticeable degradation of road conditions, overloading of parking facilities, changes to the public transit system, or significant impairment of pedestrian infrastructure during construction or operation. Therefore, the Preferred Alternative would have *long-term, less-than-significant adverse impact*s on transportation.

3.10.2.2 No Action Alternative

Under the No Action Alternative, the CoE and Innovation Center would not be constructed, and there would be no change to the existing transportation network within or near the Project Site. Therefore, the No Action Alternative would have *no impact* on transportation.

3.11 UTILITIES AND SOLID WASTE

Utilities include water storage facilities, treatment plants, and delivery systems; supplemental power generation, transmission, and distribution facilities, including, but not limited to, wind turbines, generators, substations, and power lines; natural gas transmission and distribution facilities; sewage collection systems and treatment plants; and communication systems.

The ROI for utilities includes all areas and end users within the Project Site that may be impacted from temporary utility disruptions or an increased demand on utilities.

3.11.1 Affected Environment

The infrastructure at West Edge includes utility systems (electrical, potable water, wastewater, storm drainage, solid waste collection, gas, heating and cooling, and liquid fuels) and a communications system. UNH owns and maintains all electrical equipment and systems serving the campus. Approximately 85 percent of electricity is generated on-campus at a combined heat and power plant, which receives processed methane gas from the Turnkey Landfill in Rochester, New Hampshire, via a 12.7-mile underground pipeline known as the EcoLine (USEPA, 2016). Electricity is distributed to campus facilities, including the West Edge, through a 63-mile network of underground ducts and aerial utility lines managed by UNH. An overhead electrical and telecommunication line runs along the west side of Mast Road and ends 200 feet southwest of the USDA Forest Service entrance, serving existing facilities at West Edge (Tighe & Bond, 2024d).

The UNH Surface Water Treatment Plant supplies potable drinking water to UNH and the Town of Durham through county supply lines. Water sources for this plant include the Lamprey River, Oyster River, and Spruce Hole Well (New Hampshire Water Works Association, 2024). An existing water main runs along the east side of Mast Road and another water main is present along Main Street (H.L. Turner Group Inc., 2024). The UNH Surface Water Treatment Plant also collects and treats wastewater, which is transported to the plant via a sanitary sewer main and sewer manhole located within the Project Site along the west side of Mast Road.

Existing closed drainage for stormwater runoff and detention is located adjacent to the Project Site within Parking Lot S. This drainage system conveys stormwater northwest to the UNH Stormwater Center Study Facility. The remaining stormwater travels southeast via overland flow to College Brook which passes under Mast Road and flows toward the main campus (H.L. Turner Group Inc., 2024).

Natural gas is supplied from third-party companies to supplement electricity generated from the UNH combined heat and power plant. A natural gas main line is located underneath Mast Road, serving existing facilities at West Edge (Tighe & Bond, 2024d). UNH building maintenance staff remove trash and solid waste from nearby UNH buildings on a regular basis (H.L. Turner Group Inc., 2024). Trash and solid waste are managed through a combination of recycling, composting, and landfill disposal at local landfills, including disposal at the Turnkey Landfill in Rochester (Waste360, 2018). Steam, heating, hot water, and chilled water are not presently supplied to the site and are not required utilities for the Proposed Action (H.L. Turner Group Inc., 2024).

3.11.2 Environmental Consequences

A utilities and solid waste impact would be significant if it would result in 1) prolonged or permanent service disruptions to other utility end users, 2) substantially increase utility demand so as to burden utility providers, or 3) reduce local utility supply to the surrounding communities.

3.11.2.1 Preferred Alternative

Construction of the Preferred Alternative would increase overall utility usage in the Project Site as the new CoE and Innovation Center would require new connections to existing electrical, natural gas, communication, and water utilities located along Mast Road to support the operation of this facility.

Underground conduits and overhead primary lines would be constructed to connect the new electrical service line to an existing utility pole located east of Mast Road. A new utility riser pole, pad mount transformer, and Emergency Power System would be installed to support all electrical requirements for the CoE and Innovation Center. Additional underground conduits would connect the proposed facility to the existing communication line located southwest of the Project Site to provide telecommunication services and a communication link to the campus-wide central Building Automation System. A new water service line would be routed to the existing water main located on Mast Road, and new sanitary sewer and natural gas lines would be routed to the existing sanitary sewer main and natural gas main located adjacent to Mast Road. An additional sanitary manhole would be installed within the Project Site (Tighe & Bond, 2024a). An emergency generator would be installed that may require connection to natural gas utilities.

Minor, temporary service disruptions to utilities within the Project Site could occur while new utilities are being connected; however, these disruptions would be minimized by ensuring that existing utilities remain operational until the new utilities are ready to be connected. End users would also be given advanced notice of any anticipated disruptions. No service disruptions would be anticipated for users located outside the Project Site. The Preferred Alternative would have *short-term, negligible adverse impacts* to utilities within the Project Site during construction.

Construction activities would generate solid wastes, primarily in the form of excess construction materials such as removed soils, rocks, concrete, wood, asphalt, glass, and plastics that may be generated from site preparation, tree clearing, and facility construction. Materials considered unsuitable for reuse would be removed and disposed of at appropriate landfills in accordance with applicable solid waste regulations. Portable restrooms would be available at the construction site, and the construction contractors would be responsible for removing sanitary waste from the site. Therefore, construction would be anticipated to have *short-term, negligible adverse impacts* on solid waste generation and disposal.

Once the CoE and Innovation Center are operational, utility demand would increase relative to the existing demand at the Project Site, but is not anticipated to generate substantially higher demand that would burden utility providers or result in disrupted service to other facilities. In the event of a power outage, the CoE and Innovation Center would be equipped with a backup generator to ensure that the facility would be able to remain operational. Operation of the CoE and Innovation Center would generate similar sanitary and solid waste compared to other UNH facilities. A commercial dumpster would be installed by the new loading dock station to manage solid waste generated during facility operation (Tighe & Bond, 2024a). Minimal quantities of solid wastes, such as replacement parts, would be generated during maintenance and would be removed and disposed of in accordance with applicable requirements. Therefore, operation of the Preferred Alternative would have *long-term, negligible adverse impacts* on utility demand and solid waste.

3.11.2.2 No Action Alternative

Under the No Action Alternative, the CoE and Innovation Center would not be constructed, and utility use and solid waste generation would remain the same. *No impacts* to utilities or solid waste generation would occur.

3.12 VISUAL RESOURCES

Visual resources refer to the visible features on a landscape, both manmade and natural, moving and stationary. Although visual quality is partly subjective, visual characteristics that often render an area less attractive include clashing or incoherent architectural elements; unorganized mixing of open and built spaces; presence of litter; and dead or dying vegetation. Actions that remedy or mitigate such characteristics generally improve visual quality.

The ROI for visual resources includes the viewshed from which the Preferred Alternative would be potentially visible. The ROI is generally bounded by Main Street to the north, Mast Road to the east and south, and West Edge Drive to the west.

3.12.1 Affected Environment

The overall visual landscape of the ROI is moderately developed with parking lots, roadways, and buildings, but also contains dense vegetation within the Project Site. Although the immediate vicinity contains built structures and forested areas, visibility to the Project Site within the ROI is relatively high. Surrounding open areas, such as parking lots and agricultural land provide a line-of-sight to the Project Site, and the elevated topography of the Project Site also contributes to its visibility from surrounding, lower-elevation areas. The Project Site is primarily visible to buildings and parking lots located within the West Edge area, including the UNH Institute of Disability, West Edge Parking Lot, USDA Forest Service Office, UNH Transportation Center, and NHDFG. Views from other nearby buildings, such as the UNH IT Department and New Hampshire Public Broadcast Service, are limited to the forested portion of the Project Site. Pedestrians and motorists traveling along Mast Road and Main Street would also have visibility of the Project Site. Approximately two private residences and student housing at the Lodges at West Edge, along West Edge Drive, may have limited or obstructed views of the Project Site.

3.12.2 Environmental Consequences

A visual resources impact would be significant if it would 1) introduce discordant elements or 2) remove important (i.e., visually appealing) elements in a cohesive and valued viewscape.

3.12.2.1 Preferred Alternative

Construction of the Preferred Alternative would permanently alter the viewsheds in the ROI by developing previously undisturbed forested land, demolishing a portion of an existing parking lot, and constructing new facility. Views of site preparation, tree clearing, and demolition activities would primarily be limited to personnel working within the West Edge area and motorists and pedestrians travelling along Mast Road and Main Street. While surrounding open areas, such as the parking lot and agricultural land, and the Project Site's elevated topography could allow for visibility of construction work, security and privacy fencing would be installed that would block views from nearby roads and buildings. Any construction that may be visible through the fencing would be generally consistent with other views of facility construction that the public typically experiences in suburban and commercial areas.

Personnel working at the UNH Transportation Center, USDA Forest Service Office, NHDFG, and UNH Institute of Disability would have clear views of construction and tree clearing activities for the duration of the project as there are no trees or other natural or built features to obstruct the Project Site. Following tree clearing, construction activities would become visible from other nearby buildings, such as the UNH IT Department and New Hampshire Public Broadcast Service. These views would also be prominent for people traveling along West Edge Drive to the west and Mast Road to the east. Proposed construction and tree clearing activities, however, would be consistent with other proposed development activities associated with the UNH. Overall, site preparation and construction activities occurring under the Preferred Alternative would have *short-term, negligible adverse impacts* on visual resources for personnel within the ROI.

The Preferred Alternative would permanently alter the viewscape in the ROI by constructing a new, 41-foot tall high-bay building adjacent to Mast Road. The height of the facility would appear greatest when viewing the building from the east and west sides due to varying elevation levels on the Project Site (UNH, 2025). The clearing of up to 5 acres of forest would affect the visual aesthetic of the surrounding area by removing natural features and replacing them with a new, modern structure. The proposed CoE and Innovation Center would constitute a new built feature on a lightly developed landscape with visibility from current roadways and adjacent buildings. Moreover, the modern design of the facility would be different than the existing, older designs of other buildings in the West Edge area; however, it would meet UNH design standards and would intentionally have modern architecture to provide visual appeal, contribute to redevelopment and beautification of the existing West Edge area, and provide a flagship visual anchor for the anticipated The Edge district (H.L. Turner Group Inc., 2024). Overall, the Preferred Alternative would have *long-term, less-than-significant adverse impacts* on visual resources from tree removal and construction of a facility with a different design than existing structures. However, the Proposed Action would likely also result in *beneficial impacts* from the use of a modern design that sets the tone for more visually appealing redevelopment in the ROI in the future.

3.12.2.2 No Action Alternative

Under the No Action Alternative, the CoE and Innovation Center would not be constructed, and tree clearing would not occur. The viewshed surrounding the Project Site would remain the same and *no impacts* to visual resources would occur.

3.13 HAZARDOUS MATERIALS

HTMW are generally defined as materials or substances that pose a risk (through either physical or chemical reactions) to human health or the environment. Regulated hazardous substances are identified through a number of federal laws and regulations. The most comprehensive list of hazardous substances is contained in 40 CFR Part 302, which identifies quantities of these substances that, when released to the environment, require notification to a federal government agency. Petroleum products are specifically exempted from 40 CFR Part 302, but some are also generally considered hazardous substances due to their physical characteristics (especially fuel products), and their ability to impair natural resources.

Hazardous wastes are discarded materials (solids or liquids) not otherwise excluded by 40 CFR 261.4 that exhibit a hazardous characteristic (i.e., ignitable, corrosive, reactive, or toxic), or that are specifically identified within 40 CFR Part 261. Hazardous waste must be transported, treated, or disposed of in accordance with the Resource Conservation and Recovery Act (RCRA) of 1976 regulations which require the hazardous waste to be tracked using a Uniform Hazardous Waste Manifest (EPA Form 8700-22). Sites that generate over 220 pounds of hazardous waste, or that accumulate over 2,200 pounds of hazardous waste at any one time, require a RCRA Site ID Number and must file a Dangerous Waste Site Identification Form with USEPA. In 1980, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), establishing the USEPA's Superfund Program and creating a trust fund to clean up abandoned and uncontrolled hazardous waste sites. In New Hampshire, the NHDES oversees Superfund activities and actions under CERCLA are guided by the National Oil and Hazardous Substances Pollution Contingency Plan (NHDES, 2020).

The ROI for HTMW is the Project Site.

3.13.1 Affected Environment

A single-family home and accessory apartment were previously located within the forested portion of the Project Site along Mast Road, both of which were demolished during a controlled burn by the Durham Fire Department in either 2015 or 2016. According to a property appraisal conducted in 2008, two 275-gallon oil tanks were maintained at the residence for heating. The appraisal form also noted the presence of asbestos insultation wrap around some heat pipes in the basement (The Stanhope Group, LLC, 2008). Further site inspections conducted in 2009 identified the presence of asbestos-containing building material in eight categories of building material, both in the interior and exterior of the house (RPF Associates, Inc., 2009). This site was eventually acquired by UNH as part of a land swap; however, prior to the site transfer, the building was abated and removed from the site. UNH acquired a clean site, and there is currently no record or evidence of contamination at the Project Site (Tighe & Bond, 2024d). Additionally, there are no listed Superfund sites in the ROI (USEPA, 2024a). UNH has established a Hazardous Waste Management Plan (HWMP) to outline the procedures the University follows to ensure proper handling, storage, and disposal of chemical hazardous waste, in compliance with USEPA and NHDES requirements. The HWMP includes guidelines for waste identification, accumulation, transportation, and staff training to ensure safe practices and compliance with environmental regulations (UNH, 2018). UNH provides online hazardous waste management training to personnel who generate or handle hazardous waste at the University and has prepared an Integrated Contingency Plan (ICP) that outlines procedures for preparedness, prevention, planning, spill response, and spill notification in compliance with state and federal regulations (UNH, 2024c).

3.13.2 Environmental Consequences

A HTMW impact would be significant if it would 1) interrupt, delay, or impede ongoing cleanup efforts; or 2) create new or substantial human or environmental safety or health risks (e.g., soil or groundwater contamination).

3.13.2.1 Preferred Alternative

Since there is no record or evidence of contamination on-site, UNH does not anticipate that HTMW removal would be required as part of the Preferred Alternative (Tighe & Bond, 2024d). Under the Preferred Alternative, UNH would prioritize locally sourced, non-toxic materials during construction (UNH, 2024a). Operation of construction equipment and vehicles would create the potential for discharge, spills, and contamination from commonly used products, such as diesel fuel, gasoline, oil, antifreeze, and lubricants. Even in the absence of major release events, multiple minor releases could have potential effects to the environment within the ROI. However, UNH would follow the procedures outlined in its HWMP and ICP to minimize the potential for contamination. Consequently, all HTMW discovered, generated, or used during construction would be handled, containerized, and disposed of in accordance with applicable local, state, and federal regulations. Therefore, construction of the Preferred Alternative would have the potential for *short-term, less-than-significant adverse impacts* from releases of HTMW.

Operation of the Preferred Alternative is not anticipated to result in the generation of hazardous waste. Although routine facility maintenance and cleaning could create the potential for discharge, spills, and contamination from commonly used HTMW (e.g., paints, adhesives, and sealants), any potential releases of HTMW would be managed in accordance with UNH's HWMP, ICP, and applicable local, state, and federal regulations. Additionally, use of the backup generator may create the potential for accidental releases if a diesel or gasoline generator is installed; however, appropriate precautions would be implemented during the use of the generator to minimize the potential for any releases. These precautions could include installing the generator away from storm drains, using a secondary containment system or double-walled storage tank for fuel, and ensuring that fuel tanks are properly secured (University of Michigan, 2025). Thus, adverse impacts from the operation of the Preferred Alternative would be *long-term and negligible*.

3.13.2.2 No Action Alternative

Under the No Action Alternative, the CoE and Innovation Center would not be constructed, and there would be *no impacts* related to HTMW.

3.14 REASONABLY FORESEEABLE EFFECTS OF OTHER ACTIONS

UNH identified and reviewed reasonably foreseeable actions planned to occur in the near-term future within the Proposed Action's ROI, including the UNH campus and surrounding Durham area. These projects are a mix of transportation, infrastructure, and development projects that were selected given their location within 2 miles from the Project Site and proposed implementation within the next five years. UNH analyzed the reasonably foreseeable effects of these actions in conjunction with the potential effects of the Proposed Action. **Table 9** lists the reasonably foreseeable actions as identified by UNH.

Table 9: Reasonably Foreseeable Actions near the Project Site

Project Name	Description
1. The Edge Redevelopment Area	The Edge is anticipated to be a mixed-use development on the UNH campus, designed for federal, business, and industry partners. The Edge would integrate research, commercial, retail, and residential spaces to support collaboration between UNH personnel and professional and government entities. The proposed CoE and Innovation Center would be a key anchor of this multi-phase redevelopment program, which could ultimately result in a 750,000 to 1,000,000 square foot, multi-use development (UNH, 2024a).

Project Name	Description
2. Mast Road and Main Street Roundabout	The New Hampshire Department of Transportation (NHDOT) has identified a proposed plan to construct a roundabout at the intersection of Mast Road and Main Street, adjacent to the Proposed Action's Project Site. The NHDOT has determined that the roundabout would improve traffic flow, reduce vehicle emissions, and preserve the rural nature of the area by avoiding the installation of a traffic signal. Preliminary design is planned to start in 2025, with construction beginning in 2028 (NHDOT, 2024).
3. New UNH Student Parking	UNH is considering constructing a new parking lot or parking garage on the University campus to offset the loss of parking space from the construction of the CoE and Innovation Center. No formal plans or concept design have been initiated.
4. Durham Proposed 2025-2034 Capital Improvements Program	The Town of Durham has published a comprehensive list of planned projects and improvements proposed for implementation between 2025 and 2034. These projects range from upgrades to information technology systems and financial software to improvements to wastewater collection systems and road resurfacing. The Town of Durham has estimated budgets for these projects for each year from 2025 to 2034, but has not published schedules for implementation or any design plans for proposed physical construction or repair work (Town of Durham, 2024b).

3.14.1 Reasonably Foreseeable Effects of the Preferred Alternative

3.14.1.1 Land Use

The Proposed Action and reasonably foreseeable actions would result in a shift in land use at the West Edge area of the UNH campus. The Edge redevelopment plan would convert some undisturbed forest and open space into developed land for institutional research, aligning with adjacent land uses including other research and institutional facilities. The plan would introduce a mixed-use development, including residential, commercial, and institutional elements, further transitioning the area, which currently contains a collection of University and government offices, into a more cohesive, intentional, and densely developed multi-functional zone. While the Proposed Action and reasonably foreseeable actions would result in a reduction of undeveloped land, these changes would remain consistent with the broader land use goals for the area and are not expected to significantly impact the availability of forested or agricultural land in the vicinity. Overall, the reasonably foreseeable effects on land use would be *less-than-significant*, with the proposed developments supporting the planned growth and land use strategy for the West Edge area.

3.14.1.2 Air Quality

Construction of the Proposed Action and reasonably foreseeable actions would generate air emissions from the use of construction equipment and vehicles and asphalt paving of the parking lot. However, construction emissions would be temporary and would not exceed regulatory thresholds or threaten the maintenance status of the region. Additionally, project-specific compliance with state and federal permitting requirements and implementation of BMPs would further minimize air emissions. Construction activities occurring under reasonably foreseeable actions would have similar emissions, although the magnitude of emissions may be greater (over a multi-year time horizon) due to the larger scale of construction at The Edge and potential paving of a new, large UNH parking lot. Operational emissions would occur from vehicle commutes and the use of the emergency generator. These activities under the Preferred Alternative, as well as other UNH-sponsored activities, would need to comply with (or modify) UNH's existing Title V permit, and comply with any state air quality requirements to ensure that the region continues to attain all NAAQS. Therefore, the reasonably foreseeable effects on air quality would be *less-than-significant*.

3.14.1.3 Water Resources and Hydrological Processes

The Proposed Action and reasonably foreseeable actions would not result in the direct fill or diversion of any surface waters. Construction activities for the Proposed Action and reasonably foreseeable actions could cause increased erosion and sedimentation from soil disturbance and stormwater runoff. Proposed construction may also result in an increase in impermeable surfaces, which could result in higher stormwater flow. However, these projects would all comply with the requirements of the MS4GP, and any construction projects with more than one acre of ground disturbance would obtain a CGP and develop a site-specific SWPPP. Implementation of stormwater management BMPs and adherence to UNH's existing stormwater management program would maintain reasonably foreseeable effects at acceptable levels. UNH would adhere to the requirements of the existing TMDLs and mitigate any potential impacts to wetlands and floodplains by obtaining all necessary permits and following local, state, and federal regulations. Therefore, the Proposed Action and reasonably foreseeable actions would result in *less-than-significant impacts* on water resources.

