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Review of Land Use and Local and Regional Planning
The Seacoast Reliability Project

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1.0 Introduction

Public Service Company of New Hampshire d/b/a Eversource Energy ("PSNH") has applied to the New Hampshire Site Evaluation Committee ("SEC") for a certificate of site and facility to construct, operate, maintain and connect a 115 kilovolt ("kV") electric transmission line from a substation in Madbury, New Hampshire to a substation in Portsmouth, New Hampshire, a distance of approximately 12.9 miles. The Seacoast Reliability Project (the "Project") route primarily follows an existing electric line right-of-way ("ROW") within Madbury, Durham, Newington, and Portsmouth, including an underground segment which crosses under Main Street in Durham (2,100 feet), an underwater cable crossing between Durham and Newington under Little Bay (5,750 feet), and an underground segment in the Gundalow Landing area in Newington (1,470). Almost all of the route is within or along an existing electric line and/or transportation corridor.

This report examines the impacts of the construction and operation of the Project on prevailing land use. The assessment demonstrates that the impacts of construction and operation of the facility on local land use are limited. Most of the ROW corridor has been in existence for decades, and has contained electric utility infrastructure for many years. The presence and regular maintenance of the utility corridor and associated structures has not impacted growth and development adjacent to the ROW. In addition, some segments of the Project will be located underground, and a portion of the existing distribution system will be relocated.

Land uses adjacent to the Project corridor include forests, agriculture, residential, commercial/industrial, transportation and utilities, conservation, historical and archaeological, wetlands and water resources, wildlife habitat, and institutional/ government. Sound land use and environmental siting principles support locating the proposed electric transmission line within or along the existing ROW because it minimizes impacts to local land uses, regional development and the environment.[1]

In order to conduct this analysis, we examined existing land uses, regional plans, and municipal master plans and zoning ordinances. The Project is consistent with prevailing land uses along the corridor and with goals and objectives of these long-range policy planning documents, and will not interfere with their implementation.

2.0 Report Methodology

This report examines prevailing land uses in each community along the corridor in order to estimate impacts to local land use. We obtained land use data and trends, local master plans

[1] For example, see the decision in Portland Natural Gas Transmission System Maritimes & Northeast Pipeline Company, NH SEC, Docket No. 96-01 and Docket No. 96-03 (July 16th, 1997), *available at* http://www.nhsec.nh.gov/projects/1996/index.htm; Findings of the Bulk Power Facility Site Evaluation Committee, NH SEC DSF 850-155 (September 16th, 1986), *available at* http://www.nhsec.nh.gov/projects/1990.htm.

and zoning ordinances, and other land use information from regional planning commissions, state agencies, NH GRANIT, local communities, and other sources.[2]

From these sources, we compiled detailed summaries of land use, zoning, master plans, and other long range plans for each community where the Project is located. Recently completed regional plans were obtained from the two regional planning commissions that serve the four communities along the Project corridor. All of the goals, objectives and recommendations in the local and regional long-range plans were reviewed, summarized and evaluated. In most instances, these plans did not directly relate to the construction or operation of the proposed facility. In many cases, the plans expressed general planning goals and objectives such as protecting rural character by encouraging development in already developed areas and protecting open space.

In addition to document review, we conducted site visits along the corridor and met with representatives of the regional planning commissions and local planners to discuss existing land use and plans for future development.

Distances from the edge of the right-of-way to structures outside the corridor were also reviewed. These measurements indicate that most of the houses are more than 200 feet from the ROW and the number of houses less than 100 feet from the edge of the ROW is small.

In addition to a consideration of prevailing land use, we also considered the effect of the Project on community services and facilities, and tourism and recreation.

In this report, "Project Area" refers to the four communities of Madbury, Durham, Newington and Portsmouth, and "Project corridor" or "corridor" refers to the existing and proposed electric ROW.

3.0 Project Description

The proposed energy facility is a new, 115 kV AC electric power transmission line to be owned and operated by PSNH, running a total of approximately 12.9 miles from PSNH's Madbury Substation in Madbury, New Hampshire, through the Towns of Durham and Newington, New Hampshire, to PSNH's Portsmouth Substation in Portsmouth, New Hampshire. The proposed energy facility, referred to hereafter as the Seacoast Reliability Project ("SRP" or "Project") will also include new line terminal additions at each of these PSNH substations, which will also be owned and operated by PSNH. The new transmission line will be designated Line F 107. It will be primarily located in an existing electric corridor, 12.1 miles of which will be a new transmission route along an existing electric utility ROW; 0.8 miles will be in an existing transmission corridor.

The new line leaving the Madbury Substation will be located overhead on PSNH fee property and new PSNH easements and then in a portion of a Pan Am Railroad active railway corridor under a license agreement with the Railroad for approximately 1.4 miles. The line will then transition to underground within the University of New Hampshire, ("UNH") campus in Durham. The line will pass under Main Street in Durham and continue underground through the UNH campus for a total distance of 0.4 miles. PSNH has an

[2] This report contains information as of December 10, 2015.

agreement with UNH to purchase easement rights for this section. The line will then be located overhead in an existing ROW corridor owned either in fee or under permanent easements by PSNH for approximately 1.7 miles to the Packers Falls Substation. The line then turns east and runs approximately 4.0 miles to the westerly shoreline of the Little Bay portion of Great Bay in Durham, where it will transition to underground.

After transitioning to underground, the line will continue via buried submarine cable across Little Bay within a designated utility cable corridor, to the easterly shoreline of Little Bay in Newington, a distance of approximately 1.1 miles. After crossing the bay, the Project will continue underground within the roadway through Gundalow Landing, crossing under Little Bay Road to a transition structure just east of Little Bay Road. The Project will then continue overhead in the existing utility corridor for a distance of 4.1 miles and will continue overhead to the Portsmouth Substation.

The Project will require work at each of the terminal substations, including structural bracing modification to the existing terminal structure, installation of a new circuit breaker and new coupling capacitor voltage transformers ("CCVT") at Madbury Substation and a new terminal structure, control enclosure expansion, bus extension, circuit breaker, and new CCVTs at Portsmouth Substation. The work conducted at both substations will be constructed within the substation fence line.

4.0 Prevailing Land Use

For the purposes of this report, existing land uses are classified as: forests, agriculture, residential, commercial/industrial, transportation and utilities, conservation, historical and archaeological, wetlands and water resources, wildlife habitat, and institutional/ government.[3]

These general land use categories were derived from the existing land uses described in local and regional master plans in the Project area.

Land Use Background

The Project's land use classification is as a utility. The applicant proposes to site a 115 kV transmission line to be located primarily within or along the existing electric utility ROW, as well as an underground segment within the roadway at Gundalow Landing in Newington.

The Project route is approximately 12.9 miles long and covers a combined total of about 152 acres in the four Project communities. The Project corridor is well below 1% of the total land area in each municipality. Aside from the cable houses along Little Bay that date back to 1902, most of the rights to the corridor were originally obtained in the mid-20th century by the New Hampshire Electric Company, which was later acquired by PSNH. The corridor contains electric lines and structures which have been actively maintained for decades.

The land uses currently adjacent to the Project corridor include forests, agriculture, residential, commercial/industrial, transportation and utilities, conservation, historical and archaeological, wetlands and water resources, wildlife habitat, and institutional/ government. Sound land use and environmental siting principles support locating the proposed electric transmission line within or along an existing ROW because it minimizes impacts to regional development, local land uses and the environment.

The following sections provide a description of the prevailing land uses within and adjacent to the Project corridor and evaluate the consistency of the proposed facility with such land uses. Overall, the Project is consistent with existing land uses, and will not have an adverse impact on land use along the corridor.

[3] Most modern land use classifications are based on the 1965 *Standard Land Use Coding Manual* (SLUCM) produced by the Urban Renewal Administration of the Housing and Home Finance Authority, which established a consistent system for identifying and coding land use activities. In the 1990's, the American Planning Association (APA) joined with the Federal Highway Administration (FHWA) and several other federal agencies to develop the Land-Based Classification Standards (LBCS) to update the SLUCM. This model assigns land classifications based on activity, function, structure, site and ownership. There are other land use classification models, but they all consistently define existing land uses by observable activity on the site such as: residential, commercial, industrial, institutional, public infrastructure and utilities, transportation, recreation, natural resources, and undeveloped.

4.1 Forests

According to the USDA Forest Service and the NH Division of Forests and Lands, New Hampshire is the second-most forested state in the nation, following Maine. Forested land near the Project corridor is primarily composed of mixed forest beech-oak and hemlock-hardwood-pine. Areas of wet meadow/shrub wetland, peatlands, floodplain forest, grasslands, and salt marsh are also located along the corridor.

From west to east, the corridor emerges from the Madbury substation in a wooded area and runs parallel to an active railroad line which runs along the eastern edge of the Old Reservoir parcel, the southeastern edge of College Woods and the western edge of East Foss Farm, all of which are primarily forested parcels owned by UNH and managed for timber harvesting, wildlife, recreation, research, teaching and other uses. These lands are described in the conservation section below.

Beyond East Foss Farm, the area along the Project corridor is mostly forested across the Town of Durham, as well as in portions of Newington. Several forested areas along the route are permanently protected by UNH, the towns, NH Fish and Game ("NHF&G"), and The Nature Conservancy ("TNC").

The Project will not interfere with the management or timber harvesting of these forests because the Project will be located within or along an existing corridor in which routine maintenance of the ROW occurs according to established management practices. The applicant does not propose clearing outside the existing ROW except for access ways and emergency tree removal (according to easements and landowner permission), and will coordinate with abutting parcel owners and the towns prior to construction.

4.2 Agriculture

There are a few agricultural lands in the vicinity of the Project route within the towns of Madbury, Durham and Newington. These lands are generally used for hay, pasture or corn. In Madbury, the nearest agricultural parcel is located approximately 220 feet east of the corridor. There are no agricultural lands near the project corridor in Portsmouth.

In Durham, nearby agricultural lands are located west of the rail line, north of Main Street; west of the intersection of Durham Point Road and Colony Cove Road; and east of Durham Point Road, along Langley Road. An active farm is located west of the railroad tracks and Packers Falls substation, and another is located on Longmarsh Road, south of the Project corridor. None of these has active agricultural lands that abut the Project ROW in Durham.

There are two agricultural fields along the ROW in the Town of Newington: part of the Frink Farm on Nimble Hill Road and a field between Fox Point Road and the Spaulding Turnpike.

The Project will not have an adverse impact on agricultural uses and will not interfere with ongoing operations. The applicant has indicated it will work with agricultural landowners to minimize and/or mitigate any temporary impacts during construction.

4.3 Residential

Residential development in the four communities along the corridor is typical of seacoast New Hampshire: low density single family homes scattered along existing road frontages,

moderate density suburban single family neighborhoods built around cul-de-sac roads and other newer roadways and some areas with more dense development. This is reflective of the type of residential pattern of development that seacoast New Hampshire experienced between the late 1970's and mid-2000's. In addition, the University of New Hampshire has constructed some college dormitories near the railroad and utility corridor, north and south of Main Street in Durham.

There are relatively few residential structures within 100 feet of the electric line ROW. In Madbury this includes two houses north of Route 4. In Durham, the access road and parking lots for the Gables, a student apartment complex providing housing for over 1,000 students, were constructed by UNH adjacent to the ROW and railroad corridor. Several houses, including some within 100 feet of the ROW, were constructed near the corridor in the Timberbrook Lane/ Cutts/ Ffrost/ Sandy Brook area. There also is a nearby house on the eastern segment of Longmarsh Road, one east of Durham Point Road, and one near Little Bay.

