Original Alteration of Terrain Permit Application



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E115 Transmission Line Rebuild and Optical Ground Wire Replacement Project Eversource Energy

New Hampton, Bridgewater, Bristol, Ashland, and Holderness New Hampshire

NHDES Alteration of Terrain Permit Application

March 1, 2022 GZA File No. 04.0190999.72



PREPARED FOR: Eversource Energy Hooksett, New Hampshire

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GEOTECHNICAL ENVIRONMENTAL ECOLOGICAL WATER CONSTRUCTION MANAGEMENT

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Mr. Ridgely Mauck, P.E. Program Supervisor - Permitting NHDES Land Resources Management Alteration of Terrain Bureau 29 Hazen Drive, PO Box 95 Concord, New Hampshire 03302

Re: Alteration of Terrain Permit
E1145 Transmission Line Rebuild and Optical Ground Wire Replacement Project
New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire

Dear Mr. Mauck:

On behalf of Public Service Company of New Hampshire dba Eversource Energy (Eversource), GZA GeoEnvironmental, Inc. (GZA) is submitting this Alteration of Terrain (AoT) Permit Application for the proposed E115 Transmission Line Rebuild and Optical Ground Wire (OPGW) Replacement Project in accordance with Terrain Alteration Law (RSA 485-A:17), Administrative Rules (Env-Wq 1500), and discussions between New Hampshire Department of Environmental Services (NHDES) AoT Bureau and Eversource.

The proposed project includes the replacement of 183 existing utility structures along the E115 Transmission Line that exceed AoT impact thresholds. The proposed project crosses through portions of New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire for approximately 15 miles. Replacement of the existing utility structures is necessary to maintain the safety and reliability of the system. Additionally, OPGW is proposed to replace existing static wire and improve the transmission line by serving to shield conductor wires below it from lightning. To more efficiently conduct routine maintenance of the existing E115 Transmission Line, work pad grading and access road improvements are proposed as part of this project in upland areas. The proposed project will require disturbance subject to AoT permitting through the NHDES as a result of impact areas cumulatively exceeding 100,000 square feet of contiguous disturbance in the project area (i.e. the E115 Utility Line Corridor).

In addition, included with this submittal is a copy of the application fee check, a completed AoT Permit Application Form, a detailed project overview narrative, required plans and figures, and additional supporting materials. In addition, a waiver request for the preparation of a stormwater drainage report, drainage area plans, and hydrologic soil group plans is enclosed as required by Env-Wq 1509.04. The proposed project is scheduled to start in July 2022 and continue through July 2023. Eversource





appreciates the efforts of the Alteration of Terrain Bureau in helping to maintain the anticipated construction schedule, which is dependent on scheduled outages dictated by regional outage planning.

Please feel free to contact us with any questions.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

indsey White

Lindsey White, CPSS **Project Manager**

Tracy Tarr, CWS, CWB, CESSWI **Associate Principal**

LEW:jkm

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Attachments: Alteration of Terrain Permit Application

cc: Town of New Hampton, New Hampshire Town of Bristol, New Hampshire Town of Bridgewater, New Hampshire Town of Ashland, New Hampshire Town of Holderness, New Hampshire Pemigewasset River Local Advisory Committee

Deborah M. Zarta Gier, CNRP

Consultant/Reviewer



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- APPENDIX A ALTERATION OF TERRAIN PERMIT APPLICATION FORM
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- APPENDIX C NEW HAMPSHIRE NATURAL HERITAGE BUREAU REPORT E-MAIL REVIEW FROM NHB AND NHF&G
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1.0 PROJECT BACKGROUND AND PURPOSE

The proposed project involves the replacement of 183 existing E115 Transmission Line structures and OPGW replacement in portions of New Hampton, Bristol, Bridgewater, Ashland, and Holderness, New Hampshire. The proposed replacement structures are old and worn and must be replaced in order for the transmission line to continue to function safely and reliably. Additionally, Eversource plans to install OPGW to replace existing static wire and improve the transmission line by serving to shield conductor wires below it from lightning. Impacts have been minimized and avoided to the greatest extent practicable through site evaluations of access routes and work pad placements.

The project requires approximately 3,179,069 square feet (sq. ft.) of total impact, including 112,607 sq. ft. of temporary wetland matting, 505,720 sq. ft. of temporary upland matting, and 2,560,742 sq. ft. of ground disturbance. The proposed project to replace a total of 183 existing utility poles is subject to the AoT disturbance threshold (Env-Wq 1500 and RSA 485-A:17)(See **Figure 4- Alteration of Terrain Permitting Plans** and **Appendix A – Alteration of Terrain Application Form**). For purposes of presentation of details and consistency with other permitting efforts for this project, we have broken out project areas as follows:

- 1) Area A, Town of New Hampton approximately 692,876 sq. ft. of work pad grading and associated access improvements at E115 Structures 120 to 122, and Structures 167 to 210.
- 2) Area B, Town of Bristol approximately 336,105 sq. ft. of work pad grading and associated access improvements at E115 Structures 123 to 149.
- 3) Area C, Town of Bridgewater approximately 365,345 sq. ft. of work pad grading and associated access improvements at E115 Structures 150 to 166, and Structures 230 to 237.
- 4) Area D, Town of Ashland approximately 789,214 sq. ft. of work pad grading and associated access improvements at E115 Structures 211 to 229, and Structures 238 to 255.
- 5) Area E, Town of Holderness approximately 377,202 sq. ft. of work pad grading and associated access improvements at E115 Structures 256 to 284.

2.0 SITE INFORMATION

2.1 SITE LOCATION AND DESCRIPTION

Area A includes a portion of the E115 Transmission Line Right of Way (ROW) from the Pemigewasset Substation off of Old Bristol Road to the Pemigewasset River. The total work area in this portion of the ROW is approximately 0.2 miles in length and approximately 320-ft in width. Area A continues east of the Town of Bridgewater and Town of New Hampton Town Line and continues in a northerly direction for approximately 3.5 miles to the Town of New Hampton and Town of Ashland Town Line. The ROW width in this portion is approximately 225-ft wide.

Area B includes the portion of the E115 Transmission Line ROW just north of the Pemigewasset River at the Town of New Hampton and Town of Bristol Town Line and continues northeasterly for approximately 2.5 miles to the Town of Bristol and Town of Bridgewater Town Line. The ROW in this portion is approximately 280-ft in width.

Area C includes the portion of the E115 Transmission Line ROW just northeast of the Town of Bristol and Town of Bridgewater Town Line and continues in a northeasterly directly for approximately 1.5 miles to the Town of



Bridgewater and Town of New Hampton Town Line at the Pemigewasset River. Area C continues northwest of the Town of Ashland and Town of Bridgewater Town Line at the Pemigewasset River and continues northerly for approximately 0.6 miles to the Town of Ashland and Town of Bridgewater Town Line at the Pemigewasset River. The ROW in this portion is approximately 225-ft in width.

Area D includes the portion of the E115 Transmission Line ROW north of the Town of New Hampton and Town of Ashland Town Line and continues northerly for approximately 2.0 miles to the Town of Ashland and Town of Bridgewater Town Line at the Pemigewasset River. The ROW in this portion is approximately 225-ft in width. Area D continues northeast of the Town of Ashland and Town of Bridgewater Town Line at the Pemigewasset River and continues northerly for approximately 2.5 miles to the Town of Ashland and Town of Holderness Town Line. The ROW in this portion is approximately 225-ft in width.

Area E includes the portion of the E115 Transmission Line ROW north of the Town of Ashland and Town of Holderness Town line and continues northerly for approximately 2.3 miles to the Holderness Substation just south of the Town of Holderness and Town of Campton Town Line. The ROW in this portion is approximately 225-ft in width.

The total project area is approximately 15 miles in length and includes the replacement of 183 utility structures in total. The project area primarily crosses privately owned rural/residential properties (see **Figure 1 – USGS Topographic Map**). There are approximately 126 wetlands along the project route located in the towns of New Hampton, Bristol, Bridgewater, Ashland and Holderness. The majority of ground disturbance resulting from the project will be related to access and work pad preparations.

2.2 TAX MAP AND LOT(S)

Eversource holds easements across all parcels along the ROW (see **Figure 4**). There are approximately 133 abutting properties that contain existing Eversource easements for the ROW involved in the project. In those project locations, the easements are considered to be the "subject property" because Eversource is the applicant/owner and only has control over the easement. These abutters have been identified and listed on the enclosed abutters list. See **Appendix B** for Abutters List.

2.3 IDENTIFICATION OF NATURAL AND CULTURAL RESOURCES

GZA GeoEnvironmental, Inc. (GZA) has been retained by Eversource to provide professional services on this project that relate to natural and cultural resource identification and assessment as well as permit applications for natural resource and alteration of terrain impacts required to complete the project. GZA has conducted field evaluations and has corresponded with the appropriate agencies to identify natural and cultural resources present in the vicinity of the proposed project.

2.3.1 Identification of Jurisdictional Wetlands and Vernal Pools

Wetlands were originally delineated and classified by GZA in 2016 within this ROW. GZA confirmed wetland boundaries, photographed resources, completed additional wetland documentation, and recorded data relevant to functions and values provided by these natural resources within the ROW in October 2021. GZA delineated wetland boundaries in accordance with the United States Army Corps of Engineers (ACOE) Wetlands Delineation Manual using the Routine Determinations Method, and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual as required by the New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau and the ACOE.



GZA conducted a vernal pool evaluation in 2020 and confirmed results in October 2021 in accordance with "Identification and Documentation of Vernal Pools in New Hampshire," 2016, New Hampshire Fish and Game Department, Nongame and Endangered Wildlife Program. Vernal pool areas exist as confined basins and must exhibit vernal pool criteria outlined in the New Hampshire Code of Administrative Rules, Env-Wt 103.64, 104.15, and 104.44. Since vernal pool observations were conducted in September 2020 outside the typical vernal pool breeding season of April through June, dry basin surveys were conducted to the extent possible to identify potential vernal pools. No potential vernal pools were identified within the proposed project area during field data collection. However, it is typical that all potential vernal pools are considered vernal pools for the purposes of impact avoidance and minimization for Eversource maintenance projects. Therefore, no temporary or permanent impacts are proposed to any potential vernal pools as a result of this project.

2.3.2 Identification of Surface Waters

Jurisdictional limits of surface waters of the State of New Hampshire were delineated by GZA in 2020 in accordance with their definition in RSA 485-A:2 XIV, 482-A:4 II and rule Env-Wt 104.33. Surface waters include wherever freshwater flows or stands and tidal waters. This includes, but is not limited to, rivers, perennial and intermittent streams, lakes, ponds, intertidal zones, and tidal waters. In addition, jurisdiction extends to the portion of any bank or shore which borders such surface waters, and to any swamp or bog subject to periodic flooding by fresh water including the surrounding shore. The limit of jurisdiction for surface water areas were confirmed as the top of bank, where a natural bank occurs or its ordinary high-water mark where a natural bank is not present.

2.3.3 Identification of Rare, Threatened, and Endangered Species

The Natural Heritage Bureau (NHB) did not identify any rare, threatened or endangered species records within the vicinity of the E115 Transmission Line ROW in the Towns of New Hampton, Bristol, Bridgewater, Ashland and Holderness (See Appendix **C** for the NHB Report and regulatory correspondence). GZA has coordinated with New Hampshire Fish and Game (NHFG) and NHB to confirm no further action is required to support this Alteration of Terrain Permit Application. Typical of similar Eversource projects, GZA is retained to complete construction oversight and construction personnel will be made aware of the potential presence of spotted, wood, and Blanding's turtles, as well as eastern hognose snake and black racer snake. In addition, construction personnel will be made aware of turtle, and spotted turtle more frequently during turtle nesting season from late May through the beginning of July. GZA will notify the NHFG and NHB of any rare species observations for inclusion in the statewide database.

In addition, Eversource will incorporate the following reptile construction Best Management Practices (BMPs) typically requested by NHFG as general routine BMPs:

- Prior to daily construction activities, timber matting will be reviewed for snakes and turtles. GZA will provide an environmental addendum to the daily tailboards by the contracts to include guidance on protocols for snakes and provide identification for spotted turtle, wood turtle, Blanding's turtle, and northern black racer snake.
- Observed snakes and turtles will be moved off of construction access roads to limit and prevent mortality to snakes and turtles during construction.
- Erosion control matting, if utilized, will consist of jute matting. Matting with plastic mesh will be avoided to limit unintentional mortality to snakes.



- At the conclusion of the project, a summary report of any rare species observations will be provided to the NHFG Nongame Program.
- Impacts on vernal pools and potential vernal pools will be avoided.
- If spotted, wood, or Blanding's turtles are found laying eggs in a work area, please contact Melissa Doperalski (603-479-1129 cell) or Josh Megyesy (978-578-0802 cell) for further instructions.
- All observations of Eastern hognose snakes seen at any time must be immediately reported to the NHFG Department (Melissa Doperalski or Josh Megyesy) for further instructions. Please attempt to photograph this species to send it to us for verification.