3.14.1.4 Socioeconomics and Protection of Children

In the long-term, the Proposed Action and reasonably foreseeable actions would transform The Edge into a thriving mixed-use development. The redevelopment would stimulate the local economy through increased business opportunities, job creation, and collaboration between the university, industry professionals, and government entities. Collective expenditures from the temporary workforce, permanent facility staff, and future residents or visitors to The Edge would support local industries and generate additional tax revenues. Therefore, the impact on socioeconomics from the Proposed Action and reasonably foreseeable actions would be *beneficial*.

3.14.1.5 Cultural Resources

The Proposed Action and reasonably foreseeable actions would result in a shift in the character of the West Edge area of the UNH campus. The Edge redevelopment plan would modify existing non-cohesive development, which largely consists of individual buildings and parking lots, into a cohesive redevelopment for institutional research, aligning with adjacent land uses including other research and institutional facilities. The Edge redevelopment would be in accordance with development activities that regularly occur at universities as they identify infrastructural improvements necessary to remain at the forefront of research and education, amidst a campus landscape intended to evolve over the long-term. No effects would occur to the historic core campus area at UNH from these projects. The proposed CoE and Innovation Center would be designed such that they align with the size and scale of other nearby buildings and campus facilities, and would not contribute adverse effects to historic properties. Overall, the reasonably foreseeable effects on cultural resources would be *less-than-significant*.

3.14.1.6 Flora and Fauna

The Proposed Action and reasonably foreseeable actions would result in impacts to vegetation and wildlife associated with construction and development. However, the Proposed Action and reasonably foreseeable actions are not anticipated to substantially reduce any regionally or locally important habitat or general wildlife species. Further, the areas in which foreseeable actions would occur are generally already disturbed or in previously developed areas surrounded by urban and suburban development. Therefore, reasonably foreseeable effects on flora and fauna would be *less-than-significant*.

3.14.1.7 Farmland and Soils

The Proposed Action and reasonably foreseeable actions would primarily result in soil disturbance and compaction during construction activities. Soil erosion and runoff would be managed through site-specific SWPPPs for every project with more than one acre of soil disturbance, as required under the CGP. With the implementation of BMPs and erosion control measures identified in the SWPPP, soil erosion and runoff would be minimized. Post-construction impacts to soils would be limited, as no further disturbance would occur, and operation of the facility is not expected to impact soils. While some of the area is considered farmland of local importance, the West Edge area is not currently being used for agricultural purposes, or available for agricultural use. The Proposed Action and reasonably foreseeable actions would not result in the conversion of active farmland. Therefore, the reasonably foreseeable effects on farmland and soils would be *less-than-significant*.

3.14.1.8 Noise

Construction of the Proposed Action and reasonably foreseeable actions would increase noise levels in the ROI. However, construction noise is typically considered a minor annoyance, due to its temporary nature. In addition, noise impacts from construction equipment are generally limited to a 0.25-mile buffer as noise attenuates quickly in the ambient environment. An increase in temporary noise would be experienced by those in the surrounding areas, and the duration of temporary noise impacts may be extended due to periodic construction occurring in the area as part of The Edge redevelopment plan. However, the Proposed Action would not be constructed concurrently with other potential future facilities in The Edge, and UNH would minimize the Preferred Alternative's impact on noise to the greatest extent practicable through the use of project specific BMPs. Additionally, any projects proposed by the Town of Durham that may occur during construction of the Proposed Action would likely be focused in the downtown and surrounding areas rather than on UNH's campus property. Therefore, reasonably foreseeable noise impacts would be *short-term and less-than-significant*.

3.14.1.9 Transportation

While The Edge redevelopment plan may increase local traffic volumes, the addition of the roundabout at Main Street and Mast Road would improve traffic flow, reduce congestion, and enhance safety at a key intersection, minimizing the risks associated with increased traffic to the area. In addition, road resurfacing projects that may be implemented by the Town of Durham would improve the condition of local roadways. UNH is considering offsetting the lost parking spaces associated with the Preferred Alternative with new parking at a different location on campus. While this project would be separate from the Proposed Action, no conceptual plans have been started, and federal funds would not be used, UNH is disclosing the potential plan as an opportunity to minimize impacts and ensure adequate parking availability on campus. Additionally, The Edge redevelopment plan would include some parking spaces. Pedestrian paths in The Edge would be maintained, providing safe and accessible routes for non-vehicular traffic. Therefore, reasonably foreseeable effects on transportation from the Proposed Action and reasonably foreseeable actions would be l*ess-than-significant*.

3.14.1.10 Utilities and Solid Waste

The Proposed Action and reasonably foreseeable actions would require new utility connections, including electrical, natural gas, water, sanitary sewer, and telecommunication services, which would slightly increase overall consumption in the area. It is expected that facilities built under The Edge redevelopment would be able to use existing utility connections, or if new ones are required, that the facilities would be able to connect to existing utility lines. The existing utility infrastructure along Mast Road is anticipated to accommodate the combined demands of the development without overburdening providers. Solid waste

generation during construction for the Proposed Action and reasonably foreseeable actions would be temporary and managed according to local and state regulations. Construction crews would dispose of construction waste appropriately, minimizing adverse impacts. Once operational, the solid waste generated from the CoE and Innovation Center and other facilities within The Edge would be handled by existing waste management systems, with no substantial impact on regional disposal capacity. Overall, the Proposed Action and reasonably foreseeable actions would not be expected to strain existing infrastructure or services, and the reasonably foreseeable effects on utilities and solid waste would be *less-than-significant*.

3.14.1.11 Visual Resources

Construction activities associated with the Proposed Action and reasonably foreseeable actions would disrupt visual landscapes throughout the ROI and may be visible from main roadways near the Project Site. However, due to the temporary nature of construction, these impacts would be inconsequential. In the long-term, new facilities and infrastructure from the Proposed Action and reasonably foreseeable actions would reduce the natural visual aesthetic of the surrounding area by the loss of forested areas. While the new buildings would represent a modern development contrasting with the more historic character of UNH, they would be designed to integrate with the evolving campus landscape. Further, the Proposed Action would act as the “cornerstone” for The Edge redevelopment plan, establishing a visual standard to which other buildings proposed for The Edge would adhere, ultimately resulting in a cohesive development. Therefore, the reasonably foreseeable impact on visual resources of the Proposed Action and reasonably foreseeable actions would be *negligible*.

3.14.1.12 Hazardous Materials

Under the Proposed Action and reasonably foreseeable actions, construction activities could result in potential discharges, spills, and contamination. Any construction activities requiring ground disturbance could also expose previously unknown sources of hazardous materials. However, all HTMW would be used or disposed of in accordance with all local, state, and federal regulations in order to minimize the potential for releases and contamination. Additionally, BMPs would be implemented to address any inadvertent and accidental releases and impacts would be localized. None of the reasonably foreseeable actions would be likely to involve substantial generation of HTMW. Therefore, the reasonably foreseeable impact from HTMW would be *less-than-significant*.

3.14.2 Reasonably Foreseeable Effects of the No Action Alternative

The No Action Alternative would involve no construction activities and would result in no changes to the current use of the Project Site. Since there would be no physical changes, there would be *no impacts* to the natural or human environment that could potentially contribute to reasonably foreseeable effects.

4.0 COMMUNITY INVOLVEMENT

4.1 EA PUBLIC COMMENT PERIOD

In accordance with NOAA and NIST NEPA regulations, the Draft EA and Draft FONSI were made available for a 30-day public review and comment period between July 21, 2025, and August 20, 2025. A Notice of Availability for the Draft EA and Draft FONSI was published in the *Portsmouth Herald* on July 21 and 22, 2025. Notices were also posted to the UNH Facilities website and the Town of Durham weekly newsletter.

The Draft EA and Draft FONSI were published digitally on the NOAA website at https://www.noaa.gov/administration/environmental-assessment-public-notices. Printed copies of the Draft EA and Draft FONSI are available for public review at the Durham Public Library, 49 Madbury Road, Durham, NH 03824.

During the Draft EA public review period, written comments may be mailed to Anne Delp, Environmental Engineer, 1305 East West Highway, SSMC4 Room 5309, Silver Spring, MD 20910; or emailed to anne.delp@noaa.gov. NOAA will only respond to public comments during specified, formal public comment and review periods.

4.2 TRIBAL AND TRIBAL NATION CONSULTATION

NEPA calls for federal agencies to invite the participation of any affected federally recognized Native American tribe or Tribal Nation in the environmental review process. There are no federally recognized Tribes within the state of New Hampshire; however, NOAA has contacted a local Tribe, the Cowasuck Band of Pennacook-Abenaki People, with which UNH has a standing relationship. A coordination letter was sent to this Tribe to announce the availability of the Draft EA for review and comment. A copy of this correspondence is included in **Appendix A**.

4.3 AGENCY CONSULTATION

Electronic copies of the Draft EA were made available to federal, state, and local agencies with jurisdiction by law or special expertise over the Proposed Action. Coordination letters were sent to these agencies to announce the availability of the Draft EA for review and comment. Copies of this correspondence are consolidated in **Appendix A**. NOAA also performed consultation with the USFWS in accordance with Section 7 of the ESA, and with the NRCS in accordance with the FPPA. Copies of this correspondence are included in **Appendix A**. NOAA is also consulting with the NHDHR (i.e., the New Hampshire SHPO) under Section 106 of the NHPA. Copies of this correspondence are included in **Appendix B**.

NOAA contacted the following potentially interested regulatory agencies:

- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- U.S. Environmental Protection Agency
- U.S. Department of Agriculture, Natural Resources Conservation Service
- Federal Emergency Management Agency
- New Hampshire Department of Natural and Cultural Resources
- New Hampshire Department of Historical Resources (i.e., SHPO)
- New Hampshire Department of Environmental Services
- New Hampshire Fish and Game Department
- Strafford County Planning and Zoning Office

- Town of Durham Planning Department

In addition to the above federal, state, and local agencies, NOAA also contacted the Durham Historic District Commission and Durham Historic Association, with which UNH has coordinated in the past regarding cultural resources.

Any responses received from these stakeholders will be addressed as appropriate in the Final EA.

5.0 CONCLUSION

This EA evaluates the potential environmental effects of the Proposed Action to construct and operate an Ocean Mapping CoE and Innovation Center on UNH's Durham campus to grow hydrographic and ocean mapping programs, support the transition from research to operation, and promote collaboration between and co-location of government, industry, and private partners.

The findings of this EA indicate that no significant adverse effects would result from implementation of the Proposed Action under the Preferred Alternative, assuming adherence to the BMPs and mitigation measures specified in this EA (see **Table 10**).

NOAA determined that the Preferred Alternative provides the best location for the CoE and Innovation Center to continue to growth of hydrographic and ocean mapping operations in support of the nation's goals. The No Action Alternative was found not to satisfy the purpose of and need for the Proposed Action. As such, this EA recommends implementation of the Preferred Alternative.

Table 10: Summary of Anticipated Impacts and BMPs/Mitigation Measures

Resource Analyzed	No Action Alternative	Preferred Action Alternative	Best Management Practices / Mitigation Measures
Land Use	No impact	*Long-term, negligible adverse impacts* from construction and operation.	• Follow land use guidance and agreement outlined in the PUD • Maintain compliance with surrounding land uses
Air Quality	No impact	*Short-term, less-than-significant adverse impacts* from equipment criteria pollutant emissions, site preparation, grading, parking lot paving, and worker vehicles. *Long-term, less-than-significant adverse impacts* from employee vehicles and use of the emergency generator.	• Apply water or use stabilization measures on unpaved roads, areas of bare soil or soil piles • Cover dump trucks that transport material that could become airborne • Maintain construction equipment in accordance with manufacturer specifications and USEPA regulations for non-road engines • Adhere to requirements of UNH's Title V permit

Resource Analyzed	No Action Alternative	Preferred Action Alternative	Best Management Practices / Mitigation Measures
Water Resources and Hydrological Processes	No impact	*Short-term, less-than-significant adverse impacts* on surface water and stormwater. *Short-term, negligible adverse impacts* on impaired streams. *Short-term, negligible adverse impacts* on wetlands. *No impact* to floodplains. *Short-term, negligible adverse impacts* to groundwater.	• Obtain an NHDES Alteration of Terrain Permit • Comply with UNH's MS4GP Permit • Obtain NPDES CGP and develop SWPPP to minimize erosion and sedimentation • Comply with EISA and install low-impact development features such as bioswales, catch basins, and rain gardens • Perform routine equipment inspections • Maintain spill-containment materials on-site
Socioeconomics and Protection of Children	No impact	*Short- and long-term beneficial impacts* on socioeconomic conditions from employment opportunities. *No impact* on the protection of children.	• Secure Project Site during construction to prevent unauthorized or accidental access
Cultural Resources	No impact	*Long-term, less-than-significant adverse impact* to architectural resources. *Long-term, less-than-significant adverse impact* to archaeological resources.	• Prepare and comply with stipulations of MOA for mitigating potential adverse effects to the archaeological site.
Flora and Fauna	No impact	*Short-term, less-than-significant adverse impacts* on vegetation from clearing. *Beneficial impact* from the removal of invasive plant species. *Short-term, less-than-significant adverse impact* on wildlife. *Long-term, less-than-significant adverse impact* on T&E species. *Short-term, less-than-significant adverse impact* on BCCs.	• Revegetate Project Site with native species, including shade- and salt-resistant grasses and drought-tolerant ornamental species • Clean construction equipment before entering and leaving the Project Site • Properly dispose of any invasive species • Adhere to tree clearing TOYR
Farmland and Soils	No impact	*Long-term, less-than-significant adverse impacts* on farmland during construction. *Short-term, less-than-significant adverse impacts* from runoff and erosion during construction. *No impact* during operation.	• Obtain NPDES CGP and develop SWPPP to minimize erosion and sedimentation • Obtain NHDES Alteration of Terrain permit • Implement erosion and sediment controls

Resource Analyzed	No Action Alternative	Preferred Action Alternative	Best Management Practices / Mitigation Measures
Noise	No impact	*Short-term, less-than-significant adverse impacts* during construction. *Long-term, negligible adverse impacts* during operation.	• Turn off construction equipment when not in use • Prohibit idling of internal combustion engines • Equip construction equipment with intake and exhaust mufflers • Comply with the Town of Durham Noise Ordinance • Notify nearby sensitive receptors to inform them of upcoming construction activities
Transportation	No impact	*Long-term, less-than-significant adverse impacts* during construction and operation.	• None
Utilities and Solid Waste	No impact	*Short-term, negligible adverse impacts* on utilities during construction. *Short-term, negligible adverse impacts* on waste generation and disposal during construction. *Long-term, negligible adverse impacts* on utility demand during operation. *No impact* on solid waste during operation.	• Ensure utilities remain operational until ready to install new connections • Give end users advance notice of utility interruptions • Dispose of construction waste at appropriate and regulated landfills
Visual Resources	No impact	*Short-term, negligible adverse impacts* during construction. *Long-term, less-than-significant adverse impacts* during operation. *Beneficial impacts* during operation from use of modern facility design.	• Construct fencing to block views of construction work from roads and buildings • Revegetate the Project Site following construction.
Hazardous Materials	No impact	*Short-term, less-than-significant adverse impacts* during construction. *Long-term, negligible adverse impacts* during operation.	• Use locally sourced non-toxic materials during construction • Adhere to UNH's HWMP and ICP • Handle, containerize, and dispose of HTMW in accordance with federal, state, and local regulations

In addition to the BMPs identified in **Table 11**, UNH would also obtain the following permits and authorizations to address and minimize potential environmental impacts.

Table 11: Summary of Permits and Authorizations

Agency	Permits/Authorizations/ Consultations	Status
NHDES Air Resource Division	• Modification to Title V Operating Permit (permit number TV-0010)	• To be completed prior to initiation of operations
NHDES	• Alteration of Terrain Permit	• Ongoing
USEPA	• CWA NPDES Small Municipal Separate Storm Sewer System General Permit (MS4GP) • New Hampshire NPDES Construction General Permit (CGP)	• Ongoing
NHCP	• Federal Consistency Determination consultation under CZMA Subpart C	• Ongoing
NHDHR	• NHPA Section 106 consultation for potential effects on historic properties	• Ongoing
USFWS	• ESA Section 7 consultation	• Complete. Concurrence received April 29, 2025.
NHDFG	• Consultation regarding impacts on state-listed species	• Complete. Concurrence received September 6, 2024.
NRCS	• FPPA Form AD-1006 consultation	• Complete. Concurrence received on January 17, 2025.

6.0 LIST OF PREPARERS

6.1 NOAA, NIST, AND UNH PREPARERS

Name	Title
Anne Delp, NOAA	Chief of Environmental Compliance and Sustainability Division
Thom Read, NOAA	Environmental Engineer
Andrew Armstrong, NOAA	Director of the CoE
Elizabeth Kretovic, NOAA	Deputy Director of the CoE
Deborah Spring, NOAA	Environmental Compliance Coordinator
Rob Slocum, NIST	Program Officer
Fatima Tribble, NIST	Program Office
Tajonique Martin, NIST	Historic Preservation Architect
Kenneth Weston, UNH	Executive Director of Campus Stewardship and University Architect

6.2 AECOM PREPARERS

Name	Role	Degree	Years of Experience
Jennifer Warf	Contract Manager and Quality Assurance Lead	M.S. in Environmental Studies B.A. in Zoology	23
Michael Busam	Project Manager	B.S. in Environmental Science and Policy	10
Natalie Kisak	Deputy Project Manager, EA preparation	M.A. in Environmental Resource Policy B.A. in Environmental Studies and Public Policy	6
Allison Carr	Preparation of maps and figures	Master of City Planning B.A. in Geography	5
Tara Boyd	Preparation of EA sections	B.A. in Environmental Sciences and Global Sustainability	3
Kaylyn Miller	Preparation of EA sections	B.S. in Environmental Science and Policy	1
Sam Hartsfield	Preparation of EA sections and air quality analysis	M.S. in Environmental Science and Management B.S. in Biology	20

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APPENDIX A:

CONSULTATION WITH FEDERAL, STATE, AND LOCAL AGENCIES

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New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

To: Rick Lipinski, Tighe and Bond
177 Corporate Drive

Portsmouth, NH 03801

From: NH Natural Heritage Bureau
Date: 9/26/2024 (valid until 9/26/2025)
Re: Review by NH Natural Heritage Bureau of request submitted 8/12/2024
Permits: NHDES - Alteration of Terrain Permit, NHDES - Standard Dredge & Fill - Major, USACE - General Permit, USEPA - Stormwater Pollution Prevention

NHB ID: **NHB24-2506** **Applicant:** Rick Lipinski

Location: Durham
271 mast road

Project Description: The project generally consists of the construction of a new 65,000 square-foot technical
manufacturing / innovation building partially over the existing parking lot and extending to
the east of the parking lot into the forested land. The finished floor elevation is planned to
be approximately elevation 94.5 feet, which will require filling of up to approximately 9 feet.
Additional proposed site features include an access drive off Mast Road, exterior equipment
pads, and stormwater management features.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 8/12/2024 11:32:01 PM, and cannot be used for any other project.

