

PLANNING BOARD

Town of Greenland · Greenland, NH 03840

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PROJECT TYPE AND DESCRIPTION

See Application Definitions Below

Please include 11 copies of this page only

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AP	APPLICATION DATE March 15, 2023				
PROPERTY ADDRESS A126 and S153 Shared Right-of-Way (ROW), Access from Moulten Avenue					
Application Type					
	Preliminary Conceptual Consultation	☐ Design Review			
☐ Site Plan Review		☐ Subdivision of Land			
☐ Boundary Line Adjustment		☑ Conditional Use Permit			
□ Voluntary Merger (RSA 674:39-a)					
Description of Project or Application					
A126 and S153 Transmission Lines involving utility structure replacement along the the existing, shared right-of-way (ROW) in Greenland. Proposed structure replacement work in Greenland involves the replacement of nine (9) existing wooden electric transmission line structures along the A126 Line and five (5) existing wooden electric transmission line structures along the S153 Line. Existing wooden structures are proposed to be replaced with new weathered steel structures in accordance with current construction methods and materials. Structure replacements are needed due to the age and condition of the existing wooden structures resulting from woodpecker damage, insect damage, and rot. Work areas for structure replacements will be accessed via existing access roads and paths where present. Where required, new 16 ft wide gravel access paths will be installed to facilitate equipment access and approximately 100 ft x 100 ft gravel work pads will be installed at structure replacement locations. Timber matting will be utilized to gain access down the ROW across wetlands and streams in order to reach replacement structures while avoiding permanent resource impacts. Timber mats will also be set up around the base of structures where the work pads intersect the wetland buffer zone, and will not be in place for longer than one growing season					
APPLICATION DEFINITIONS					
1.	resolving problems. Consultation will be no discuss proposals in conceptual form only ar	all and suggestions which might be of assistance in on-binding. The Planning Board and applicant may and in general terms such as desirability of types of plan. Discussions may occur without the necessity of			
2.		eneral discussions involving more specific design and the made; abutters and the general public must be			
3.	land development regulations and consistence must be made; abutters and the general public	elopment to ensure compliance with all appropriate y with the Comprehensive Plan. Formal public notice must be notified.			
4.	Abutters (RSA 672:3) Any person whose property adjoins or is direct complete definition.)	etly across the street or stream. (See the RSA for the			



March 15, 2023

Ref: 52973.00

Dave Moore Chairman Greenland Planning Board PO Box 100 Greenland, NH 03840

Re: Town of Greenland Conditional Use Permit Application A126 and S153 Transmission Line Structure Replacements, Greenland, NH

Dear Mr. Moore:

On behalf of Public Service of New Hampshire (PSNH) d/b/a Eversource Energy (Eversource), VHB is submitting this Conditional Use Permit (CUP) Application to the Town of Greenland Planning Board for proposed utility maintenance on the existing 115kV A126 and S153 Transmission Lines in Greenland, New Hampshire. This project qualifies for a Conditional Use Permit (CUP) approval as a power line project within a utility right-of-way (ROW) within Greenland's Jurisdictional Wetland District in accordance with Article XVIII of the Town's zoning ordinance. This CUP Application is being submitted in accordance with Section 18.6.1 of the zoning ordinance and is required for the proposed work to allow impacts to wetlands (and their associated buffers) protected under the Jurisdictional Wetlands Protection District.

Existing Conditions

The project area involves a maintained electric transmission line ROW that varies in width from 150 feet to 200 feet and contains two transmission lines (the A126 and S153), as well as a gas pipeline that runs along the northern portion of the ROW in Greenland, NH. The proposed project area extends from Moulton Avenue west towards the Winnicut River. The project does not propose to traverse the Winnicut River. The project ROW is comprised of Eversource-owned property or Eversource controlled easements. Access to the project ROW will originate off of Moulton Avenue, with no other state or local roads bisecting the project area. The project ROW contains dense emergent and scrub-shrub wetland and upland vegetation that is maintained (cut) on a three to five-year cycle to achieve vertical clearance requirements between ground vegetation and overhead transmission lines. The surrounding land use is a mix of forested area, open space, and residential properties.

Project Description

Eversource intends to perform routine maintenance work on the existing 115kV A126 and S153 Transmission Lines involving utility structure replacements along the utility ROW in Greenland. The A126 and S153 lines are co-located within a shared transmission line ROW originating at Great Bay Substation in Stratham and extending east towards Portsmouth. However, work is only occurring on select structures along the lines.