2.3.4 Identification of Cultural and Historical Resources

GZA has submitted a Request for Project Review (RPR) to the New Hampshire Division of Historical Resources (NHDHR) for the proposed project.

Victoria Bunker, Inc. (VBI) completed Phase IA Archeological Assessment for the E115 ROW in 2013 in support of other maintenance work. In addition, SEARCH completed Phase IA Archeological Assessment for the E115 ROW in 2014. VBI completed Phase IB Archeological Survey in 42 of the 50 identified Phase IA sensitivity areas in 2013/2014. GZA engaged Heritage Consultants (Heritage) in 2020 to complete Phase IB Archeological Survey in the eight remaining archeological sensitivity areas in support of this proposed rebuild project. Results of this work have been submitted to DHR and the RPR was completed and approved by NHDHR in February 2022 in support of this project.

3.0 EXISTING CONDITIONS

The proposed project is located within the existing and maintained E115 Transmission Line ROW. The proposed project work areas subject to the Alteration of Terrain permit cross through portions of five towns. Existing dirt and/or grass access routes currently used for access to existing utility structures within the ROW are proposed to be improved using gravel and stone as a part of a routine structure maintenance project. Proposed access road improvements include 12- to 16-foot-wide gravel and stone roads with a 20-foot total width limit of disturbance. Based on NRCS soil mapping, existing upland soils are primarily fine sandy loams or sandy loams and are typically stony or very stony. Slopes are variable and generally range from 0 to 60%, with an average of approximately 8-25%.

The project includes areas of uplands and wetlands located in primarily rural farmland and forested areas. In uplands, the shrub layer contains sweet fern (*Comptonia peregrina*), witch hazel (*Hamamelis virginiana*), raspberry (*Rubus idaeus*), white pine (*Pinus strobus*), eastern hemlock (*Tsuga canadensis*), white ash (*Fraxinus americana*), striped maple (*Acer pensylvanicum*), American beech (*Fagus grandifolia*), and sugar maple (*Acer saccharum*). The herbaceous layer contains goldenrod (*Solidago spp.*), hay scented fern (*Dennstaetia punctilobula*), and bracken fern (*Pteridium aquilinum*).

Wetlands in the ROW primarily consist of palustrine emergent (PEM) or palustrine scrub shrub (PSS) systems that are seasonally saturated. The shrub layer contains white meadowsweet (*Spiraea alba*), steeplebush (*Spiraea tomentosa*), winterberry holly (*Ilex verticillat*), gray birch (*Betula populifolia*), speckled alder (*Alnus incana*), yellow birch (*Betula alleghaniensis*), willow (*Salix* spp.), and balsam fir (*Abies balsamea*). The herbaceous layer contains goldenrod, cinnamon fern (*Osmundastrum cinnamomeum*), sensitive fern (*Onoclea sensibilis*), royal fern (*Osmuna*)



regalis), fringed sedge (*Carex crinita*), lurid sedge (*Carex lurida*), woolgrass (*Scirpus cyperinus*), jewel weed (*Impatiens capensis*), cotton sedge (*Eriophorum vaginatum*), broad-leaved cattail (*Typha latifolia*), boneset (*Eupatorium* spp.), rattlesnake grass (*Glyceria canadensis*), Canada rush (*Juncus canadensis*), and soft rush (*Juncus effusus*).

Existing conditions along the E115 Transmission Line are discussed below by areas subject to jurisdiction under the Alteration of Terrain Law and Rules and consistent with discussions with the AoT Bureau for Eversource Line projects.

3.1 AOT AREA A - TOWN OF NEW HAMPTON

Area A begins at the Pemigewasset Substation and continues to E115 Structure 122 just before the Pemigewasset River which is the town line between New Hampton and Bristol. Area A continues where the E115 Line crosses the Pemigewasset River separating the Town of Bridgewater and Town of New Hampton. Area A continues from E115 Structure 167 to Structure 209. This stretch includes upland and wetland areas with elevations ranging from approximately 454 feet above sea level (fasl) adjacent to the Pemigewasset River to approximately 738 fasl by Structure 189. This portion of the ROW is located in primarily forested undeveloped areas of New Hampton as well as through agricultural fields, and lacks documented drainage structures in the proposed access route.

Land disturbance subject to Alteration of Terrain Law and Rules due to *Env-Wq 1502.58 (b) (2)* (see Section 5.1.2 below) within Area A includes:

- Structures 120 to 122, and Structure 169 to 209 Work Pads, and
- Access from Pemigewasset Substation to Structure 122, and from Structure 167 to Structure 209.

3.1.1 Surface and Groundwater Protection – Area A

There are two named watercourses (Pemigewasset River and Dry Brook), and two unnamed perennial streams within this portion of the project area associated with Wetlands NHW-3 and NHW-11, respectively (see Figure **3** – **Surface Water and Groundwater Overlay Plans**). This portion of the project area includes temporary wetland matting in seven wetland systems for access and work pad placement. A NHDES Statutory Permit by Notification (SPN) will be submitted for temporary wetland impacts for the proposed project in the Town of New Hampton. Temporary wetland and upland matting totals are summarized in the table below. AoT disturbance area is summarized in *Section 5.1.2*.

Temporary Matting	Impact (sq. ft.)
Wetland Matting	3,293
Upland Matting	160,517

According to **Figure 3**, Structures 167 to 170, Structures 197 to 210 and associated work pads and access are located within "Groundwater Classification Area GA2." As a result, in order to protect the Groundwater Classification Area, temporary storage of fuel and dewatering basins will be located outside of the Groundwater Classification Area. Structures 207 to 210 are located within the quarter mile buffer of "Surface Waters with Impairments (2016)," with the listed impairment being Benthic-Macroinvertebrate Bioassessments. There are no direct impacts to stream systems as part of this project. Area A is not located within any of the additional AoT screening layers. These layers include "Outstanding Resource Water Watershed," "Class A Surface Water (RSA



485 A9) Watersheds," "Watersheds with Chloride Impairments 2016," "All Lakes within a Quarter Mile Buffer," "Wellhead Protection Areas," "Groundwater Classification Areas GA1," "Groundwater Classification Areas GAA," and "Water Supply Intake Protection."

3.1.2 FEMA 100-year Floodplain, Shoreland Protection, Designated Rivers – Area A

FEMA Flood Insurance layer on Figure 3 does not cover the Town of New Hampton, and therefore no data is readily available for this Town. However, according to the Consolidated List of Water Bodies Subject to RSA 483-B (May 11, 2020), Structures 122, 167, 202, and associated work pad and access is located within the 250-ft protected shoreland of the Pemigewasset River subject to RSA 483-B. In addition, Structure 210 is located within the 250-ft protected shoreland of the Squam River also subject to RSA 483-B. A NHDES Shoreland Permit by Notification will be submitted for the proposed project. In accordance with the NHDES Designated River Corridor Web Map, Structures 120-122, 167-177, 193-205, and 207-210 are located within a quarter mile of the Pemigewasset River designated under RSA 483.

3.2 AOT AREA B – TOWN OF BRISTOL

Area B begins at Structure 123 north of the Pemigewasset River and south of Summer Street in the Town of Bristol. Area B continues in a north and northeasterly direction to the Town of Bristol and Town of Bridgewater Town Line. This stretch includes upland and wetland areas with elevations ranging from approximately 452 fasl by Structure 123 at the Pemigewasset River to approximately 990 fasl by Structure 134. This portion of the ROW is located in a primarily forested undeveloped areas in the Town of Bristol.

Land disturbance subject to Alteration of Terrain Law and Rules due to *Env-Wq* 1502.58 (b) (2) (see Section 5.1.2 below) within Area B includes:

- Structures 123 to 149 Work Pads, and
- Access roads from Structures 123 to the Bridgewater and Bristol Town Line.

3.2.1 Surface and Groundwater Protection – Area B

There are two named streams (Pemigewasset River and Tenmile Brook) and two unnamed streams within this portion of the project area associated with Wetlands BW-1 (Pemigewasset River and unnamed stream), BW-20 (Tenmile Brook), and BW-31 (unnamed stream) (see **Figure 3 – Surface Water and Groundwater Overlay Plans**). This portion of the project area includes temporary wetland matting in 19 wetland systems for access and work pad placement. A NHDES SPN will be submitted for temporary wetland impacts for the proposed project in the Town of Bristol. Temporary wetland matting and temporary upland matting totals are summarized in the table below. AoT disturbance area is summarized in *Section 5.1.2*.

Temporary Matting	Impact (sq. ft.)
Wetland Matting	58,774
Upland Matting	106,502

According to Figure 3, Area B is not located within any AoT screening layers. These layers include "Outstanding Resource Water Watershed," "Water Supply Intake Protection Area," "Surface Water with Impairments Quarter Mile Buffer," "Class A Surface Water (RSA 485 A9) Watersheds," "Watersheds with Chloride Impairments 2016,"



"All Lakes within a Quarter Mile Buffer," "Wellhead Protection Areas," "Groundwater Classification Areas," and "Water Supply Intake Protection."

3.2.2 FEMA 100-year Floodplain, Shoreland Protection, Designated Rivers – Area B

According to the FEMA Flood Insurance layer on Figure 3, Area B is not located within a mapped 100-year floodplain area identified as Zone A. According to the Consolidated List of Water Bodies Subject to RSA 483-B (May 11, 2020), the proposed work pad for Structure 123 is located just within the 250-ft Protected Shoreland of the Pemigewasset River. A NHDES Shoreland Permit by Notification will be submitted for the proposed project. In accordance with the NHDES Designated River Corridor Web Map, Structures 123-125 and associated access and work pads are located within a quarter mile of the Pemigewasset River protected under RSA 483.

3.3 AOT AREA C – TOWN OF BRIDGEWATER

Area C begins at Structure 150 just northeast of the Bridgewater and Bristol Town Line and continues northeasterly to Structure 166 at the Bridgewater and New Hampton Town Line. Area C continues at Structure 230 just northwest of the Bridgewater and Ashland Town Line and continues north and northeasterly to Structure 237 at the Bridgewater and Ashland Town Line. This stretch includes upland and wetland areas with elevations ranging from approximately 452 fasl by Structure 230 at the Pemigewasset River to approximately 860 fasl by Structure 151. This portion of the ROW is located in a primarily forested undeveloped areas in the Town of Bridgewater.

Land disturbance subject to Alteration of Terrain Law and Rules due to *Env-Wq* 1502.58 (b) (2) (see Section 5.1.2 below) within Area C includes:

- Structures 150 to 166 and 230 to 237 Work Pads, and
- Access roads from Structures 150 to 166, and from Structure 230 to Structure 237.

3.3.1 Surface and Groundwater Protection – Area C

There are two named streams (Abel Brook and Pemigewasset River) and two unnamed streams within this portion of the project area associated with Wetlands BWW-2 and BWW-3 (unnamed stream), BWW-7 (Abel Brook), BWW-8 (unnamed stream), and BWW-13, BWW-14, **BWW-15** (Pemigewasset River) (see Figure 3 – Surface Water and Groundwater Overlay Plans). This portion of the project area includes temporary wetland matting in six wetland systems for access and work pad placement. A NHDES SPN will be submitted for temporary wetland impacts for the proposed project in the Town of Bridgewater. Temporary wetland matting and temporary upland matting totals are summarized in the table below. AoT disturbance area is summarized in Section 5.1.2.

Temporary Matting	Impact (sq. ft.)
Wetland Matting	16,259
Upland Matting	46,821

According to Figure 3, a portion of Area C from Structure 230-237 is located within "Groundwater Classification Areas GA2," and a portion of Area C from Structure 233-237 is located within a "Wellhead Protection Area." It is not anticipated that the proposed project will have direct impacts to groundwater as the proposed ground disturbance is for minor grading and addition of stone on the ground surface. Area C is not located within any other AoT screening layers. These layers include "Outstanding Resource Water Watershed," "Water Supply Intake



Protection Area," "Surface Water with Impairments Quarter Mile Buffer," "Class A Surface Water (RSA 485 A9) Watersheds," "Watersheds with Chloride Impairments 2016," "All Lakes within a Quarter Mile Buffer," and "Groundwater Classification Area GA1 or GAA."

3.3.2 FEMA 100-year Floodplain, Shoreland Protection, Designated Rivers – Area C

According to the FEMA Flood Insurance layer on Figure 3, a portion of Area C including Structures 230, 231, and 237, as well as associated access and work pads, are located within a mapped 100-year floodplain area identified as Zone A. It is not anticipated that the addition of gravel will impact the flood capacity of Area C. According to the Consolidated List of Water Bodies Subject to RSA 483-B (May 11, 2020), the proposed work pads and access for Structures 166, 230, 236, and 237 are located just within the 250-ft Protected Shoreland of the Pemigewasset River. A NHDES Shoreland Permit by Notification will be submitted for the proposed project. In accordance with the NHDES Designated River Corridor Web Map, Structures 159-162, 164-166, and 230-237 and associated access and work pads are located within a quarter mile of the Pemigewasset River protected under RSA 483.