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

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

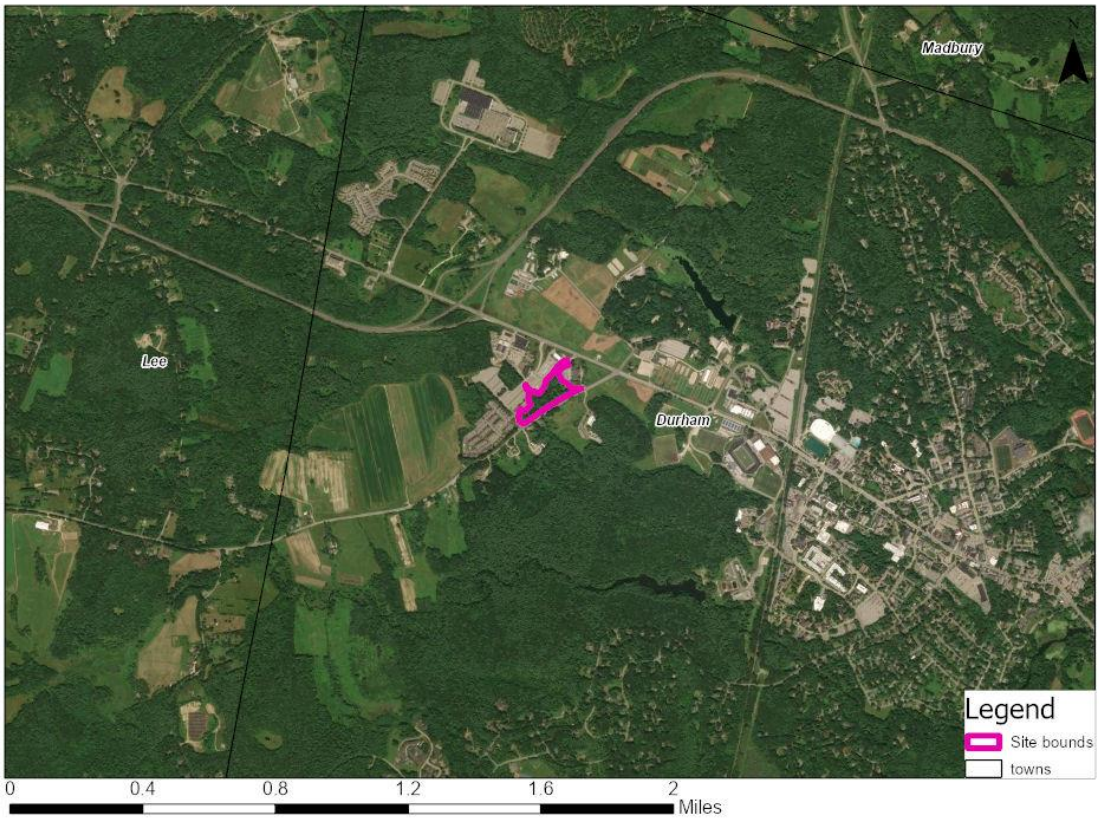
Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

MAP OF PROJECT BOUNDARIES FOR: **NHB24-2506**

NHB24-2506



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

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
CHIEF ADMINISTRATIVE OFFICER

January 14, 2025

U.S. Fish and Wildlife Service
New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301

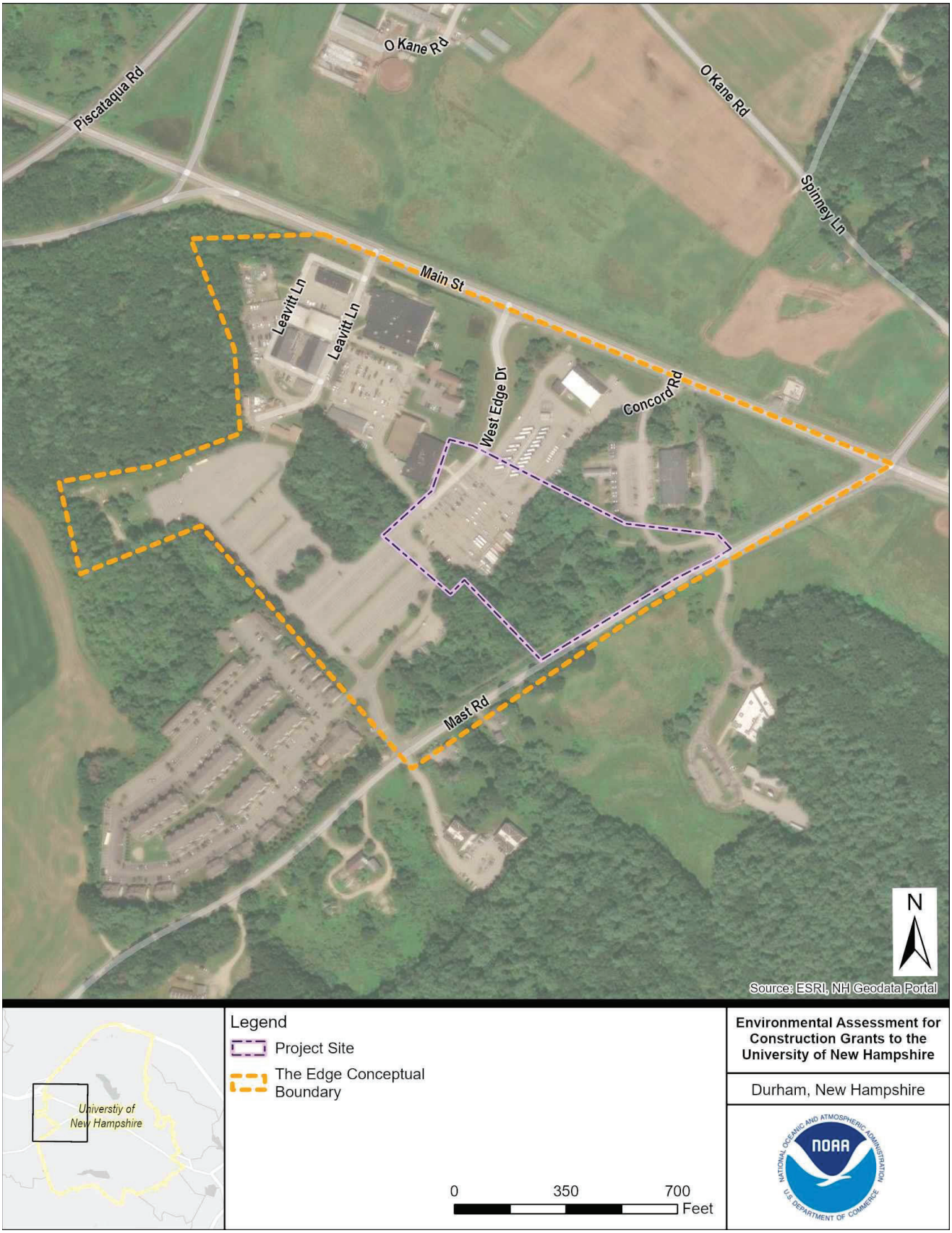
Re: Project Review Request, Environmental Assessment for University of New Hampshire Ocean Mapping Center of Excellence and Innovation Center, Strafford County, New Hampshire. Project Code: 2025-0000584

We have reviewed the referenced project using the New England Field Office's online step-by-step project review process and have followed all guidance and instructions in completing the review. We completed our review on January 13, 2025, and are submitting our project package in accordance with the instructions for further review.

This is a request for review pursuant to section 7 of the Endangered Species Act. The United States (U.S.) National Oceanic and Atmospheric Administration (NOAA) National Ocean Service (NOS) is preparing an Environmental Assessment (EA) on behalf of the University of New Hampshire (UNH) to evaluate the potential environmental impacts resulting from their proposal to construct an Ocean Mapping Center of Excellence (CoE) and a UNH Innovation Center at the UNH campus in Durham, Strafford County, New Hampshire (Proposed Action). UNH has been awarded U.S Department of Commerce (DOC) federal grant funds from the NOAA NOS and the National Institute of Standards and Technology (NIST) to design and build these facilities. Since UNH is a non-federal entity, NOAA is responsible for conducting environmental analysis for UNH's Proposed Action with the federal grant funds.

The project is located between West Edge Drive and Mast Road at UNH's campus in Durham, New Hampshire, and the action area is identified in IPaC. **Figure 1** depicts the proposed Project Site. The project is anticipated to begin in the summer of 2025 and would take approximately 18 months. Between July and October 2025, construction would occur in the existing cleared areas on site. No trees would be cleared from the forested portion of the site until November 2025.

Figure 1: Project Site



The Project Site is approximately 7.9 acres in size; an estimated 5 acres are forested, and the remainder is occupied by existing impervious services, including a parking lot, footpath, and driveways. Additional forested area is adjacent to the southwest border of the Project Site, which also contains two wetlands. One wetland is classified as a palustrine forested wetland, with seasonal saturation; the second wetland is a manmade shrub-scrub linear roadside drainage feature. One stream, College Brook, is located to the east of the Project Site but does not intersect it. Surrounding land use to the north and west of the site is developed with parking, student housing, and various University and government buildings. University-owned agricultural fields are also present to the north and northeast of the site. The southern border of the Project Site is adjacent to Mast Road; the College Woods are located on the other side of this road, which is a designated natural area on UNH's campus and is contiguous with other forest beyond the campus boundary. Other land uses in the surrounding area are dedicated to University functions. The Action Area consists of the Project Site and a 0.25-mile buffer, which would encompass off-site areas potentially affected by noise and dust.

The Proposed Action consists of the construction and operation of a new approximately 20,500 square foot Ocean Mapping CoE (using NOAA grant funding) and 50,000 square foot Innovation Center (using NIST grant funding) on the UNH Durham campus to grow UNH's hydrographic and ocean mapping programs. These facilities would be built at "The Edge" redevelopment area, which is envisioned as a mixed-use development to be used by federal, business, and industry partners looking to co-locate on UNH's campus. The Edge currently has sufficient infrastructure and utility connections to support construction of the CoE and Innovation Center since the area is already partly developed, and its location on-campus would support connectivity to other UNH resources. The CoE and Innovation Center would provide office, training, and high-bay space for government representatives, private sector partners, and non-governmental organizations to support their ocean, coastal, and Great Lakes mapping missions. It is expected that a maximum of 121 personnel would need to access the facilities at any given time. Most of these individuals would constitute new vehicle traffic accessing the site for work activities, although a minority would be students likely to use existing public transit options on campus. The proposed facilities would not create new roadways or retail establishments that would increase traffic among the general public.

The CoE and Innovation Center would be designed as standalone buildings, but would be connected internally to enable the integration of mechanical and building services for both facilities. Construction would include the installation of various utilities and other support infrastructure, including connections to water lines, stormwater drainage, sanitary sewer, electric, telecommunications, and fire suppression. The facilities would also be connected to the UNH campus-wide Building Automation System. Heating, ventilation, and air conditioning (HVAC) would be provided via a geothermal heat pump system. An emergency diesel generator would be installed for use in the event of electric utility outages. External features would include parking spaces, room for deliveries by semi-trucks, and spaces for shipping container storage. Space for snow storage would also be provided alongside the parking areas. Existing pedestrian paths located on the east and south sides of the Project Site would be maintained. Exterior lighting would consist of building-mounted features, and light poles for pedestrian walkways and parking lots, and would be compliant with DarkSky International criteria. The site would be landscaped

with native, drought-tolerant ornamental species. Vegetation used would be shade and salt-resistant and create new pollinator habitat.

The enclosed project package provides information about the species and critical habitat considered in our review, and the species conclusions table included in the package identifies our determinations for the resources that may be affected by the project. We request you concur with our determinations of *may affect, not likely to adversely affect* for monarch butterfly (*Danaus plexippus*), northern long-eared bat (*Myotis septentrionalis*), and tricolored bat (*Perimyotis subflavus*).

The IPaC determination key for the northern long-eared bat and tricolored bat has already been submitted. A verification letter has been generated, with the determinations of "*not likely to adversely affect*" for the northern long-eared bat, and "*may affect*" for the tricolored bat. This letter also notes that further coordination is necessary.

Monarch Butterfly: The monarch butterfly (proposed threatened) is expected to have minimal presence at the Project Site. The Project Site contains only marginal habitat for monarch butterflies, at best. Although the on-site forested habitat may contain flowering plants, particularly along the forest edge, no milkweed plants (*Asclepias* spp.) have been identified at the site. Due to absence of milkweed plants, monarch butterflies are not likely to be present at the site; however, given the potential for other flowering plants along the forested edge and the presence of open, agricultural fields and other low vegetation in the vicinity of the Project Site which may contain additional flowering plants or milkweed, transient monarchs may stopover at the Project Site in low numbers. If present, however, they are not anticipated to be disturbed by project activities. UNH would implement these conservation measures to avoid adverse effects to the species from the proposed project: avoid tree clearing in the forested portion of the Project Site until November. Since monarchs occur in New Hampshire between June and September, disturbance of the forest/forest edge habitat would not start until after the monarchs would have already begun their southern migration.

Northern Long-Eared Bat: Suitable habitat for the northern long-eared bat (endangered) is present at the Project Site. Approximately 5 acres of the site are forested, which contain a variety of tree species, including sugar maple (*Acer saccharum*), American elm (*Ulmus americana*), shagbark hickory (*Carya ovata*), red maple (*Acer rubrum*), and black cherry (*Prunus serotina*), among others. During site walkthroughs, numerous individual trees were identified that possess necessary characteristics for potential roosting habitat, including crevices and loose or peeling dead bark. Further, the forested area present within the Project Site is located nearby other large forested areas and agricultural fields. UNH would implement these conservation measures to avoid adverse effects to the species from the proposed project: commit to adhering to the time-of-year restrictions (TOYR) on tree clearing. In accordance with this TOYR, no tree clearing would occur between April 15 and October 31, which is the active season for this species.

Tricolored Bat: Suitable habitat for the tricolored bat (proposed endangered) is present at the Project Site. As described above, the forested portion of the site contains a number of trees that possess necessary characteristics for potential roosting habitat, including crevices and loose or peeling dead bark. Further, the forested area present within the Project Site is located nearby other large forested areas and agricultural fields. UNH would implement these conservation measures to avoid adverse effects to the species from the proposed project: commit to adhering

to the TOYR on tree clearing. In accordance with this TOYR, no tree clearing would occur between April 15 and October 31, which is the active season for this species.

For additional information, please contact me by phone at (301) 640-9194 or email at anne.delp@noaa.gov.

Sincerely,

DELP.ANNE.HERMES.1268515255 Digitally signed by DELP.ANNE.HERMES.1268515255 Date: 2025.01.15 13:42:27 -05'00'

Anne H. Delp
Environmental Engineer
Chief, Environmental Compliance & Sustainability Division
National Oceanic and Atmospheric Administration

Enclosures:

1) Species Determination Table
2) Action Area Map
3) Official Species List
4) IPaC Determination Key Verification Letter

Attachment 1: Species Determination Table for Endangered Species Project Review (New England Field Office)

Date: 1/13/2025

Your Name: Anne Delp

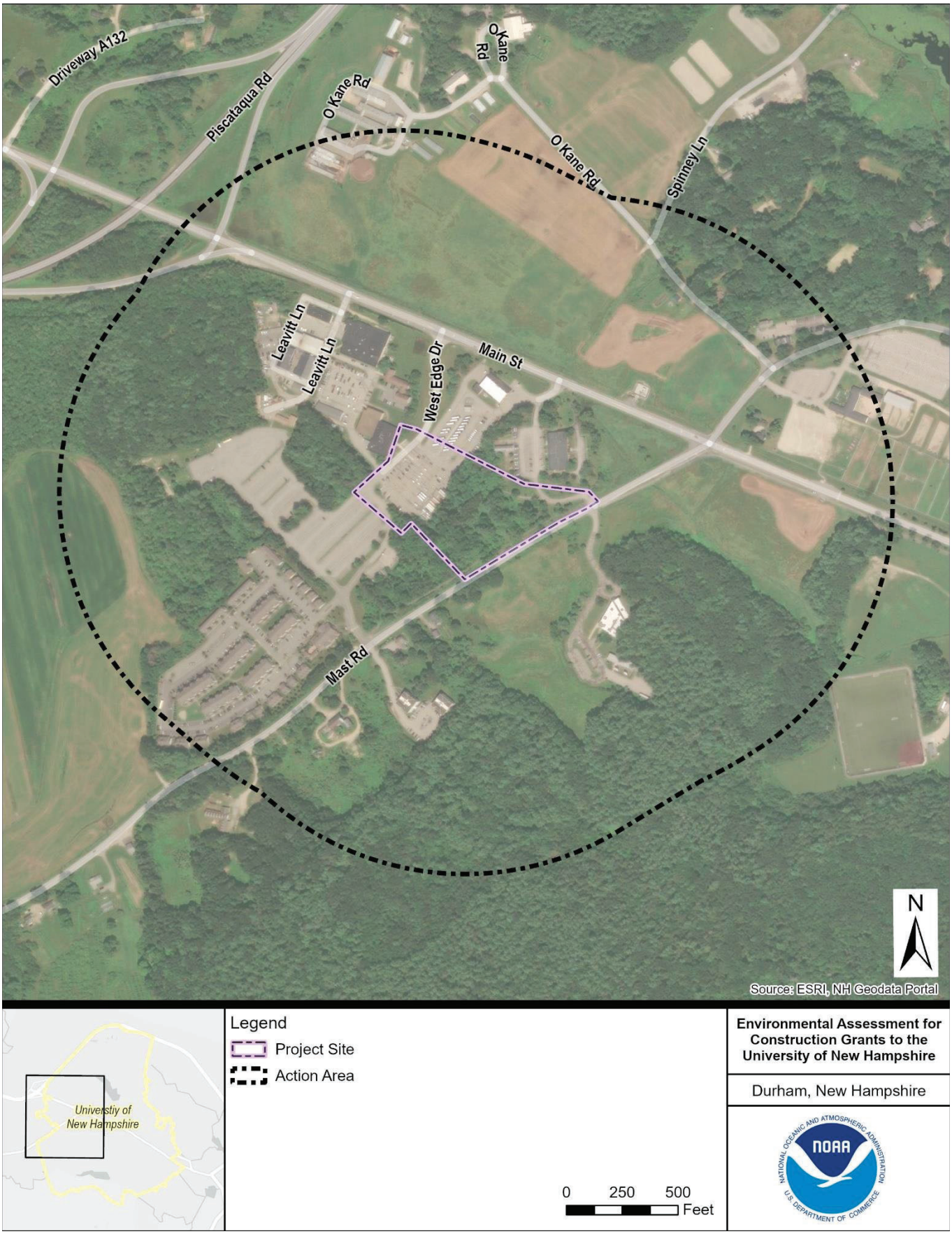
Project Name used in IPaC: UNH Construction Grant EA

Project Code (from IPaC): 2025-0000584

Listed Species Determination Table

Species Name	Suitable Habitat	Species Presence	Conservation Measures Incorporated into Project	Determination	Notes/Information
Monarch Butterfly (*Danaus plexippus*)	Suitable habitat present	Don't know – species may be present	Avoid tree clearing during the summer months to avoid disturbing individuals that may be present	NLAA	Vegetation reconnaissance conducted as part of a wetland delineation and field observations during a site walk-through did not identify the presence of milkweed (*Asclepias* spp.) at the Project Site. Other flowering plants may be present at the margins of the forested area that may provide food for monarch butterflies. No monarch butterflies were observed at the site during the walk-through in October.
Northern Long-Eared Bat (*Myotis septentrionalis*)	Suitable habitat present	Don't know – species may be present	Adhere to the time-of-year restriction (TOYR) for tree clearing between April 15 and October 31	NLAA	Vegetation reconnaissance conducted as part of a wetland delineation and field observations during a site walk-through identified various hardwood tree species. Numerous individual trees possessed necessary characteristics for potential roosting habitat, including crevices and loose or peeling dead bark. No bats were observed at the site during the walk-through.
Tricolored bat (*Perimyotis subflavus*)	Suitable habitat present	Don't know – species may be present	Adhere to the TOYR for tree clearing between April 15 and October 31	NLAA	Vegetation reconnaissance conducted as part of a wetland delineation and field observations during a site walk-through identified various hardwood tree species. Numerous individual trees possessed necessary characteristics for potential roosting habitat, including crevices and loose or peeling dead bark. No bats were observed at the site during the walk-through.

Attachment 2: Action Area Map



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

In Reply Refer To: 01/13/2025 14:31:10 UTC
Project Code: 2025-0000584
Project Name: UNH Construction Grant EA

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Updated 4/12/2023 - Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.

About Official Species Lists

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. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

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 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. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the "**New England Field Office Endangered Species Project Review and Consultation**" website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review

NOTE Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

Northern Long-eared Bat - (**Updated 4/12/2023**) The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule went into effect on March 31, 2023. You may utilize the **Northern Long-eared Bat Rangewide Determination Key** available in IPaC. More information about this Determination Key and the Interim Consultation Framework are available on the northern long-eared bat species page:

https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis

For projects that previously utilized the 4(d) Determination Key, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project was not completed by March 31, 2023, and may result in incidental take of NLEB, please reach out to our office at newengland@fws.gov to see if reinitiation is necessary.

Additional Info About Section 7 of the Act
Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines 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 Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. 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:

https://www.fws.gov/service/section-7-consultations

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) 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. Please contact NEFO if you would like more information.

Candidate species that appear on the enclosed species list have no current protections under the ESA. The species' occurrence on an official species list does not convey a requirement to

consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

Migratory Birds

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

https://www.fws.gov/program/migratory-bird-permit

https://www.fws.gov/library/collections/bald-and-golden-eagle-management

Please feel free to contact us at **newengland@fws.gov** with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

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

Project Code: 2025-0000584
Project Name: UNH Construction Grant EA
Project Type: Federal Grant / Loan Related
Project Description: Construction of NOAA-funded Center of Excellence and NIST-funded Innovation Center at UNH

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.1416492,-70.95053488245506,14z

Counties: Strafford County, New Hampshire

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 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.