Engineers | Scientists | Planners | Designers

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Structures proposed for replacement have been recently identified by project engineers as deficient due to weathering, internal rot, and/or woodpecker damage.

Proposed structure replacement work in Greenland involves the replacement of nine (9) existing wooden electric transmission line structures along the A126 Line and five (5) existing wooden electric transmission line structures along the S153 Line. Existing wooden structures are proposed to be replaced with new weathered steel structures in accordance with current construction methods and materials. Weathered steel structures are more resilient to insect and woodpecker damage, pole rot, and can further withstand typical New Hampshire storms and severe weather events. The proposed project is part of Eversource's ongoing maintenance program conducted to ensure reliable electric service for their customers. The Eversourcce transmission system is an integral part of the regional power system delivering electricity to customers throughout New England. It is critical that this system remains operational without interruption from preventable outages. Contingent upon permit approvals, work is planned to commence in June 2023 and continue through August 2023.

Most of the replacement structures will be installed within 10-15 feet of the existing structure footprints (back or forward on-line), however there is one structure that requires replacement approximately 50 feet from the existing structure footprint. Replacement structures will be connected to the existing overhead circuit prior to the removal of the existing structures. The height of the new structures will generally increase between 5 and 25 feet to gain compliance with current regulatory standards, meet safety clearance requirements, accommodate the site topography, and minimize environmental impacts. All of the proposed work will be contained within the existing cleared utility ROW, and no additional tree clearing or widening of the ROW is proposed.

Work crews will access structures targeted for replacement from Moulton Avenue and will travel west within the limits of the existing cleared ROW corridor. While crews will follow existing access roads and paths where present, ground disturbance will be required to establish 16-ft wide gravel access roads to reach proposed replacement structures. Ground disturbance and grading within upland areas will be kept to a minimum during the proposed work, and the largest work pad to be established around proposed replacement structures will be limited to approximately 100-ft x 100-ft in size. Some routine vegetation mowing within the limits of the existing cleared ROW might be required along the proposed access roads and structural work pads to permit clear and safe crew access. Where the proposed access or structural work pads intersect wetlands/streams and the 25' vegetative strip buffer within the Jurisdictional Wetlands Protection District, timber mats (typically with dimensions of 16 feet wide by 4 feet long) will be installed in order to safely stage equipment and crews while minimizing soil disturbance and rutting within these resources. Gravel access roads will need to be installed within portions of the 25'-50' limited cut buffer area in order to reach targeted work areas. In instances where gravel access roads are required, all gravel will be setback at least 25' from all wetland edges.

Once access is established, structures will be installed through direct embedment. Traditional auguring and installation procedures will be used. All excavated spoils will be spread within an upland area of the project ROW (outside of NHDES jurisdiction) or will be trucked off-site and properly disposed of. No structures are proposed to be installed within the bed and/or banks of any stream or river along the project ROW. 3/16



Additionally, no structures are proposed to be installed within areas identified as vernal pools. Contingent upon permit approval, work is proposed to commence in June 2023.

Prior to accessing the ROW with construction equipment, crews will install wildlife friendly erosion and sediment control barriers in accordance with permitting plans and details, New Hampshire Department of Environmental Services (NHDES) conditions, and the *Best Management Practices Manual for Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire* (or "Utility BMP Manual," March 2019), published by the New Hampshire Department of Natural and Cultural Resources (NHDNCR). Selected erosion and sediment control barriers may include silt sock, silt fence, and/or wood chip/compost berms/tubes. Additional Best Management Practices (BMPs) such as stabilized construction exits, water bars, and erosion control blankets will also be utilized along proposed access ways and adjacent to structure locations in order to manage stormwater run-off, reduce erosion and stabilized soils. During project construction, control of the spread of invasive plant species that are currently found within the project ROW will also be managed in accordance with NHDES permit conditions and the Utility BMP Manual.

Installed erosion controls and other installed utility BMPs will be inspected daily by the contractor crews and weekly by a qualified environmental monitor, hired by PSNH, to ensure proper functionality and maintenance. Erosion and sediment control barriers will not be removed until project work is complete, and all project areas are stabilized in accordance with NHDES guidance.