After crossing under Little Bay into Newington, the line continues under the road in Gundalow Landing, a residential neighborhood, and emerges overhead after crossing Little Bay Road. It continues east and crosses Nimble Hill Road. The ROW is immediately northeast of three houses located on Hannah Lane, and then crosses Fox Point Road, where there are two houses along the corridor.

Descriptions of residential areas adjacent to the Project corridor are included in the land use summaries in Appendix A.

Overall, there are relatively few homes in close proximity adjacent to the electric utility ROW. In almost all cases, the electric line corridor pre-dates the construction of these houses. The applicant will coordinate with land owners near the corridor to address concerns about potential or perceived impacts associated with construction of the Project.

4.4 Commercial/Industrial

A few segments of the transmission line are located within or along existing or proposed commercial or industrial areas. In Durham, this includes the Amtrak Station/UNH A lot parking area, where the UNH Master Plan identifies the potential for future mixed use development with structural parking and a potential new road underpass of the railroad and electric lines. The Project will be located underground in this area.

In Newington and Portsmouth, the ROW is within commercial/industrial areas east of the Spaulding Turnpike, in an area with existing overhead lines, signs, traffic lights and several commercial and industrial uses.

The construction and operation of the Project will not interfere with commercial or industrial activities present near the corridor because it is located along an existing utility corridor. The applicant will work with the municipalities, UNH and nearby businesses to minimize any temporary, short-term impacts from construction.

4.5 Transportation and Utilities

Transportation

A portion of the Project ROW is located along an active railroad corridor (passenger and freight) from Madbury through the UNH campus and conservation lands to the Packers Falls substation, a distance of approximately 3.6 miles. PSNH has coordinated with the railroad owner, PanAm Railroad, and the New Hampshire Department of Transportation ("NHDOT") to ensure that the Project meets all applicable requirements and will not affect railroad operations.

The only airport facility near the Project area is the Portsmouth International Airport, at Pease. The applicant has consulted with the Federal Aviation Administration ("FAA"), NHDOT Bureau of Aeronautics, and the Pease Development Authority to ensure that the Project does not affect current and future airport operations and meets all applicable federal and state requirements. The FAA previously issued a finding of no hazard for the Project; all modifications to the design will be submitted to the FAA for further approval. Based on this, the transmission line will not have adverse impacts on airport operations at Pease.

Public bus service in the Project area is provided by Wildcat Transit (UNH), the Cooperative Alliance for Seacoast Transportation ("COAST") and C&J Busline.

The Spaulding Turnpike Newington-Dover Project is in the vicinity of the Project corridor and the applicant has indicated that it will coordinate with NHDOT to ensure that the Project does not have adverse impacts on recent or planned highway improvements in the area. Similarly, the applicant has indicated that it will coordinate with the NHDOT and the owners of the railroad line in Newington to ensure that the Project does not affect current or future railroad operations or improvements including a proposed future rail line near the Nimble Hill Road and Spaulding Turnpike intersection, which is discussed in the Newington Master Plan.

The Project corridor includes a number of crossings of state and local roads. These crossings are within or along the existing electric line ROW which has existed for many years. The applicant will coordinate with local and state agencies, as well as UNH, to ensure that the construction and operation of the Project does not adversely affect current or future road operations or improvements.

The Project includes one crossing (Route 108) of the state-designated Mills Scenic Byway (see Section 5.3).

Locally Designated Scenic Roads

RSA 231:157 allows municipalities to designate certain roads as scenic. Each town is required to maintain and make available to the public a list of all roads or highways, or portions thereof, within the towns which have been designated as scenic.

Locally-designated scenic roads within the Project area communities are summarized in Table 1 below.

Table 1 Locally-Designated Scenic Roads.

Community	Road	Project Crossings
Madbury	Nute Road and Cherry Lane.	None
Durham	Durham Point Road, Bennett Road, Bay Road, Packers Falls Road.	1. Durham Point Road.
Newington	All Class V town roads west of the Spaulding Turnpike, and town roads north of the Newington/Greenland town line.	1. Gundalow Landing (UG); 2. Little Bay Road (UG); 3. Old Post Road; 4. Nimble Hill Road 5. Fox Point Road; and 6. Gosling Road.
Portsmouth	n/a	n/a

* Designated scenic roads in accordance with RSA 231:157-158
UG indicates the Project is located underground at the road crossing.
Source: Town master plans and regulations; Strafford and Rockingham Regional Planning Commissions.

The crossings of Little Bay Road and Gundalow Landing Road will be underground. The overhead crossings are within an existing ROW; there are no new crossings of local scenic roadways. The applicant has indicated that it will coordinate with municipalities prior to the removal of vegetation along local and state roads and at power line crossings.

Bicycle Routes

The NHDOT publishes seven regional bicycle maps with bicycle routes for New Hampshire, including recommended paved and unpaved roads, "advanced skill" routes, recreational loops and improved and unimproved rail trails.

The NHDOT bicycle maps list Madbury Road, Route 4, Main Street, and Route 108 in Durham, and Nimble Hill Road and Fox Point Road in Newington as bicycle routes; the crossings of these roads are within the existing ROW. The Seacoast Region Bicycle map shows a recreation bicycle loop in Durham and Newmarket which crosses under the existing transmission line corridor on Mill Road and Durham Point Road. The Project will cross these roads within the existing ROW and will not have adverse impacts on these bicycle routes. Temporary impacts from construction will be minimized by coordinating with the towns and using best management practices.

The Town of Durham is considering, at a conceptual level, creating bicycle trails in some areas of the ROW sometime after construction of the Project has been completed.

Utilities

The Project crosses a number of underground utility systems, including natural gas transmission, water distribution and steam pipes.

The Newington Master Plan indicates the Portland Natural Gas Transmission System easement extends from the Piscataqua River toward Pease International Tradeport, crossing the Project corridor. One four-inch natural gas distribution line runs up Nimble Hill Road to the Police Station, Elementary School, and Fire Station. The Newington Master Plan also

includes a "Water Distribution Map" on page 19 of the "Public Utilities" chapter. The Project ROW is crossed by or located along water distribution pipes that range in size from eight inches to 16 or 24 inches.

UNH operates both steam pipes and a gas pipeline. The steam system is located between the railroad tracks and the Fieldhouse. The gas pipeline, constructed by UNH in 2007, extends approximately 12.5 miles from the Turnkey Recycling and Environmental Enterprise (TREE) facility in Rochester to UNH. The Project crosses the gas line twice.

The applicant will coordinate with each utility owner for location details and requirements or protocols for construction and ensure that best management practices are utilized during the crossing of these systems.

4.6 Conservation Lands, Open Space and Outdoor Recreation

There are several conservation, outdoor recreation and open space parcels along the Project corridor, all of which are located in Durham and Newington. While Madbury and Portsmouth both have conservation, open space and recreation lands, none are located along the Project ROW.

The construction and operation of the Project will not have an adverse impact on the continued management and use of conservation and recreational lands. These areas are summarized below by community.

Madbury

As noted above, there is no conservation, outdoor recreation, or open space land which is near or adjacent to the ROW in Madbury.

Durham

The Town of Durham lists several parcels which are accessible to the public for outdoor recreation. The existing corridor is near or is part of some of these lands as well as other conservation and outdoor recreation sites in Durham. They include:

- UNH Horticulture Farm (Old Reservoir): This 155-acre forested parcel is owned by UNH and includes managed woodlands, a freshwater pond and marsh with a one-mile trail. The Project corridor runs parallel to the railroad tracks on the eastern border of this land for about 2,400 feet.

- College Woods: This 240-acre UNH-owned parcel includes woodlands, a segment of the Oyster River, a water supply reservoir created by a dam on the river and three to four miles of trails. About 60 acres within the center of College Woods is designated as a Natural Area. It is about 740 feet west of the ROW. The Project corridor runs parallel to the railroad tracks on the far eastern end of College Woods, just north of Mill Road.

- East Foss Farm: This 165-acre forested site, owned by UNH, is located just south of Mill Road and east of the railroad tracks. The site includes a 1.7-mile trail, one small segment of which crosses the power line (Yellow Trail). The other trails are not near the corridor. East and West Foss Farms are used for timber harvesting, non-motorized

recreation, teaching and research. The property also is being managed to create early successional habitat for the New England cottontail. The Project runs along the existing corridor on the western edge of East Foss Farm. PSNH has indicated that maintenance of the power line ROW will be conducted in a manner consistent with New England cottontail management efforts.

- LaRoche and Woodman Brook: This 134-acre parcel, managed by NHF&G as a Wildlife Management Area ("WMA"), acts to create early successional habitat for the New England cottontail. The ROW is in the southern portion of the parcel. PSNH has indicated that it will continue to maintain its ROW consistent with New England cottontail management efforts.
- Surry Lane Open Space: This 8.5-acre privately-owned parcel is located within the Sandy Brook Drive neighborhood. About 930 feet of the existing ROW is included within the parcel.
- Kitfield Tract: This 64-acre parcel, owned by NHF&G as a WMA, hosts a pedestrian trail that starts at the parking lot on Longmarsh Road, runs north through upland forest, across the utility ROW, and then drops down onto the town transfer station property near the outlet to the Horsehide Creek wetland. The Kitfield trail is part of a network of trails highlighted by the Great Bay National Estuarine Research Reserve, as part of a geocache "passport to Great Bay". About 1,970 feet of the existing ROW is located within this parcel.
- Longmarsh Preserve: This 73-acre parcel consists of three contiguous parcels, including Langmaid Farm, Colby Marsh, and Horsehide Creek. The Preserve is bisected by the Class VI portion of Longmarsh Road. The Class VI portion of the road is accessible to pedestrians, mountain bikes, and horses. Several narrow pedestrian trails branch off from Longmarsh Road. The existing electric corridor goes through Horsehide Creek.
    - Horsehide Creek: This 15-acre parcel is comprised of the town's landfill lot and the Johnson lot, and includes woodlands, marsh, solid fill bordering the town landfill and steep slopes and is part of a strip of town-owned land between Durham Point Road and Longmarsh Road. The existing ROW within this parcel runs west to east for a distance of about 390 feet, east of Sandy Brook Road and north of Longmarsh Road. The town's land is sandwiched by conservation parcels to the east and west, which also include the existing power line corridor. A portion of one trail is located within the utility corridor.
- Chase Preserve: This 78.3-acre parcel is owned by TNC and is part of the Durham Point Sedge Meadow Preserve; the conservation easement is held by the Great Bay Resource Protection Partnership. The ROW is located within the parcel for about 1,765 feet, exits the conservation land, and re-enters the eastern side of the parcel for about 1,000 feet.

- Rollins III: This 56.6-acre privately owned parcel is protected by Conservation Easements held by the TNC, within the Crommet Creek Conservation area. The parcel is bordered by Rollins II conservation land to the south and east, Durham Point Road to the west, and forested area to the north. The parcel includes about 950 feet of the existing ROW.

Newington

In the Town of Newington, the Project corridor passes through two conservation parcels. The Flynn Pit is a 19-acre, town-owned property east of Little Bay Road, across from the entrance to Gundalow Landing. The parcel is mostly forested and wetlands, including a very small pond. The Frink Parcel is protected by a conservation easement. The 38-acre historic property includes a 2 ½ story brick house, a clapboarded garage, open field and a tree line near Old Post Road. Located near the intersections of Nimble Hill Road with Old Post Road and Little Bay Road, the parcel includes about 1,400 feet of the existing electric utility ROW.

Portsmouth

A small portion of the Project corridor is in Portsmouth within a commercial/industrial area, In Portsmouth there are no conservation lands in the vicinity of the ROW.