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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
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: AECOM
Name: Michael Busam
Address: 4000 Faber Place Drive
Address Line 2: Suite 315
City: North Charleston
State: SC
Zip: 29405
Email michael.busam@aecom.com
Phone: 4432758989

LEAD AGENCY CONTACT INFORMATION

Lead Agency: National Oceanic and Atmospheric Administration

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

In Reply Refer To: 12/31/2024 16:34:42 UTC
Project code: 2025-0000584
Project Name: UNH Construction Grant EA

Federal Nexus: yes
Federal Action Agency (if applicable): National Oceanic and Atmospheric Administration

Subject: Technical assistance for 'UNH Construction Grant EA'

Dear Tara Boyd:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on December 31, 2024, for 'UNH Construction Grant EA' (here forward, Project). This project has been assigned Project Code 2025-0000584 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements are not complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project. **Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (Dkey), invalidates this letter.**

Determination for the Northern Long-Eared Bat and Tricolored Bat

Based on your IPaC submission and a standing analysis completed by the Service, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Northern Long-eared Bat (*Myotis septentrionalis*)	Endangered	NLAA
Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	May affect

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Proposed Threatened

You may coordinate with our Office to determine whether the Action may cause prohibited take of the species listed above.

Conclusion

Consultation with the Service is not complete. Further consultation or coordination with the Service is necessary for those species or designated critical habitats with a determination of "May Affect." A "May Affect" determination in this key indicates that the project, as entered, is not consistent with the questions in the key. Not all projects that reach a "May Affect" determination are anticipated to result in adverse impacts to listed species. These projects may result in a "No Effect", "May Affect, Not Likely to Adversely Affect", or "May Affect, Likely to Adversely Affect" determination depending on the details of the project. Please contact our New England Ecological Services Field Office to discuss methods to avoid or minimize potential adverse effects to those species or designated critical habitats.

Federal agencies must consult with U.S. Fish and Wildlife Service under section 7(a)(2) of the Endangered Species Act (ESA) when an action *may affect* a listed species. Tricolored bat is proposed for listing as endangered under the ESA, but not yet listed. For actions that may affect a proposed species, agencies cannot consult, but they can *confer* under the authority of section 7(a)(4) of the ESA. Such conferences can follow the procedures for a consultation and be adopted as such if and when the proposed species is listed. Should the tricolored bat be listed, agencies must review projects that are not yet complete, or projects with ongoing effects within the tricolored bat range that previously received a NE or NLAA determination from the key to confirm that the determination is still accurate. Projects that receive a may affect determination for tricolored bat through the key, should contact the appropriate Ecological Services Field Office if they want to conference on this species.

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

1. Name

UNH Construction Grant EA

2. Description

The following description was provided for the project 'UNH Construction Grant EA':

> Construction of NOAA-funded Center of Excellence and NIST-funded Innovation Center at UNH

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.1416492,-70.95053488245506,14z

DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect” for a least one species covered by this determination key.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

   Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   No

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   Yes

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

   No

10. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

11. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

    No

12. Does the action area contain (1) talus or (2) anthropogenic or naturally formed rock shelters or crevices in rocky outcrops, rock faces or cliffs?

    No

13. Will the action cause effects to a covered bridge?

    No

14. Are trees present within 1000 feet of the action area?

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

15. Does the action include the intentional exclusion of bats from a building or structure?

    Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

    No

16. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats?**

    No

17. Will the action cause construction of one or more new roads open to the public?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No

18. Will the action include or cause any construction or other activity that is reasonably certain to increase average daily traffic permanently or temporarily on one or more existing roads?

    Note: For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.). .

    Yes

19. Will the increased vehicle traffic occur on any road that lies between any two areas of contiguous forest that are each greater than or equal to 10 acres in extent and are separated by less than 1,000 feet? Bats may cross a road by flying between forest patches that are up to 1,000 feet apart.

    Note: "Contiguous forest" of 10 acres or more may includes areas where multiple forest patches are separated by less than 1,000 feet of non-forested area if the forested patches, added together, comprise at least 10 acres.

    No

20. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

    Note: For information regarding NSF/ANSI 60 please visit https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects

    No

21. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

    No

22. Will the action include drilling or blasting?

    No

23. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

    No

24. Will the proposed action involve the use of herbicides or other pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

    No

25. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season?

    Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining.

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

26. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable northern long-eared bat or tricolored bat roosting habitat?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

27. Will the action cause an increase in the extent of suitable forested habitat exposed to artificial lighting?

    No

28. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

    Yes

29. Will the proposed action occur exclusively in an already established and currently maintained utility right-of-way?

    No

30. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

    Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property.

    No

31. Does the project intersect with the 0- 9.9% forest density category?

    Automatically answered
    No

32. Does the project intersect with the 10.0- 19.9% forest density category map?

    Automatically answered
    No

33. Does the project intersect with the 20.0- 29.9% forest density category map?

    Automatically answered
    No

34. Does the project intersect with the 30.0- 100% forest density category map?

    Automatically answered
    Yes

35. Will the action cause trees to be cut, knocked down, or otherwise brought down across an area greater than 100 acres in total extent?

    No

36. Will the proposed action result in the use of prescribed fire?

    Note: If the prescribed fire action includes other activities than application of fire (e.g., tree cutting, fire line preparation) please consider impacts from those activities within the previous representative questions in the key. This set of questions only considers impacts from flame and smoke.

    No

37. Does the action area intersect the northern long-eared bat species list area?

    Automatically answered
    Yes

38. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Automatically answered
    No

39. [Semantic] Is the action area located within 150 feet of a documented northern long-eared bat roost site?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

40. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?
    If unsure, answer "Yes."

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

41. Are any of the trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming suitable for northern long-eared bat roosting (i.e., live trees and/or snags ≥3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities)?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

42. Will any tree cutting/trimming or other knocking or bringing down of trees occur during the **Summer Occupancy season** for northern long-eared bats in the action area?

    Note: Bat activity periods for your state can be found in Appendix L of the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    No

43. Does the action area intersect the tricolored bat species list area?

    Automatically answered
    Yes

44. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

45. Has a presence/probable absence bat survey targeting the tricolored bat and following the Service's Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines been conducted within the project area?

    No

46. Is suitable summer habitat for the tricolored bat present within 1000 feet of project activities?
    (If unsure, answer ""Yes."")

    Note: If there are trees within the action area that may provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (Tillandsia usneoides), clusters of dead pine needles of large live pines) answer ""Yes."" For a complete definition of suitable summer habitat for the tricolored bat, please see Appendix A in the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    Yes

47. Do you have any documents that you want to include with this submission?

    No

PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

5.0

IPAC USER CONTACT INFORMATION

Agency: AECOM
Name: Tara Boyd
Address: 4840 Cox Rd
City: Glen Allen
State: VA
Zip: 23060
Email tara.boyd@aecom.com
Phone: 2036853220

LEAD AGENCY CONTACT INFORMATION

Lead Agency: National Oceanic and Atmospheric Administration

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
https://www.fws.gov/office/new-england-ecological-services

April 29, 2025

Anne Delp
National Oceanic and Atmospheric Administration
1305 East West Highway, SSMC4 Rm 5309
Silver Spring, MD 20910

RE: UNH Ocean Mapping Center of Excellence and Innovation Center, Durham, NH
In reply refer to Project Code 2025-0000584

Dear Anne Delp:

This responds to your request for our concurrence with your determination that the National Oceanic and Atmospheric Administration's (NOAA) proposed Ocean Mapping Center of Excellence and Innovation Center (Project) may affect, but is not likely to adversely affect, the tricolored bat (*Perimyotis subflavus*) and the monarch butterfly (*Danaus plexippus*). The US Fish and Wildlife Service (Service) proposed to list the tricolored bat as endangered and the monarch butterfly as threatened. We received your complete consultation request on January 15, 2025. 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).

Based on our knowledge, expertise, and review of the information and analysis included with your consultation request, we concur with your determination because any effects from the proposed action on the subject species would be insignificant and/or discountable.

The NOAA concluded consultation for the federally endangered northern long-eared bat (*Myotis septentrionalis*) through the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key within the Service's Information for Planning and Consultation system.

Further consultation under section 7 of the ESA is not required at this time. If any of the criteria at 50 CFR 402.16(a)[1] are met, reinitiation of consultation is required, and the NOAA 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

[1] https://www.ecfr.gov/current/title-50/chapter-IV/subchapter-A/part-402/subpart-B/section-402.16

contact David Simmons of this office at 603-333-5440 or david_simmons@fws.gov if you have questions or need further assistance.

Sincerely yours,

DAVID SIMMONS

Digitally signed by DAVID SIMMONS
Date: 2025.04.29 16:16:14 -04'00'

Acting for Audrey Mayer
Supervisor
New England Field Office

cc: anne.delp@noaa.gov
andy.armstrong@noaa.gov

Kisak, Natalie

From: Gaimaro, Josh - FPAC-NRCS, NH <Josh.Gaimaro@usda.gov>
Sent: Friday, January 17, 2025 2:34 PM
To: Busam, Michael
Cc: Larkin, Matthew - FPAC-NRCS, NH; Ellis, Nicole - FPAC-NRCS, NH; Warf, Jen; Kisak, Natalie; anne.delp
Subject: RE: Review Request: AD-1006 for UNH Center of Excellence/Innovation Center
Attachments: Urban Area Exemption.pdf

Hello Michael-

Please see the attached map. This area was determined to be exempt from FPPA since it is designated as an urban area.

Thank you for sending this along,

Josh Gaimaro
USDA-NRCS
Soil Scientist
Orford, NH 03777
(603) 731-5692

From: Busam, Michael <Michael.Busam@aecom.com>
Sent: Wednesday, January 15, 2025 3:38 PM
To: Larkin, Matthew - FPAC-NRCS, NH <matthew.larkin@usda.gov>
Cc: anne.delp <anne.delp@noaa.gov>; Warf, Jen <Jennifer.Warf@aecom.com>; Kisak, Natalie <natalie.kisak@aecom.com>
Subject: Review Request: AD-1006 for UNH Center of Excellence/Innovation Center

Mr. Larkin:

The National Oceanic and Atmospheric Administration (NOAA) and the National Institute of Standards and Technology (NIST) are providing financial assistance to the University of New Hampshire (UNH) in support of the University's proposal to construct and operate an Ocean Mapping Center of Excellence (CoE) and a UNH Innovation Center at the UNH campus in Durham, Strafford County, New Hampshire. The project site is located next to 271 Mast Road, Durham, NH 03824. A map of the parcel/project area is attached.

The project area contains prime farmland. We have filled out Parts I and III of the AD-1006 form (attached). We request NRCS fill out Parts II, IV, and V and return to us within ten working days.

Please let us know if you need any additional information or have any questions.

Thank you,
Michael

Michael Busam AWB®
Environmental Planner
Environmental Planning and Permitting (EPP)
M 443.275.8989
michael.busam@aecom.com

AECOM
4000 Faber Place Drive, Suite 315
North Charleston, SC 29405
aecom.com

UNH Center of Excellence/Innovation

January 17, 2025

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Counties
States
2020 Urban Areas
2020 Urban Areas

Areal Hydrography
Linear Hydrography
Counties
States

Source: U.S. Census Bureau, Maxar

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER
1305 East-West Highway, Silver Spring, Maryland 20910

July 21, 2025

Christian Williams
Program Coordinator
New Hampshire Coastal Program
222 International Drive, Suite 175
Portsmouth, NH 03801
christian.williams@des.nh.gov

RE: Coastal Zone Management Act Consistency Determination

Mr. Williams,

The National Oceanic and Atmospheric Administration (NOAA) National Ocean Service (NOS) is submitting the enclosed Federal Consistency Determination on behalf of the University of New Hampshire (UNH) and their proposal to construct a joint Ocean Mapping Center of Excellence (CoE) and a UNH Innovation Center at the UNH campus in Durham, Strafford County, New Hampshire (Proposed Action). UNH has been awarded United States (U.S.) Department of Commerce federal grant funds from the NOAA NOS and the National Institute of Standards and Technology (NIST) to design and build the facility. Since UNH is a non-federal entity, NOAA and NIST are responsible for conducting environmental analysis for UNH's Proposed Action with the federal grant funds. NOAA is serving as the lead federal agency for this proposed action.

This document provides the New Hampshire Coastal Program (NHCP) with NOAA's consistency determination under the Coastal Zone Management Act § 307(c)(1) and 15 Code of Federal Regulations (CFR) Part 930, Subpart C, for the Proposed Action. The information in this consistency determination is provided pursuant to 15 CFR § 930.39.

The scope of work for the proposed project includes the construction of a new joint Ocean Mapping CoE (using NOAA grant funding) and Innovation Center (using NIST grant funding) on the UNH Durham campus. The CoE would provide space to transition research and technology developments in ocean mapping into operational activities and provide training and support for mapping missions. The Innovation Center would provide additional space for the CoE and a new facility for the Joint Hydrographic Center and Center for Coastal and Ocean Mapping, and the John Olson Advanced Manufacturing Center. These facilities provide UNH students with experience in advanced manufacturing technologies and engineering.

Based upon the information, data, and analysis enclosed in the attached consistency determination, NOAA finds that the Proposed Action is consistent to the maximum extent practicable with the enforceable policies of the NHCP. Pursuant to 15 CFR § 930.41, the NHCP has **60 days** from the receipt of this letter in which to concur with or object to the consistency determination, or to request an extension. Concurrence will be presumed if the NHCP's response is not received by NOAA on the 60th day from receipt of this letter. Please direct responses to Anne Delp via anne.delp@noaa.gov.

Sincerely,

ANNE.DELP 2025.07.15 10:11:43 -04'00'

Anne H. Delp
Chief, Environmental Compliance Division
National Oceanic and Atmospheric Administration

Enclosure: Federal Consistency Determination

FEDERAL CONSISTENCY DETERMINATION
UNIVERISTY OF NEW HAMPSHIRE OCEAN MAPPING CENTER OF EXCELLENCE AND INNOVATION CENTER
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
DURHAM, STRAFFORD COUNTY, NEW HAMPSHIRE

Introduction

The National Oceanic and Atmospheric Administration (NOAA) National Ocean Service (NOS) is evaluating the potential environmental impacts associated with the University of New Hampshire's (UNH) proposal to construct a joint Ocean Mapping Center of Excellence (CoE) and a UNH Innovation Center at the UNH campus in Durham, Strafford County, New Hampshire (Proposed Action, **Figure 1**). UNH has been awarded United States (U.S.) Department of Commerce (DOC) federal grant funds from the NOAA NOS and the National Institute of Standards and Technology (NIST) to design and build this facility. UNH is located within New Hampshire's designated coastal zone, and the Proposed Action could have reasonably foreseeable effects on coastal zone resources and enforceable policies of the federally approved New Hampshire Coastal Program (NHCP). Therefore, NOAA has prepared this Federal Consistency Determination in accordance with Section 307(c) of the Coastal Zone Management Act of 1972 (CZMA) and 15 Code of Federal Regulations (CFR) Part 930, Subpart C to evaluate the Proposed Action's effects on those resources and enforceable policies. NOAA has determined that the Proposed Action would be consistent to the maximum extent practicable with the enforceable policies of the NHCP.

The analysis presented here is drawn from the more detailed analyses presented in the Environmental Assessment (EA) that NOAA is preparing to analyze the Proposed Action's potential impacts in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [USC] §§ 4321 et seq.); NOAA Administrative Order 216-6A and its accompanying Companion Manual; and NIST Suborder 7301.14, *National Environmental Policy Act*.

Project Background

NOAA and UNH have maintained a cooperative agreement since 1999 allowing NOAA to operate and maintain the Joint Hydrographic Center (JHC) and Center for Coastal and Ocean Mapping (CCOM) on campus. The centers are intended to operate and maintain a national CoE in hydrographic, ocean, and coastal mapping sciences, and to serve NOAA through research, training, and the development of state-of-the-art ocean mapping technologies and tools. Since their foundation, the JHC/CCOM have become internationally recognized for their educational and research programs, and UNH has developed an ocean-mapping curriculum. Now, NOAA and UNH have interest in transitioning existing research and technological developments in ocean mapping into real-world operations – including providing applied training for ocean mapping and hydrographic surveying, and technical support for current operators in the field.

To continue supporting ongoing research, public-private partnerships, and academic-industry collaboration and opportunities, and to continue growing hydrographic and ocean mapping programs, UNH has proposed to build a joint CoE and Innovation Cener on campus. The CoE and Innovation Center specifically would facilitate the transition from ocean mapping capabilities to operational practice and would ensure that JHC/CCOM research is responsive to the needs of the industry. The new space would also allow for advanced training in ocean, coastal, and Great Lakes mapping skills. In support of the CoE and Innovation

Center, UNH has received grant funding from NOAA and NIST to construct this facility. NOAA would continue to be a primary occupant of the CoE and Innovation Center.

Purpose and Need

The *purpose* of the Proposed Action is to construct and operate a new CoE and Innovation Center at UNH to grow hydrographic and ocean mapping operations in support of the nation's goals regarding ocean and Great Lakes mapping. The proposed CoE and Innovation Center would build upon and strengthen UNH's existing hydrographic capabilities developed in conjunction with NOAA by providing applied training and technical support and enabling the development of standardized approaches across the government and industry. The Proposed Action is *needed* to address the growing demand for ocean mapping capabilities and to support the smooth transition from research to operation, while maintaining standardized practices, approaches, and systems.

Proposed Action

The Proposed Action is to construct and operate a new two-story, 70,400 square foot (SF) (approximately 56,000 SF footprint) joint Ocean Mapping CoE and Innovation Center on the UNH Durham campus, at "The Edge" redevelopment area (**Figure 2**). The proposed joint facility would consist of two primary spaces: an office wing for administrative work, collaboration, and training, and a high bay area for research. The CoE would provide office, training, and high-bay space to transition research and technology developments and concepts in ocean mapping into operational activities and provide training and support for ocean and Great Lakes mapping missions. The Innovation Center would provide additional support and collaboration space for the CoE and a new facility for the JHC/CCOM and John Olson Advanced Manufacturing Center (JOAMC), which provides UNH students with experience and advanced manufacturing technologies and engineering.

Construction of the proposed joint CoE and Innovation Center would occur in the space between West Edge Drive and Mast Road, southwest of an existing U.S. Department of Agriculture Forest Service building. The Project Site is approximately 7.9 acres in size; an estimated 5 acres are forested, and the remainder is occupied by impervious surfaces, including a parking lot, footpath, and driveways. The CoE and Innovation Center would include approximately 44,000 SF of high-bay space, with a clearance height of approximately 30 feet, to be used as research, machinery, assembly, work, and storage areas. The space would be adjacent to an exterior mobilization area with space for trailered vehicles and a concrete pad for storage and assembly. The remaining approximately 26,400 SF would be built as a training wing with office, conference, laboratory, classroom, and other flexible space, including for use for industry co-location and by the JHC/CCOM and JOAMC. Any remaining space would include areas for loading docks and conference rooms.

External features would include 15 parking spaces for personnel and 20 visitor parking spaces, room for deliveries by semi-trucks, and eight spaces for shipping container storage. Existing pedestrian paths located on the east and south sides of the Project Site would be maintained. Exterior lighting would consist of building-mounted features and light poles for pedestrian walkways and parking lots, and would use light-emitting diode bulbs. Landscaping would use native, drought-tolerant, shade, and salt-resistant species.

Construction activities would encompass various phases, including tree clearing of up to 5 acres of forested land, which may result in the removal of up to 985 trees. Construction activities would be conducted in accordance with the applicable requirements of the U.S. Environmental Protection Agency's (USEPA) National Pollutant Discharge Elimination System (NPDES) and associated permits to manage stormwater

discharges. Construction would also include the installation of various utilities and other support infrastructure. UNH is considering the use of a geothermal heat pump system and indoor air quality displacement system for the facility's heating, ventilation, and air conditioning system. An emergency generator would be installed for use in the event of electric utility outages, and would include precautions for fuel storage, such as installing the generator away from storm drains, using a secondary containment system or double-walled storage tank for fuel, and ensuring that fuel tanks are properly secured. Construction is expected to begin in the fall of 2025 and last for 18 months. No tree clearing would occur between April 15 and October 31.

Following construction, the CoE and Innovation Center would be occupied by UNH and NOAA personnel and students, with the potential for additional governmental, industry, and non-governmental organization partners to co-locate. It is expected that a maximum of 121 personnel would need to access the facility at any given time. Operational activities are anticipated to occur during normal working hours, between 6 a.m. and 6 p.m. The facility would have an anticipated lifespan of between 50 to 100 years.

Alternatives

NOAA has determined that the Preferred Alternative, which would implement the Proposed Action as described above, is the only reasonable alternative for this Proposed Action. No other alternatives would meet the purpose and need of the Proposed Action. NOAA also considered a No Action Alternative in the EA to provide a comparative baseline for the Preferred Alternative.