As soon as possible after the completion of the structure replacement work, timber matting and all construction debris will be removed from the project ROW and properly disposed of off-site. Stabilization and restoration of disturbed areas/exposed soils will be initiated as soon as possible once timber mats are pulled and structural work is completed. Due to the use of timber mats, it is anticipated that minimal restoration within the ROW will be required, and that natural vegetative re-colonization of impacted areas will occur during summer vegetative growth periods in 2023 and 2024. VHB will visit the project ROW post-construction to assess conditions, provide guidance to work crews on restoration, and determine whether or not additional promotion of vegetation (seeding) is required. If necessary, a upland and/or wetland seed mix will be applied to any areas where cover is slow to develop. Additionally, straw or weed-free hay will be applied in conjunction with seed. In accordance with Env-Wt 307.12(f), if the temporarily impacted areas do not have at least 75% revegetation after two growing seasons, replanting or reseeding would occur in those areas.

Refer to the **Project Plans** provided in **Attachment C** for the location of existing wetlands and surface waters, utility structures, proposed access routes, construction work pads, and timber matting.

Delineated Natural Resources

A portion of the proposed project will take place within the Town of Greenland's Jurisdictional Wetlands District, which is defined in *Section 18.2* in the town's zoning ordinance. The project ROW only contains inland jurisdictional wetlands, which were previously delineated in accordance with *RSA 482-A*. The Town of Greenland has established setbacks from inland jurisdictional wetlands including a minimum structural setback requirement of 50-feet, a 25-foot vegetated buffer strip, and a 25 – 50-foot limited-cut buffer area. Additionally, a 25-foot vegetated buffer strip and a 25 – 75-foot limited cut area buffer around surface waters is required by the Town of Greenland. These buffer areas are included in the attached **Project Plans**, except for the 50-foot structural setback since no new buildings or structures are proposed to be



constructed as part of the proposed project. According to the NHDES Wetlands Permit Planning Tool, areas immediately adjacent to the Winnicut River within the Project ROW are classified as floodplain wetlands adjacent to a Tier 3 stream. However, no work is proposed to occur within this priority resource area (PRA). No additional PRAs or vernal pools are located within the project ROW in Greenland.

Wetlands within the project ROW were previously delineated by GZA wetland scientists in support of past projects along the A126 and S153 lines. These delineations will be field reviewed and reflagged in early spring by VHB Wetland Scientists prior to any work commencing. Wetland field review and reflagging will be performed in accordance with procedures and standards outlined in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (January 2012). Wetland review will also rely upon the Field Indicators for Identifying Hydric Soils in the United States, Version 8.2, published by the Natural Resource Conservation Service and the Field Indicators for Identifying Hydric Soils in New England, Version 4.0, published by the New England Interstate Water Pollution Control Commission in April 2019. Dominant wetland vegetation was assessed using the 2018 National Wetland Plant List published by the U.S. Army Corps of Engineers.

Proposed Impacts

The proposed work requires temporary impact to wetlands for access to structures and for the establishment of work pads around the structures. No increase in permanent impact is proposed within wetlands or streams. Impacts to wetlands were minimized to the maximum extent practical during project planning. This included modifications to ROW access, the positioning of the proposed utility poles, the utilization of timber matting and/or tracked equipment, and the location/orientation of work pads. Temporary impacts are shown in **Table 1** below and are quantified as "delineated wetland", "25' vegetated buffer" impacts, and "25'-50' limited cut buffer" impacts.

Table 1: Proposed Temporary Impacts

Impact Type	Impact Area (Square Feet)
Delineated Wetland	78,310
25' Vegetated Buffer	15,837
Total	97,249

Table 2: Proposed Permanent Impacts

Impact Type	Impact Area (Square Feet)
25'-50' Limited Cut Buffer	21,595
Total	21,595

Wetlands

Within the Town of Greenland, seven (7) of the structures to be replaced along the A126 line and three (3) of the structures to be replaced along the S153 line intersect delineated jurisdictional wetland boundaries and will require approximately **78,310 sq. ft.** of temporary wetland impact. Approximately **15,837 sq. ft.** of



temporary impact is proposed to occur within the temporary 25-foot vegetative buffer strip of wetlands. Additionally, **21,595 sq. ft.** of select shrubs may be removed from the 25' – 50' limited-cut buffer area. Temporary impacts in the form of timber matting are required to access each structure replacement location and create a stable and safe work platform for construction crews. Timber matting will minimize impacts to the wetlands during structure replacement work and will not remain in place for longer than one growing season. Crews will follow applicable BMPs to minimize disturbance within wetland areas, the 25-foot vegetative buffer strip, and the 25' – 50' limited-cut buffer area.