3.4 AOT AREA D – TOWN OF ASHLAND

Area D begins at Structure 211 just northeast of the New Hampton and Ashland Town Line and continues north and northwesterly to Structure 229 at the Ashland and Bridgewater Town Line. Area D continues at Structure 238 just northeast of the Bridgewater and Ashland Town Line and continues northerly to Structure 255 at the Holderness and Ashland Town Line. Area D also includes the E115 Transmission Line TAP, which is located east of Structure 213 and includes Tap Structures 1-7. Area D includes upland and wetland areas with elevations ranging from approximately 454 fasl by Structure 211 at the Squam River to approximately 776 fasl by Structure 239.9. This portion of the ROW is located in a primarily forested undeveloped areas and residential areas in the Town of Ashland.

Land disturbance subject to Alteration of Terrain Law and Rules due to *Env-Wq* 1502.58 (b) (2) (see Section 5.1.2 below) within Area D includes:

- Structures 211 to 229, 238 to 255, and Tap Structures 1 to 7 Work Pads, and
- Access roads from Structures 211 to 229, 238 to the Ashland and Holderness Town Line, and from Tap Structures 1 to 7.

3.4.1 <u>Surface and Groundwater Protection – Area D</u>

There are three named streams (Squam River, Pemigewasset River, and Spring Brook) and three unnamed streams within this portion of the project area associated with Wetlands AW-1 and AW-14 (Squam River), BWW-14 and BWW-15 (Pemigewasset River), AW-3 (unnamed stream), AW-5 (unnamed stream), AW-12 (unnamed stream), and AW-13 (Spring Brook) (see **Figure 3 – Surface Water and Groundwater Overlay Plans**). This portion of the project area includes temporary wetland matting in six wetland systems for access and work pad placement. A NHDES SPN will be submitted for temporary wetland impacts for the proposed project in the Town of Ashland. Temporary wetland matting and temporary upland matting totals are summarized in the table below. AoT disturbance area is summarized in *Section 5.1.2*.

Temporary Matting	Impact (sq. ft.)
Wetland Matting	6,815



Upland Matting	46,821
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According to Figure 3, a portion of Area D from Structure 211-229, and Tap Structures 1-7 are located within "Groundwater Classification Areas GA2." A portion of Area D from Structure 211-213.5, and Tap Structures 1-7 are located within "Surface Water with Impairments 2016 with Quarter Mile Buffer." A portion of Area D from Structure 223-228, 238-239.1, and 244-251 are located within "Wellhead Protection Areas." It is not anticipated that the proposed project will have significant impacts to groundwater or surface water as the proposed ground disturbance is for minor grading and addition of stone on the ground surface. Area D is not located within "Outstanding Resource Water Watershed," "Water Supply Intake Protection Area," "Class A Surface Water (RSA 485 A9) Watersheds," "Watersheds with Chloride Impairments 2016," "All Lakes within a Quarter Mile Buffer," "Groundwater Classification Area GA1 or GAA."

3.4.2 FEMA 100-year Floodplain, Shoreland Protection, Designated Rivers – Area D

According to the FEMA Flood Insurance layer on Figure 3, a portion of Area D including Structure 211 and associated access and work pads are located within a mapped 100-year floodplain area identified as Zone A and Zone AE. It is not anticipated that the addition of gravel will impact the flood capacity of Area D. According to the Consolidated List of Water Bodies Subject to RSA 483-B (May 11, 2020), the proposed work pads and access for Structure 211 is locatd within the 250-ft Protected Shoreland of the Squam River. In addition, Structures 214-218, 229, 238, and Tap Structures 4-7 are located just within the 250-ft Protected Shoreland of the Pemigewasset River. A NHDES Shoreland Permit by Notification will be submitted for the proposed project. In accordance with the NHDES Designated River Corridor Web Map, Structures 211-229, 238-239.2, 239.9-241, and Tap Structures 1-4 as well as associated access and work pads are located within a quarter mile of the Pemigewasset River protected under RSA 483.

3.5 AOT AREA E – TOWN OF HOLDERNESS

Area E begins at Structure 256 just north of the Holderness and Ashland Town Line and continues north to the Holderness Substation. Area E includes upland and wetland areas with elevations ranging from approximately 706 fasl by Structure 284 at the Holderness Substation to approximately 900 fasl by Structure 260. This portion of the ROW is located in a primarily residential and some forested undeveloped areas in the Town of Holderness.

Land disturbance subject to Alteration of Terrain Law and Rules due to *Env-Wq* 1502.58 (b) (2) (see Section 5.1.2 below) within Area E includes:

- Structures 256 to 284 Work Pads, and
- Access roads from the Holderness and Ashland Town Line to the Holderness Substation.

3.5.1 Surface and Groundwater Protection – Area E

There are six unnamed streams within this portion of the project area associated with Wetlands HW-2, HW-5, HW-11, HW-17, HW-23, and HW-27 (see **Figure 3 – Surface Water and Groundwater Overlay Plans**). This portion of the project area includes temporary wetland matting in 18 wetland systems for access and work pad placement. A NHDES SPN will be submitted for temporary wetland impacts for the proposed project in the Town of Holderness. Temporary wetland matting and temporary upland matting totals are summarized in the table below. AoT disturbance area is summarized in *Section 5.1.2*.



Temporary Matting	Impact (sq. ft.)
Wetland Matting	27,466
Upland Matting	87,797

According to Figure 3, a portion of Area E from Structure 262 to 278 is located within "Surface Waters with Impairments 2016 with Quarter Mile Buffer." A portion of Area E from Structure 280 to 283 is located within "Wellhead Protection Areas." It is not anticipated that the proposed project will have significant impacts to groundwater or surface water as the proposed ground disturbance is for minor grading and addition of stone on the ground surface. Area E is not located within "Outstanding Resource Water Watershed," "Water Supply Intake Protection Area," "Class A Surface Water (RSA 485 A9) Watersheds," "Watersheds with Chloride Impairments 2016," "All Lakes within a Quarter Mile Buffer," "Groundwater Classification Areas."

3.5.2 FEMA 100-year Floodplain, Shoreland Protection, Designated Rivers – Area E

According to the FEMA Flood Insurance layer on Figure 3, Area E is not located within a mapped 100-year floodplain area. According to the Consolidated List of Water Bodies Subject to RSA 483-B (May 11, 2020), there is no proposed work within the 250-ft of a protected shoreland. Based on the NHDES Designated River Corridor Web Map, there is no proposed work within a quarter mile of a designated river protected under RSA 483.

4.0 PROJECT DESCRIPTION

4.1 STRUCTURE REPLACEMENT AND MAINTENANCE

As previously mentioned, the proposed project includes the replacement of 183 existing utility structures within AoT areas that must be replaced due to environmental damage. The process for replacing structures consists of drilling approximately 4-ft diameter holes to install a caisson approximately 7 to 15 ft below the ground surface. New structures will be installed in caissons and backfilled with clean, suitable materials. Spoils produced from drilling will be disposed in approved upland areas at a minimum distance of 100 ft from wetland areas. Any disturbed upland and wetland areas will be restored or stabilized upon completion of work. Anchors will also be installed to stabilize new structures. Anchors will be installed by excavating trenches, installing the concrete block anchors, and backfilling trenches. Backfill for anchors in wetlands will consist of hydric soils to maintain hydric conditions in the soil.

Old structures will be cut at the ground surface. In addition to the removal of old structures, old cross-arms, wires, and accessory equipment will be removed off-Site and disposed. Old structure butts may be dug up and removed depending on field conditions and whether or not the remaining pole butt would impact the structural integrity of new structures.

4.1.1 <u>Access</u>

The proposed structure replacement project utilizes existing access routes within the existing E115 ROW to the greatest extent practicable. The majority of existing access routes are comprised of dirt or grassy areas and are proposed to be improved as part of this project. Proposed access routes are shown on the plans in both **Figures 3 and 4**. Access into the existing ROW will be obtained from various state and local roadways and private properties where permission has been obtained. Proposed access routes as shown on **Figures 3 and 4** were



identified to minimize ground disturbance to the greatest extent practicable while providing safe and efficient access to existing utility structures. Access through existing wetlands within the project area will be completed using temporary timber matting.

4.1.1.1 Road Construction

Proposed access road improvements include 12- to 16-foot-wide gravel and stone roads with a 20-foot total width limit of disturbance. The roads will provide access to existing utility structures for routine maintenance activities. Improved access will provide reliable, permanent, and quick efficient access to utility structures for future maintenance activities and when emergency repairs are required (see **Appendix E – Photo Log**).

4.1.1.2 Wetland and Upland Temporary Matting

Access through existing wetlands in the project area will be completed using temporary timber matting to minimize and prevent rutting in the wetlands (see **Figure 4- Alteration of Terrain Permitting Plans**). In addition, upland matting may be used rather than improving access with gravel and stone if access is necessary through maintained property owner lawns or farm fields.

4.1.2 Work Pad Construction

The proposed project includes the construction of 100-foot by 100-foot gravel work pads to stage construction equipment and vehicles necessary to replace utility structures. Work pads will be constructed using clean modified riprap (6- to 8-inch diameter) or equivalent stone. In addition, the work pad will be top-dressed with 1.5- to 3-inch diameter clean stone. Lastly, disturbed areas in proximity to the final work pad configuration will be stabilized with an upland seed mix. Upon completion of work, work pads will be reduced to a 30-foot by 60- foot gravel maintenance work pad. The restored portions of the larger gravel work pad will be seeded and mulched for restoration.

Proposed work pads in wetland areas will be constructed using temporary timber matting and removed upon completion of work.

4.2 CONSTRUCTION SEQUENCE

This proposed project is scheduled to begin in late June to early July 2022. The work is proposed to be undertaken during the summer of 2021 into the fall and winter of 2022 into 2023 following the receipt of all regulatory approvals. The following is a description of the anticipated construction sequence for this type of routine maintenance work. Once contractor(s) are scheduled, a more finalized sequence and schedule will be determined.

- 1) Install sediment and erosion controls in proposed locations as shown in Figure 4.
- 2) Upgrade access routes and build work pads. Timber matting to be used in uplands and wetlands as designated by **Figure 4**.
- 3) Conduct drilling activities including drilling of approximately 4-ft diameter holes for caisson placement approximately 7-15-ft below ground surface.
- 4) Conduct structure replacement activities including installation of new structures, removal of old structures, removal of old wire, and installation of OPGW wire.



- 5) Reduce 100-foot by 100-foot gravel work pads to 30-foot x 60-foot gravel work pads to remain after construction and apply seed and mulch to restored portions of gravel work pad.
- 6) Remove temporary timber matting and stabilized exposed soils within the ROW and restore temporarily disturbed wetland areas with appropriate wetland seed mix, as necessary.
- 7) Remove erosion and sedimentation controls following stabilization.

4.3 BEST MANAGEMENT PRACTICES

Work will be conducted in accordance with Eversource's standard Best Management Practices (BMPs) as designated by the NHDES Best Management Practices Manual for Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire dated March 2019. By implementing these BMPs, impacts to both wetland and upland areas will be minimized and prevented to the greatest extent practicable.

Where necessary, perimeter protective measures consisting of a silt fence, straw wattle, mulch, and straw bales will be installed around the structures to minimize potential impacts to nearby resource areas. Water bars will be installed in areas of road improvements with steep slopes as identified by the Contractor. If necessary and based on localized site conditions, a silt fence may be used. Disturbed soil will be seeded and mulched with hay or straw for stabilization as needed following completion of work. No equipment or material will be stored within wetland areas. Erosion controls will be implemented during construction as detailed in Notesheets 1 through 3 of Figures 3 and 4 to minimize potential impacts during construction (see Figure 3 – Surface Water and Groundwater Overlay Plans and Figure 4 – Alteration of Terrain Permitting Plans).

Timber matting will be used in wetlands and in some upland areas to minimize impacts and provide level work pads. Upon completion of work where timber matting is implemented in upland areas, those upland areas will be restored and stabilized to pre-existing conditions, and areas of exposed soils will be seeded and/or mulched. Additionally, should any removal of BMPs be necessary, it will occur during restoration activities.

5.0 REGULATORY COMPLIANCE

5.1 ALTERATION OF TERRAIN

The NHDES requires an AoT permit whenever a project proposes to disturb more than 100,000 sq. ft. of terrain (50,000 sq. ft. if within a protected shoreland). This NHDES requirement, which is found in Administrative Rule Env-Wq-1500, is intended to protect New Hampshire surface waters by controlling soil erosion and managing stormwater runoff from developed areas. The project contains five AoT regulated areas (referred to respectively as Areas A, B, C, D and E) along the E115 Transmission Line ROW based on continuous areas of disturbance. Details on impacts in each regulated area are provided below in *Section 5.1.2* Quantification of Impacts Subject to AoT.