Enforceable Policies

The federally approved NHCP is administered by the New Hampshire Department of Environmental Services (NHDES). The NHDES manages the NHCP and administers Federal Consistency Determinations as required under the CZMA. Federal agency actions that may impact coastal zone resources must be consistent to the maximum extent practicable with the enforceable policies of the NHCP. These policies are established in the *New Hampshire Coastal Program and Final Environmental Impact Statement*, which was published and approved in 1988, and updated in 2004, 2009, 2019, 2022, and 2024. The NHCP's enforceable policies are organized within the following categories:

- Protection of coastal resources
- Recreation and public access
- Management of coastal development
- Coastal dependent uses
- Preservation of historic and cultural resources
- Marine and estuarine research and education.

An analysis of the Proposed Action's consistency with the applicable enforceable policies of the NHCP is presented below. **Table 1** provides a summary of applicable and non-applicable enforceable policies of the NHCP.

NHCP Enforceable Policies

Protection of Coastal Resources Policies

Policy 2: ***Protect, manage, conserve and, where appropriate, undertake measures to maintain, restore, and enhance the fish and wildlife resources and related uses, including but not limited to commercial and recreational fishing, of the state.*** The Project Site is characterized by a mix of developed areas,

disturbed lands, and patches of wooded vegetation. Wildlife using the Project Site and surrounding areas may include common small mammals, some reptiles and amphibians, and birds, including migratory birds, as the Project Site is located within migration pathways. Habitat in the area may also support federally listed and proposed threatened and endangered species, including the northern long-eared bat (*Myotis septentrionalis*), tricolored bat (*Perimyotis subflavus*), and monarch butterfly (*Danaus plexippus*). The U.S. Fish and Wildlife Service concurred with NOAA's determination on April 29, 2025, that these resources would not be adversely affected, including from changes to habitat as a result of tree clearing and new development. In order to minimize potential impacts to federally listed species, UNH and its contractors would adhere to time-of-year restrictions by not clearing trees during the active season for bats (between April 15 and October 31), which also encompasses the breeding season for migratory birds.

While wildlife species may be physically displaced during construction, mobile species, like birds and small mammals, would likely relocate to areas of similar habitat nearby. Construction activities may result in the disturbance, displacement, or inadvertent mortality of wildlife species at the Project Site, but any such impacts would occur at the individual level. Population or species level impacts would not occur. Following construction, the Project Site would be landscaped with native species, creating both wildlife habitat and pollinator habitat.

No surface waters are present within the Project Site; therefore, no aquatic species are present. No impacts to fish or fishing would result from the Proposed Action. Therefore, the Proposed Action is consistent to the maximum extent practicable with this enforceable policy.

Policy 5: ***Encourage investigations of the distribution, habitat needs, and limiting factors of rare and endangered animal species and undertake conservation programs to ensure their continued perpetuation.*** During a wetland delineation and site walkthrough conducted as part of the Proposed Action, potentially suitable habitat for the federally endangered northern long-eared bat and proposed endangered tricolored bat was observed at the Project Site. The forested portion of the Project Site contains numerous individual trees that possess the necessary characteristics for potential bat roosting habitat (crevices, loose or peeling dead bark), and the adjacent College Woods, a large forested area, also contains similar suitable habitat. Although no species surveys have been conducted within this area, construction and tree clearing would adhere to time-of-year-restrictions between April 15 and October 31 to ensure that any individuals that may be present would not be adversely affected by tree removal. Therefore, the Proposed Action is consistent to the maximum extent practicable with this enforceable policy.

<u>Managing Coastal Development Policies</u>

Policy 8: ***Preserve the rural character and scenic beauty of the Great Bay estuary by limiting public investment in infrastructure within the coastal zone in order to limit development to a mixture of low and moderate density.*** Grant funding provided by NOAA and NIST as part of the Proposed Action represents public investment in infrastructure, as this funding would be used to construct the CoE and Innovation Center. The CoE and Innovation Center would also act as the cornerstone for The Edge redevelopment, a plan by UNH that envisions a new, mixed-use development on UNH's campus. NOAA and NIST funding would not be used for other investments in The Edge, and any actions related to The Edge are beyond the scope of the Proposed Action. Public investments occurring under the Proposed Action would be limited to property owned by UNH and contained within UNH's campus to provide nearby workspace that supports existing research and student programs. The Proposed Action would not result in the construction of high-density residential or commercial buildings. No major upgrades to transportation or utility infrastructure would occur that might encourage future private development within the coastal

zone. Therefore, the Proposed Action is consistent to the maximum extent practicable with this enforceable policy.

Policy 9: ***Reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to preserve the natural and beneficial value of floodplains, through the implementation of the National Flood Insurance Program and applicable state laws and regulations, and local building codes and zoning ordinances.*** The Project Site is not located within a floodplain. No activities under the Proposed Action would occur within or encroach upon a floodplain, nor would the Proposed Action encourage other development within a floodplain. The Proposed Action is not expected to increase or otherwise modify the risks or potential impacts of floods, nor would it be expected to increase flooding downstream. Even though the Proposed Action would result in an increase in impervious surfaces, the CoE and Innovation Center would incorporate stormwater management features such as bioswales, catch basins, and rain gardens to reduce off-site runoff and encourage on-site retention during potential flood events. Therefore, the Proposed Action is consistent to the maximum extent practicable with this enforceable policy.

Policy 10: ***Maintain the air resources in the coastal area by ensuring that the ambient air pollution level, established by the New Hampshire State Implementation Plan pursuant to the Clean Air Act, as amended, is not exceeded.*** Strafford County is designated as a maintenance area for ozone (O_3) under the 1997 8-hour O_3 National Ambient Air Quality Standard (NAAQS). Although this NAAQS was revoked in 2015, this area is still considered in maintenance to prevent "backsliding" into nonattainment of the current O_3 NAAQS. Strafford County is considered in attainment/unclassifiable for all other NAAQS. The total anticipated emissions from the Proposed Action, including both construction and operation of the CoE and Innovation Center, would not exceed the regulated *de minimis* thresholds for O_3 precursors. Although operation would result in some permanent criteria pollutant emissions, UNH would coordinate with the New Hampshire Department of Environmental Services (NHDES) Air Resources Division to modify their existing Title V Operating Permit to include emissions from the CoE and Innovation Center, and emergency generator. National and state air quality standards would not be violated. Therefore, the Proposed Action is consistent to the maximum extent practicable with this enforceable policy.

Policy 11: ***Protect and preserve the chemical, physical, and biological integrity of coastal water resources, both surface and groundwater.***

The Project Site is located within the Oyster River watershed; however, the Project Site is not located within the freshwater corridor of the Oyster River that has been designated for protection. No surface water resources are located within the Project Site, although one surface water feature, College Brook, is located approximately 275 feet to the northeast of the Project Site's boundaries. College Brook is listed as impaired by the NHDES for aquatic life integrity, fish consumption due to mercury, and contact recreation from *Escherichia coli* (*E. coli*), and is also listed as a waterway that requires action under the Northeast Mercury Total Maximum Daily Load (TMDL) program. To address potential stormwater runoff that could occur as a result of ground-disturbing activities under the Proposed Action, NOAA would obtain an NHDES Alteration of Terrain permit, which would require on-site treatment of stormwater before it is discharged off-site. NOAA would also obtain a National Pollutant Discharge Elimination System (NPDES) Construction General Permit to manage stormwater discharges and would comply with the requirements of an existing Municipal Separate Storm Sewer System (MS4) General Permit held by UNH. In addition, UNH's contractor would develop a site-specific Stormwater Pollution Prevention Plan (SWPPP) to implement erosion and sediment control measures. Non-point discharges of eroded soils would cease

following the completion of ground-disturbing activities, and the CoE and Innovation Center design would incorporate stormwater management features such as bioswales, catch basins, rain gardens, and other drainage connections to the east and west of the Project Site to reduce stormwater runoff during operation. No activities under the Proposed Action would contribute to or worsen degradation of College Brook.

The Spruce Hole Aquifer underlies the Project Site and is used by the Town of Durham as a supplemental water source. Activities occurring under the Proposed Action would not involve groundwater withdrawals or intentionally release materials into groundwater resources. Construction of the CoE and Innovation Center may include the installation of geothermal heat pumps, which would require drilling that may intersect groundwater; however, if installed, these systems would be closed-loop systems and no materials used for heat transfer would be released into groundwater. If groundwater is encountered during the drilling process, it would be captured, treated, and released into the existing stormwater management system. Accidental spills of petroleum or other hazardous materials associated with heavy equipment could leach into unconfined aquifers. However, these impacts would be minimized through adherence to BMPs, such as performing routine inspections of equipment, maintaining spill containment materials on-site, and adherence to UNH's existing hazardous material and waste plans. Adherence to existing plans and necessary permit conditions would minimize any potential impacts on surface waters and groundwater and would not result in change to the chemical, physical, or biological integrity of these resources. Therefore, the Proposed Action is consistent to the maximum extent practicable with this enforceable policy.

Preservation of Historic and Cultural Resources Policies

Policy 15: ***Support the preservation, management, and interpretation of historic and culturally significant structures, sites and districts along the Atlantic coast and in the Great Bay area.***

The Project Site is located within the UNH Historic District, which was determined to be eligible for listing on the National Register of Historic Places (NHRP) by the New Hampshire Division of Historical Resources (NHDHR, the State Historic Preservation Office) in 2016. Since the establishment of the UNH Historic District, an additional four above-ground resources within the Area of Potential Effects (APE) have reached historic age. NOAA has consulted with the NHDHR under Section 106 of the National Historic Preservation Act (NHPA) regarding the status of these resources. Three of these resources are located within the UNH Historic District, and following consultation with the NHDHR, two have been recommended as contributing resources to the UNH Historic District: 6 Leavitt Lane and 213 Main Street. One other resource, the U.S. Department of Agriculture (USDA) Forestry Sciences Laboratory, was evaluated for its individual eligibility and was determined by NHDHR as eligible for listing in the NRHP. These architectural resources may be affected by alterations to the viewshed from construction of the CoE and Innovation Center; however, this facility would be of a similar scale to other buildings in the area and would be placed in an area of campus that is relatively non-historic. There would be no physical impacts to contributing resources or the USDA Forestry Sciences Laboratory. As a result, there would be no adverse effects under the NHPA to architectural resources.

A Phase IA/IB archaeological survey was also conducted for the APE that identified a historic farmstead archaeological site, with the presence of domestic materials likely related to the house's nineteenth and twentieth-century occupations. No pre-contact artifacts were found. As a result of this survey, NOAA would recommend conducting a Phase II archaeological survey to assess the potential NRHP eligibility of this farmstead site; however, due to funding limitations beyond NOAA's control, conducting a Phase II evaluation is currently unfeasible. Therefore, NOAA would treat this farmstead site as potentially eligible for the NRHP and would implement mitigation measures that would be codified in a Memorandum of

Agreement signed by NOAA, NIST, UNH, and NHDHR. The NHDHR has concurred with this approach to fulfilling NHPA requirements and resolving adverse effects that may arise from the Proposed Action. Therefore, the Proposed Action is consistent to the maximum extent practicable with this enforceable policy.

Marine and Estuarine Research and Education

Policy 16: ***Promote and support marine and estuarine research and education that will directly benefit coastal resource management.***

The proposed construction and operation of the CoE and Innovation Center is directly in support of marine and estuarine research and education. This facility would be used by NOAA, UNH, and other partners to support national goals related to ocean and Great Lakes mapping. They would be used to advance research and operational activities and would also provide space for training current operators in the field as well as students who are involved with UNH's ocean mapping curriculum. The advancement of this research will help improve understanding of ocean resources to advance resource management and national interests. Therefore, the Proposed Action is consistent to the maximum extent practicable with this enforceable policy.

Conclusion

Table 1 summarizes the Proposed Action's consistency with or applicability to the enforceable policies of the NHCP. Based upon the presented information, data, and analysis, NOAA finds that the Proposed Action, which would be implemented in accordance with applicable BMPs and minimization measures, is consistent to the maximum extent practicable with the enforceable policies of the NHCP, pursuant to the Coastal Zone Management Act of 1972, as amended, and in accordance with 15 CFR Part 930, Subpart C.

Table 1. Consistency or Applicability of the Proposed Action to NHCP Enforceable Policies

Policy	Applicability or Consistency[1]
Protection of Coastal Resources	
Policy 1: Protect and preserve and, where appropriate, restore the water and related land resources and uses of the coastal and estuarine environments. The resources of primary concern are coastal and estuarine waters, tidal and freshwater wetlands, beaches, sand dunes, and rocky shores.	**N/A**
Policy 2: Protect, manage, conserve, and where appropriate, undertake measures to maintain, restore, and enhance the fish and wildlife resources and related uses, including but not limited to commercial and recreational fishing, of the state.	**Consistent**
Policy 3: Regulate the mining of sand and gravel resources in offshore and onshore locations so as to ensure protection of submerged lands, marine and estuarine life, and existing uses. Ensure adherence to minimum standards for restoring natural resources and uses impacted from onshore and offshore sand and gravel mining operations.	**N/A**
Policy 4: Undertake oil spill prevention measures, safe oil handling procedures and, when necessary, expedite the cleanup of oil spillage that will contaminate public waters. Institute legal action to collect damages from liable parties in accordance with state law.	**N/A**
Policy 5: Encourage investigations of the distribution, habitat needs, and limiting factors of rare and endangered animal species and undertake conservation programs to ensure their continued perpetuation.	**Consistent**
Policy 6: Identify, designate, and preserve unique and rare plant and animal species and geologic formations which constitute the natural heritage of the state. Encourage measures, including acquisition strategies, to ensure their protection.	**N/A**
Recreation and Public Access	
Policy 7: Provide a wide range of outdoor recreational opportunities including public access in the seacoast through the maintenance and improvement of the existing public facilities and the acquisition and development of new recreational areas and public access.	**N/A**
Managing Coastal Development	
Policy 8: Preserve the rural character and scenic beauty of the Great Bay estuary by limiting public investment in infrastructure within the coastal zone in order to limit development to a mixture of low and moderate density.	**Consistent**
Policy 9: Reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to preserve the natural and beneficial value of floodplains, through the implementation of the National Flood Insurance Program and applicable state laws and regulations, and local building codes and zoning ordinances.	**Consistent**

Table 1. Consistency or Applicability of the Proposed Action to NHCP Enforceable Policies

Policy	Applicability or Consistency[1]
Policy 10: Maintain the air resources in the coastal area by ensuring that the ambient air pollution level, established by the New Hampshire State Implementation Plan pursuant to the Clean Air Act, as amended, is not exceeded.	**Consistent**
Policy 11: Protect and preserve the chemical, physical, and biological integrity of coastal water resources, both surface and groundwater.	**Consistent**
Policy 12: Ensure that the siting of any proposed energy facility in the coast will consider the national interest and will not unduly interfere with the orderly development of the region and will not have an unreasonable adverse impact on aesthetics, historic sites, coastal and estuarine waters, air and water quality, the natural environment, fish and wildlife resources, public health and safety, and existing land and offshore uses.	**N/A**
Coastal Dependent Uses	
Policy 13: Allow only water dependent uses and structure on state properties in Portsmouth-Little Harbor, Rye Harbor, and Hampton-Seabrook Harbor, at state port and fish pier facilities and state beaches (except those uses or structures which directly support the public recreation purpose). For new development, allow only water dependent uses and structures over waters and wetlands of the state. Allow repair of existing over-water structures within guidelines. Encourage the siting of water dependent uses adjacent to public waters.	**N/A**
Policy 14: Preserve and protect coastal and tidal waters and fish and wildlife resources from adverse effects of dredging and dredge disposal, while ensuring the availability of navigable waters to coastal-dependent uses. Encourage beach renourishment and wildlife habitat restoration as a means of dredge disposal whenever compatible.	**N/A**
Preservation of Historic and Cultural Resources	
Policy 15: Support the preservation, management, and interpretation of historic and culturally significant structures, sites and districts along the Atlantic coast and in the Great Bay area.	**Consistent**
Marine and Estuarine Research and Education	
Policy 16: Promote and support marine and estuarine research and education that will directly benefit coastal resource management.	**Consistent**

Note:

1. Consistent, to the maximum extent practicable.

Source: *New Hampshire Coastal Program and Final Environmental Impact Statement,* July 1988.