Floodplains and Floodways

According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Maps (FIRM), the 100-year floodplain of the Winnicut River (Zone A) occurs within a portion of the ROW adjacent to the proposed project area. However, none of the proposed replacement structures or access roads will intersect this floodplain, and as such no impacts are anticipated.

Aquifers

A portion of the project ROW in Greenland is located within the Town's Aquifer Protection District, as defined in *Article VII*, *Section 7.3*. Since the proposed project involves the maintenance of existing structures and will not result in an increase in impermeable surfaces, the project is a permitted use as defined in *Article VII*, *Section 7.4.6*. Existing structures will be removed once the new poles are installed. Matting and other construction debris will be removed upon completion of the proposed work, and restoration of disturbed areas will be completed as soon as possible. The proposed project is not anticipated to negatively impact the storage capacity of the aquifer, nor will any wastewater be discharged on site.

Conditional Uses

In accordance with the requirements for a Conditional Use Permit, the construction and maintenance of powerlines in the Jurisdictional Wetland District is an allowable use if the conditions found in *Article XVIII*, *Section 18.6.2* are met. Evidence that the proposed project meets these conditions is provided below.

A. That the proposed use is permitted in the underlying zoning district.

The proposed project involves the maintenance of an existing use that occurs in the underlying Residential zoning district. The project area is an existing transmission line ROW that traverses the residential zoning district through the Town of Greenland. The proposed maintenance work is required to maintain the reliability of the existing infrastructure that provides electricity to the regional grid. Maintaining the flow of electricity to developed regions of the state is essential to the safety and productivity of those communities.

B. That the use for which the permit is sought cannot feasibly be carried out on a portion or portions of the lot which are outside the Jurisdictional Wetland District, buffer, or setback.

Many of the existing structures are located within wetlands, so there is no feasible alternative route that does not cross a wetland. Avoidance and minimization of natural resource impacts was a main consideration throughout the project design and implementation, coupled with construction feasibility and safety. All access routes were selected through site walks with PSNH,



and work pads were positioned to avoid natural resource impacts to the extent practical while still accomplishing the project objectives. Given the avoidance and minimization efforts employed throughout the plan development, it is our opinion that there is no practicable alternative that would have less impact. It should also be noted that impacts associated with work within wetlands and the 25' vegetative buffer are temporary and will be restored.

C. That the design, construction, and maintenance of the proposed use will, to the extent feasible, minimize detrimental impact on the Jurisdictional Wetland District, buffer or setback and that no alternative design which does not impact a Jurisdictional Wetland District, buffer, or setback or which has less detrimental impact on the Jurisdictional Wetland District, buffer, or setback is feasible.

Impacts to natural resources and buffers comprising the Jurisdictional Wetland District have been avoided to the extent practical while still accomplishing the project objectives. Proposed access roads within the ROW will follow existing accessways as much as possible. Where wetlands and/or streams must be crossed to gain access to replacement structures, wooden timber mats will be installed to create a solid traveling surface while resulting in minimal soil disturbance and rutting within these resources. Smaller intermittent stream channels within the project ROW that cannot be avoided will be spanned using timber mats. Following the removal of timber mats from wetland areas, any exposed soils will be stabilized with weed-free straw and allowed to reestablish within the next growing season. If some areas are slow to establish, appropriate wetland seed mixes may be applied. Temporary soil stockpiles, if applicable, will be temporarily stabilized and surrounded by erosion controls (i.e., silt sock), as necessary, to contain the sediment.

Crews will install erosion control and sediment control barriers in accordance with the Utility BMP manual, and as dictated by site conditions. Selected BMPs may include straw wattles, silt fence, wood chip/compost berms/tubes and/or other approved BMPs. Erosion controls will be inspected and maintained throughout the duration of construction activities and will not be removed until project work is complete, and the project area is stabilized in accordance with NHDES Chapter Wt. 303.04(af).

D. In cases where the proposed use is temporary or where construction activity disturbs areas adjacent to the immediate use, that the landowner agrees to restore the site as nearly as possible to its original grade, surface condition, and vegetative condition following construction.