5.1.1 <u>Waiver Request: Stormwater Drainage Report; Drainage Area Plan; Hydrologic Soil Group Plans</u> (Env- WQ 15.09)

Per Env-Wq 1509.02, a waiver is being requested from the requirements to prepare a Stormwater Drainage Report, Drainage Area Plans, and Hydrologic Soil Group Plans because of the new impervious surface is limited to the footprint of new transmission line structures. It is not anticipated that the proposed structures will have a significant impact on site drainage patterns. Accordingly, stormwater treatment practices are not proposed. A formal waiver request is provided in **Appendix F**.



5.1.2 <u>Quantification of Impacts Subject to AOT</u>

The project requires approximately 3,179,069 square feet (sq. ft.) of total impact, including 112,607 sq. ft. of temporary wetland matting, 505,720 sq. ft. of temporary upland matting, and 2,560,742 sq. ft. of ground disturbance along the E115 Transmission Line ROW that requires an AoT permit in accordance with Env-Wq 1502.58. Specific areas and construction activities that significantly alter the terrain are detailed below. Additional details are shown in **Figure 4**.

AoT Area A – Town of New Hampton		
Map Sheets 1, 16 to 28		
Disturbance Type	Impact (sq. ft)	
New Access	118,936	
Gravel Work Pad	573,940	
Total AoT Disturbed Area	<u>692,876</u>	
-Criteria: Env-Wq 1502.58 (b) (2) "An area that, over a 10 year period, cumulatively exceeds 100,000 square feet of contiguous area or cumulatively exceeds 50,000 square feet of contiguous area if any portion of the disturbance is within the protected shoreland as defined in RSA 483-B"		
-Work pad dimensions: 100-ft x 100-ft; Access road width: 16-ft		

<u>AoT Area B – Town of Bristol</u>		
Map Sheets 2 to 10		
Disturbance Type	Impact (sq. ft)	
New Access	21,282	
Gravel Work Pad	314,823	
Total AoT Disturbed Area	<u>336,105</u>	
-Criteria: Env-Wq 1502.58 (b) (2) "An area that, over a 10 year period, cumulatively exceeds 100,000 square feet of contiguous area or cumulatively exceeds 50,000 square feet of contiguous area if any portion of the disturbance is within the protected shoreland as defined in RSA 483-B"		
-Work pad dimensions: 100-ft x 100-ft; Access road width: 16-ft		

AoT Area C – Town of Bridgewater		
Map Sheets 11 to 16, 37 to 38		
Disturbance Type	Impact (sq. ft)	
New Access	59,903	
Gravel Work Pad	305,442	
Total AoT Disturbed Area	<u>365,345</u>	
-Criteria: Env-Wq 1502.58 (b) (2) "An area that, over a 10 year period, cumulatively exceeds 100,000 square feet of contiguous area		



or cumulatively exceeds 50,000 square feet of contiguous area if any portion of the disturbance is within the protected shoreland as defined in RSA 483-B"

-Work pad dimensions: 100-ft x 100-ft; Access road width: 16-ft

<u>AoT Area D – Town of Ashland</u>				
Map Sheets 28 to 36, 39 to 48				
Disturbance Type	Impact (sq. ft)			
New Access	118,881			
Gravel Work Pad	670,333			
Total AoT Disturbed Area	<u>789,214</u>			
-Criteria: Env-Wq 1502.58 (b) (2) "An area that, over a 10 year period, cumulatively exceeds 100,000 square feet of contiguous area or cumulatively exceeds 50,000 square feet of contiguous area if any portion of the disturbance is within the protected shoreland as defined in RSA 483-B"				
-Work pad dimensions: 100-ft x 100-ft; Access road width: 16-ft				

<u>AoT Area E – Town of Holderness</u>				
Map Sheets 48 to 56				
Disturbance Type	Impact (sq. ft)			
New Access	44,898			
Gravel Work Pad	332,304			
Total AoT Disturbed Area	<u>377,202</u>			
-Criteria: Env-Wq 1502.58 (b) (2) "An area that, over a 10 year period, cumulatively exceeds 100,000 square feet of contiguous area."				
-Work pad dimensions: 100-ft x 100-ft; Access road width: 16-ft				



5.2 OTHER REGULATORY PROGRAMS

Other regulatory permits and notifications required for the proposed project are summarized below.

Agency	Permit/Notification		Status		
Local					
Town of New Hampton	Special Exception Permit		Pending, Submitted 2/15/2022		
Town of Bristol	Special Use Permit		Pending		
Town of Ashland	Local Permit		Pending		
Town of Holderness	Steep Slope Permit		Pending		
State					
	Statutory Permit by Notification				
	Town/City	SPN File No.			
	New Hampton	TBD			
	Bristol	TBD			
	Bridgewater	TBD			
	Ashland	TBD			
NHDES	Holderness	TBD	Pending		
Shoreland Permit by Notification		1			
	Waterbody/Town	PBN File No.			
	New Hampton – Pemigewasset River	TBD			
	New Hampton – Squam River	TBD			
	Bristol - Pemigewasset River	TBD			
	Bridgewater- Pemigewasset River	TBD			
	Ashland - Squam River	TBD			
NHDES	Ashland – Pemigewasset River	TBD	Pending		
NHDOT	Driveway Permits		Pending		
Federal					
EPA (Construction General Permit)	Stormwater Pollution Prevention Plan (SWPPP)		Pending		

The proposed project includes the replacement of 183 existing utility structures along the E115 Transmission Line that exceed AoT impact thresholds. This includes a total of approximately 2,560,742 sq. ft. of impact associated with access improvements and work pad grading across five separate work areas. The proposed project is necessary for routine maintenance of the E115 Transmission Line, and to ensure the long-term safety and reliability of the electrical infrastructure.



Figure 1 – USGS Topographic Map











Figure 2 – Orthophotograph Site Map















Figure 3 – Surface Water and Groundwater Overlay Plans

E115 TRANSMISSION LINE SURFACE AND GROUNDWATER OVERLAY PLANS

NEW HAMPTON, BRISTOL, BRIDGEWATER, ASHLAND, & HOLDERNESS, NEW HAMPSHIRE 2/21/2022



PREPARED FOR



INDEX OF FIGURES

1 inch = 7,298 feet

- T1: TITLE SHEET
- **1-28: MAP SHEETS**
- S1: NOTES
- S2: DETAILS
- S3: DETAILS CONTINUED

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other purpose.

--- E115 DELINEATED STREAM

NHDOT ROAD

PRIVATE ROAD

PROPOSED E115 STRUCTURE

• EXISTING E115 STRUCTURE TO BE REMOVED

EXISTING E115 STRUCTURE TO BE RENUMBERED

EXISTING E115 STRUCTURE

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Vater Supply Intake Protection Areas

All Lakes with a Quarter Mile Buffer

Groundwater Classification Areas GAA

• EXISTING E115 STRUCTURE TO BE REMOVED

EXISTING E115 STRUCTURE TO BE RENUMBERED

Croundwater Classification Areas GA2

PROPOSED E115 STRUCTURE

EXISTING E115 STRUCTURE

Alexar

Surface Waters with Impairments 2016 with Quarter Mile Buffer

Class A Surface Waters RSA 485A9 Lakes Only Quarter Mile Buffer

VULL PAD

- TRANSMISSION LINE

UPLAND MATTING

NHDOT ROAD

PRIVATE ROAD

APPROXIMATE ROW

--- E115 DELINEATED STREAM

TEMPORARY WETLAND IMPACTS



2FT ELEVATION CONTOURS

other purpose.

MOBILE SUBSTATION

EROSION CONTROL

OCOSTONE WALL

NEW HAMPTON, BRISTOL, BRIDGEWATER, ASHLAND, & HOLDERNESS, NEW HAMPSHIRE PAGE 4 OF 28



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Wellhead Protection Areas

Water Supply Intake Protection Areas

All Lakes with a Quarter Mile Buffer

Groundwater Classification Areas GAA

• EXISTING E115 STRUCTURE TO BE REMOVED

EXISTING E115 STRUCTURE TO BE RENUMBERED

Croundwater Classification Areas GA2

PROPOSED E115 STRUCTURE

EXISTING E115 STRUCTURE

Surface Waters with Impairments 2016 with Quarter Mile Buffer

Class A Surface Waters RSA 485A9 Lakes Only Quarter Mile Buffer

VULL PAD

- TRANSMISSION LINE

UPLAND MATTING

NHDOT ROAD

PRIVATE ROAD

APPROXIMATE ROW

--- E115 DELINEATED STREAM

TEMPORARY WETLAND IMPACTS



POTENTIAL VERNAL POOL

MOBILE SUBSTATION

EROSION CONTROL

OCOSTONE WALL

2FT ELEVATION CONTOURS

other purpose.

FEBRUARY 21, 2022 NEW HAMPTON, BRISTOL, BRIDGEWATER, ASHLAND, & HOLDERNESS, NEW HAMPSHIRE PAGE 5 OF 28

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- APPROXIMATE ROW --- E115 DELINEATED STREAM
- PROPOSED E115 STRUCTURE
- EXISTING E115 STRUCTURE

Croundwater Classification Areas GA2

- EXISTING E115 STRUCTURE TO BE REMOVED
- EXISTING E115 STRUCTURE TO BE RENUMBERED

NHDOT ROAD PRIVATE ROAD

- - OCOSTONE WALL



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NEW HAMPSHIRE PAGE 8 OF 28

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POTENTIAL VERNAL POOL

MOBILE SUBSTATION

EROSION CONTROL

OCOSTONE WALL

2FT ELEVATION CONTOURS

other purpose.

Wellhead Protection Areas

Water Supply Intake Protection Areas

All Lakes with a Quarter Mile Buffer

Groundwater Classification Areas GAA

• EXISTING E115 STRUCTURE TO BE REMOVED

EXISTING E115 STRUCTURE TO BE RENUMBERED

Groundwater Classification Areas GA2

PROPOSED E115 STRUCTURE

EXISTING E115 STRUCTURE

Surface Waters with Impairments 2016 with Quarter Mile Buffer

Class A Surface Waters RSA 485A9 Lakes Only Quarter Mile Buffer

PULL PAD

- TRANSMISSION LINE

UPLAND MATTING

NHDOT ROAD

PRIVATE ROAD

APPROXIMATE ROW

--- E115 DELINEATED STREAM

TEMPORARY WETLAND IMPACTS

NEW HAMPTON, BRISTOL, BRIDGEWATER, ASHLAND, & HOLDERNESS, NEW HAMPSHIRE PAGE 10 OF 28

roject No.: 04.0190999.72

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ASHLAND, & HOLDERNESS, NEW HAMPSHIRE PAGE 11 OF 28



Class A Surface Waters RSA 485A9 Lakes Only Quarter Mile Buffer

EXISTING E115 STRUCTURE

Alexar

All Lakes with a Quarter Mile Buffer

Groundwater Classification Areas GAA

- EXISTING E115 STRUCTURE TO BE REMOVED
- EXISTING E115 STRUCTURE TO BE RENUMBERED
- NHDOT ROAD PRIVATE ROAD

- TRANSMISSION LINE

UPLAND MATTING

APPROXIMATE ROW

--- E115 DELINEATED STREAM

TEMPORARY WETLAND IMPACTS

2FT ELEVATION CONTOURS MOBILE SUBSTATION EROSION CONTROL

OCOSTONE WALL



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NEW HAMPTON, BRISTOL, BRIDGEWATER,



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--- E115 DELINEATED STREAM

NHDOT ROAD

PRIVATE ROAD



Alexan

- EXISTING E115 STRUCTURE
- EXISTING E115 STRUCTURE TO BE REMOVED
- EXISTING E115 STRUCTURE TO BE RENUMBERED

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NEW HAMPTON, BRISTOL, BRIDGEWATER, ASHLAND, & HOLDERNESS, **NEW HAMPSHIRE** PAGE 13 OF 28

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other purpose.

EXISTING E115 STRUCTURE TO BE RENUMBERED

PRIVATE ROAD

roject No.: 04.0190999.72









PROPOSED E115 STRUCTURE

• EXISTING E115 STRUCTURE TO BE REMOVED

EXISTING E115 STRUCTURE TO BE RENUMBERED

EXISTING E115 STRUCTURE

Alexan



--- E115 DELINEATED STREAM

NHDOT ROAD

PRIVATE ROAD

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- PROPOSED E115 STRUCTURE
- EXISTING E115 STRUCTURE
- EXISTING E115 STRUCTURE TO BE REMOVED
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- NHDOT ROAD PRIVATE ROAD

roject No.: 04.0190999.72

1 inch = 200 feet

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EXISTING E115 STRUCTURE TO BE RENUMBERED

PRIVATE ROAD



other purpose.

roject No.: 04.0190999.72



other purpose.