FIGURES

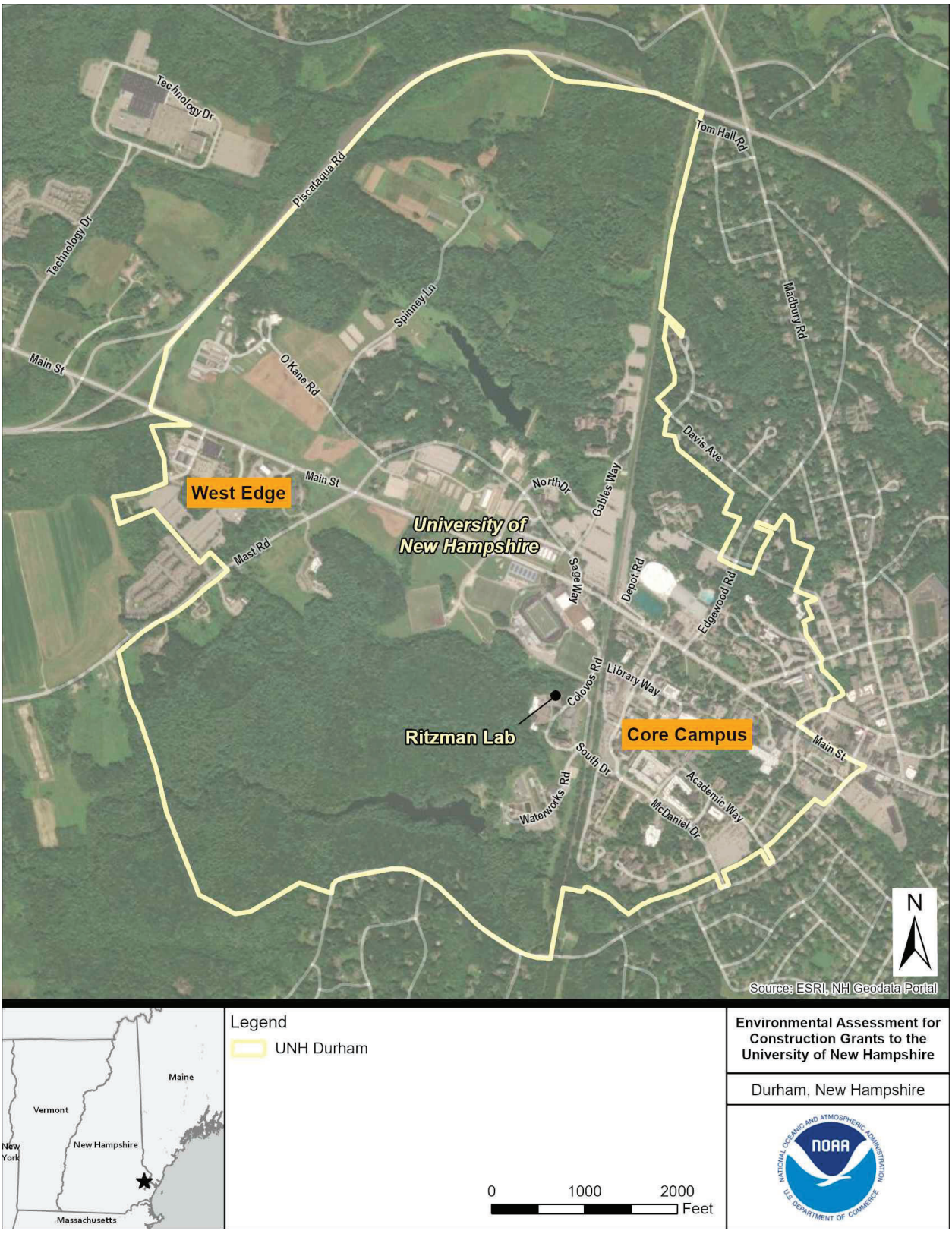


Figure 1: Project Site Vicinity

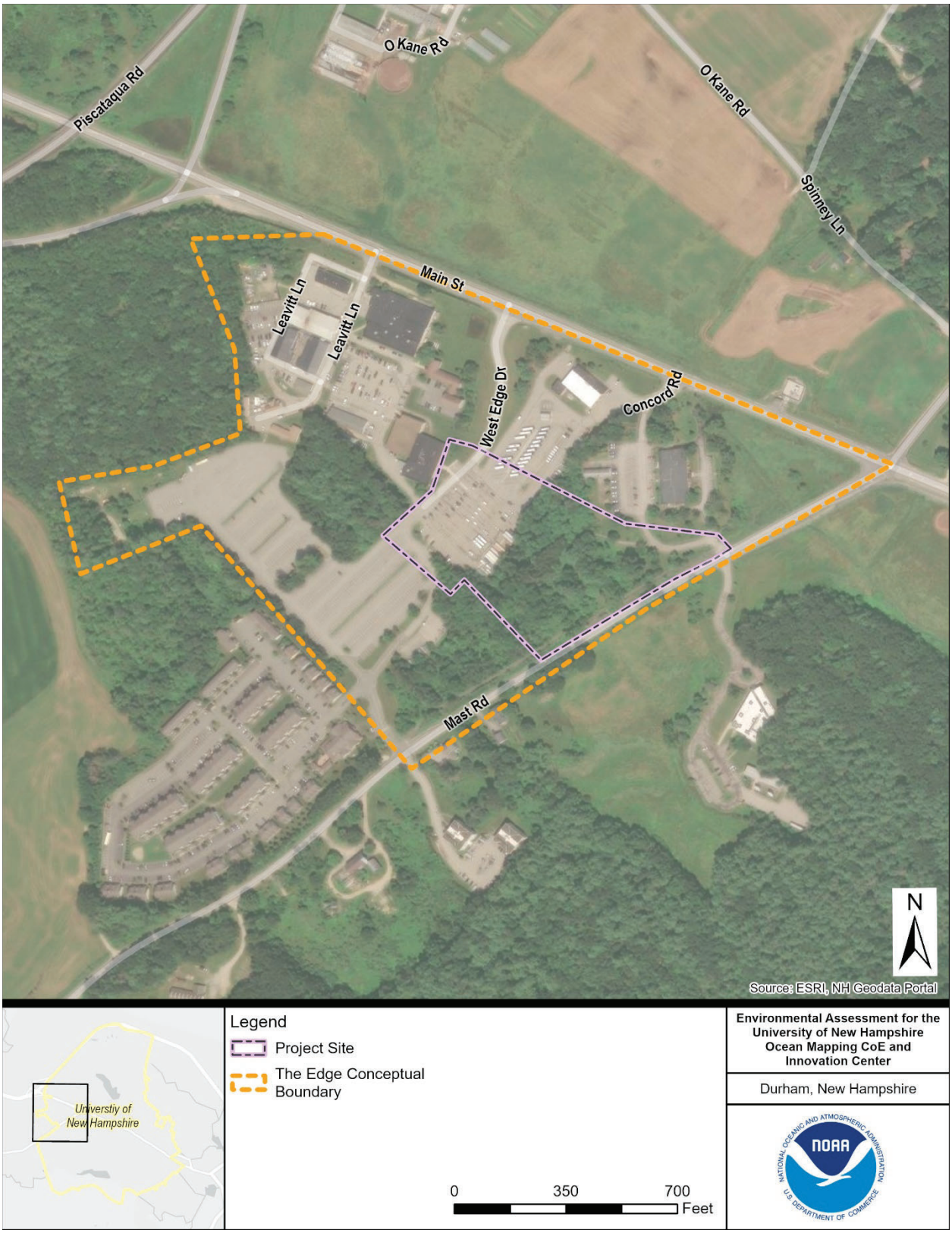


Figure 2: Project Site

AGENCIES AND OTHER INDIVIDUALS CONSULTED

Federal Agencies

U.S Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742
POC: Col. Justin R. Pabis, PE, Commander
Email: cenae-r-nh@usace.army.mil

U.S. Environmental Protection Agency
Region 1
5 Post Office Square, Suite 100
Boston, MA 02109
POC: Dr. David Cash, Regional Administrator
Email: Cash.David@epa.gov

Federal Emergency Management Agency
Region 1
99 High Street, 6th Floor
Boston, MA 02110
POC: Lori Ehrlich, Region 1 Administrator
Email: fema-r1-info@fema.dhs.gov

U.S. Fish and Wildlife Service
New England Ecological Services Field Office
70 Commercial St., Suite 300
Concord, NH 03301
POC: David Simmons, Acting Supervisor
Email: david_simmons@fws.gov

U.S. Department of Agriculture, Natural Resources Conservation Service
Epping Field Office
629 Calef Highway, Suite 203
Epping, NH 03042
POC: Matthew Larkin, District Conservationist
Email: matthew.larkin@nh.usda.gov

State Agencies

New Hampshire Department of Environmental Services
29 Hazen Drive
Concord, NH, 03301
POC: Robert R. Scott, Commissioner
Email: robert.scott@des.nh.gov

New Hampshire Department of Environmental Services
Coastal Program
222 International Drive, Suite 175
Portsmouth, NH 03801
POC: Christian Williams, Program Coordinator
Email: Christian.P.Williams@des.nh.gov

New Hampshire Department of Natural and Cultural Resources
Natural Heritage Bureau
172 Pembroke Road
Concord, NH 03301
POC: Sabrina Stanwood, Administrator
Email: sabrina.stanwood@dncr.nh.gov

New Hampshire Department of Natural and Cultural Resources
Division of Historical Resources
172 Pembroke Road
Concord, NH 03301
POC: Nadine Miller, Deputy SHPO
Email: nadine.m.miller@dncr.nh.gov

New Hampshire Fish and Game Department
Region 3
225 Main Street
Durham, NH 03824
POC: Wildlife Division
Email: wildlife@wildlife.nh.gov

Local Agencies

Strafford County Planning and Zoning Office
12 Mountain View Drive
Strafford, NH 03884
POC: Owen Corcoran, Town Contract Manager
Email: ocorcoran@strafford.org

Town of Durham Planning Department
8 Newmarket Road
Durham, NH 03824
POC: Michael Behrendt, Town Planner
Email: mbehrendt@ci.durham.nh.us

Local Organizations

Durham Historic District Commission
8 Newmarket Road
Durham, NH 03824
POC: Michael Behrendt, Town Planner
Email: mbehrendt@ci.durham.nh.us

Durham Historic Association
8 Newmarket Road
Durham, NH 03824
POC: Todd Selig, Administrator
Email: tselig@ci.durham.nh.us

Tribal Nations

Cowasuck Band of the Pennacook-Abenaki People
840 Suncook Valley Road
P.O. Box 52
Alton, NH 03809
POC: Paul W. Pouliot, Chief Speaker and President
Email: cowasuck@tds.net

SAMPLE NOTIFICATION LETTER

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER
1305 East-West Highway, Silver Spring, Maryland 20910

July 21, 2025

Mr. Michael Behrendt
Town of Durham Planning Department
8 Newmarket Road
Durham, NH 03824
mbehrendt@ci.durham.nh.us

Subject: Environmental Assessment for University of New Hampshire Ocean Mapping Center of Excellence and Innovation Center, Document ID: EAXX-006-48-2CS-1733942760

Dear Mr. Behrendt,

The National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS) has prepared a Draft Environmental Assessment (EA) to evaluate the potential environmental impacts resulting from the proposed construction and operation of a joint Ocean Mapping Center of Excellence (CoE) and Innovation Center on the University of New Hampshire (UNH) campus in Durham, New Hampshire (Proposed Action). The National Institute of Standards and Technology (NIST) is a cooperating agency for this EA.

Under the Proposed Action, UNH would construct and operate an approximately 70,400 square foot joint CoE and Innovation Center with a variety of spaces to suporrt hydrographic and ocean mapping programs. The facility would be used to grow hydrographic and ocean mapping capabilities and would create a dedicated space to serve as a hub for government, private sector, and non-governmental partners. The facility would facilitiate the transition of research into operational activities and would provide applied training and technical support. UNH has been awarded U.S. Department of Commerce federal grant funds from NOAA NOS and NIST to design and build this facility. Since UNH is a non-federal entity, NOAA has initiated the environmental impact analysis for UNH's Proposed Action that utilizes federal grant funds. NOAA is evaluating a 7.9-acre site (see Attachments 1 and 2) in The Edge redevelopment area on UNH's campus.

The Draft *Environmental Assessment for University of New Hampshire Ocean Mapping Center of Excellence and Innovation Center* assessed impacts to various environmental resources. The evaluation concludes there would be no significant impact, either individually or cumulatively, as a result of implementing the Proposed Action.

Your agency is invited to review and provide comments on the Draft EA and Draft Finding of No Significant Impact (FONSI), which can be viewed online at: https://www.noaa.gov/administration/environmental-assessment-public-notices. The 30-day public review and comment period is between July 21, 2025 and August 20, 2025. All correspondence or comments must be recevied no later than August 20, 2025. Please address any comments or questions to Anne Delp, National Oceanic and Atmospheric Administration, 1305 East West Highway, SSMC4 Room 5309, Silver Spring, MD 20910; or via email to: Anne.Delp@noaa.gov.

Sincerely,

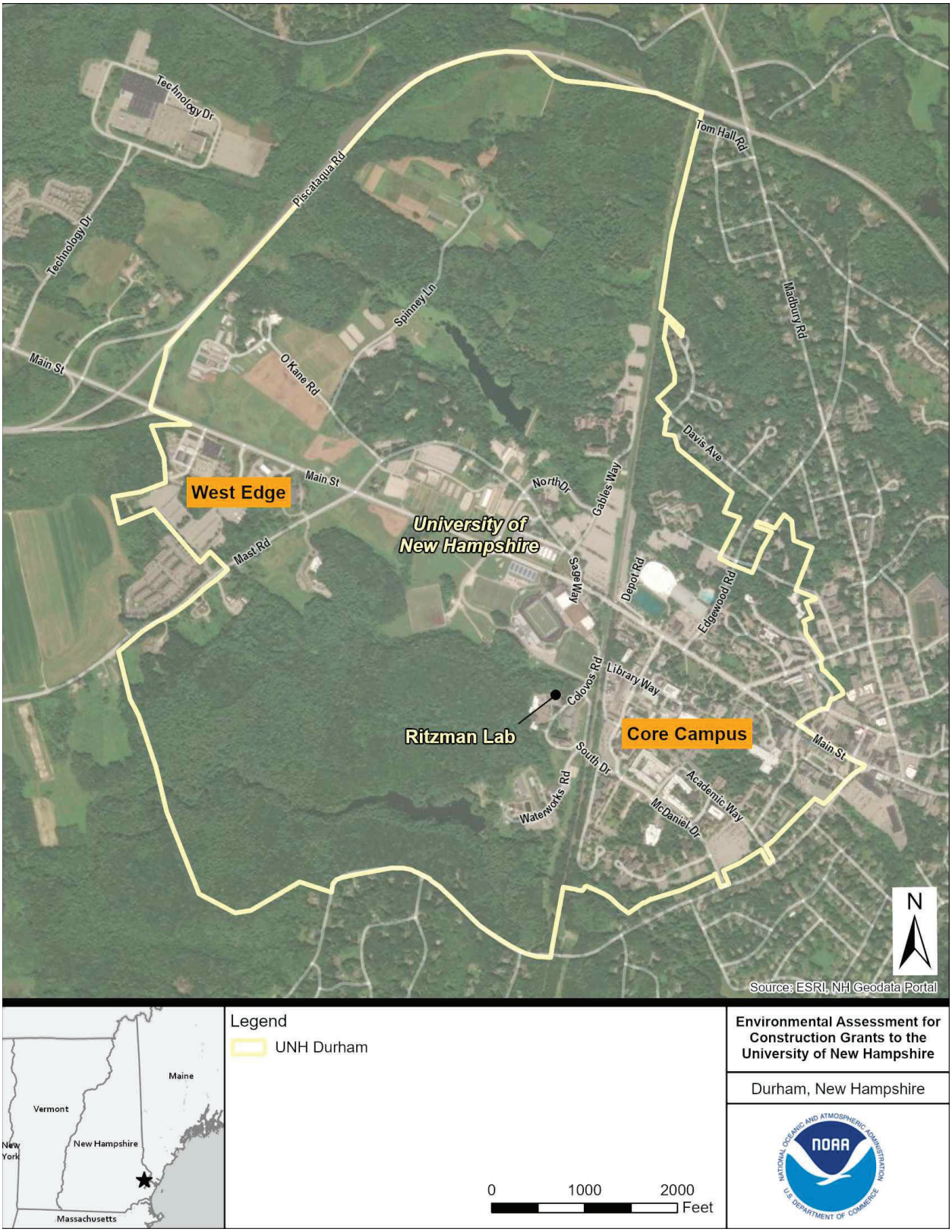
ANNE.DELP 2025.07.14 14:40:35 -04'00'

Anne H. Delp
Chief, Environmental Compliance Division
National Oceanic and Atmospheric Administration

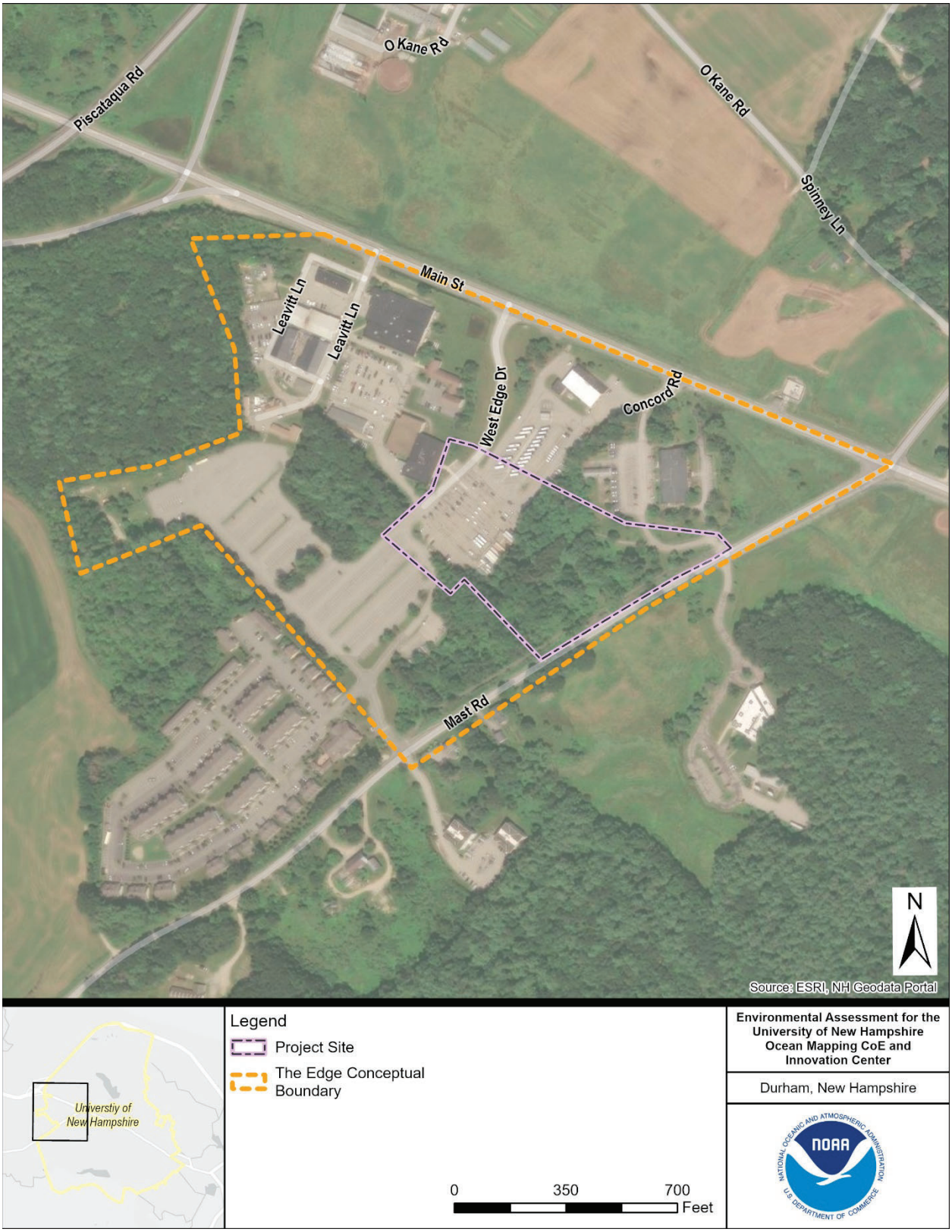
Attachments:

1. Project Site Vicinity
2. Project Site

Attachment 1: Project Site Vicinity



Attachment 2: Project Site



APPENDIX B:

NATIONAL HISTORIC PRESERVATION ACT SECTION 106 CONSULTATION

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER
1305 East-West Highway, Silver Spring, Maryland 20910

NH Division of Historical Resources
State Historic Preservation Office
Attn: Nadine Miller
Review & Compliance
172 Pembroke Road
Concord, NH 03301-3570

RE: UNH NOAA NIST Ocean Mapping Center of Excellence and Innovation Center
Area of Potential Effect Delineation
University of New Hampshire, Durham, NH
R&C #16526

Dear Ms. Miller,

The National Oceanic and Atmospheric Administration (NOAA), the National Institute of Standards and Technology (NIST), and the University of New Hampshire (UNH), are submitting this letter to communicate the delineation of a proposed Area of Potential Effect (APE) for the UNH NOAA Ocean Mapping Center of Excellence (CoE) and Innovation Center Project. With funding from NOAA and NIST, UNH proposes to construct a new two-story building, with a footprint of approximately 56,000 square feet, to the southwest of the existing U.S. Department of Agriculture Forest Service building (271 Mast Road in Durham, New Hampshire). The proposed project location is bounded on the northeast by the parcel at 271 Mast Road, to the south by Mast Road (also, NH Route 155A), and to the north by West Edge Drive. The new building's proposed location is on a combination of land currently occupied by several parking lots and forested land.

According to 36 CFR Part 800, "Protection of Historic Properties" (1986, revised 1999) the APE is defined as:

> "the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking."

Following an in-person visual inspection of the project area, it was determined that an APE extending approximately 0.15 miles (800 feet) from each side of the footprint of the proposed building is appropriate for the project activities. This APE encompasses all areas where anticipated construction and staging activities might directly or indirectly (i.e., visually) affect historic architectural properties. The APE for historic architecture includes:

- All properties immediately adjacent to the proposed project;
- All properties expected to have visibility of proposed project activities; and
- Any properties that have the potential to be physically or visually affected by the proposed building, new parking lots, landscape updates, and tree clearing being undertaken to accomplish the project activities.

The APE primarily encompasses a grouping of UNH buildings constructed between ca. 1960-2000. The proposed project also sits within the UNH Historic District boundary, in the historic district's West Edge.

When the historic district was determined National Register of Historic Places (NRHP)-eligible in 2016, many of the resources located within the West Edge had not reached 50 years of age, and as such they were not evaluated for their contributing status to the UNH Historic District. DHR correspondence from 2016 and the district's Inventory Form state that many of these resources would likely be contributing once they are 50 years old. As such, AECOM will evaluate those resources in this area, as necessary, for their contributing status and/or individual status. NOAA is the lead federal agency for this undertaking. I am the Project Environmental Engineer and will serve as the primary contact and can be reached at anne.delp@noaa.gov. AECOM is supporting NOAA and NIST as technical experts and Kaitlin Pluskota is the Architectural Historian (kaitlin.pluskota@aecom.com). John Battle (john.e.battle@noaa.gov) is the NOAA Federal Preservation Officer.

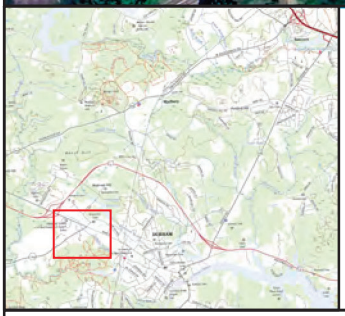
Attached to this letter are: (1) a figure showing the proposed project APE, and (2) detailed project plans for the proposed undertaking. We ask that DHR consider the information presented in this document and concur with our recommendation regarding the proposed APE for this undertaking. Please feel free to reach out with any questions or concerns.