Due to the timing of the project and measures being taken to minimize impacts, it is anticipated that minimal restoration will be needed and that natural re-colonization of wetlands within the project ROW will occur. VHB will revisit the ROW during this time period to confirm vegetative regrowth. Following the removal of timber mats from wetland areas, any exposed soils will be stabilized with weed-free straw and allowed to reestablish within the 2023 and 2024 summer growing season. If some areas are slow to establish, appropriate wetland seed mixes may be applied. Additionally, fertilizer will not be used, and straw or weed-free hay will be applied in conjunction with seed.



E. That the proposed use will not create a hazard to individual or public health, safety and welfare due to the loss of the Jurisdictional Wetland Area, contamination of the Jurisdictional Wetland Area and/or groundwater, or other reasons.

No permanent wetland impacts are proposed that would result in a loss of jurisdictional areas. Care will be taken to prevent any spills. Contractors are instructed to fuel equipment outside of wetland areas, when feasible, or to use spill prevention measures within wetland areas to contain spills.

F. There will be no adverse impact on the Jurisdictional Wetland Areas functional values of the site or surrounding properties as it relates to water quality, flood storage capacity and wildlife habitat.

None of the project impacts are expected to permanently alter the hydrology of wetlands (i.e., no inflow/outflow restrictions) along the project ROW. Therefore, the project will not permanently impact water quality and hydrologic functions. These functions include groundwater recharge/discharge, flood flow alteration, or sediment and nutrient trapping, which are performed by wetlands within the project area, particularly where the larger emergent/scrub-shrub complexes are present. Some temporary impacts to the wildlife habitat value of project ROW wetlands are anticipated during the construction period as a result of noise and the presence of work crews and equipment, but these impacts will be short-term.

G. That all required permits shall be obtained from the New Hampshire Department of Environmental Services Water Supply and Pollution Control Division under New Hampshire RSA 485-A:17, the New Hampshire Wetlands Board under New Hampshire RSA 483-A, and the United States Army Corps of Engineers under Section 404 of the Clean Water Act.

A Utility Maintenance Activity SPN for the proposed project will be submitted to the NHDES Wetlands Bureau in early Spring 2023 to cover environmental permitting at the state level for the proposed temporary wetland impacts. Following state permit approval, Eversource will be required to receive approval from the US Army Corps of Engineer. No permits are required to be obtained from the NHDES Water Supply and Pollution Control Division for the proposed project. An Alteration of Terrain permit will be submitted to NHDES to cover proposed upland disturbances within the project area.

H. The applicant develop a stormwater management plan meeting the requirements of the Town's Stormwater Management regulations to document that no adverse impacts will occur unless this requirement is waived by the Planning Board for good cause shown.

It is assumed that a stormwater management plan can be waived due to the nature of the proposed impacts. No additional impervious surface is proposed, and impacts are temporary. The proposed project will follow selected BMPs included in the Utility BMP Manual including the use of straw wattles, wood chip/compost berms/tubes, and/or other approved BMPs.



I. That the impact is not contrary to the public interest (an example might be the construction of utility services and that no reasonable alternative exists).

The proposed project is part of PSNH's on-going maintenance program conducted to ensure reliable electric service for their customers. The project is in the public interest. The transmission assets and ROW are an existing use within the wetlands. Proposed replacement structures have been recently identified by project engineers as deficient due to weathering, internal rot, and/or woodpecker damage. New weathered steel structures will increase the reliability of the transmission lines within the ROW. The PSNH 115-kV transmission system is an integral part of the regional power system delivering electricity to customers throughout New England. Therefore, maintaining a reliable and functional transmission system is critical that the 115-kV system remain operational without interruption from preventable outages. As the proposed project will improve the reliability of the transmission system, it is in turn anticipated to improve public health and safety.

J. That economic considerations alone are not sufficient reasons for granting a permit.

The proposed project is necessary to maintain existing transmission lines. Proposed replacement structures have been recently identified by project engineers as deficient due to weathering, internal rot, and/or woodpecker damage. New weathered steel structures will increase the reliability of the transmission lines within the ROW. The PSNH 115-kV transmission system is an integral part of the regional power system delivering electricity to customers throughout New England. Therefore, maintaining a reliable and functional transmission system is critical without interruption from preventable outages. Therefore, economic advantage is not the reason for the proposed project.

K. The proposed construction is essential to the productive use of land not within the jurisdictional wetland area, buffer or setback.