The Project will not have an adverse impact on conservation or open space land; it is located within or along an established utility ROW that in many cases pre-dates the conservation designations. The Project will not impact the on-going management of these properties, and the applicant will work with parcel owners to minimize potential temporary impacts from construction.

4.7 Historical/Archaeological Resources

Historic and archeological resource consultants have identified historical and archaeological resources along the Project corridor to assess potential impacts to those resources in consultation with the State Historic Preservation Office (SHPO) which is within the NH Department of Cultural Affairs. The review process has been conducted in conformance with the requirements of Section 106 of the Historic Preservation Act. These studies are covered in other consultant reports.

4.8 Wetlands/Water Resources

There are two designated rivers within Project communities, the Oyster River and the Lamprey River Watershed. The Project crosses the Oyster River within an already developed corridor, and does not cross the Lamprey River. The Project team met with the Oyster River and Lamprey River Advisory Committees prior to submission of the SEC application.

The Towns of Madbury and Durham have not identified or designated prime wetlands. The City of Portsmouth and the Town of Newington have designated prime wetlands.

Consultants have identified wetland and water resources along the Project corridor to assess potential impacts to those resources. These studies are covered in other consultant reports.

4.9 Wildlife Habitat

Utility corridors are known to provide suitable habitat for a variety of wildlife species, including mammals, birds, reptiles, amphibians, and invertebrates. Species with small home range requirements may use a portion of a ROW as their primary habitats. Species with larger home ranges may use a ROW as a part of their overall home range, or as a travel/dispersal corridor. These corridors also may provide intrinsic habitat value as a relatively undeveloped habitat area in locations where the surrounding land use consists of commercial, institutional, and residential development.

The ROW abuts conservation areas in the central part of Durham that are being managed to provide shrubland habitat for the State Endangered New England cottontail. Portions of UNH's Foss Farm are slated for shrubland creation while habitat management has already been implemented by NHF&G on the LaRoche Brook tract. PSNH is an active participant in the habitat management for New England cottontails in this portion of the ROW.

Wildlife consultants have assessed potential impacts in the Project corridor. These studies are covered in other consultant reports.

4.10 Institutional/Government

The transmission line passes through a portion of the UNH campus along the existing railroad and electric line ROW. Between Route 4 and Main Street, the Gables student housing complex and several parking lots are located just west of the tracks. The Whittemore Center, parking lots and the Amtrak Station/Dairy Bar are east of the rail line.

The Project will extend underground on the edge of the UNH A lot parking area, cross under Main Street and daylight west of Waterworks Road and east of the Gregg Hall parking area.

After crossing under Main Street, the UNH Fieldhouse and Cowell Stadium are located to the west of the underground line. On the east side of the tracks, UNH has a fire station, heating plant, a few academic buildings, and student dorms. All of the dorms were constructed over the past 20 years. West of the ROW, Gregg Hall and, the UNH Police Department, and UNH operation/maintenance facilities are located along Waterworks Road. The applicant has consulted with UNH and the town of Durham on the siting of the line along the proposed corridor. The Project will not adversely impact these facilities and the applicant will continue to coordinate with UNH and the town to minimize potential temporary impacts from construction.

4.11 Consistency with Prevailing Land Uses

The Project is located along an existing utility ROW and will not change land uses along the corridor. The electric transmission system in New Hampshire was developed beginning in the early 1900's and is part of the fabric of development patterns in the state. The ROW contains distribution lines constructed at different times, which are regularly upgraded and maintained as electric utility corridors.

Siting a new transmission line along already developed corridors is a sound planning and environmental principle because it reinforces regional and local patterns of development and minimizes environmental impacts. The prevailing land uses along the corridor include

forests, agriculture, residential, commercial/industrial, transportation and utilities, conservation, historical and archaeological, wetlands and water resources, wildlife habitat, and institutional/ government. These uses have accommodated the existing electric utility corridor as a part of the fabric of local development. There will be no changes to the continuation of these uses as a result of the Project.

By using an existing ROW and locating sections of the project underground, the Project will not disrupt adjacent land use and is consistent with local and regional patterns of development.

5.0 Local and Regional Planning

Local and regional plans associated with Project area communities were reviewed and considered to enhance our understanding of the effect of the Project on local land use and the orderly development of the region. This section provides a description of the long range plans developed by local and regional entities that address the land use topics examined in Section 4.0 of this report. The policies and goals expressed in these long range plans form the basis for future development of the communities and the region.

The region in this case comprises four towns located within the purview of two regional planning commissions: Strafford Regional Planning Commission (SRPC – Madbury and Durham) and the Rockingham Planning Commission (RPC – Newington and Portsmouth). Each region's long-range planning documents were thoroughly reviewed to understand regional development goals and policies. Local master plans were also reviewed and evaluated with respect to land use and future development. Input from regional planning commission staff, as well as local planners, assisted in understanding the conditions present in each region and the goals for future development.

The Project is consistent with the goals and strategies of local and regional plans, and will not interfere with their implementation. The Project follows existing corridors so as to have the least amount of impact on local land use patterns and to help ensure it is consistent with the orderly development of the region.

5.1 Regional Plans

Regional Planning Commissions ("RPC's") have a duty to prepare a coordinated plan for the development of a region, taking into account present and future needs with a view toward encouraging the most appropriate use of land, such as for agriculture, forestry, industry, commerce, and housing; the facilitation of transportation and communication; the proper and economic location of public utilities and services; the development of adequate recreational areas; the promotion of good civic design; and the wise and efficient expenditure of public funds (RSA 36:45-48). Each regional planning commission is tasked with working with local communities and seeking direct input from citizens when developing the regional plan.

All of the nine RPC's in New Hampshire recently updated their regional plans as part of a statewide effort called "A Granite State Future," which was funded by a grant from the U.S. Department of Housing and Urban Development ("HUD") and administered by the Nashua Regional Planning Commission. These plans are intended to serve as advisory documents

that provide a broad range of demographic and other planning data for municipalities in each region to use as a resource when updating their own plans, as well as for a host of other purposes, such as for economic development or conservation initiatives.

Strafford Regional Planning Commission ("SRPC")

The SRPC, based in Rochester, is the regional planning agency for 18 communities which include portions of Strafford, Rockingham, and Carroll Counties, including Project area communities Madbury and Durham. SRPC also serves as the Metropolitan Planning Organization ("MPO") for the region and is responsible for long-range transportation planning and programming of federal funding for transportation projects.

The Strafford Regional Planning Commission adopted a new regional plan in January, 2015, called "Local Solutions for the Strafford Region." The plan examines topics such as quality of life; water infrastructure; housing; economic development; transportation; environment, recreation and land use; energy efficiency; climate change impacts and adaptations; emergency management; and an integration matrix. The energy efficiency executive summary notes that reliable sources of energy are critical for the economic stability of communities.

The plan does not make any recommendations directly applicable to the Project. The Project will not interfere with the orderly development of the region because it follows an existing ROW, and will not alter local land use patterns. The Project is consistent with the regional plan as it seeks to protect and reinforce existing land use development patterns.

Rockingham Planning Commission ("RPC")

The RPC is based in Exeter and is the regional planning agency for 27 municipalities in Rockingham County, including Project area communities Newington and Portsmouth. RPC also serves as the MPO for the region and is responsible for long-range transportation planning and programming of federal funding for transportation projects.

The Rockingham Planning Commission adopted the 2015 Regional Master Plan for The Rockingham Planning Commission Region in the spring of 2015. It includes a regional overview, vision statement and goals, and chapters on land use, transportation, economic development, housing, natural resources, natural hazards, historic resources, energy, climate change, and an implementation strategy. The plan also examines potential growth and economic scenarios. The regional vision statement is as follows: "the southeastern New Hampshire region enjoys a high quality of life represented by a strong regional economy, distinct community character, and outstanding natural and recreational resources. This has been achieved through careful planning, wise stewardship of natural resources, infrastructure investment, and increasing regional cooperation on shared issues." The goal of the region is to "promote efficient use of land, resources, and infrastructure in southeastern New Hampshire."

The energy chapter discusses grid modernization and the potential benefits including better outage response time and increased reliability, as well as improved efficiencies for transmission utilities. Anticipated benefits from the Project include increased grid reliability, consistent with the advantages outlined in the RPC energy chapter.

The Project will not interfere with the orderly development of the region because it follows an existing ROW and will not alter local land use patterns. The Project also is consistent with the regional plan because it supports electric grid reliability in the region.

5.2 River Corridor Management Plans

The New Hampshire Rivers Management and Protection Program was created in 1988 to help protect and manage the state's river resources. The program is administered by the New Hampshire Department of Environmental Services (DES) in accordance with RSA 483. Currently there are about 20 designations in New Hampshire, covering over 1,000 miles of rivers, river segments and tributaries.

There are two state-designated rivers with segments in Project area communities: the Oyster River flows through Madbury and Durham, and the Lamprey/Lamprey River Watershed includes a portion of Durham. The proposed electric transmission line crosses the Oyster River in Durham within the existing ROW. The crossing location is west of the railroad and north of Mill Road. The Project does not cross the Lamprey River or the other rivers included in the Lamprey Watershed designation but a small segment of the ROW is within the watershed.

The Project team met with both the Oyster River Local Advisory Committee and the Lamprey River Local Advisory Committee to discuss the Project.

Oyster River

A 14-mile section of the Oyster River was designated into the NH Rivers Management and Protection Program in 2011. The river flows east from its headwaters in Barrington through Lee, Madbury, and Durham, before entering Great Bay. The designation does not include the tidal portion of the river below the Mill Pond Dam in Durham.

The Oyster River designation classifies two segments of the river as "rural community": the area from Hall Road in Barrington to Old Mill Road in Lee; and the area from Route 155 in Lee to the Oyster River Dam in Durham, except for a segment in downtown Durham which is classified as a "community river". The segment from Old Mill Road in Lee to Route 155 is classified as "rural". The Project corridor crosses the Oyster River within the "community" segment between the Mill Pond Road Dam and the Oyster River Reservoir Dam.

The most recent river corridor management plan was prepared by the Oyster River Local Advisory Committee in 2014, and addresses topics such as natural resources, management of impoundments and flows, natural and cultural resources, open space, recreation, water quality and quantity, withdrawals and discharges, instream flows, land use and local regulations, priority management issues, goals and implementation strategies. The Plan notes the utility crossing, but does not make any specific recommendations directly related to the Project. The Project is consistent with the river corridor management plan and will not interfere with its implementation because it follows an already developed electric utility corridor.

Lamprey River

The Lamprey Rivers Management Plan was prepared by the Lamprey Rivers Advisory Committee and adopted in 2013. The river segment in Durham and Lee was designated into

the NH Rivers Management and Protection Program in 1990 and in 2011 the designation was expanded to include the entire Lamprey River and five of its tributaries: The Little, North, North Branch, Pawtuckaway and Piscassic Rivers, a total of about 88 miles. A large portion of the Lamprey River in Newmarket, Durham, Lee and Epping is designated as a National Wild and Scenic River, a distance of about 23 miles stretching from the former Bunker Pond Dam in Epping to the confluence with the Piscassic River in Newmarket. While the Project corridor does not cross the Lamprey River or any of the five tributaries, a small segment of the ROW is located within the watershed.

5.3 Scenic and Cultural Byways

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

The State of New Hampshire has nearly 20 state-designated scenic byways, totaling over 1,000 miles. There are scenic and cultural byways in every region of New Hampshire.

There are three state-designated scenic byways in the seacoast area of New Hampshire, including Independence Way, from Hampton to Exeter; the Coastal Byway along New Hampshire's coastline from Seabrook to Portsmouth; and Mills Scenic Byway from Newmarket to Rollinsford. The Independence Way Byway and the Coastal Byway do not intersect the Project corridor.