EXISTING E115 STRUCTURE TO BE RENUMBERED

PRIVATE ROAD

roject No.: 04.0190999.72





















EVERSURCE ENERGY



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All Lakes with a Quarter Mile Buffer

Groundwater Classification Areas GAA

• EXISTING E115 STRUCTURE TO BE REMOVED

EXISTING E115 STRUCTURE TO BE RENUMBERED

Croundwater Classification Areas GA2

PROPOSED E115 STRUCTURE

EXISTING E115 STRUCTURE

Alexar



OCOSTONE WALL

other purpose.

UPLAND MATTING

NHDOT ROAD

PRIVATE ROAD

APPROXIMATE ROW

--- E115 DELINEATED STREAM

ASHLAND, & HOLDERNESS, NEW HAMPSHIRE PAGE 26 OF 28

Feet

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PRIVATE ROAD

roject No.: 04.0190999.72





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CONSTRUCTION SEQUENCE:

1. WETLAND BOUNDARIES TO BE CLEARLY MARKED PRIOR TO THE START OF CONSTRUCTION.

- 2. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAIL PROVIDED, AS NECESSARY
- 3. WETLAND IMPACTS ASSOCIATED WITH WETLAND CROSSINGS ARE REQUIRED FOR ACCESS BETWEEN STRUCTURES WITHIN THE RIGHT OF WAY.
- 4. ADEQUATE PRECAUTION SHALL BE EXERCISED TO AVOID SPILLAGE OF FUEL OILS, CHEMICALS, OR SIMILAR SUBSTANCES; NO FUELS, LUBRICANTS, CHEMICALS OR SIMILAR SUBSTANCES SHALL BE STORED BENEATH TREES OR IN THE VICINITY OF ANY WETLANDS, RIVER, STREAM OR OTHER BODY OF WATER; OR IN THE VICINITY OF NATURAL OR MAN-MADE CHANNELS LEADING THERETO. NO POWER EQUIPMENT SHALL BE STORED, MAINTAINED, OR FUELED IN ANY AREA ADJACENT TO A WETLAND, RIVER, STREAM OR OTHER BODY OF WATER.
- 5. REMOVE COMPLETELY ALL CONTAMINATION FROM ANY SPILLAGE OF CHEMICALS OR PETROLEUM PRODUCT WITH COMPLETE REHABILITATION OF THE AFFECTED AREA.
- 6. ACCESS ROUTES HAVE BEEN SELECTED TO PREVENT DEGRADATION OF THE RIGHT-OF-WAY AND MINIMIZE ENVIRONMENTAL IMPACT. OPERATIONS SHALL BE CONFINED TO THE SPECIFIED ACCESS ROUTES WITHIN THE PROPOSED WETLAND IMPACT AREA. ACCESS ROUTES SHALL NOT EXCEED A 16 FOOT-WIDTH AND 20 FOOT TOTAL IMPACT AREA.
- 7. IMPACT TO VEGETATION WITHIN WETLANDS WILL BE LIMITED TO THE EXTENT NECESSARY TO PLACE THE TIMBER MATS WHERE REQUIRED.
- 8. LOW GROWING VARIETIES OF VEGETATION ADJACENT TO WETLANDS SHALL BE PRESERVED TO THE EXTENT POSSIBLE. STUMPS AND ROCKS SHALL NOT BE REMOVED, AND THERE SHALL BE NO EXCAVATIONS, FILLS OR GRADING DONE ADJACENT TO WETLANDS. UNLESS MINOR EXCAVATIONS IS NEEDED FOR ACCESS
- 9. TIMBER MATS WILL BE USED ALONG ACCESS ROUTES WITHIN WETLAND AREAS. THESE MATS ARE CONSTRUCTED OF HEAVY TIMBERS OR COMPOSITE MATERIAL, BOLTED TOGETHER, AND ARE PLACED END-TO-END IN THE WETLAND TO SUPPORT HEAVY EQUIPMENT. ALL SWAMP MATS SHALL BE PLACED AND REMOVED SO AS NOT TO CAUSE ANY RUTS, CHANNELS OR DEPRESSIONS, OR OTHERWISE CAUSE ANY UNDUE DISTURBANCE TO WETLANDS.
- 10. IF TIMBER MAT BMP IS NOT SUFFICIENT DUE TO HIGH WATER, ADDITIONAL BMP'S MAY INCLUDE THE PLACEMENT OF GEOTEXTILE FABRIC, 3"-4" STONE, AND GRAVEL TO PROVIDE A SUITABLE ROAD BED. A TEMPORARY CULVERT MAY BE REQUIRED IN AREAS OF HIGH FLOW TO MAINTAIN HYDROLOGIC CONNECTIVITY. ALL MATERIAL WILL BE REMOVED FROM JURISDICTIONAL AREAS AFTER CONSTRUCTION COMPLETION.
- 11. NO MATERIAL SHALL BE PLACED IN ANY LOCATION OR IN ANY MANNER SO AS TO IMPAIR SURFACE WATER FLOW INTO, THROUGH OR OUT OF ANY WETLAND AREA. NO INSTALLATION SHALL CREATE AN IMPOUNDMENT THAT WILL IMPEDE THE FLOW OF WATER OR CAUSE FLOODING.
- 12. NO MATERIAL SHALL BE TAKEN FROM THE WETLANDS AREA EXCEPT THAT WHICH MUST NECESSARILY BE REMOVED FOR THE STRUCTURE OR FOUNDATION PLACEMENT OR STABILIZATION. ALL EXCESS MATERIAL TAKEN FROM THE WETLAND WILL BE REMOVED FROM THE SITE.
- 13. ANY PROPOSED SUPPORT FILLS SHALL BE CLEAN GRAVEL AND STONE, FREE OF WASTE METAL PRODUCTS, ORGANIC MATERIALS AND SIMILAR DEBRIS AND SHALL NOT EXCEED THE AMOUNT PERMITTED. THIS ALLOWABLE FILL IS THE ONLY FILL THAT MAY REMAIN IN THE WETLAND AFTER CONSTRUCTION. ALL CUT AND FILLS SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- 14. EXCESS SOILS PRODUCED FROM DRILLING WILL BE DISPOSED IN APPROVED UPLAND AREAS AT A MINIMUM DISTANCE OF 100-FT FROM WETLAND AREAS.
- 15. INSTALL NEW POLES IN THE LOCATIONS DESIGNATED ON THE PERMITTING PLANS.
- 16. CABLE INSTALLATION WILL BE PERFORMED IN A MANNER SO AS TO AVOID, OR LIMIT TO THE MAXIMUM EXTENT POSSIBLE, TRAVERSING WETLANDS WITH HEAVY EQUIPMENT. IN SOME CASES, A HELICOPTER MAY BE USED DURING THE INSTALLATION TO MINIMIZE IMPACTS
- 17. ALL TIMBER MATS, MATERIAL, AND DEBRIS WILL BE REMOVED FROM THE WORK AREA UPON THE COMPLETION OF CONSTRUCTION.
- 18. UPLAND DISTURBED AREAS SHALL BE RESTORED AND STABILIZED UPON COMPLETION OF CONSTRUCTION. WORK PAD RESTORATION SHOULD INCLUDE REDUCING THE WORK PAD TO A 30 BY 60 FOOT AREA, AND REDUCING SLOPES TO A MAXIMUM OF 25%. STOCKPILED MATERIAL SHOULD BE SPREAD TO REDUCE ANY UNNECESSARY SLOPES. GRAVEL WORK PADS AND SLOPES SHOULD BE SCARIFIED TO A MINIMUM OF 3" BEFORE SPREADING TOPSOIL/LOAM AND SEED, AS NECESSARY.
- 19. ALL TEMPORARY WETLAND IMPACTS WILL BE RE-GRADED TO ORIGINAL CONTOURS FOLLOWING CONSTRUCTION. NEW ENGLAND EROSION CONTROL/RESTORATION MIX, AVAILABLE THROUGH NEW ENGLAND WETLAND PLANTS, INC., 820 WEST STREET, AMHERST, MA 01002, 413-548-8000, OR EQUIVALENT SEED MIX SHALL BE APPLIED IN WETLAND AREAS THAT ARE NOT INUNDATED, AS NECESSARY.
- 20. SEDIMENT AND EROSION CONTROL MEASURES WILL BE EVALUATED AND REMOVED IF NECESSARY UPON THE COMPLETION OF CONSTRUCTION.
- 21. COMMERCIAL LOAM WILL NOT BE USED AS PART OF RESTORATION. ONLY IN-SITU TOPSOIL WILL BE USED TO RESTORE DISTURBED AREAS.

WINTER CONSTRUCTION NOTES

- 1. PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED. STABILIZATION METHODS SHALL INCLUDE SEEDING AND MULCH, AND INSTALLATION OF EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS
- 2. DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE TEMPORARILY STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

3. AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL (NHDOT 304.3).

GENERAL NOTES:

- OWNER: EVERSOURCE ENERGY 13 LEGENDS DRIVE HOOKSETT, NH 03106
- 1. BASE PLAN PROVIDED BY EVERSOURCE ENERGY. EVERSOURCE ENERGY PROVIDED THE UTILITY DESIGN.
- 2. JURISDICTIONAL WETLANDS WERE DELINEATED BY GZA IN 2020, IN ACCORDANCE WITH THE 1987 U.S. ARMY CORPS OF ENGINEERS' "WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1," AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION," JANUARY 2012.
- 3. GZA PERFORMED A WETLANDS FUNCTION AND VALUES ASSESSMENT IN ACCORDANCE WITH THE ACOE'S "HIGHWAY METHODOLOGY WORKBOOK SUPPLEMENT," SEPTEMBER 1999, IN 2020
- 4. SITE PLAN IS FOR PERMITTING PURPOSES ONLY AND DOES NOT REPRESENT A PROPERTY BOUNDARY SURVEY.
- 5. THE PROJECT WILL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
- 6. IN ACCORANCE WITH ENV-WQ 1505.02, THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED, AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED: - A MINIMUM 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL HAS BEEN INSTALLED
- OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

EROSION CONTROL NOTES:

- 1. INSTALLATION OF EROSION CONTROL GRINDINGS AND/OR SILT FENCES SHALL BE COMPLETE PRIOR TO THE START OF WORK IN ANY GIVEN AREA. EROSION CONTROLS SHALL BE USED DURING CONSTRUCTION AND REMOVED WHEN ALL SLOPES HAVE A HEALTHY STAND OF VEGETATION COVER. EROSION CONTROL MEASURES SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER .25" OR GREATER RAINFALL EVENTS.
- 2. AS REQUIRED, CONSTRUCT TEMPORARY BERMS, SILTATION FENCES, SEDIMENT TRAPS, ETC. TO PREVENT EROSION & SEDIMENTATION OF WETLANDS.
- 3. THE WORK AREA SHALL BE GRADED AND OTHERWISE SHAPED IN SUCH A MANNER AS TO MINIMIZE SOIL EROSION, SILTATION OF DRAINAGE CHANNELS, DAMAGE TO EXISTING VEGETATION, AND DAMAGE TO PROPERTY OUTSIDE LIMITS OF THE WORK AREA. EROSION CONTROL GRINDINGS WILL BE NECESSARY TO ACCOMPLISH THIS END.
- 4. ANY STRIPPED TOPSOIL SHALL BE STOCKPILED, WITHOUT COMPACTION, AND STABILIZED AGAINST EROSION, AS NECESSARY
- 5. PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 15 TO SEPTEMBER 15. NO DISTURBED AREA SHALL BE LEFT EXPOSED DURING WINTER MONTHS, PLANT ANNUAL RYEGRASS PRIOR TO OCTOBER 15TH

6. EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.

NEW HAMPSHIRE FISH AND GAME TYPICAL BMPS RELATED TO THREATENED AND ENDAGERED SPECIES

- 1. PRIOR TO DAILY CONSTRUCTION ACTIVITIES, TIMBER MATTING WILL BE REVIEWED FOR SNAKES AND TURTLES. GZA WILL PROVIDE AN ENVIRONMENTAL ADDENDUM TO THE DAILY TAILBOARDS BY THE CONTRACTS TO INLCUDE GUIDANCE ON PROTOCOLS FOR SNAKES AND PROVIDE IDNETIFICATION FOR SPOTTED TURTLE, WOOD TURTLE, BLANDING'S TURTLE, AND NORTHERN BLACK RACER SNAKE