Sincerely,

ANNE.DELP 2025.04.29 16:49:14 -04'00'

Anne H. Delp
Chief, NOAA Environmental Compliance Division
National Oceanic and Atmospheric Administration

Attachments:
Project APE Figure
Project Plans



Legend

Building Footprint

APE Boundary

0 780 1560 Feet

AECOM

437 High Street
Burlington, NJ 08016

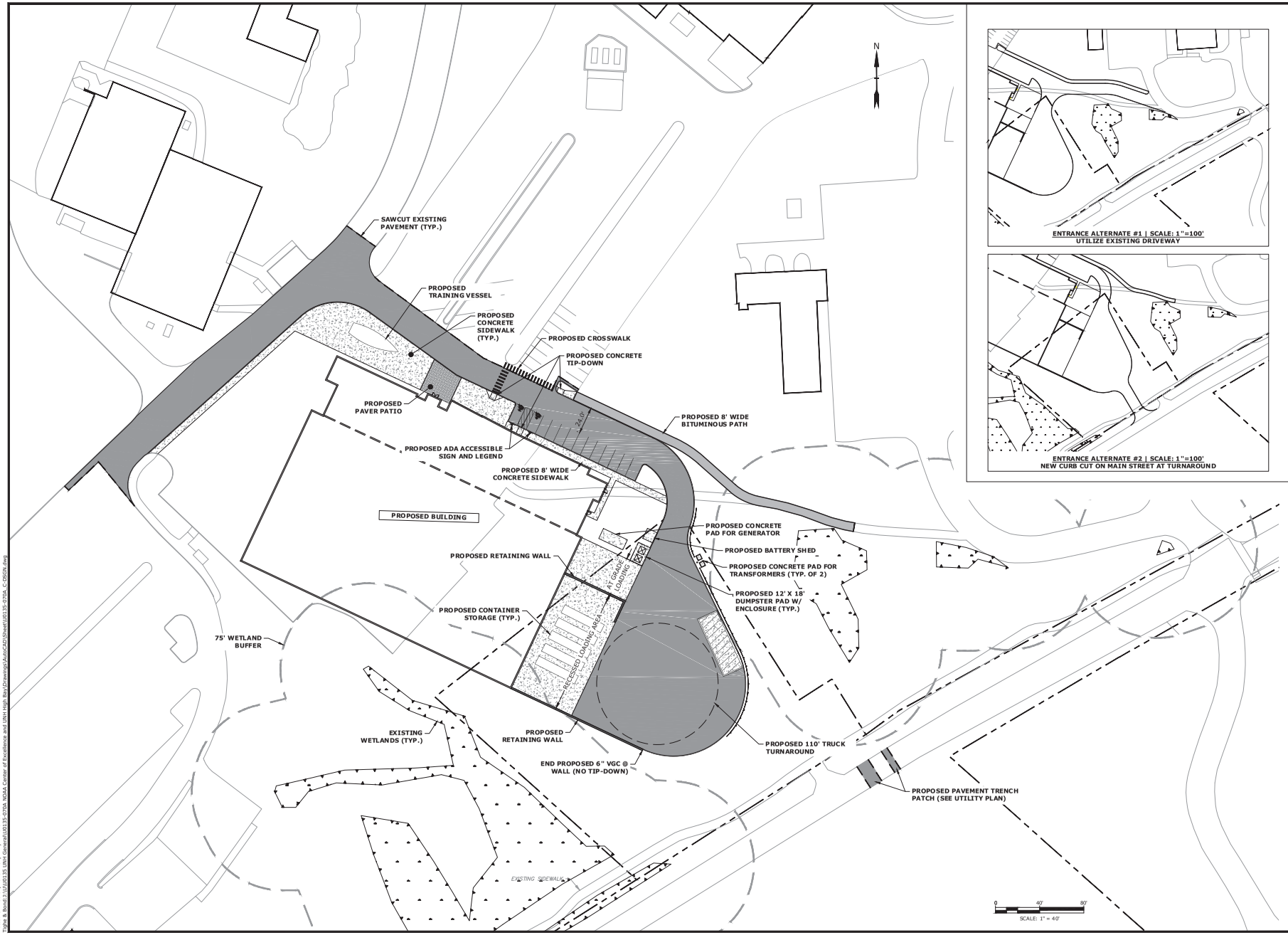
Figure 1

Project APE

UNH NOAA Ocean Mapping Center for Excellence
Durham, NH

USGS 1:24000-scale Quadrangle, NH 1968

Date: 4/18/2025



ENTRANCE ALTERNATE #1 | SCALE: 1"=100'
UTILIZE EXISTING DRIVEWAY

ENTRANCE ALTERNATE #2 | SCALE: 1"=100'
NEW CURB CUT ON MAIN STREET AT TURNAROUND

Tighe&Bond

DRAFT
NOT FOR CONSTRUCTION

THIS DOCUMENT IS RELEASED TEMPORARILY FOR PROGRESS REVIEW ONLY. IT IS NOT INTENDED FOR BIDDING OR CONSTRUCTION PURPOSES.

UNH NOAA Center of Excellence and UNH High Bay

University of New Hampshire

Durham, NH

MARK	DATE	DESCRIPTION

PROJECT NO:	U-0135-070A
DATE:	FEBRUARY 2025
FILE:	U0135-070A_C-DSGN.dwg
DRAWN BY:	JRB
DESIGNED/CHECKED BY:	EGD
APPROVED BY:	JMP

SITE PLAN

SCALE: AS SHOWN

C-101

Last Saved: 2/7/2025
Plotted On: Feb 07, 2025 4:57pm By: EDoremus
Tighe & Bond: J:\U0135 UNH General\U0135-070A NOAA Center of Excellence and UNH High Bay\Drawings\AutoCAD\Sheet\U0135-070A_C-DSGN.dwg

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER
1305 East-West Highway, Silver Spring, Maryland 20910

NH Division of Historical Resources
State Historic Preservation Office
Attn: Nadine Miller
Review & Compliance
172 Pembroke Road
Concord, NH 03301-3570

NH Division of Historical Resources
Concurs
Nadine Miller, LRPO
Name
5/1/25
Date

RE: UNH NOAA NIST Ocean Mapping Center of Excellence and Innovation Center
Area of Potential Effect Delineation
University of New Hampshire, Durham, NH
R&C #16526

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Sincerely,

ANNE.DELP 2025.04.29 16:49:14 -04'00'

Anne H. Delp
Chief, NOAA Environmental Compliance Division
National Oceanic and Atmospheric Administration

Attachments:
Project APE Figure
Project Plans

Legend

Building Footprint

APE Boundary

0 780 1560 Feet

AECOM

437 High Street
Burlington, NJ 08016

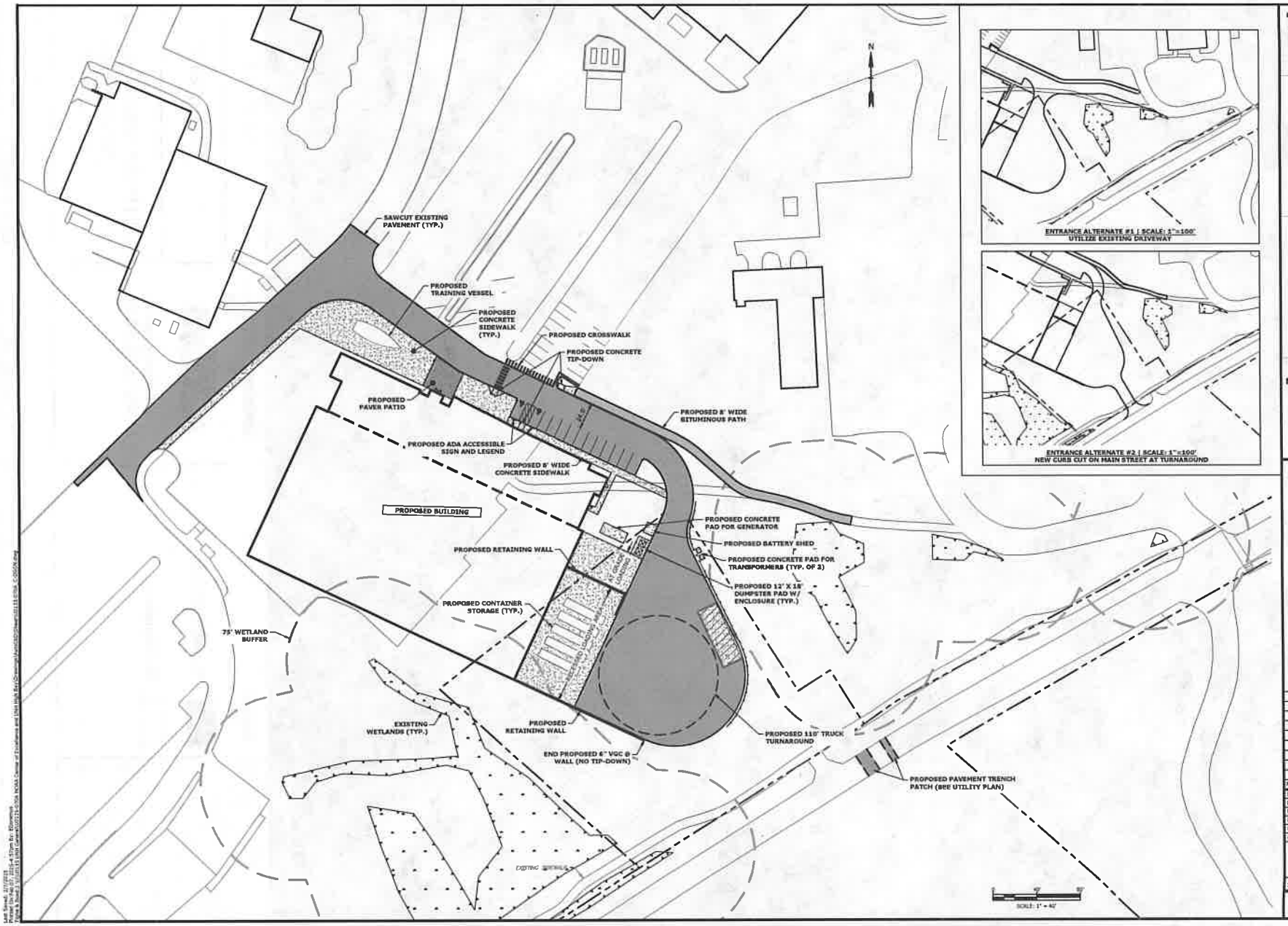
USGS 1:24000-scale Quadrangle, NH 1968

Figure 1

Project APE

UNH NOAA Ocean Mapping Center for Excellence
Durham, NH

Date: 4/18/2025



Tighe&Bond

DRAFT
NOT FOR CONSTRUCTION

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UNH NOAA Center of Excellence and UNH High Bay

University of New Hampshire

Durham, NH

MARK	DATE	DESCRIPTION
PROJECT NO:		114115-0704
DATE:		FEBRUARY 2025
FILE:		114115-0704_C-SHAN.dwg
DRAWN BY:		JKB
DESIGNED/CHECKED BY:		ESD
APPROVED BY:		JMP

SITE PLAN

SCALE: AS SHOWN

C-101

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER
SAFETY & ENVIRONMENTAL COMPLIANCE OFFICE
1305 East-West Highway, Silver Spring, Maryland 20910

Laura Black
Preservation Compliance Specialist &
Easement Program Coordinator
New Hampshire Department of Historical Resources
172 Pembroke Road
Concord, NH 03301

Subject: Section 106 Review and Compliance Consultation for NOAA Center of Excellence, University of New Hampshire, Durham, Strafford County, New Hampshire. (R&C #16526)

Dear Ms. Black,

This letter outlines the Section 106 review and compliance efforts for the proposed National Oceanic & Atmospheric Administration (NOAA) Center for Excellence facility, a collaborative project between NOAA, the National Institute of Standards and Technology (NIST), and the University of New Hampshire (UNH), Durham. The facility is planned along Mast Road at the northwest edge of the university's campus. The purpose of this new facility is to serve as a nexus for government, private sector, and non-governmental organization partners to operate and maintain a national center of excellence in hydrographic, ocean, and coastal mapping sciences. It will serve NOAA, UNH, and the nation through research, training, and developing state-of-the-art ocean mapping technologies and tools. The scope of work includes the UNH/NOAA office and training program of 15,500 SF and the Innovation High Bay program of a 40,000 square foot facility. The Innovation portion is proposed as a single High-Bay. The UNH/NOAA/Industry partner program comprises an administrative, training, research, and collaboration program wing. The project's Area of Potential Effect (APE) encompasses approximately 7.86 acres.

Project Background
On October 9, 2024, NOAA submitted a request for project review (RPR) form to the New Hampshire Division of Historical Resources (NHDHR) to initiate consultation under Section 106 of the National Historic Preservation Act (NHPA) as part of a larger National Environmental Policy Act (NEPA) environmental assessment (EA). This project was established with the NHDHR as R&C #16526. On October 22, 2024, the NHDHR replied to the RPR stating that “portions of the project area are considered archaeologically sensitive. If the site is selected, further study may be warranted,” and stated that additional information was needed to complete the review. As the proposed site was subsequently selected, NOAA sought to satisfy the NHDHR’s request for additional information. To conduct a Phase I evaluation, NOAA employed AECOM to conduct a combined Phase IA archaeological sensitivity assessment and Phase IB intensive archaeological investigation of the APE for the proposed NOAA Center of Excellence located along Mast Road.

Phase IB Investigation and Preliminary Site Evaluation Considerations
The Phase IA/B archaeological investigation of the APE led to the identification of one historic site: a mid-19th century farmstead. This farmstead site includes surface structures, including a barn foundation, a barn mound, two dry-laid stone walls, a chimney/fire box, and a remnant farm road leading to the barn. The main dwelling house, which was central to this former farmstead, was removed after being burned down for fire suppression training by the University of New Hampshire, Durham's fire department in 2015. The extent to which the house foundation was removed after its 2015 burning is currently unknown. However, UNH personnel indicated the intent of the demolition agreement was to remove all burned debris and building foundations. This area is at least partially disturbed.

The identified site is associated with a home built by the Bunker family in 1854. The Bunkers have a long history in Durham, being among its earliest settlers in the 17th century. However, they are not known to have inhabited this land until the mid-19th century. Before the dwelling's construction, the land was mapped as agricultural, and it is unknown if any structures on the property predate the mid-19th century dwelling. A review of EMMIT for registered archaeological sites in Durham indicates the presence of 15 registered archaeological sites, 14 of which are historic. Most of these sites are un-evaluated early homestead sites, generally defined as “cellar holes” that remain largely unexplored or undocumented but are broadly thought to be 17th and 18th century in origin based on historic mapping and documentary research. The Bunker farmstead stands out as the only identified (to date) 19th-century agricultural property in Durham. While the dwelling house and barn are no longer standing, the barn sits atop a soil mound with a visibly infilled basement. The integrity of the remains of the dwelling is unknown. Deposits to the rear of the house seem to have an intact yard surface containing mid-late nineteenth-century material culture, suggesting depositional potential and some informational potential. Given the dearth of similar archaeologically studied properties in Durham or the vicinity, it is not possible to say if these archaeological deposits on this property contribute any new insight into mid-19th-century agricultural properties in rural New Hampshire.

Identification of Historic Properties

Under Section 106 of the NHPA, the Phase IA/B surveys represent NOAA's efforts to identify potential historic properties within the APE. With one potential historic property identified—the farmstead—the typical next step in the Section 106 process would be a Phase II intensive survey to evaluate its eligibility for the National Register of Historic Places.

However, due to extreme funding restrictions imposed upon NOAA, acquiring sufficient funding for a typical Phase II evaluation is currently unfeasible. NOAA is seeking to consult with the NHDHR to discuss alternative methods to fulfill its Section 106 responsibilities while accommodating these financial constraints, as we do not wish for a failure to comply with Section 106 to derail this critical project. To that end, NOAA, UNH, and AECOM have developed several alternative options for the Section 106 process that don't require a Phase II evaluation. Because NOAA cannot fund a Phase II evaluation, NOAA acknowledges the site's potential eligibility and is prepared to treat it as if it is a historic property.

During the Phase IB, the site boundary was delineated using 2-meter interval radial shovel tests to create boundaries for archaeological deposits within the APE. As it became apparent, however, that all deposits encountered were part of a singular historic farmstead, the site boundary was generalized to encompass all features that helped to define the farmstead site. Therefore, portions of the site boundary include structural features with low artifact counts, yard surfaces with high artifact counts but no structure, disturbed areas where the former dwelling was, and some sterile patches occupying the spaces between these more sensitive site areas. The site boundary was delineated to define the entirety of the farmstead site, but doing so created variable sensitivity within the site itself. It is this variable sensitivity that NOAA hopes to utilize to aid in mitigation efforts.

The area within the barn foundation is considered highly sensitive within the site. Similarly, the yard area containing the chimney base/fire box has high sensitivity, as it could reveal a center of activity. The westernmost stone wall is notable for its delineation of the historic property line and its definition of the western edge of the farmyard. Still, it's of limited interpretive value in isolation. The other stone wall, located to the immediate west of the barn foundation upon the barn mound, is perhaps more significant as it defines the edge of a workspace associated with a building and may have played a role beyond marking a property boundary. Shovel testing in the yard to the rear of the former dwelling revealed that depositional integrity is present, and this is where the bulk of artifacts were located during the survey. Given these overviews of artifact connection and depositional integrity, the area therefore has the potential to possess informational potential under Criterion D of the NRHP. This yard surface is located to the rear of the

dwelling, an area commonly associated with the widespread disposal of domestic trash or the presence of yard middens that could produce data about the lives of the people living in the adjacent domestic dwelling.

Many of the STPs at the northern end of the APE near the existing parking lot were sterile and disturbed, suggesting they are non-sensitive, unlike those further south toward the former dwelling. The areas of the site within the former footprint of the dwelling house, which was graded post-burning in 2015, exhibited disturbance. It's unclear if this grading action was sufficient to destroy archaeological deposits or whether vestiges of the foundation may survive deeply buried and contain information about the occupation. Still, given the noted disturbance in this area, it seems that a low to moderate sensitivity is all this portion of the site holds.

To the east of the former dwelling and south of the barn mound, west of the N-S farm road, is another area where shovel testing identified nothing. This area was included within the site as it spans the terrain between visible site features. The area itself has depositional integrity overall but did not exhibit any artifact deposits, so it is classed as a low sensitivity area of the site.

Assessment of Effects
Having identified the archaeological site during the Phase IB investigations, NOAA sought to assess how their proposed construction might affect the identified potential historic property. An overlay of the building design CAD drawings was created showing the footprint of the identified site, the locations of features, and areas of artifact density. On this map, the site was divided into Moderate/High sensitivity areas and low/non-sensitive areas according to the observations described in the previous section of this letter. This comparative effort enabled the project team to identify areas where building plans might affect the archaeological site. Overall, the footprint of the NOAA Center of Excellence is located north of the site, with the southern boundary of the building's footprint nearly abutting the northern boundary of the site. However, while the structure itself is not within the site, there are several related structures and impacts identified that do overlap with the site as delineated.

The following is a list of the identified effects:

- A proposed turnaround and loading dock at the south end of the building overlap with the artifact-dense yard deposits located to the rear of the former dwelling house, as will buried stormwater drainage lines beneath the turnaround;
- Proposed buried gas and electrical utilities are planned to pass through the site's barn foundation;
- A large rain garden is proposed at the southern end of the site along Mast Road in the approximate location of the former dwelling house related to the site. The position of this structure must be at the lowest point possible to function effectively, which is the planned location as described.

Resolution of Adverse Effects
This strategy for resolving adverse effects would primarily involve:

- **Avoidance and Minimization:** Redesigning portions of the site to avoid and minimize impacts.
- **Preservation in Place:** Efforts to preserve aspects of the site where possible.
- **Compensatory Mitigation:** Providing other mitigations to satisfy or compensate for aspects of the site where impacts cannot be avoided.

Proposed Mitigation Actions

Several specific actions are proposed for the site:

- **Avoidance via Relocation of Buried Project Infrastructure:** NOAA proposes to, where feasible, relocate buried features like electrical, communications, water, sewer, and drainage utilities to run within disturbed or low-sensitivity areas within the site. This approach would allow higher-sensitivity areas within the site to remain preserved in place and retain their informational potential. At present, many planned utilities cross the identified barn foundation. NOAA proposes to reroute these deep ground impacts from their present proposed orientation along the barn foundation to take a less direct path. This new route (to the east or west) would avoid the barn foundation and adjacent stone wall and instead would only cut through the largely sterile portions of the adjacent barn mound (constructed of historic fill).

- **Preservation in Place via Capping Fill:** A secondary consideration is preserving aspects of the site by introducing a capping fill over potentially sensitive soils. This would primarily be applied in locations such as the rear yard of the dwelling house, which showed concentrations of historic artifacts and potential middens that could contain informational potential. Providing capping fill in these areas would protect sensitive site components from construction activities. Project impacts in this area include a turnaround, which is a shallow paved surface that would only impact the imported fill. While there is nominal drainage work beneath the paved turnaround, such impacts have a limited footprint, and the area contains no deeper structural foundation work. Drainage installation activities could be archaeologically monitored.