The Mills Scenic Byway was designated in 2014 and includes an approximately 12.1-mile route along Route 108 and Route 4 through the towns of Newmarket, Durham, Madbury, and Rollinsford. The SRPC and the Mills Scenic Byway Committee are updating the Scenic Byway Corridor Management Plan. The draft plan recommends that the towns work with local utility companies on design strategies for utilities along the route (Draft Mills Scenic Byway Corridor Management Plan, February 2016, page 42). The ROW intersects Newmarket Road/Route 108 in Durham near the intersection of Longmarsh Road.

The Project will not interfere with the on-going use of the byway because it is located along the existing electric transmission line ROW which predates the designation; there is no new crossing of Route 108.

5.4 Municipal Plans and Zoning Ordinances

The Project is consistent with the goals of local master plans and zoning ordinances because it will be located along existing corridors that pre-date much of the development in the communities. Many master plans cite the desire for new development to occur within or adjacent to already developed areas in order to protect open space and minimize environmental impacts from development. The facility is consistent with this general goal, and will not interfere with the implementation of local master plans.

Local zoning ordinances regulate the use of land for the purpose of protecting the public health, safety, convenience, and general welfare, and to promote the orderly growth of communities. Almost all utility corridors cross a number of zoning districts as they pass through communities. In many cases, zoning ordinances were established after the electric line ROW, and this infrastructure allowed for development, including residential and commercial uses, to be located and built in the vicinity of the ROW. By locating the Project within an existing utility ROW, the Project will be consistent with the established character and land development pattern of these areas.

In addition to reviewing local master plans and zoning ordinances, input from local planners was obtained regarding existing land use, local master plans and future development within and adjacent to the Project corridor, identification of development that has been approved but not yet constructed, and future development potential. In each community, the existing land use and zoning have evolved around the pre-existing corridor and adjusted to its presence.

Madbury

Master Plan

The Madbury Master Plan: Toward the Year 2010 was prepared by the Town of Madbury Planning Board and the Strafford Regional Planning Commission. The Planning Board adopted the Master Plan in 2003. The document includes a vision statement and many policies and recommendations associated with water resources, natural resources, historic resources, land use, transportation, town facilities/services, housing, and overall vision for the community. Madbury's vision statement is to "be a quality residential community that preserves and maintains the town's historic and rural character." To help achieve this vision for Madbury's citizens, the Plan sets forth policy goals in order of priority. Policies for specific sections of the 2003 Master Plan address water resources, natural resources, historic resources, land use, agricultural land, residential land, civic district, recreation, town facilities and service, commercial and industrial development, economic viability, transportation, and housing.

In the Land Use section, a key goal is to preserve open spaces essential to the Town's rural character and natural resources. The Project will support this goal by using an already developed corridor for the improvements, preserving other open spaces in Town.

The Master Plan vision section recommended three major initiatives: (1) water quantity and quality protection; (2) preservation of open space and rural character; and (3) town center improvements.

Based on a review of the Town's plan, the Project is consistent with the Madbury Master Plan and will not interfere with implementation of the planning board's policies and recommendations. It will be constructed along an existing electric line ROW, and will not change or effect land uses in the town.

Zoning Ordinance

The Madbury Zoning Ordinance outlines the permitted uses and dimensional requirements for the Town's zoning districts. The zoning ordinance establishes three districts, the General Residential and Agricultural District; the Civic District; and the Commercial and Light

Industrial Zone. The Madbury substation, electric line and railroad corridor are located within the town's General Residential and Agricultural District. These are existing uses, and there will be no change in land use.

The General Residential and Agricultural District is intended for low-density residential development while maintaining the open, rural character of the land for agricultural purposes. New permitted uses include single, two family and tourist dwellings; farms; nursing home, assisted living facilities and hospice facilities and accessory buildings.

By locating the line within an existing electric utility ROW, the Project will be consistent with the established land use patterns of these areas.

Durham

Master Plan

The last complete Durham Master Plan was adopted by the Planning Board in September, 2000. It was an update of the 1989 Master Plan and the 1995 Community Development Plan. With the assistance of the Strafford Regional Planning Commission, Durham has been in the process of updating its Master Plan and ten new chapters were adopted in 2015. They include: Vision and Community Character; Existing Land Use; Housing and Demographics; Agriculture; Energy; Recreation; Natural Resources; Economic Development; Historic Resources; and Downtown and Commercial Core Each of these chapters can be reviewed on the Town's website. Work on the Future Land Use Chapter is anticipated to begin in 2017.

Based on a review of the town of Durham's previous master plan and the new chapters adopted in 2015, the Project appears to be consistent with the Plan and will not interfere with implementation of the planning board's policies and recommendations. Following an existing ROW is a sound planning practice which is consistent with existing land use patterns and minimizes adverse impacts to land use.

Zoning Ordinance

The Durham Zoning Ordinance is intended to regulate the use of land for the purpose of protecting the public health, safety, convenience, and general welfare, and to promote the orderly growth of the town.

Almost all utility and transportation corridors pass through several zoning districts across a community. Within the Town of Durham, the Project corridor is located on the boundary of the RB, RA, and MUDOR Districts from Madbury through the UNH Campus. The Project passes through the RB District near Mill Road, and the RA Zone from the Mill Road area to Little Bay, except for an area zoned RB in the vicinity of Cutts, Ffrost and Sandy Brook Roads.

The purpose of the RA district is to maintain the integrity of existing high density residential while ensuring development is consistent with the established character of the neighborhood. The purpose of the RB district is to maintain the integrity of existing medium-density residential areas while ensuring development is consistent with the established character of these neighborhoods. The purpose of the MUDOR is to provide an area in the community for high quality multi-unit housing while allowing the potential for office development. By locating the line within an existing electric utility ROW and placing

a portion of the line underground, the Project will be consistent with the established character of these areas.

Newington

Master Plan

The Town of Newington Master Plan 2010-2020 was adopted by the Newington Planning Board in 2009. The document includes several sections: Vision; Goals and Objectives; Historic Resources; Demographic Profile; Existing Land Use; Soils; Water Resources; Public Utilities; Housing; Town Services and Facilities; Shattuck Corridor; Transportation; Office District; Future Land Use; Summary of Recommendations; Development Policies; and Citizen Survey.

The vision statement for Newington, adopted by the Planning Board, discusses Newington's unique and diverse land uses, including a deep-water working port, extensive retail, office, restaurant, and industrial facilities, a regional airport, a national wildlife refuge, a marina, and historic landscapes. Newington hopes to responsibly guide development while strengthen the community's environmental, human, and financial sustainability, and protecting the wide variety of resources.

The Master Plan includes 52 goals and objectives and nearly 200 recommendations. Goals and objectives by topic include Commerce and Industry, Transportation, Environmental Protection, Natural Resources, Pease, Municipal Services and Facilities, and Cultural Resources. The Newington Master Plan adopted 13 development policies which are intended to represent the town's position regarding future land development proposals. The policies seek to maintain and improve resources within the town while responsibly expanding commercial development.

The Newington Master Plan includes a chapter on Public Utilities which describes electric generation and transmission, natural gas, public sewer, public water, communications, and utility easements. The Utility Easement section describes the utility easements in Town for electric power lines and gas pipelines and notes that, "While planning for future land development, easement restrictions obviously should be taken into account." While most master plans are general in nature and focus on long-range planning policies such as "maintaining rural character," the Town of Newington suddenly amended the Utility Easements section of the 2009 Master Plan in January 2015 in response to the Project proposal. Although the Town acknowledges that utility "easement restrictions obviously should be taken into account," when planning for future land development, the section expresses concerns about the project and recommends consideration of an alternative route through the Great Bay Wildlife Refuge which is owned and managed by the USFWS. PSNH does not have an easement or any other land rights associated with this alternative. If this alternative is not feasible or practicable, the town recommends that the transmission line be placed underground as it passes through the residential district. The applicant has considered a number of alternatives including the town's suggestion to deviate from the established electric line ROW to cut through the federal wildlife refuge and has sought input from the town and property owners about their issues and concerns. The resulting Project addresses some of these concerns by locating the transmission line underground as it

passes through the Gundalow Landing area and under Little Bay Road and placing portions of the existing distribution line along roadways to lower the transmission structure heights.

The Project will not have an unreasonable adverse impact on land use and development because it will be constructed within or along an already developed ROW, which minimizes impacts to local development patterns and is consistent with established land use patterns.

Zoning Ordinance

The Newington Zoning Ordinance establishes several classes of districts of zones, including the Residential District (R Zones), Commercial District (C Zone), Office District (O Zone), Marina District (M Zone), Industrial Districts (I Zones), Waterfront Industrial Districts (W Zones), Historic Districts (H Zones), Scenic Roads, Natural Resource Protection District (NRP Zone). In 2016, the Town revised the Ordinance by combining the Airport, Airport Industrial, Light Industrial, and the Mobile Home districts into a single Pease Tradeport District where the Pease Tradeport retains land use authority in Pease.

The proposed Project traverses the residential, office, commercial, and waterfront industrial zoning districts in Newington, as well as the scenic and historic districts. The following summarizes uses for each of the zoning districts crossed by the Project.

- Single Family Residential District (R)- The "R" District is established as a zone for low-density single-family dwellings, and recreational, educational, and religious facilities which will encourage the development of well-rounded neighborhood living.
- Office District (O)- The Office District is a zone primarily for office buildings, research & development facilities, and light manufacturing.
- Commercial District (C)- The Commercial District is a mixed use zone for retail sales, office buildings, research & development facilities, and light manufacturing.
- Waterfront Industrial and Commercial District (W)- The "W" District is established as a zone for activities which depend upon the ocean for transport or resources.

The Project crosses one of the Town's two Historic Districts (H). The district includes the area on both sides of Nimble Hill Road from the Pease Development Authority to its junction with Little Bay Road, following existing property lines of parcels fronting these roads. Uses permitted in the Single Family Residential (R) District are allowed in these areas, subject to the provisions of the Newington Historic District Ordinance.

The Project crosses the Scenic Districts (S), which are defined as town-designated scenic roads, including all town roads west of the Spaulding Turnpike and all town roads north of the Newington/Greenland town line. The designation of these roads requires a public hearing and written consent of the Planning Board before trees are cut or removed or stone walls are torn down or destroyed.

By locating the line within an existing electric utility ROW and placing a portion of the line underground, the Project will be consistent with the established land use pattern of these areas.

Portsmouth

Master Plan

The City of Portsmouth Master Plan was adopted by the Planning Board in March 2005; an update of this plan is scheduled for completion and adoption in 2016. The City also prepared a bicycle and pedestrian network plan in 2014. Priorities for action include issues involving downtown vitality, transportation corridor areas (including transportation corridors such as Woodbury Avenue and Gosling Road, which are shared with the Town of Newington), supporting a diverse community, and resource protection and sustainability.

The Master Plan goals and objectives address Land Use, Housing, Economic Development, Transportation, Community Facilities and Services, Natural Resources and Open Space, Natural Hazards, Emergency Management and Recovery Planning, Recreation, Cultural and Historic Resources and the Arts, and Social Services.

Based on a review of the town's Master plan, the proposed Project is consistent with the Portsmouth Master Plan and will not interfere with implementation of the planning board's policies and recommendations. The Project will be constructed entirely within an already developed ROW, which minimizes impacts to land use and the environment.

Zoning Ordinance

The Portsmouth Zoning Ordinance was prepared to promote the health, safety and the general welfare of Portsmouth and its region in accordance with the City of Portsmouth Master Plan.