The proposed project is part of PSNH's on-going maintenance program conducted to ensure reliable electric service for their customers. As previously mentioned, the PSNH 115-kV transmission system is an important part of the New England energy grid, and therefore it is critical that maintenance activities be conducted so that the 115-kV system remains operational.

The proposed project is located within an existing transmission line ROW and is part of regular maintenance work that is conducted periodically along transmission lines to ensure the proper functionality. Since the project will improve the reliability of the transmission system, the project is essential to the productive use of the land that is not located within Jurisdictional Wetland District.

L. The proposed construction permits the unobstructed flow of water and preserves the functionality of the jurisdictional wetland.

Streams will be spanned, where feasible, to main unobstructed flow of water. In cases where streams cannot be entirely spanned timber mats will be placed to allow continuance flow of water and will be removed after construction.



Property Ownership and Abutters

Proposed work will occur within the limits of the existing A126 and S153 Transmission Lines shared electric utility ROW that is either owned in fee or maintained as easement by PSNH. All owners of parcels where impacts to the Jurisdictional Wetland District are to occur, as well as owners of parcels who abut or are located across the street from these properties will be notified of the proposed project in accordance with the Town of Greenland's Conditional Use Permit application process. The list of owners and abutters and the associated tax maps are attached, as well as three copies of the abutter labels.

Please do not hesitate to contact me if you have any questions at (603) 391-3951 or strefry@vhb.com.