- **Rain Garden Archaeological Monitoring:** A structural constraint of the project is that site drainage must, by necessity, be located in some of the lowest portions of the site, specifically along Mast Road. The proposed rain garden south of the planned Center of Excellence building is predominately situated in the area where the former dwelling house associated with the site was located. The extent to which the house foundation was removed after its 2015 burning is currently unknown. However, given that this area is at least partially disturbed, it appears to be a more appropriate location for deep ground disturbance than an area at its original grade that remains intact and ungraded, like the rear yard. NOAA proposes that excavation for this rain garden within the former footprint of the house be archaeologically monitored and documented during construction. It is unclear whether excavation of the structural foundation would yield significant insights into the structure's occupation, apart from perhaps a chronology of additions. Most of the features are expected to be structural, not requiring the detailed excavation necessary to glean information from midden deposits or shaft features, and most insights would be derived via the examination of the structure afforded by archaeological monitoring.

- **Compensatory Mitigation via Site Interpretation:** As an additional form of mitigation, the UNH has proposed to provide space within the new facility to interpret the site and its occupants. This would primarily involve historical research and records evaluation of the property, connecting it to the broader historical context of Durham's development. This interpretive effort would not require a Phase II field effort but would ensure that much of the documentary research that typically accompanies a Phase II evaluation would be conducted. If feasible, potential exhibits could include aerial and historic photographs, census and demographic discussions, household economy and agricultural production discussions, and potentially former occupant interviews.

Memorandum of Agreement (MOA)

Acceptance by the NHDHR of the proposed mitigations stated above, or of any other mutually agreed-upon mitigations, will lead to the codification of these stipulations within a Memorandum of Agreement (MOA). NOAA will inform ACHP of the adverse effect(s), and the intent to resolve adverse effects with an MOA and invite ACHP to participate in the MOA process. The resultant MOA will be executed by NOAA, NIST, NHDHR, UNH, and the ACHP if they opt to participate. This MOA's execution will legally conclude the Section 106 process and establish an enforceable framework for the NHDHR to ensure adherence to the agreed-upon mitigation conditions.

Conclusion
NOAA understands that the requests outlined in this letter are atypical for the standard Section 106 process. However, given the current financial constraints, these options represent the best opportunities for NOAA to comply with its Section 106 responsibilities without jeopardizing its mandate or the construction of this mission-critical facility. We hope the NHDHR will review the provided field memo (and the forthcoming Phase IA/B report), and assess the viability of these options, or suggest other alternatives that the NHDHR might deem sufficient to conclude the Section 106 process and enable this project to proceed.

We are committed to finding a way to comply with the Section 106 process for the NOAA Center of Excellence, and we appreciate your guidance and expertise to help achieve that goal.

Sincerely,

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Anne H. Delp
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National Oceanic & Atmospheric Administration (NOAA)
U.S. Department of Commerce
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MEMO

June 20, 2025

Re: UNH NOAA NIST Ocean Mapping Center for Excellence and Innovation Center, 271 Mast Road, Durham, NH (2024PR00899)

From: Nadine Miller, Deputy State Historic Preservation Officer, NHSHPO

The NHSHPO concurs with NOAA's recommendations as outlined in their letter dated 6/17/2025 related to the Section 106 Review and Compliance Consultation for NOAA Center of Excellence, University of New Hampshire, Durham, Strafford County, New Hampshire. (R&C#16526/2024PR00899). Given the short window of time and the limited funding for the grant, it is appropriate to assume that the identified archaeological site associated with a farmstead is eligible for listing in the National Register of Historic Places for purposes of the project. We agree that avoidance, preservation in place by capping, archaeological monitoring, and mitigation through interpretation are appropriate steps to resolve any adverse effects that may arise from the project. Our office is in the process of reviewing one additional above-ground resource and will proceed with finalizing Section 106 review once that property has been fully evaluated and commented on. Thank you for your detailed response and creative approach to a complicated Section 106 review. We look forward to consulting on the development of a Memorandum of Agreement to codify these stipulations. During this process, we request that the Durham Historic District Commission and Durham Historic Association be contacted to determine if they have any concerns about the project, if they have not already been contacted.

EMMIT+

Project Review Record

Review & Compliance
2024PR00899.004

NEW HAMPSHIRE DIVISION OF HISTORICAL RESOURCES

UNH NOAA NIST Ocean Mapping Center for Excellence and Innovation Center, 271 Mast Road

construct technical manufacturing/innovation building, UNH, NOAA Ocean Mapping Center for Excellence, 271 Mast Road

Submission Information

Description
Phase IA/IB End of Field memo

Submitted By	Date Submitted	Date Due	Date Response Sent
Kenneth Weston	6/10/2025	7/10/2025	6/25/2025

Reviews

Review Type	Review Decision
Archaeological Review	Concur With Conditions

Comments

Comments by Reviewers
Concur with NOAA's recommendations as provided in the letter dated 6/17/2025.

Requests

Request Item	Description
None Available	

Attachments

Name	Description
None Available	

EMMIT+

Project Review Record

Review & Compliance
2024PR00899.009

NEW HAMPSHIRE DIVISION OF HISTORICAL RESOURCES

UNH NOAA NIST Ocean Mapping Center for Excellence and Innovation Center, 271 Mast Road

construct technical manufacturing/innovation building, UNH, NOAA Ocean Mapping Center for Excellence, 271 Mast Road

Submission Information

Description
Short memo evaluation 1 Leavitt Lane

Submitted By	Date Submitted	Date Due	Date Response Sent
Kaitlin Pluskota	6/18/2025	7/18/2025	6/20/2025

Reviews

Review Type	Review Decision
Architectural Review	Concur

Comments

Comments by Reviewers
NHSHPO concurs that 1 Leavitt Lane does not contribute to the NR eligible UNH Historic District. 6 Leavitt Lane and 213 Main Street however, are considered contributing to the historic district based on the information provided.

Requests

Request Item	Description
None Available	

Attachments

Name	Description
None Available	

EMMIT+

Project Review Record

Review & Compliance
2024PR00899.008

NEW HAMPSHIRE DIVISION OF HISTORICAL RESOURCES

UNH NOAA NIST Ocean Mapping Center for Excellence and Innovation Center, 271 Mast Road

construct technical manufacturing/innovation building, UNH, NOAA Ocean Mapping Center for Excellence, 271 Mast Road

Submission Information

Description
Short memo evaluation 6 Leavitt Lane

Submitted By	Date Submitted	Date Due	Date Response Sent
Kaitlin Pluskota	6/18/2025	7/18/2025	6/20/2025

Reviews

Review Type	Review Decision
Architectural Review	Concur

Comments

Comments by Reviewers
NHSHPO concurs that 1 Leavitt Lane does not contribute to the NR eligible UNH Historic District. 6 Leavitt Lane and 213 Main Street however, are considered contributing to the historic district based on the information provided.

Requests

Request Item	Description
None Available	

Attachments

Name	Description
None Available	

EMMIT+

Project Review Record

Review & Compliance
2024PR00899.012

NEW HAMPSHIRE DIVISION OF HISTORICAL RESOURCES

UNH NOAA NIST Ocean Mapping Center for Excellence and Innovation Center, 271 Mast Road

construct technical manufacturing/innovation building, UNH, NOAA Ocean Mapping Center for Excellence, 271 Mast Road

Submission Information

Description
Short memo evaluation 213 Main Street

Submitted By	Date Submitted	Date Due	Date Response Sent
Kaitlin Pluskota	6/19/2025	7/19/2025	6/20/2025

Reviews

Review Type	Review Decision
Architectural Review	Concur

Comments

Comments by Reviewers
Concur that 213 Main Street, Durham, contributes to the UNH HIstoric District.

Requests

Request Item	Description
None Available	

Attachments

Name	Description
None Available	

EMMIT+

Project Review Record

Review & Compliance
2024PR00899.010

NEW HAMPSHIRE DIVISION OF HISTORICAL RESOURCES

UNH NOAA NIST Ocean Mapping Center for Excellence and Innovation Center, 271 Mast Road

construct technical manufacturing/innovation building, UNH, NOAA Ocean Mapping Center for Excellence, 271 Mast Road

Submission Information

Description
271 Mast Road

Submitted By	Date Submitted	Date Due	Date Response Sent
Kaitlin Pluskota	6/18/2025	7/18/2025	7/3/2025

Reviews

Review Type	Review Decision
Architectural Review	Comments and/or Attachments Provided

Comments

Comments by Reviewers
See Resource for DOE evaluation.

Requests

Request Item	Description
None Available	

Attachments

Name	Description
None Available	

USDA Forestry Sciences Laboratory

271 Mast Road, Durham, Nh

Resource Status

Eligiblity

National Register Eligible - 7/3/2025

Areas of Significance

Education
Conservation
Science

Periods of Significance

The period of significance is 1973-1975 (50 year cut-off), though it continues its original use.

DHR Summary Statement

The USDA Forestry Sciences Laboratory is significant for its historical contributions to the forestry industry and for its mid-century architecture. As noted in the consultant's documentation, "The Durham laboratory was one of a number of facilities for the Northeastern Research Station, a network of research facilities, established in 1923, that contributed to extensive research programs. Activities and accomplishments covered by these facilities included subjects in timber and watershed management; forest genetics; insects and disease; utilization and marketing; forest survey, economics, and engineering; wildlife habitat; and recreation. Though the Durham location was just one of several similar facilities, the work completed there has contributed significantly to the objectives of the U.S. Forest Service and facilitated advancements in the understanding of several forestry management subjects (Ross 1998)." The consultant notes that other comparable research facilities exist near universities, including the Cold Regions Lab in Hanover and the Jackson Estuarine Lab in Durham; all of the same period. Further research may provide a more detailed historic context that establishes these resources within an educational framework contributing to the broader understanding of specialized environmental fields.
Furthermore, the building has high integrity and characteristic features of the modern period, including the narrow bands of windows along the facade. Therefore, the property is eligible for listing in the National Register of Historic Places under Criterion A and C.

Submitted Statement of Significance

Criterion A: The USDA Forestry Sciences Laboratory has contributed to advancements in forest management research since it was established in the 1970s. The laboratory has played a role in forest service research initiatives, connected with research forests throughout the state and region, and has played a role in informing policy and forest management decisions throughout the Northeast. Nevertheless, background research did not reveal that the laboratory had any specific association with an important historic event or pattern of events, and therefore the property is not eligible under Criterion A. As noted in National Register Bulletin 15 under Criterion A, “mere association with historic events or trends is not enough

to qualify under Criterion A: the property's specific association must be considered important as well" (p. 12). There is no indication that anything of great importance as it relates to forestry science and research has occurred within this building.

Criterion B: The property is not eligible under Criterion B. It does not appear to be associated with the lives of persons significant in our past.

Criterion C: Though the USDA Forestry Sciences Laboratory retains physical integrity and has sustained minimal modifications to its original exterior material and design, the building does not appear to embody distinctive characteristics of an architectural style. Therefore, the resource is not significant under Criterion C.

Integrity Statement

The building retains high integrity having few alterations.

Architectural Information

Architectural Type

Building

Current Uses

Education, Research Facility

Historic Uses

Education, Research Facility

Original Construction Year

1973

Original Construction Timeframe

Not Available

Architects/Builders

None Available

Building Styles

Other

Residential Building Form

Not Applicable

Exterior Features

Foundation Materials

Concrete, Poured

Wall Materials

Brick

Roof Materials

Asphalt Shingles
Metal, Unspecified

Roof Types

Flat

Chimney Locations

None/Removed

Chimney Materials
None Available

Number of Stories
2.0

Entry Locations
Façade, Center, Paired

Windows
Double-Hung – Single-Pane
Fixed

Window Replacement Details
Not Available

Property Moved Details
Not Available

Property Lost Details
Not Available

Site Features

Settings
Institutional

Outbuildings
Garage - -
Greenhouse - -

Landscape Features
Mature Trees
Parking Lot
Paths Or Walkways

Narrative

Architectural Description
The USDA Forestry Sciences Laboratory is located at 271 Mast Road, on the south side of Main Street. The building is built into a hill and is surrounded by mature landscaping and trees on its north and south elevations, with parking lots along its façade and west elevation. Two sets of concrete stairs run along the north and south elevations to accommodate the grade change between the front and back of the building. To the west of the building, on the opposite side of a large parking lot, are an associated greenhouse and garage, both of which are not historic.
The building is a two-story Modern-style building constructed in 1973. The building measures 15 bays wide and features a simple brick exterior capped by a flat roof with aluminum coping. There is no chimney on the building, but several pipes and mechanical components can be seen above the roofline. The building has a rectangular footprint and sits on a poured concrete foundation. The east-facing façade features a central entry featuring a pair of double metal and glass pane doors, with a surround featuring a series of large fixed

glass pane windows; above the entrance is a simple flat-roofed overhang. Centrally located on the second story of the facade is a large fixed-pane window flanked by pairs of 1/1, double-hung, metal sash windows. The remainder of the facade features repetitive narrow vertical window slits, alternating with the brick exterior. Windows within these slits consist primarily of 1/1, double-hung metal sashes.

The north elevation features two sets of steel double doors, one at the first story and one at the second story, each fronted by a concrete pad. Fenestration on this elevation consists of irregularly-placed 1/1, double-hung, metal sash windows. The elevation is otherwise void of other features or detail. The west elevation shows only one story and features a centered double steel door entrance. Fenestration on this elevation consists of 1/1, double-hung metal sash windows set at regular intervals on either side of the centered entrance. The south elevation features three sets of double steel doors, two at the first story and one at the second story, each fronted by a concrete pad. Additional features on this elevation include transoms consisting of fixed pane glass windows above two sets of doors and metal ventilation grates. No additions or significant modifications to the building were observed during survey.

Comparative Evaluation

A comparative extant example of a similar building is the Cold Regions Research and Engineering Laboratory in Hanover. That building, a U.S. Army research facility, was constructed between 1961-1963 and exhibits a modern style as well. There has been no eligibility evaluated for this resource, but it shares a similar scientific use, construction date, and modern/minimal style that is seen at the USDA Forestry Sciences Laboratory (Atwood 2013). Other, similar examples throughout the state may exist, but do not appear to have been widely recorded, likely due to having recently just reached the 50 year mark and, as such, a focus on recording these resources would widen the understanding of this property type within a statewide context.

Historical Background

The USDA Forestry Sciences Laboratory, constructed in 1973, is an example of a well-preserved educational facility from the 1970s. Though the building is located on the University of New Hampshire's (UNH) campus, the land is leased by the USDA, and the laboratory is not an official university building.

The first mention of a new U.S. Forestry Sciences facility in Durham was in 1966 in an article of the Concord Monitor. This focus within the U.S. Forest Service facilitates the research of various forest-related sciences to understand environmental factors influencing forests and their management. The article notes that later that year plans for a new forest research center, at the corner of Mast Road and Main Road in Durham, on the UNH campus, were to begin. The proposed building was part of a larger plan the Forest Service had for 11-12 laboratories across the northeast, as part of the Northeastern Forest Experiment Station Laboratory, a network of laboratory facilities throughout the northeast that collaborated on the advancement of forestry research initiatives, though the proposed facility at the Durham location was to be one of the largest (Concord Monitor, 9 June 1966: 2).

Although plans for a new facility were just beginning in mid-1966, a laboratory was established in Durham later that year, utilizing the leased Batchelder Building on Dover Road, just outside of the UNH campus. This location was used as a temporary research laboratory while plans for the new building were completed (Leak & Yamasaki 2011). An article published in The New Hampshire, the UNH newspaper, noted that a new Northeastern Forest Experiment Station Laboratory located in Durham was opened in late 1966. Four forest specialists, Dr. Robert Pierce, Dr. Ernest Schreiner, Dr. Alex Shigo, and William Leak, who had a variety of forestry experience throughout New Hampshire and Maine, were brought in as project leaders for the laboratory. (The New Hampshire, 8 December 1966: 2).

Both 1966 articles noted that while the building's location was technically on the UNH campus, a long-term lease would be in place which would make it USDA property. The facility would not be associated directly with UNH but through a mutual cooperation agreement the personnel at the station would work closely with the Forestry, Botany, and Soil and Water Departments of UNH (Concord Monitor, 9 June 1966: 2; The New Hampshire, 8 December 1966: 2). UNH has historically had a substantial forestry program, with its students contributing to regional conferences and initiatives. The establishment of the Durham laboratory provided students who were qualified and seriously interested in forestry research the opportunity to meet and learn from some of the top personnel in the field, as well as to learn if research was a path they were interested in exploring in the future (The New Hampshire, 15 October 1968: 6).

The following year, in 1967, an article stated that due to budgetary concerns the new research laboratory facility may not get past the planning stage. Continuation of the project depended on the Forest Service securing close to $1 million in funds from the 1968 federal budget. Senator Norris Cotton appeared before the U.S. Senate to plead the case for the new laboratory, citing the importance of the proposed facility for forestry research in not only New Hampshire, but also New England (The New Hampshire, 15 March 1967: 3).

In 1972 plans for the new laboratory were finalized, with the price projected as $1.3 million, to be financed in full by the federal government; funds were secured through a bill sponsored by New Hampshire Senator Thomas McIntyre and Congressman Louis Wyman. The building's completion was expected by late winter of the following year. Projected specifications for the building included 22,000 square feet to accommodate 25 scientists and 25 additional personnel. The relationship between UNH forestry students and the laboratory had flourished to this point, with opportunities for students to participate in research projects and part-time and summer employment. The goals for the new facility were to allow for expansion of the laboratory's current projects, provide more space, facilitate more efficient work, and afford more research opportunities (The New Hampshire, 14 January 1972: 2). In February of 1972, R.C. Foss and Sons Inc., a firm out of Pittsfield, N.H. was awarded a $984,321 contract to build the laboratory building (Valley News, 29 February 1972: 13).

In a September 1973 article published in The New Hampshire, it was announced that the new

Forestry Sciences Laboratory in Durham, under the direction of the USDA Forest Service, was completed. The new facility's primary function was noted as a research center that could accommodate 50 scientists, under the direction of Chief of Laboratories, Dr. Robert S. Pierce. It included 12 laboratories, 38 offices, and several conference rooms. At the time of its opening, the facility was involved in five research projects: Genetics, Discoloration and Decay, Ecology, Recreation, and Water. The article also noted that at the time of the Durham laboratory's opening, there were 14 similar research facilities throughout the northeastern U.S. The article repeated the earlier information that although there is no direct affiliation between the laboratory and UNH, other than the piece of land leased, scientists from the laboratory taught university classes, and some graduate students had the opportunity to work with the laboratory's research staff (The New Hampshire, 21 September 1973: 3).

The Durham laboratory was one of a number of facilities for the Northeastern Research Station, a network of research facilities, established in 1923, that contributed to extensive research programs. Activities and accomplishments covered by these facilities included subjects in timber and watershed management; forest genetics; insects and disease; utilization and marketing; forest survey, economics, and engineering; wildlife habitat; and recreation. Though the Durham location was just one of several similar facilities, the work completed there has contributed significantly to the objectives of the U.S. Forest Service and facilitated advancements in the understanding of several forestry management subjects (Ross 1998).

Applicable NHDHR Historic Contexts

1000) Education - Higher education, 1770-present.
1506) Commerce, Community Planning, Cultural Landscapes - The land conservation movement in New Hampshire.
1504) Commerce, Community Planning, Cultural Landscapes - Town and county planning and surveying.
1505) Commerce, Community Planning, Cultural Landscapes - Landscapes and their designs in New Hampshire.
608) Entertainment and Recreation - Outdoor recreation in New Hampshire.
611) Entertainment and Recreation - New Hampshire State Parks, Sites and Forests.

Boundary Description

The boundary of the resource is part of the parcel, 09062-013-003-001UNH, on which it sits. The boundary begins at the intersection of Main Street and Mast Road and travels northwest along Main Street for approximately 1,200 feet to the intersection of the Transportation Center driveway with Main Street. The boundary then follows the driveway for approximately 620 feet to the west, then turns south and follows the tree line for approximately 1,050 feet until it meets Mast Road. The boundary then follows Mast Road to the northeast approximately 1,850 feet until it meets the starting point.

Boundary Justification
The boundary is the parcel of land on which the building sits that is leased from UNH.

Acreage
5.49

Towns
None Available

Reporting Information

Bibliographical Reference

Atwood, Kathleen A
2013. Cold Regions Research and Engineering Laboratory. On file, New Hampshire Division of Historic Resources, Concord. Submitted September 2013.

Concord Monitor
1966 Forest Research Center Ready for UNH. 9 June:[2].

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Resource Record - Architectural Resource - 2025RE00070

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Date Surveyed
4/14/2025

Evaluations

7/3/2025 - National Register Eligible

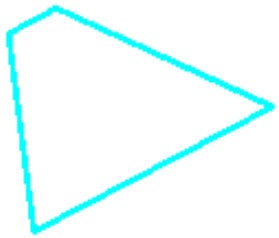
Documents

1) USDA Forestry Sciences Laboratory - USDA Forestry Sciences Laboratory Inventory Form

Photos (0)

No Photos Available

Resource Boundary



Map Overview