The City of Portsmouth is divided into many zoning districts, including seven Residential Zones, two Mixed Residential Zones, three Character Districts, seven Business Districts, two Industrial Districts, four Pease/Airport Districts, a Municipal District and a Natural Resource Protection District.

The Project is located in the Waterfront Industrial District for less than 0.3 miles, which is intended to provide for industrial and related uses that depend on direct access to the Piscataqua River. The substation is bordered by Gosling Road and open land to the north, forests and a business park to the west and south, and the Pisacataqua River to the east. The Waterfront Industrial District is intended to provide for industrial and related uses that depend on direct access to the Piscataqua River.

By locating the line within an existing electric utility ROW, the Project will be consistent with the established land use pattern of these areas.

University of New Hampshire

The University of New Hampshire Campus Master Plan 2012: A Flexible Planning Vision for our Sustainable Learning Community was adopted by the University System of New Hampshire Trustees in October 2013. The Goals of the 2012 Campus Master Plan aim to align the University's 2010 Strategic Plan and follow through on recommended priority Projects, thrive among limited resources, enhance the character of the university and the relationship with the town, and reaffirm UNH's commitment to sustainability.

Most of the priority Projects are a considerable distance from the existing railroad line and electric transmission corridor. Those closest include the renovations to Nesmith Hall (just

east of the corridor) and expansion of the stadium (construction in progress), and field house. The plan also identifies enclosure of the flow physics site, a renovation of the field house, and improvements to DeMeritt Way as new identified needs for the future. Longer range "placeholders" also were identified, including development and structured parking at the Lot A parking lot which is across the tracks from the Amtrak Station, expansion of the Gables student housing complex (northwest corner, away from the tracks), extension of North Road under the railroad tracks and (just north of the Whittemore Center) connecting to Strafford Avenue, additional development on town-owned Depot Road adjacent to the Whittemore Center, expansion of Gregg Hall, construction of a new service road and possible academic buildings at Ritzman, the service building and a location west of Morse Hall. The plan also identifies the long range potential for the SERC area student housing, with three of the potential four new buildings to be located east of the existing buildings and one to the south near the railroad tracks.

Several buildings and sites were identified as possible surplus in the future. Those closest to the rail line include the service building, Kendall, the mini-dorms, Zais Hall and Ritzman, all of which are south of Main Street.

Based on a review of the UNH Campus Master Plan, the proposed Project will not interfere with implementation of UNH's proposed and potential campus projects. The applicant has been coordinating closely with UNH and the town of Durham, including placement of the line underground on the edge of UNH A lot parking area, under Main Street, and past the Fieldhouse and Cowell Stadium.

Pease International Tradeport

The Pease International Tradeport is located in the middle of a peninsula, formed by the Pisacataqua River, Little Bay and Great Bay. It abuts Newington, Portsmouth and Greenland, and is within Rockingham County.

The Pease International Tradeport was formed as a result of the closure and redevelopment of the former Pease Air Force Base. The 4,255-acre base was constructed between 1952 and 1956 after lands were purchased from property owners in Newington and Portsmouth.

Today the Pease International Tradeport consists of the Portsmouth International Airport and over 3,000 acres of office and industrial space and over 250 companies employing more than 7,000 people occupying about 4 million square feet of office and industrial space. Pease also includes the 27-hole Pease Golf Course, restaurants, banks, college classrooms, and a hotel. The number of people working at the Pease International Tradeport in 2014 has nearly doubled since the closure of Pease Air Force Base was announced, a significant accomplishment for the Pease Development Authority and the State of New Hampshire.

The Pease Development Authority (PDA) adopted a zoning ordinance, site plan review regulations and subdivision regulations in 1991 to help guide growth and development. These regulations were revised in 1999, 2008, and 2013.

The ordinance establishes four zoning districts at the Pease International Tradeport: a 792-acre airport zone, 448-acre airport industrial zone, 333-acre industrial zone, 504-acre airport business and commercial zone and a 781-acre natural resource protection zone.

The Project traverses area beyond the public benefit transfer line, and the Airport Industrial district. The Airport Industrial Zone is primarily intended to provide for industrial uses

necessitating close proximity to an airport and aviation-related facilities, structures and activities servicing industrial users. Permitted uses within the Airport Industrial district include aircraft and aircraft-related facilities and services; aerospace and aviation activities, services and facilities; customary accessory uses; vehicular parking garages and lots; other industrial activities and uses dependent on airport transport; and recreational uses including playing fields, paths and facilities. PSNH has consulted with the PDA, FAA, and the NHDOT to ensure that the placement of transmission structures within the existing ROW will not affect aviation safety or uses.

5.5 Community Services and Facilities

In general, the construction and operation of the Project will not place any new or significant demands on local or regional services, facilities, or infrastructure. Operation of the Project will not generate truck, automobile or emergency vehicle traffic in the town. It does not involve the construction of any septic systems, leach fields, wells or water withdrawals which could affect groundwater or surface water resources. The use of the existing corridor will not interfere with local recreational activities such as hiking, fishing, hunting or boating or continued use of the right of way for trails and wildlife corridors/ movement.

Operation of the Project will not generate, store or use hazardous waste, chemicals, fertilizers, salt or petroleum products. There will not be any fuel deliveries or underground or above ground tanks. The project will not generate air emissions, fumes, smoke, odors or outdoor lighting.

Once the Project is constructed, the operation of the Project will not place any new or increased demands on school facilities, police or fire stations, roads, transit services, solid waste disposal, drinking water or wastewater treatment facilities or services, recreation facilities, medical facilities or services, or any other community service or infrastructure.

5.6 Tourism and Recreation

Potential impacts to tourism were carefully considered as part of this review. This analysis included an examination of tourist-oriented attractions and recreation facilities in the seacoast area, as well as along the Project corridor. This assessment revealed that the Project will not impact tourism in the area.

There are no state parks and no public or private campgrounds within Project area communities. The closest campground is Wadleigh Falls Campground in Lee, a 115-site facility with a recreation center, swimming pool, electric hookups, shower/bathroom facilities and access to the Lamprey River for paddling, fishing and swimming. There also are no formal snowmobile trails or off highway recreation vehicle (OHRV) trails that intersect the corridor.

There are several trails, such as the Sweet Trail and the trails in East and West Foss Farm, as well as trails within conservation parcels such as Old Reservoir, College Woods, Kitfield Tract, and Longmaid (Longmarsh) Road, located within the town of Durham. The Project will not impact the continued use of these trails.

The Project intersects Route 108, a portion of which is designated by the state as the Mills Scenic Byway. There are some crossings of town-designated scenic roads, including:

Durham Point Road in Durham; and Gundalow Landing, Little Bay Road, Old Post Road, Fox Point Road, and Gosling Road in Newington. All of these crossings occur within an existing right-of-way.

Almost all communities in New Hampshire have historical resources, some of which attract visitors. These resources are described in detail in other reports and have been evaluated in consultation with the State Historic Preservation Office (SHPO).

Nearby shopping areas include the Fox Run Mall and the Crossings at the Fox Run Mall in Newington, downtown Portsmouth, and the Kittery Outlet Malls in Maine. The Crossings at the Fox Run Mall is located within and adjacent to the corridor, and includes other existing overhead electric lines within its paved parking area. The Project will not affect the number of shoppers or patrons at the mall or retail businesses.

The University of New Hampshire has a number of facilities which draw visitors to Durham, however, the Project will not impact tourist activities. The corridor follows the railroad tracks through UNH property near the Whittemore Center, Memorial Field, the Dairy Bar/Amtrak Station and the UNH Field House. The Project will not affect the number of people who attend or participate in sporting events and other uses such as commencement, concerts, and trade shows. The Project also will not affect Amtrak ridership, or the number of people who use the adjacent parking lots.

5.7 Views of Municipalities and Regional Planning Commissions

As of the date of this report, municipal views that have been expressed in writing regarding the Project include:

- Town of Madbury – letter submitted to the NH SEC dated July 23, 2015
- City of Somersworth – letter submitted to NH SEC dated September 8, 2015
- The Town of Dover - letter submitted to the NH SEC dated October 15, 2015
- Town of Durham – letter submitted to the NH SEC on January 20, 201

In addition, letters were submitted to the NH SEC by:

- University of New Hampshire – letter submitted to NH SEC on November 9, 2015
- Greater Dover Chamber of Commerce – letter submitted to NH SEC on January 21, 2016

5.8 Local and Regional Planning Conclusions

In most instances, local and regional long-range plans and zoning ordinances do not directly relate to the construction or operation of the Project. The Project is consistent with the general goals and strategies of local and regional plans, and will not interfere with their implementation. By following existing utility corridors and locating some segments underground, the Project maintains and reinforces the prevailing land use pattern within each town, and is consistent with the orderly development of the region.

Appendix A: Project Corridor Land Use Descriptions

A-1 Madbury

Originally part of Dover and Durham, the land formerly known as Madbury Parish was granted town privileges in 1768. Madbury is located in the southeastern portion of New Hampshire. It is bounded by the City of Dover to the northeast, the town lines of Durham and Lee to the south and east, and Barrington to the west. The Bellamy River is the largest and the main river in town and the Bellamy Reservoir provides about 50-60% of the City of Portsmouth's water supply. Timber harvesting and agriculture were the traditional industries within Madbury for many years until the community became a residential destination for those who work in nearby communities.

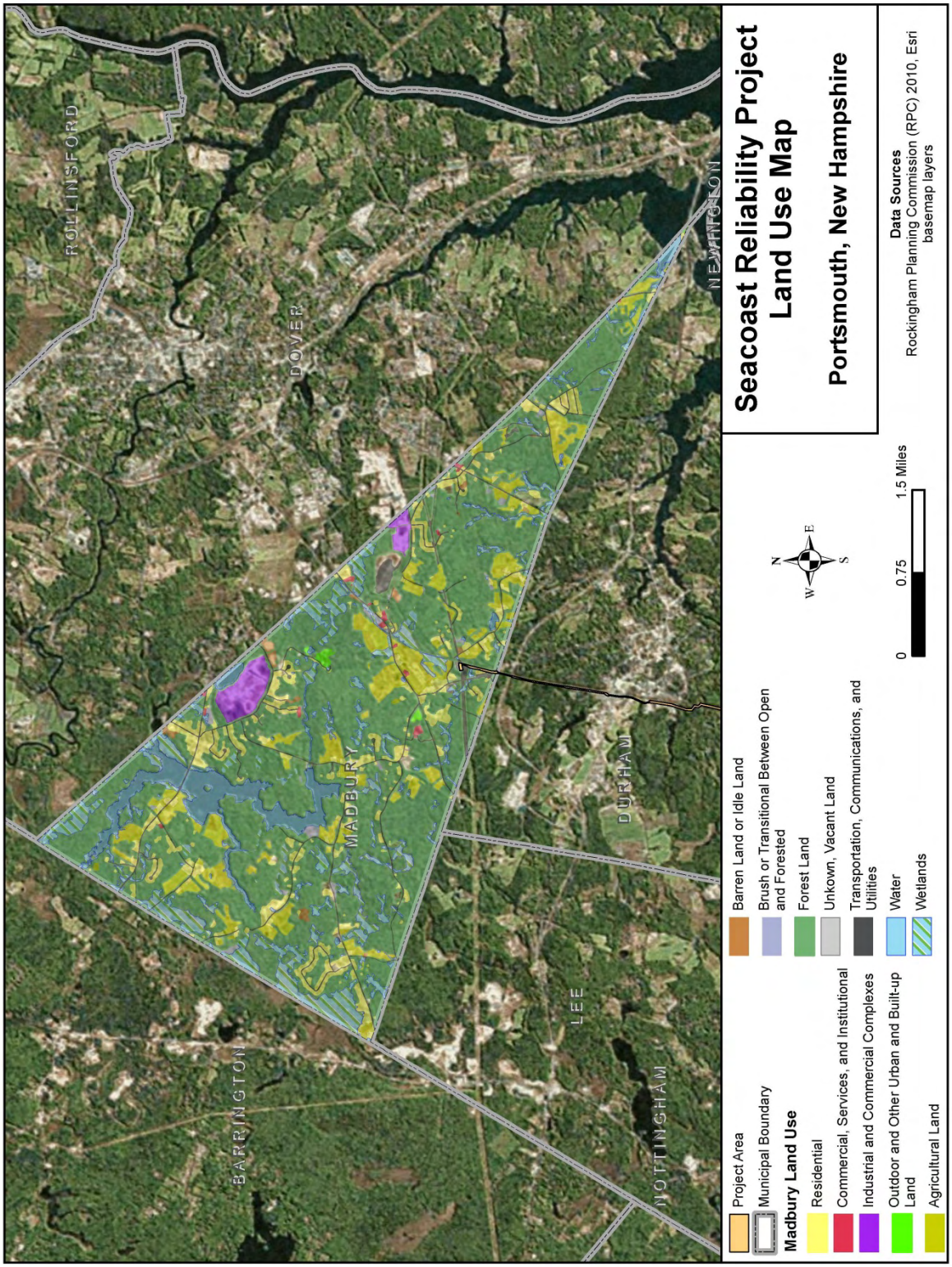
In 2013 the population of Madbury was about 2,055. Madbury contains about 11.6 square miles of land area, 0.6 square miles of inland water area, and a population density of about 178 persons per square mile of land area (NHES, March 2015). The Project corridor's land area in Madbury is approximately 4.7 acres which is less than one percent of the Town's total land area of about 7,420 acres (NHOEP 2014/NH GRANIT, 2014).