Sincerely,

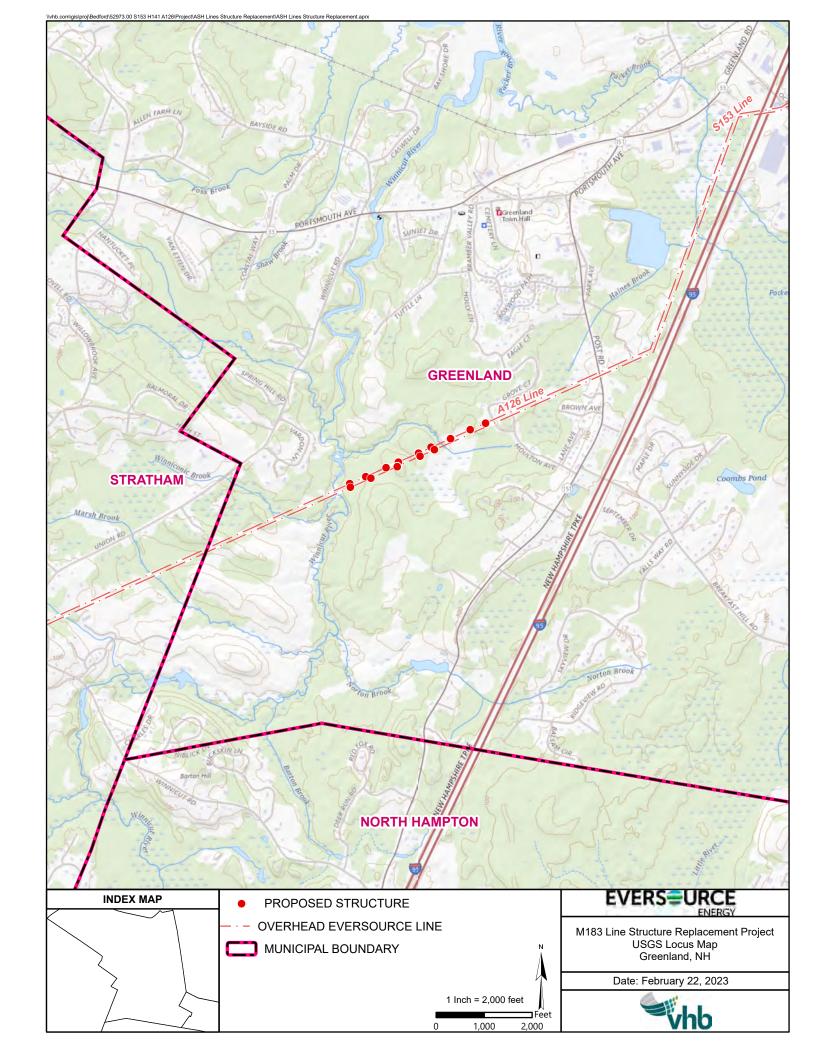
Sherrie Trefry, CSS Energy Market Lead

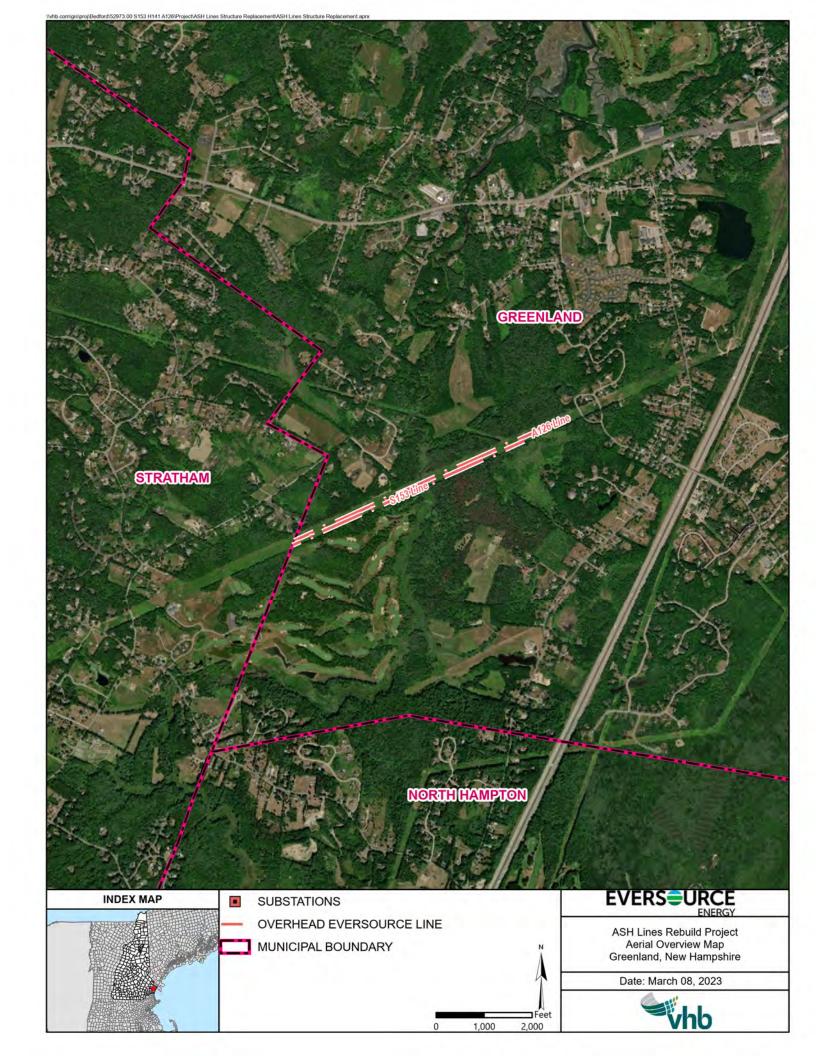
Shenie Trefry

cc: Kurt Nelson, PSNH

Attachments:

Town of Greenland Conditional Use Permit Application Attachment A – USGS Locus Map Attachment B – Aerial Map Attachment C – Project Permitting Plans Attachment D – Greenland Tax Maps Abutter List Abutter Labels – 3 copies





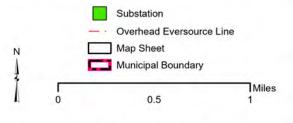
A126, S153 and H141 Transmission Lines - Structure Replacement Project

Greenland, NH Local Permitting Plans Map

Date: March 14, 2023 NEWFIELDS U181 Line . Hill Park 291 ft Stratham Hill Greenland Jewell HIN Brook Packer Bog PORTSMOUTH Jewell Hill Stratham Barkers High St STRATHAM **GREENLAND** Marsh Brook Town of R taeder Dr Stratham RYE GREAT BAY Barton Hill Rye **NORTH HAMPTON** SUBSTATION 112 ft

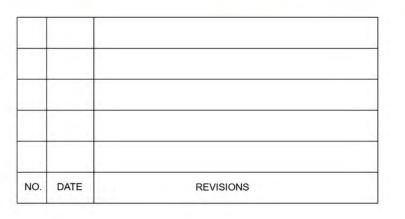


13 Legends Drive Hooksett, NH 03106



INDEX OF FIGURES

Title Sheet / Index Map Map Sheet 1-2



PREPARED BY:



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