- CACER SNAKE.
 COBSERVED SNAKES AND TURTLES WILL BE MOVED OFF OF CONSTRUCTION ACCESS ROADS TO LIMIT AND PREVENT MORTALITY TO SNAKES AND TURTLES DURING CONSTRUCTION.
 EROSION CONTROL MATTING, IF UTILIZED, WILL CONSIST OF JUTE MATTING. MATTING WITH PLASTIC MESH WILL BE AVOIDED TO LIMIT UNINTENTIONAL MORTALITY TO SNAKES.
 AT THE CONCLUSION OF THE PROJECT, A SUMMARY REPORT OF ANY RARE SPECIES OBSERVATIONS WILL BE PROVIDED TO THE NHFG NONGAME PROGRAM.
 MID DOTINITIAL VERNAL DOOLS WILL BE AVOIDED
- AI THE CONCLOSION OF THE FROJECT, A SUMMART REPORT OF ANT RANHEG NONGAME PROGRAM.
 IMPACTS TO VERNAL POOLS AND POTENTIAL VERNAL POOLS WILL BE A
 IF SPOTTED, WOOD OR BLANDING'S TURTLES ARE FOUND LAYING EGGS (603-479-1129) OR JOSH MEGYESY (978-578-0802) FOR FURTHER INSTRUNT IN THE EVENT THAT A RARE OR THREATENED SPECIES IS OBSERVED. TO NATURAL HERITAGE BUREAU WILL BE NOTIFIED. TURTLE NESTING SEAS IF WOOD, BLANDING'S OR SPOTTED TURTLES ARE FOUND LAYING EGGS 603-271-1738 OR JOSH MEGYESY AT 603-271-1125 FOR FURTHER INSTRU OBSERVATIONS OF NORTHERN BLACK RACER SNAKES SEEN IN ANY AR FROM THE END OF SEPTEMBER THROUGH THE MONTH OF APRIL OR OBSERVATIONS OF EASTERN HOGNOSE SNAKE MUST BE IMMEDIATELY REPORTED TO THE NHFG DEPARTMENT (BRENDAN CLIFFORD AT 603-270 OR MELISSA DOPERALSKI AT 603-271-1738). IF NORTHERN BLACK RACEF FOUND IN A WORK AREA FROM NOVEMBER THROUGH THE MONTH OF A WORK SHALL IMMEDIATELY CEASE AND THE OBSERVATION MUST BE REPORTED TO THE NHFG (BRENDAN CLIFFORD OR MELISSA DOPERALS).

KAREA, PLEASE	E CONTACT MELIS	SSA DOPERALSK					
AMPSHIRE FISH	AND GAME AND N	NEW HAMPSHIRE					
	MAY THROUGH T	HE BEGINNING C)F JULY.				
ORNAREA, CON	ORK AREA, CONTACT MELISSA DOPERALSKI AT						
UNLESS SPECIFICALLY STA	ATED BY WRITTEN AGREEME	INT, THIS DRAWING IS THE	SOLE PROPERTY OF GZA				
CLIENT OR THE CLIENT'S DE	(GZA). THE INFORMATION SHO SIGNATED REPRESENTATIVE F	OR THE SPECIFIC PROJECT AN	ND LOCATION IDENTIFIED ON				
AT ANY OTHER LOCATION O	G SHALL NOT BE TRANSFERRE OR FOR ANY OTHER PURPOSI	d, reused, copied, or alter E without the prior writt	ED IN ANY MANNER FOR USE EN CONSENT OF GZA, ANY				
TRANSFER, REUSE, OR MOD EXPRESS CONSENT OF GZA,	DIFICATION TO THE DRAWING E , WILL BE AT THE USER'S SOLE	BY THE CLIENT OR OTHERS, W RISK AND WITHOUT ANY RISK C	ITHOUT THE PRIOR WRITTEN OR LIABILITY TO GZA.				
E115 TRANSMISSION LINE REBUILD AND							
OPGW PROJECT							
NEW HAMPTON, BRISTOL, BRIDGEWATER, ASHLAND,							
AND HOLDERNESS, NEW HAMPSHIRE							
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PREPARED BY: GZA G Enginee W PROJ MGR: LEW DESIGNED BY: MJD DATE:	eoEnvironmental, Inc. ers and Scientists ww.gza.com REVIEWED BY: TLT DRAWN BY: MJD DROJECT NO.	REVERS	SHEET S1				
	AK AREA, PLEASI AMPSHIRE FISH JOS FROM LATE /ORK AREA, CON UNLESS SPECIFICALLY ST GEOEVURONMENTAL, INC. CLIENT OF THE CLIENTS OF THE DRAWING. THE DRAWIN AT ANY OTHER LOCATION I TRANSFER. REUSE, OR MOT EXPRESS CONSENT OF GZA E115 NEW HA	RK AREA, PLEASE CONTACT MELIS AMPSHIRE FISH AND GAME AND NDS FROM LATE MAY THROUGH T /ORK AREA, CONTACT MELISSA D UNLESS SPECIFICALLY STATED BY WRITTEN AGREEM GEOENVIRONMENTAL, INC. (G2A). THE INFORMATION SHO CLIENT OT THE CLIENTS O SEIGNATED REPRESENTATURE THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRE AT ANY OTHER LOCATION OF FOR ANY OTHER PURPOS TRANSFER. REUSE, OR MODIFICATION TO THE DRAWING F EXPRESS CONSENT O GZA, WILL BE AT THE USER'S SOLE E115 TRANSMISSION OPGW F NEW HAMPTON, BRISTOL,	AK AREA, PLEASE CONTACT MELISSA DOPERALSK AMPSHIRE FISH AND GAME AND NEW HAMPSHIRE NDS FROM LATE MAY THROUGH THE BEGINNING C /ORK AREA, CONTACT MELISSA DOPERALSKI AT UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT. THIS DRAWING IS THE GEOENVIRONMENTAL, INC. (G2A). THE INFORMATION SHOWN ON THE DRAWING IS THE CUENT OR THE CLENT'S DESIGNATE OR ERPRESENTATIVE FOR THE SPECIFIC PROJECT A THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTER AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITT TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLENT O GALATER AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITT TRANSFER, REUSE, OR MODIFICATION TO THE DREWNING BY THE CLENT OR OTHERS, W EXPRESS CONSENT OF G2A, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK C E115 TRANSMISSION LINE REBUILLI OPGW PROJECT NEW HAMPTON, BRISTOL, BRIDGEWATER, AS				



THE WIRE SUPPORT FENCE, POST SPACING SHALL BE AS MANUFACTURER RECOMMENDS. 4. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE OF THE BARRIER IN ACCORDANCE WITH RECOMMENDATIONS

5. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE, AND WILL EXTEND A MINIMUM OF 8 INCHES INTO THE TRENCH. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.

6. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC. 7. FABRIC BARRIERS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED. 8. FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST ONCE

DAILY DURING PROLONGED RAINFALL AND ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. 9. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. 10. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE—HALF THE HEIGHT OF THE BARRIER.

11. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT

2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.

CONSTRUCTION ENTRANCE

NOT TO SCALE

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA, ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

E115 TRANSMISSION LINE OPGW AND STRUCTURE REPLACEMENT PROJECT NEW HAMPTON, BRISTOL, BRIDGEWATER, ASHLAND, & HOLDERNESS, NEW HAMPSHIRE

BMP DETAILS

PREPARED BY:		PREPARED FOR:	
GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com			
PROJ MGR: CEM	REVIEWED BY: TLT	CHECKED BY: DMZ	SHEET
DESIGNED BY: MJD	DRAWN BY: MJD	SCALE:	60
DATE: 02/18/2022	PROJECT NO. 04.0190999.72	REVISION NO.	52





TRANSITION AS REQUIRED

UNLESS SPECIFICALLY ST GEOENVIRONMENTAL, INC. CLIENT OR THE CLIENT'S DE THE DRAWING. THE DRAWIN AT ANY OTHER LOCATION M TRANSFER, REUSE, OR MOD EXPRESS CONSENT OF GZA	ATED BY WRITTEN AGREEME (GZA), THE INFORMATION SHC SIGNATED REPRESENTATIVE F G SHALL NOT BE TRANSFERRE DR FOR ANY OTHER PURPOS DR FOR ANY OTHER PURPOS DIFICATION TO THE DRAWING E , WILL BE AT THE USER'S SOLE	ENT, THIS DRAWING IS THE WIN ON THE DRAWING IS SOL OR THE SPECIFIC PROJECT AI D, REUSED, COPIED, OR ALTER E WITHOUT THE PRIOR WRITT Y THE CLIENT OR OTHERS, W RISK AND WITHOUT ANY RISK (C	SOLE PROPERTY OF GZA ELY FOR THE USE BY GZA'S NO LOCATION IDENTIFIED ON ED IN ANY MANNER FOR USE TEN CONSENT OF GZA, ANY ITHOUT THE PRIOR WRITTEN OR LIABILITY TO GZA.				
E115 TRANSMISSION LINE							
OPGW AND STRUCTURE REPLACEMENT PROJECT							
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NEW HAMPSHIRE							
BMP DETAILS							
PREPARED BY:		PREPARED FOR:					
GZA G	oEnvironmental Inc						
C7 Engine	ers and Scientists	EVERSURCE					
www.gza.com			ENERGY				
PROJ MGR: LEW	REVIEWED BY: TLT	CHECKED BY: DMZ	SHEET				
DESIGNED BY: MJD	DRAWN BY: MJD	SCALE:					
DATE: 02/18/2022	PROJECT NO. 04 0190999 72	REVISION NO.	53				
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Figure 4 – Alteration of Terrain Permitting Plans

E115 TRANSMISSION LINE ALTERATION OF TERRAIN PERMITTING PLANS

NEW HAMPTON, BRISTOL, BRIDGEWATER, ASHLAND, & HOLDERNESS, NEW HAMPSHIRE 2/17/2022



PREPARED FOR



INDEX OF FIGURES

1 inch = 7,298 feet

- T1: TITLE SHEET
- 1-56: MAP SHEETS
- S1: NOTES
- S2: DETAILS
- S3: DETAILS CONTINUED

PREPARED BY



GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com

























































































































CONSTRUCTION SEQUENCE:

- 1. WETLAND BOUNDARIES TO BE CLEARLY MARKED PRIOR TO THE START OF CONSTRUCTION.
- 2. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAIL PROVIDED, AS NECESSARY
- 3. WETLAND IMPACTS ASSOCIATED WITH WETLAND CROSSINGS ARE REQUIRED FOR ACCESS BETWEEN STRUCTURES WITHIN THE RIGHT OF WAY.
- 4. ADEQUATE PRECAUTION SHALL BE EXERCISED TO AVOID SPILLAGE OF FUEL OILS, CHEMICALS, OR SIMILAR SUBSTANCES; NO FUELS, LUBRICANTS, CHEMICALS OR SIMILAR SUBSTANCES SHALL BE STORED BENEATH TREES OR IN THE VICINITY OF ANY WETLANDS, RIVER, STREAM OR OTHER BODY OF WATER; OR IN THE VICINITY OF NATURAL OR MAN-MADE CHANNELS LEADING THERETO. NO POWER EQUIPMENT SHALL BE STORED, MAINTAINED, OR FUELED IN ANY AREA ADJACENT TO A WETLAND, RIVER, STREAM OR OTHER BODY OF WATER.
- 5. REMOVE COMPLETELY ALL CONTAMINATION FROM ANY SPILLAGE OF CHEMICALS OR PETROLEUM PRODUCT WITH COMPLETE REHABILITATION OF THE AFFECTED AREA.
- 6. ACCESS ROUTES HAVE BEEN SELECTED TO PREVENT DEGRADATION OF THE RIGHT-OF-WAY AND MINIMIZE ENVIRONMENTAL IMPACT. OPERATIONS SHALL BE CONFINED TO THE SPECIFIED ACCESS ROUTES WITHIN THE PROPOSED WETLAND IMPACT AREA. ACCESS ROUTES SHALL NOT EXCEED A 16 FOOT-WIDTH AND 20 FOOT TOTAL IMPACT AREA.
- 7. IMPACT TO VEGETATION WITHIN WETLANDS WILL BE LIMITED TO THE EXTENT NECESSARY TO PLACE THE TIMBER MATS WHERE REQUIRED.
- 8. LOW GROWING VARIETIES OF VEGETATION ADJACENT TO WETLANDS SHALL BE PRESERVED TO THE EXTENT POSSIBLE. STUMPS AND ROCKS SHALL NOT BE REMOVED, AND THERE SHALL BE NO EXCAVATIONS, FILLS OR GRADING DONE ADJACENT TO WETLANDS. UNLESS MINOR EXCAVATIONS IS NEEDED FOR ACCESS
- 9. TIMBER MATS WILL BE USED ALONG ACCESS ROUTES WITHIN WETLAND AREAS. THESE MATS ARE CONSTRUCTED OF HEAVY TIMBERS OR COMPOSITE MATERIAL, BOLTED TOGETHER, AND ARE PLACED END-TO-END IN THE WETLAND TO SUPPORT HEAVY EQUIPMENT. ALL SWAMP MATS SHALL BE PLACED AND REMOVED SO AS NOT TO CAUSE ANY RUTS, CHANNELS OR DEPRESSIONS, OR OTHERWISE CAUSE ANY UNDUE DISTURBANCE TO WETLANDS.
- 10. IF TIMBER MAT BMP IS NOT SUFFICIENT DUE TO HIGH WATER, ADDITIONAL BMP'S MAY INCLUDE THE PLACEMENT OF GEOTEXTILE FABRIC, 3"-4" STONE, AND GRAVEL TO PROVIDE A SUITABLE ROAD BED. A TEMPORARY CULVERT MAY BE REQUIRED IN AREAS OF HIGH FLOW TO MAINTAIN HYDROLOGIC CONNECTIVITY. ALL MATERIAL WILL BE REMOVED FROM JURISDICTIONAL AREAS AFTER CONSTRUCTION COMPLETION.
- 11. NO MATERIAL SHALL BE PLACED IN ANY LOCATION OR IN ANY MANNER SO AS TO IMPAIR SURFACE WATER FLOW INTO, THROUGH OR OUT OF ANY WETLAND AREA. NO INSTALLATION SHALL CREATE AN IMPOUNDMENT THAT WILL IMPEDE THE FLOW OF WATER OR CAUSE FLOODING.
- 12. NO MATERIAL SHALL BE TAKEN FROM THE WETLANDS AREA EXCEPT THAT WHICH MUST NECESSARILY BE REMOVED FOR THE STRUCTURE OR FOUNDATION PLACEMENT OR STABILIZATION. ALL EXCESS MATERIAL TAKEN FROM THE WETLAND WILL BE REMOVED FROM THE SITE.
- 13. ANY PROPOSED SUPPORT FILLS SHALL BE CLEAN GRAVEL AND STONE, FREE OF WASTE METAL PRODUCTS, ORGANIC MATERIALS AND SIMILAR DEBRIS AND SHALL NOT EXCEED THE AMOUNT PERMITTED. THIS ALLOWABLE FILL IS THE ONLY FILL THAT MAY REMAIN IN THE WETLAND AFTER CONSTRUCTION. ALL CUT AND FILLS SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- 14. EXCESS SOILS PRODUCED FROM DRILLING WILL BE DISPOSED IN APPROVED UPLAND AREAS AT A MINIMUM DISTANCE OF 100-FT FROM WETLAND AREAS.
- 15. INSTALL NEW POLES IN THE LOCATIONS DESIGNATED ON THE PERMITTING PLANS.
- 16. CABLE INSTALLATION WILL BE PERFORMED IN A MANNER SO AS TO AVOID, OR LIMIT TO THE MAXIMUM EXTENT POSSIBLE, TRAVERSING WETLANDS WITH HEAVY EQUIPMENT. IN SOME CASES, A HELICOPTER MAY BE USED DURING THE INSTALLATION TO MINIMIZE IMPACTS
- 17. ALL TIMBER MATS, MATERIAL, AND DEBRIS WILL BE REMOVED FROM THE WORK AREA UPON THE COMPLETION OF CONSTRUCTION.
- 18. UPLAND DISTURBED AREAS SHALL BE RESTORED AND STABILIZED UPON COMPLETION OF CONSTRUCTION. WORK PAD RESTORATION SHOULD INCLUDE REDUCING THE WORK PAD TO A 30 BY 60 FOOT AREA, AND REDUCING SLOPES TO A MAXIMUM OF 25%. STOCKPILED MATERIAL SHOULD BE SPREAD TO REDUCE ANY UNNECESSARY SLOPES. GRAVEL WORK PADS AND SLOPES SHOULD BE SCARIFIED TO A MINIMUM OF 3" BEFORE SPREADING TOPSOIL/LOAM AND SEED, AS NECESSARY.
- 19. ALL TEMPORARY WETLAND IMPACTS WILL BE RE-GRADED TO ORIGINAL CONTOURS FOLLOWING CONSTRUCTION. NEW ENGLAND EROSION CONTROL/RESTORATION MIX, AVAILABLE THROUGH NEW ENGLAND WETLAND PLANTS, INC., 820 WEST STREET, AMHERST, MA 01002, 413-548-8000, OR EQUIVALENT SEED MIX SHALL BE APPLIED IN WETLAND AREAS THAT ARE NOT INUNDATED, AS NECESSARY.
- 20. SEDIMENT AND EROSION CONTROL MEASURES WILL BE EVALUATED AND REMOVED IF NECESSARY UPON THE COMPLETION OF CONSTRUCTION.
- 21. COMMERCIAL LOAM WILL NOT BE USED AS PART OF RESTORATION. ONLY IN-SITU TOPSOIL WILL BE USED TO RESTORE DISTURBED AREAS.

WINTER CONSTRUCTION NOTES

- 1. PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED. STABILIZATION METHODS SHALL INCLUDE SEEDING AND MULCH, AND INSTALLATION OF EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS
- 2. DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE TEMPORARILY STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL (NHDOT 304.3).

GENERAL NOTES:

- OWNER: EVERSOURCE ENERGY 13 LEGENDS DRIVE HOOKSETT, NH 03106
- 1. BASE PLAN PROVIDED BY EVERSOURCE ENERGY. EVERSOURCE ENERGY PROVIDED THE UTILITY DESIGN.
- 2. JURISDICTIONAL WETLANDS WERE DELINEATED BY GZA IN 2020, IN ACCORDANCE WITH THE 1987 U.S. ARMY CORPS OF ENGINEERS' "WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1," AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION," JANUARY 2012.
- 3. GZA PERFORMED A WETLANDS FUNCTION AND VALUES ASSESSMENT IN ACCORDANCE WITH THE ACOE'S "HIGHWAY METHODOLOGY WORKBOOK SUPPLEMENT," SEPTEMBER 1999, IN 2020
- 4. SITE PLAN IS FOR PERMITTING PURPOSES ONLY AND DOES NOT REPRESENT A PROPERTY BOUNDARY SURVEY.
- 5. THE PROJECT WILL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
- 6. IN ACCORANCE WITH ENV-WQ 1505.02, THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED, AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED: - A MINIMUM 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL HAS BEEN INSTALLED
- OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

EROSION CONTROL NOTES:

- 1. INSTALLATION OF EROSION CONTROL GRINDINGS AND/OR SILT FENCES SHALL BE COMPLETE PRIOR TO THE START OF WORK IN ANY GIVEN AREA. EROSION CONTROLS SHALL BE USED DURING CONSTRUCTION AND REMOVED WHEN ALL SLOPES HAVE A HEALTHY STAND OF VEGETATION COVER. EROSION CONTROL MEASURES SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER .25" OR GREATER RAINFALL EVENTS.
- 2. AS REQUIRED, CONSTRUCT TEMPORARY BERMS, SILTATION FENCES, SEDIMENT TRAPS, ETC. TO PREVENT EROSION & SEDIMENTATION OF WETLANDS.
- 3. THE WORK AREA SHALL BE GRADED AND OTHERWISE SHAPED IN SUCH A MANNER AS TO MINIMIZE SOIL EROSION, SILTATION OF DRAINAGE CHANNELS, DAMAGE TO EXISTING VEGETATION, AND DAMAGE TO PROPERTY OUTSIDE LIMITS OF THE WORK AREA. EROSION CONTROL GRINDINGS WILL BE NECESSARY TO ACCOMPLISH THIS END.
- 4. ANY STRIPPED TOPSOIL SHALL BE STOCKPILED, WITHOUT COMPACTION, AND STABILIZED AGAINST EROSION, AS NECESSARY
- 5. PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 15 TO SEPTEMBER 15. NO DISTURBED AREA SHALL BE LEFT EXPOSED DURING WINTER MONTHS, PLANT ANNUAL RYEGRASS PRIOR TO OCTOBER 15TH

6. EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.

NEW HAMPSHIRE FISH AND GAME TYPICAL BMPS RELATED TO THREATENED AND ENDAGERED SPECIES

- 1. PRIOR TO DAILY CONSTRUCTION ACTIVITIES, TIMBER MATTING WILL BE REVIEWED FOR SNAKES AND TURTLES. GZA WILL PROVIDE AN ENVIRONMENTAL ADDENDUM TO THE DAILY TAILBOARDS BY THE CONTRACTS TO INLCUDE GUIDANCE ON PROTOCOLS FOR SNAKES AND PROVIDE IDNETIFICATION FOR SPOTTED TURTLE, WOOD TURTLE, BLANDING'S TURTLE, AND NORTHERN BLACK RACER SNAKE

- CACER SNAKE.
 COBSERVED SNAKES AND TURTLES WILL BE MOVED OFF OF CONSTRUCTION ACCESS ROADS TO LIMIT AND PREVENT MORTALITY TO SNAKES AND TURTLES DURING CONSTRUCTION.
 EROSION CONTROL MATTING, IF UTILIZED, WILL CONSIST OF JUTE MATTING. MATTING WITH PLASTIC MESH WILL BE AVOIDED TO LIMIT UNINTENTIONAL MORTALITY TO SNAKES.
 AT THE CONCLUSION OF THE PROJECT, A SUMMARY REPORT OF ANY RARE SPECIES OBSERVATIONS WILL BE PROVIDED TO THE NHFG NONGAME PROGRAM.
 MID DOTINITIAL VERNAL DOOLS WILL BE AVOIDED
- AI THE CONCLOSION OF THE FROJECT, A SUMMART REPORT OF ANT RANHEG NONGAME PROGRAM.
 IMPACTS TO VERNAL POOLS AND POTENTIAL VERNAL POOLS WILL BE A
 IF SPOTTED, WOOD OR BLANDING'S TURTLES ARE FOUND LAYING EGGS (603-479-1129) OR JOSH MEGYESY (978-578-0802) FOR FURTHER INSTRUNT IN THE EVENT THAT A RARE OR THREATENED SPECIES IS OBSERVED. TO NATURAL HERITAGE BUREAU WILL BE NOTIFIED. TURTLE NESTING SEAS IF WOOD, BLANDING'S OR SPOTTED TURTLES ARE FOUND LAYING EGGS 603-271-1738 OR JOSH MEGYESY AT 603-271-1125 FOR FURTHER INSTRU OBSERVATIONS OF NORTHERN BLACK RACER SNAKES SEEN IN ANY AR FROM THE END OF SEPTEMBER THROUGH THE MONTH OF APRIL OR OBSERVATIONS OF EASTERN HOGNOSE SNAKE MUST BE IMMEDIATELY REPORTED TO THE NHFG DEPARTMENT (BRENDAN CLIFFORD AT 603-270 OR MELISSA DOPERALSKI AT 603-271-1738). IF NORTHERN BLACK RACEF FOUND IN A WORK AREA FROM NOVEMBER THROUGH THE MONTH OF A WORK SHALL IMMEDIATELY CEASE AND THE OBSERVATION MUST BE REPORTED TO THE NHFG (BRENDAN CLIFFORD OR MELISSA DOPERALS).