The Project exits the eastern side of the substation in Madbury and enters the existing electric line corridor shared with the railroad. The Project runs south within the existing ROW for about 2,000 feet where it exits the southern border of Madbury and enters the northern portion of Durham.

In Madbury, there are two residences between Madbury Road and the edge of the ROW, which share a driveway, east of Madbury Road. Both residences were built adjacent to the ROW.

Land uses along the corridor and throughout Madbury are reflected on the attached Existing Land Use Map, prepared with data from the Strafford Regional Planning Commission.

Existing Land Use
Madbury, NH



Source: Strafford Regional Planning Commission Data, 2010.

A-2 Durham

Durham was originally a parish of Dover called Oyster River Plantation. It was first settled in 1669, and incorporated as Durham in 1732. Durham included Lee until 1766. The Warner Farm was bequeathed by Benjamin Thompson, a descendent of an early settler, to be used to establish an agricultural college. The state agricultural school was moved from Hanover to Durham in 1890, and became the University of New Hampshire in 1923.

In 2013 the population of Durham was about 14,949. Durham contains about 22.4 square miles of land area, 2.4 square miles of inland water area, and a population density of about 667 persons per square mile of land area (NHES, March 2015). The Project corridor's land area in Durham is approximately 80 acres which is less than one percent of the Town's total land area of about 14,336 acres. (NHOEP 2014/NH GRANIT, 2014).

The Project corridor follows the natural contour of the land south and then east for a total of about 7.1 miles, eventually crossing under Little Bay into Newington. Land use adjacent to the Project corridor in Durham is primarily forested, low-density residential and institutional (UNH). Some parcels are conservation lands.

The Project enters Durham from Madbury just north of Route 4 along the western side of the rail line. One residence on a wooded lot is located east of the corridor, approximately 225 feet from the edge of the Project ROW.

The Project continues south, crossing Route 4. There are some residences east of the active railroad line along Scotland Road (four houses) and Hampshire Avenue (five houses). Along Scotland Road, they measure about 150 feet from the edge of the Project ROW, and about 140 feet from the edge of the rail line ROW. One residence on Hampshire Avenue is about 100 feet from the edge of the Project ROW, and approximately 80 feet from the edge of the rail ROW. A second house along Hampshire Avenue is located approximately 170 feet from the edge of the Project ROW and approximately 140 feet from the edge of the rail ROW. Houses along Hampshire Avenue, with the exception of the two previously listed homes, are more than 250 feet from the edge of the Project ROW. There is a vegetated buffer between these houses and the railroad and electric line ROW.

Continuing south, there are nine homes located east of the corridor and on the west side of Fairchild Drive which range from about 100 feet to 310 feet from the railroad, and about 125 feet to about 380 feet from the electric line ROW. These homes are located across the railroad tracks from four parking lots and the Gables apartment complex. According to information in NH GRANIT, the area between these homes and the railroad tracks is forested and conserved as the "Fairchild Drive Common Open Space", providing a wooded buffer between land uses. One residence located on Davis Avenue near the Fairchild Drive intersection about 275 feet from the rail line and about 300 feet from the edge of the electric line ROW, with a wooded buffer between the house and the corridor.

In 1991, The University of New Hampshire built the Gables, its largest student apartment complex. The high-rise development consists of three buildings providing housing for over 1,000 students and is located west of the railroad tracks, north of the large UNH A lot parking area and south of additional parking lots, all of which are along the railroad tracks. The Gables parking lots were constructed adjacent to the ROW and 60 feet from the railroad,

with a chain link fence running parallel to the tracks. The access road, Gables Way, is adjacent to the corridor, and about 40 feet from the rail line.

Continuing south toward the Whittemore Center, there is a small residential complex called the Woodside Apartments on the east side of the tracks, just north of several parking areas and the Whittemore Center. The closest apartment building is located about 190 feet from the railroad tracks and about 200 feet from the edge of the existing electric line ROW. There is a wooded buffer between these apartments and the railroad line.

Further south in the Town of Durham, the line will be placed underground past the Whittemore Center, the Amtrak Station/Dairy Bar, Main Street and the Field House/Cowell Stadium area.

Continuing to the southern end of the UNH campus, there is some student housing along Demeritt Circle, east of the railroad with the closest structure located about 80 feet east of the tracks, and about 200 feet from the electric line corridor. The electric line then crosses from the west to the east side of the railroad tracks before crossing Mill Road within the established ROW.

Continuing south, the ROW is along the western border of East Foss Farm and along the eastern side of the railroad tracks. It then turns east just before the Packers Falls Substation toward Little Bay.

Residences along Foss Farm Road are more than 600 feet east of the Project ROW. The closest residence on Hemlock Way measures more than 200 feet west of the edge of the Project. The Project runs south along the western border of UNH's East Foss Farm, turns east, and continues toward Route 108. Three residences along the north side of Bennett Road range in distance from about 140 feet to about 280 feet away from the power line corridor. These parcels have wooded buffers.

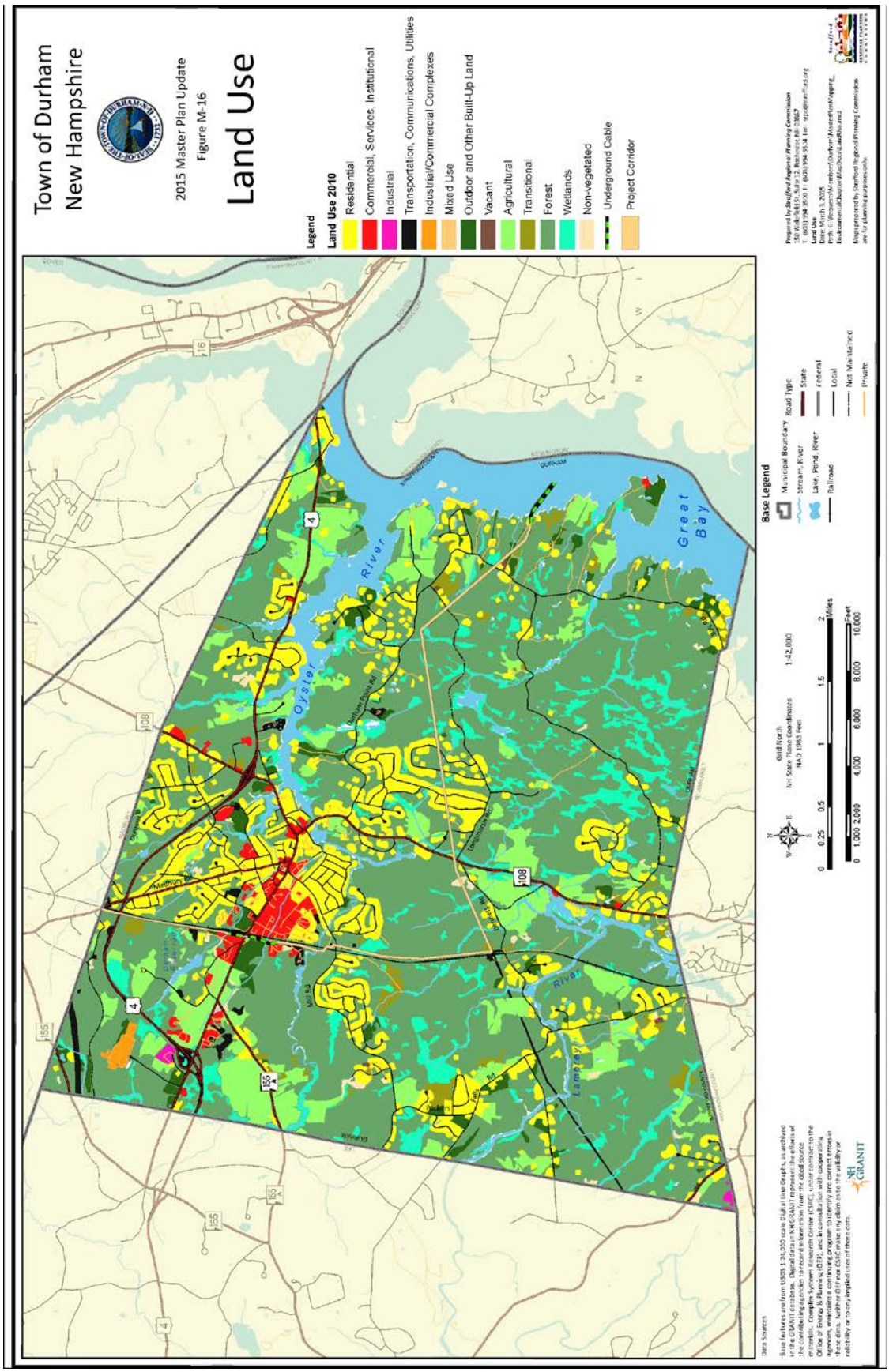
The area with the greatest number of homes close to the power line corridor is located east of Route 108 and north of Longmarsh Road. This area includes Timberbrook Lane, Cutts Road, Ffrost Road, and Sandy Brook Drive. On Timber Brook Lane there are three houses that measure between approximately 75 and 180 feet from the existing ROW. On Cutts Road three houses are adjacent to the ROW, and one measures approximately 70 feet south of the corridor. These homes are located on wooded parcels. On Ffrost Drive three homes were constructed adjacent to the ROW and two others are about 120, and 140 feet away. The homes on Sandy Brook Drive are more than 100 feet from the ROW, except one which measures approximately 90 feet south of the ROW. The homes on Sandy Brook Drive have a wooded buffer. It should be noted that the electric line ROW was established before these homes were constructed. PSNH has been working with the Town and with residents to address potential issues of local concern in this area and proposes to relocate the existing distribution line along local streets in an effort to lower structure heights within the existing ROW.

Continuing east there are two residences located on Longmarsh Road which measure about 80 and 150 feet east of the corridor, with a wooded buffer. The existing ROW continues southeast and crosses Durham Point Road. Two residential properties are approximately 35 feet and about 125 feet south of the ROW. The line continues in a southeasternly direction towards Little Bay. One residence is located adjacent to the corridor, and a second residence

is located approximately 180 feet south of the ROW. The line then transitions underground to cross Little Bay and enters into Newington.

Land uses along the corridor and throughout the Town of Durham are reflected on the attached Existing Land Use Map which was prepared by Strafford Regional Planning Commission.

Existing Land Use
Durham, NH



Source: Master Plan Update, Town of Durham Website, 2013.

A-3 Newington

Newington was originally part of the Dover and Squamscot Patent known as Bloody Point, named after an early colonist victory over attacking natives in the late 1600's. Newington Parish was formed in 1714 after a boundary dispute with Greenland. In 1952, the US Air Force took command of Portsmouth Airport for a bomber base; about 60 percent of the airport is located in Newington. The base closed in 1991, and currently houses the NH Air National Guard and the Pease International Tradeport. The population of Newington in 2013 was 768 residents. Newington contains 8.2 square miles of land area and 4.1 square miles of inland water area, with a resulting population density of about 93 persons per square mile of land area (NHES, March 2015).

The Project crosses under Little Bay from Durham to Newington. It follows the natural contour of the land through the town for about four miles, where it exits Newington and enters the northern portion of Portsmouth.

Land use adjacent to the corridor in Newington is primarily low-density residential, transportation, open and forested land. The Project corridor's land area in Newington is approximately 51 acres, which is less than one percent of the Town's total land area of 5,248 acres.

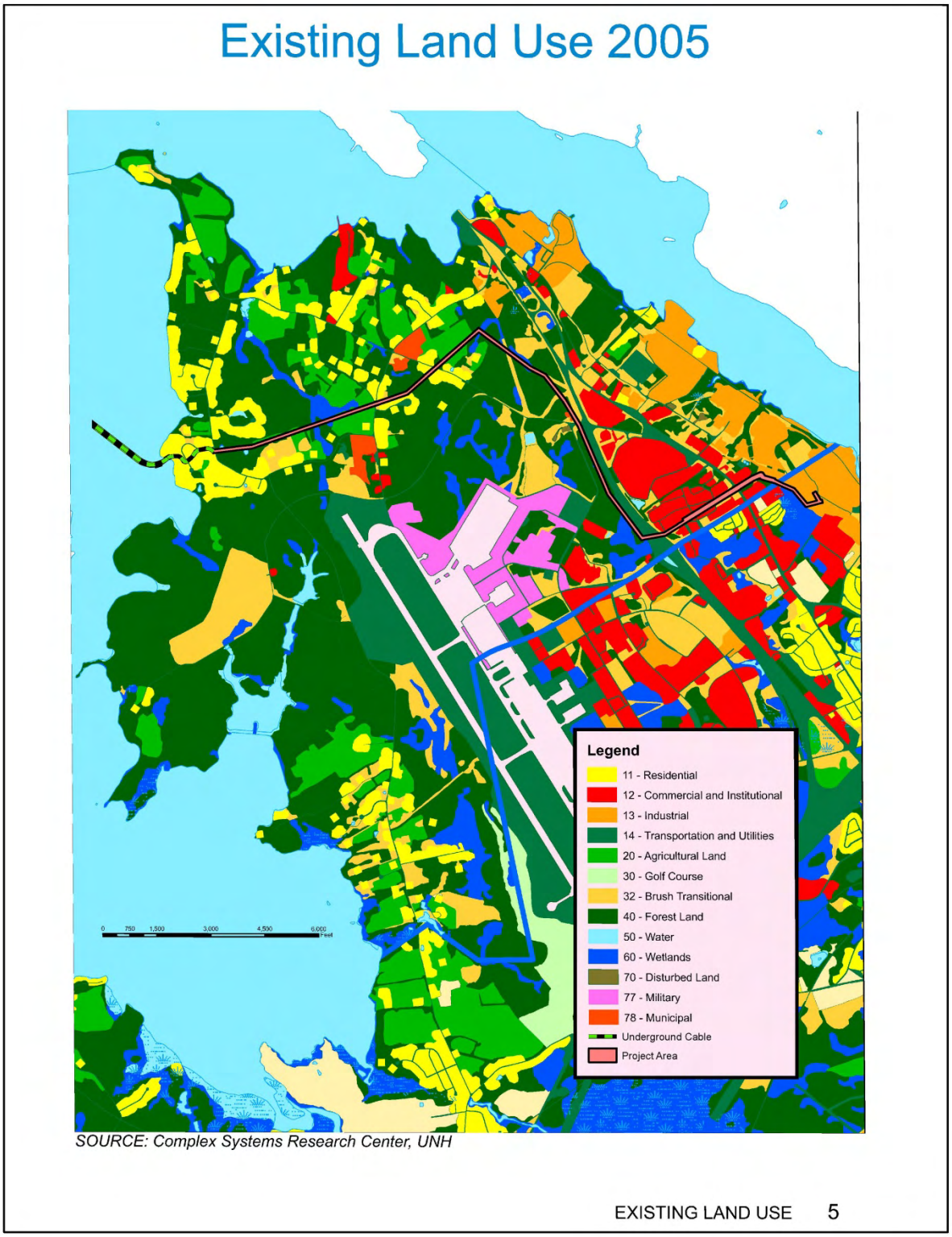
After crossing under Little Bay into Newington, the cable continues underground following the road in Gundalow Landing, a residential neighborhood, crosses under Little Bay Road and transitions above ground just east of Little Bay Road within the existing ROW. Residences north of the corridor are located along the Captain's Landing cul-du-sac where the closest structure is approximately 485 feet north of the ROW with a wooded buffer.

There are eight residences located south of the corridor along the northern side of Little Bay Road, between McIntyre Road and Nimble Hill Road. These homes range in distance from about 250 feet to 700 feet south of the ROW. Some have a full or partial wooded buffer while a few have open field. The ROW then crosses Old Post Road and Nimble Hill Road within the existing ROW and continues north of Hannah Lane; one residence along Hannah Lane is located about 40 feet southwest of the ROW.

Continuing northeast, there are two residences along the south of Fox Point Road which were constructed approximately 130 feet from the edge of the existing ROW, each with a wooded buffer. On the north side of the road, two houses are located about 300 feet from the corridor. The ROW then crosses a field, turns southeast between Pease and the Spaulding Turnpike, continues east and crosses the turnpike. Multi-family residences are located on the south side of Gosling Road, approximately 550 feet from the project, as it continues parallel to the north of Gosling Road, within the parking area for the Crossings at the Fox Run Mall.

Land uses along the corridor and throughout the Town of Newington are reflected on the attached Existing Land Map, prepared by the Town of Newington.

Existing Land Use
Newington, NH



Source: Newington Master Plan, 2009.

A-4 Portsmouth

The land area now known as Portsmouth was originally part of a land grant to John Mason and Francisco Gorges in 1622. The grant included Portsmouth and the harbor, Greenland, Rye, New Castle and Newington. Originally named Pisacataqua, the territory eventually became known as Strawbery Banke. The name Portsmouth was adopted in 1653. Portsmouth was known as a center for trade and shipping, and became capital of the province of New Hampshire in 1679. It was incorporated as a city in 1849.

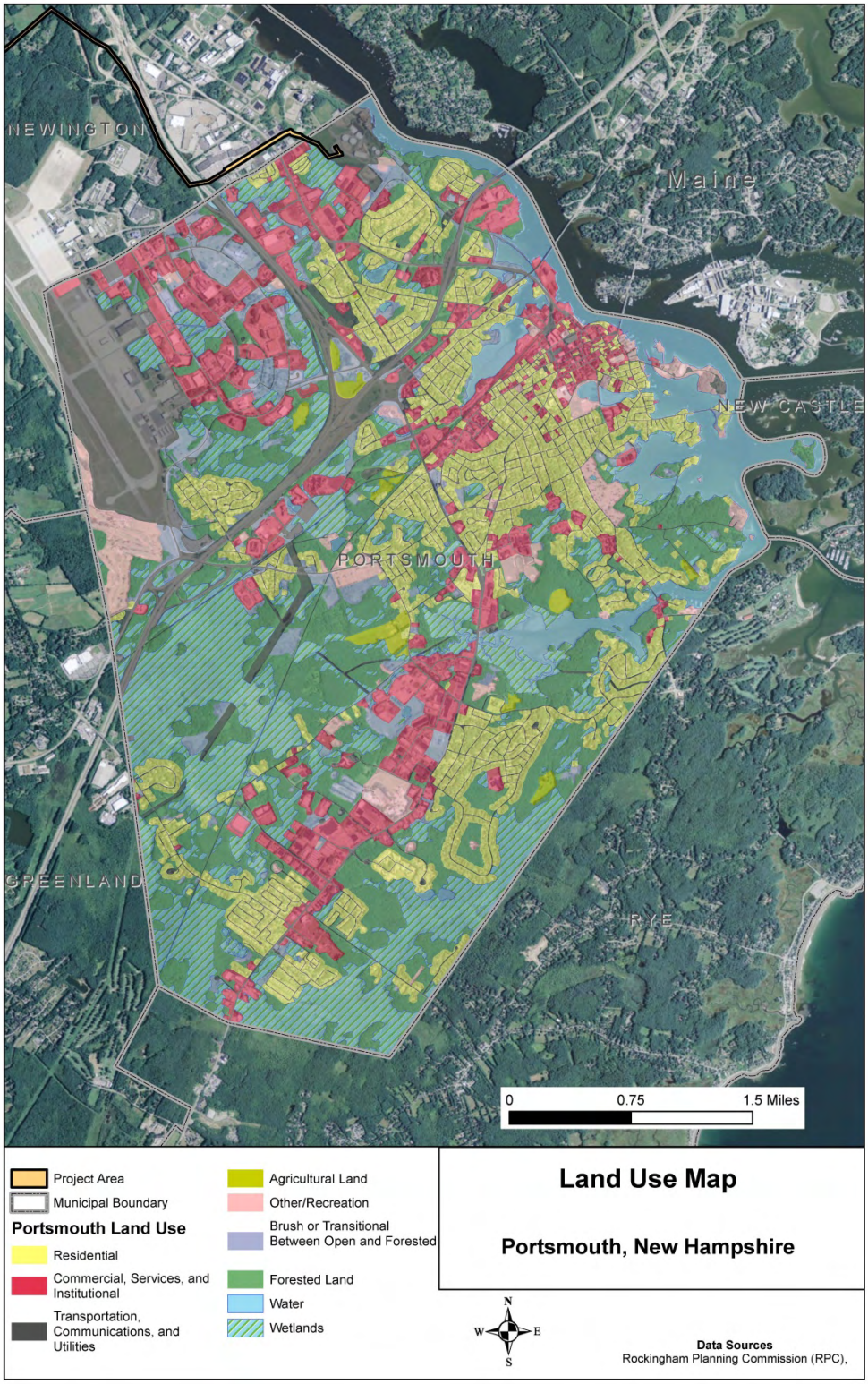
The population of Portsmouth in 2013 was about 21,235 residents. Portsmouth has about 16 square miles of land area, and about 1 square mile of inland water area, with a resulting population density of about 1,354 persons per square mile of land area, the third highest in the state among cities and towns (NHES, 2015).

The Project corridor's land area in Portsmouth is approximately 4 acres, which is less than one percent of the city's total land area of about 10,240 acres (NHOEP, 2014/NHGRANIT, 2014). The Project ROW in Portsmouth is a short segment of about 0.3 mile, running from the Newington town line to the Portsmouth substation.

Land uses along the Project corridor in Portsmouth are primarily industrial and commercial. The Project traverses the parking lot area of dense commercial development, crosses Woodbury Ave, continues through developed commercial land, and crosses to the south of Gosling Road. The Project passes about 500 feet east of the Oriental Gardens manufactured home park, with woods between the development and the existing corridor and then turns east and enters into the existing substation.

Land uses along the corridor and throughout the City of Portsmouth are reflected on the attached Existing Land Use Map using data provided by the Rockingham Planning Commission.

Existing Land Use
Portsmouth, NH



Source: Rockingham Planning Commission, 2010

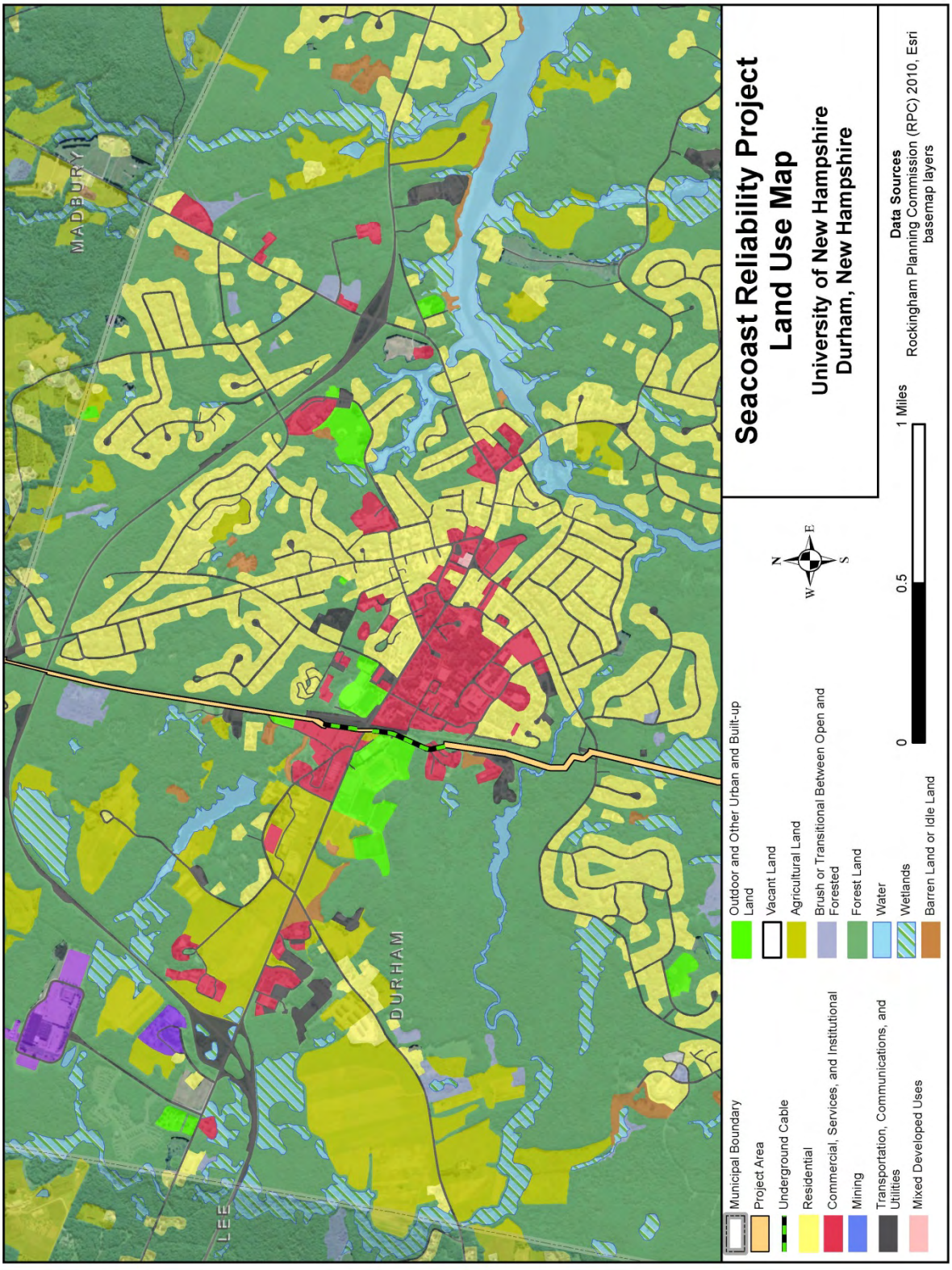
A-5 University of New Hampshire

The New Hampshire College of Agriculture and the Mechanic Arts was founded in 1866 with the goal of "fostering an educated citizenry" in New Hampshire. The college was originally located in Hanover and moved to Durham in 1893 after Benjamin Thompson, a wealthy farmer, bequeathed land and money for the development of the college. In 1893, the College opened its doors in Durham. The University of New Hampshire grew and expanded the academic fields of study and today functions as a land-grant and designated sea- and space-grant institution. The state's flagship university boasts about 13,000 students and hundreds of faculty and staff located on about 2,600 acres (unh.edu/main/brief-history, 2015).

The Project is located primarily along an existing electric ROW and an active rail line, as it travels through the western side of the University of New Hampshire campus. The ROW is just east of high-rise student housing, the Gables and associated parking lots and roadways. Continuing south along this corridor, the Project ROW moves slightly west on the edge of UNH A lot parking area, north of Main Street, where it transitions underground. The Project crosses under Main Street and remains buried while running past the Lundholm Gymnasium/Cowell Stadium to the west. The Project then daylights and continues across the Oyster River, before it crosses from the west side to the east side of the rail line. It continues south along the western parcel boundary of East Foss Farm and exits land owned by the University of New Hampshire.

Land uses along the corridor through the campus are reflected on the attached Existing Land Use Map of the University of New Hampshire, which was prepared using data from the Strafford Regional Planning Commission.

Existing Land Use
University of New Hampshire, Durham, NH



Source: Town of Durham Land Use Map, 2015.

A-6 Pease International Tradeport

The Pease International Tradeport is located in the middle of a peninsula, formed by the Pisacataqua River, Little Bay and Great Bay. It abuts Newington, Portsmouth and Greenland, and is within Rockingham County.

The 4,255-acre Pease Air Force Base was constructed between 1952 and 1956 after lands were purchased from property owners in Newington and Portsmouth. Land from Newington represented about 60% of the base and the remaining 40% was in Portsmouth.

Pease Air Force Base closed in 1991 after it was recommended and approved for closure in the federal Base Realignment and Closure Act (BRAC) process.

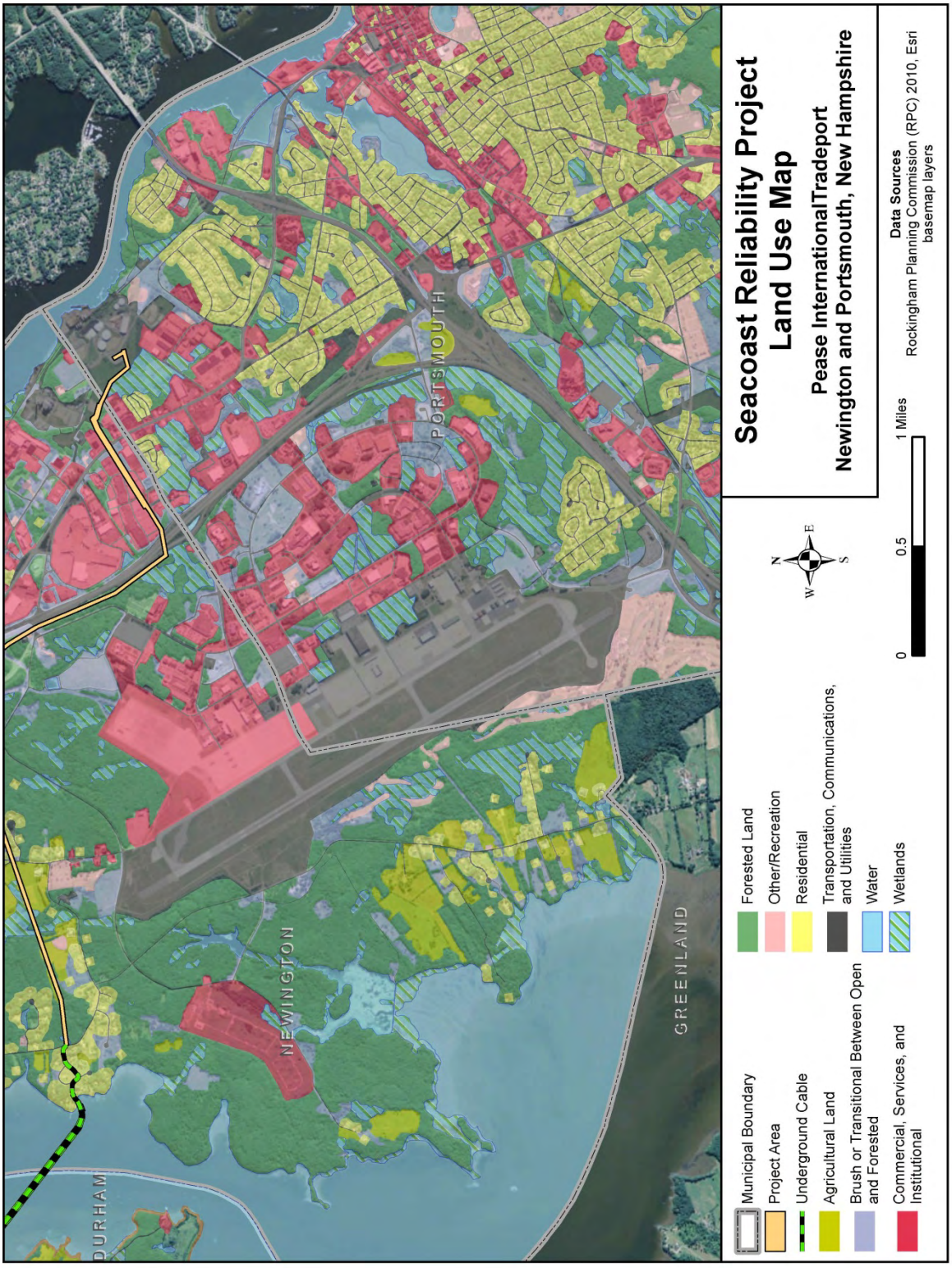
An airport layout plan for the Pease Airport was completed in 1991, and about 1,100 acres of land west of McIntyre Road was deeded to the US Fish and Wildlife Service for the creation of the Great Bay National Wildlife Refuge.

Today the Pease International Tradeport consists of the Portsmouth International Airport and over 3,000 acres of office and industrial space and over 250 companies employing more than 7,000 people occupying about 4 million square feet of office and industrial space. Pease also includes the 27-hole Pease Golf Course, restaurants, banks, college classrooms, and a hotel. The number of people working at the Pease International Tradeport in 2014 has nearly doubled since the closure of Pease Air Force Base was announced, a significant accomplishment for the PDA and the State of New Hampshire. Pease is home to the NH Air National Guard.

The Project ROW enters the northern corner of land owned by the Pease International Tradeport, and continues southeast along the border for about 3,000 feet to where it begins running adjacent to the Spaulding Turnpike. The ROW continues along the Spaulding Turnpike for about 4,000 feet where it exits the Pease International Tradeport property, crosses the turnpike, and continues to the substation.

Land uses along the corridor are reflected on the attached Existing Land Use Map of Pease International Tradeport prepared using data provided by the Rockingham Planning Commission.

Existing Land Use
Pease International Tradeport, NH



Source: Rockingham Planning Commission Land Use Data, 2010