K AREA, PLEASE	E CONTACT MELIS	SSA DOPERALSK				
AMPSHIRE FISH	AND GAME AND N	NEW HAMPSHIRE				
	MAY THROUGH T	HE BEGINNING C)F JULY.			
IORN AREA, CON	TACT WELISSAD	OPERALORIAI				
UNLESS SPECIFICALLY STA	ATED BY WRITTEN AGREEME	NT, THIS DRAWING IS THE	SOLE PROPERTY OF GZA			
CLIENT OR THE CLIENT'S DE	(GZA). THE INFORMATION SHO SIGNATED REPRESENTATIVE F	OR THE SPECIFIC PROJECT AN	ND LOCATION IDENTIFIED ON			
AT ANY OTHER LOCATION O	G SHALL NOT BE TRANSFERRE OR FOR ANY OTHER PURPOSI	d, reused, copied, or alter E without the prior writt	ED IN ANY MANNER FOR USE EN CONSENT OF GZA, ANY			
TRANSFER, REUSE, OR MOD EXPRESS CONSENT OF GZA,	DIFICATION TO THE DRAWING E , WILL BE AT THE USER'S SOLE	BY THE CLIENT OR OTHERS, WI RISK AND WITHOUT ANY RISK C	ITHOUT THE PRIOR WRITTEN OR LIABILITY TO GZA.			
E115	TRANSMISSION	N LINE REBUILD	D AND			
	OPGW F	ROJECT				
NEW HAMPTON, BRISTOL, BRIDGEWATER, ASHLAND,						
AND HOLDERNESS, NEW HAMPSHIRE						
	AND HOLDERNESS	, NEW HAMPSHIRE				
	AND HOLDERNESS	, NEW HAMPSHIRE				
	AND HOLDERNESS	TES				
	AND HOLDERNESS	TES				
PREPARED BY:	NO ⁻	TES				
PREPARED BY:	AND HOLDERNESS	RES				
	AND HOLDERNESS NO ⁻ eoEnvironmental, Inc. ers and Scientists ww.gza.com	TES PREPARED FOR: EVERS				
PREPARED BY: GZA G Enginee W EPO IMCE:	eoEnvironmental, Inc. ers and Scientists ww.gza.com	REVERS				
PREPARED BY: GZA G Enginee W PROJ MGR: LEW	eoEnvironmental, Inc. ers and Scientists ww.gza.com REVIEWED BY: TLT	REVERS	EURCE ENERGY SHEET			
PREPARED BY: GZA G Enginee W PROJ MGR: LEW DESIGNED BY: MJD DATE:	eoEnvironmental, Inc. ers and Scientists ww.gza.com REVIEWED BY: TLT DRAWN BY: MJD PROJECT NO.	REVERS	URCE ENERGY SHEET S1			
	K AREA, PLEASI AMPSHIRE FISH DS FROM LATE /ORK AREA, CON UNLESS SPECIFICALLY ST geoenvironmental, Inc. client of the clients of the Drawing. The Drawin at any other Location of transfer. Reuse, or mot express consent of GZA E115 NEW HA	RK AREA, PLEASE CONTACT MELIS AMPSHIRE FISH AND GAME AND N VDS FROM LATE MAY THROUGH T /ORK AREA, CONTACT MELISSA D UNLESS SPECIFICALLY STATED BY WRITTEN AGREEM GEOEWURONMENTAL, NC. (G2A). THE INFORMATION SHO CLIENT OR THE CLIENTS OBSIGNATED REPRESENTATURE THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRE AT ANY OTHER LOCATION OF FOR ANY OTHER PURPOS TRANSFER. REUSE, OR MODIFICATION TO THE DRAWING E EXPRESS CONSENT OF G2A, WILL BE AT THE USER'S SOLE E115 TRANSMISSION OPGW F NEW HAMPTON, BRISTOL,	AK AREA, PLEASE CONTACT MELISSA DOPERALSK AMPSHIRE FISH AND GAME AND NEW HAMPSHIRE NDS FROM LATE MAY THROUGH THE BEGINNING C /ORK AREA, CONTACT MELISSA DOPERALSKI AT UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT. THIS DRAWING IS THE GEOENVIRONMENTAL, INC. (G2A). THE INFORMATION SHOWN ON THE DRAWING IS SOL CILENT OR THE CLEARTS DESIGNATE DREPRESENTATIVE FOR THE SPECIFIC PROJECT A THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTER AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITT TRANSFER. REUSE, OR MODIFICATION TO THE DREWING BY THE CLEMT TO BE OF AN ANY OTHER PURPOSE WITHOUT THE PRIOR WRITT CASES CONSENT OF G2A, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK CO E115 TRANSMISSION LINE REBUILLI OPGW PROJECT NEW HAMPTON, BRISTOL, BRIDGEWATER, AS			



THE WIRE SUPPORT FENCE, POST SPACING SHALL BE AS MANUFACTURER RECOMMENDS. 4. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE OF THE BARRIER IN ACCORDANCE WITH RECOMMENDATIONS

5. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE, AND WILL EXTEND A MINIMUM OF 8 INCHES INTO THE TRENCH. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.

6. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC. 7. FABRIC BARRIERS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED. 8. FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST ONCE

DAILY DURING PROLONGED RAINFALL AND ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. 9. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. 10. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE—HALF THE HEIGHT OF THE BARRIER.

11. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT

2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.

CONSTRUCTION ENTRANCE

NOT TO SCALE

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA, ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

E115 TRANSMISSION LINE OPGW AND STRUCTURE REPLACEMENT PROJECT NEW HAMPTON, BRISTOL, BRIDGEWATER, ASHLAND, & HOLDERNESS, NEW HAMPSHIRE

BMP DETAILS

PREPARED BY:		PREPARED FOR:	
	eoEnvironmental, Inc. ers and Scientists ww.gza.com	EVERS	
PROJ MGR: CEM	REVIEWED BY: TLT	CHECKED BY: DMZ	SHEET
DESIGNED BY: MJD	DRAWN BY: MJD	SCALE:	60
DATE: 02/18/2022	PROJECT NO. 04.0190999.72	REVISION NO.	52





TRANSITION AS REQUIRED

UNLESS SPECIFICALLY ST GEOENVIRONMENTAL, INC. CLIENT OR THE CLIENT'S DE THE DRAWING. THE DRAWIN AT ANY OTHER LOCATION M TRANSFER, REUSE, OR MOD EXPRESS CONSENT OF GZA	ATED BY WRITTEN AGREEME (GZA), THE INFORMATION SHC SIGNATED REPRESENTATIVE F G SHALL NOT BE TRANSFERRE DR FOR ANY OTHER PURPOS DR FOR ANY OTHER PURPOS DIFICATION TO THE DRAWING E , WILL BE AT THE USER'S SOLE	ENT, THIS DRAWING IS THE WIN ON THE DRAWING IS SOL OR THE SPECIFIC PROJECT AI D, REUSED, COPIED, OR ALTER E WITHOUT THE PRIOR WRITT Y THE CLIENT OR OTHERS, W RISK AND WITHOUT ANY RISK (C	SOLE PROPERTY OF GZA ELY FOR THE USE BY GZA'S NO LOCATION IDENTIFIED ON ED IN ANY MANNER FOR USE TEN CONSENT OF GZA, ANY ITHOUT THE PRIOR WRITTEN OR LIABILITY TO GZA.		
	E115 TRANS	MISSION LINE			
OPGW AND	STRUCTURE	REPLACEMEN	T PROJECT		
NF	W HAMPTON BRIS	TOI BRIDGEWATE	R		
	ASHLAND. & F	OLDERNESS.	,		
	NEW HAI	MPSHIRE			
	BMP D	ETAILS			
PREPARED BY: PREPARED FOR:					
GZA G	eoEnvironmental Inc				
C7 Engine	ers and Scientists	L EVERS			
www.gza.com ENERGY					
PROJ MGR: LEW	REVIEWED BY: TLT	CHECKED BY: DMZ	SHEET		
DESIGNED BY: MJD	DRAWN BY: MJD	SCALE:			
DATE: 02/18/2022	PROJECT NO. 04 0190999 72	REVISION NO.	53		
	1 04.0100000.12	1			



Appendix A – Alteration of Terrain Permit Application Form



ALTERATION OF TERRAIN PERMIT APPLICATION



Water Division/ Alteration of Terrain Bureau/ Land Resources Management Check the Status of your Application: <u>www.des.nh.gov/onestop</u>

RSA/ Rule: RSA 485-A:17, Env-Wq 1500

				File Num	ber:	
Administrative	Administrative	Administrativ	/e	Check No.		
Use Only	Use Only	Use Only		Amount:		
				Initials:		
1. APPLICANT INFORMATION (IN	TENDED PERMIT HOLDER)					
Applicant Name: Eversource Ener	гgy	Contact Name: Jerem	ıy Fennell			
Email: jeremy.fennell@eversourc	e.com	Daytime Telephone: 6	603-634-339	6		
Mailing Address: 13 Legends Driv	e					
Town/City: Hooksett			State: NH		Zip Code: 03106	
2. APPLICANT'S AGENT INFORMA	TION If none, check here:]	,			
Business Name: GZA GeoEnviron	mental, Inc.	Contact Name: Lindse	ey White			
Email: lindsey.white@gza.com		Daytime Telephone: 6	603-232-875	3		
Address: 5 Commerce Park North	, Suite 201					
Town/City: Bedford			State: NH Zip Co		Zip Code: 03110	
3. PROPERTY OWNER INFORMAT	ION (IF DIFFERENT FROM APPLICAN	іт)				
Applicant Name: ROW consists of	f existing easements	Contact Name:				
Email:		Daytime Telephone:	Daytime Telephone:			
Mailing Address:						
Town/City:			State: Zip Code:		Zip Code:	
4. PROPERTY OWNER'S AGENT IN	IFORMATION If none, check	here: 🔀				
Business Name:		Contact Name:				
Email:		Daytime Telephone:				
Address:						
Town/City:		State:		Zip Code:		
5. CONSULTANT INFORMATION	If none, check here:		•		•	
Engineering Firm: GZA GeoEnviro	nmental, Inc.	Contact Name: Lindse	Contact Name: Lindsey White			
Email: lindsey.white@gza.com		Daytime Telephone: 6	603-232-875	3		
Address: 5 Commerce Park North	, Suite 201					
Town/City: Bedford		State: NH		Zip Code: 03110		

ridge.mauck@des.nh.gov or (603) 271-2147

NHDES Alteration of Terrain Bureau, PO Box 95, Concord, NH 03303-0095

NHDES-W-01-003					
6. PROJECT TYPE					
Excavation Only Residential		Commercial	Golf Course	🗌 Schoo	l 🔄 Municipal
Agricultural Land	Conversion	🔀 Oth	er: Utility		
7. PROJECT LOCATION INFORMATION	J				
Project Name: E115 Transsmission Lin	e Rebuild and Op	tical Ground \	Nire (OPGW) Project		
Street/Road Address: Existing Utility F	light-of-Way				
Town/City: New Hampton, Bristol, Bri	dgewater, Ashlan	nd	County: Belknap and	Grafton	
Tax Map: See attached	Block:	L	Lot Number:		Unit:
Location Coordinates: 399796N, 9729	50E	Latitude	/Longitude	_ итм 🛛 🖉	State Plane
Post-development, will the proposed pro	oject withdraw fro	m or directly o	discharge to any of the	following? If yes,	identify the purpose.
1. Stream or Wetland			Yes	Withdrawal	Discharge
Purpose:			🖂 No		
2. Man-made pond created by impour	iding a stream or v	wetland	Yes	Withdrawal	Discharge
Purpose:			No No		
3. Unlined pond dug into the water tal	ble		∐ Yes	U Withdrawal	Discharge
Purpose:			No No		
Post-development, will the proposed pro	<u>oject discharge to:</u>			tion to domonate	ate that we lost will not
cause net increase in phosphorus a	ind/or nitrogen			ation to demonstr	ate that project will not
A Class A surface water or Outstanding	g Resource Water?	No 🛛 No	🗌 Yes - include info	ormation to demo	nstrate that project will not
cause net increase in phosphorus a	nd/or nitrogen	-			
• A lake or pond not covered previously	? 🖂 No 📃	Yes - include	information to demor	nstrate that project	t will not cause net increase
Is the project a High Load area?					
If yes, specify the type of high load	and use or activity	y:			
Is the project within a Water Supply Inta	ke Protection Area	a (WSIPA)?	🛛 Yes 🛛	No	
Is the project within a Groundwater Prot	ection Area (GPA)	?	🛛 Yes 🛛	No	
Will the well setbacks identified in E	nv-Wq 1508.02 be	met?	🛛 Yes 🛛	No	
Note: Guidance document titled " <u>Using</u> restrictions in these areas, read Chapter	<u>NHDES's OneStop</u> 3 1 in Volume 2 o	<u>WebGIS to Loc</u> f the NH Storn	<u>cate Protection Areas</u> " i nwater Manual	is available online.	For more details on the
Is any part of the property within the 10	0-vear floodplain?				
If yes: Cut volume: <u>N/A</u> cubic fe	et within the 100-y	year floodplair	י <u>ה</u> איני איני איני איני איני איני איני אינ		
Fill volume: <u>N/A</u> cubic fe	et within the 100-y	year floodplair	ı		
Project IS within ¼ mile of a design	nated river	Name of Rive	er: Pemigewasset Rive	er	
Project is NOT within ¼ mile of a de	esignated river				
Project IS within a Coastal/Great B	ay Region comm	unity - includ	e info required by En	v-Wq 1503.08(l) i	f applicable
Project is NOT within a Coastal/Gr	eat Bay Region co	ommunity			
8. BRIEF PROJECT DESCRIPTION (PLEA	ASE DO NOT REPL	Y "SEE ATTA	CHED")		
The proposed project includes the replace	cement of 183 exis	sting utility str	uctures in areas exceed	ding AoT threshold	Is along the existing E115
Transmission Line, which crosses throug	h portions of New	Hampton, Bri	stol, Bridgewater, Ashla	and, and Holderne	ss, New Hampshire. Access
road improvements and work pad gradii	ng are proposed as	s part of this p	roject for continued ma	aintenance of the	existing line.
	RK STARTED DRIV				
J. II ATTLICADLE, DESCRIDE AINT WU					
No work has been started prior to receiv	ing a permit.				

NHDES-W-01-003

10. ADDITIONAL REQUIRED INFORMATION					
A. Date a copy of the application was sent to the	municipality as required	d by Env-	Wg 1503.05	(e) ¹ : 3 / 1/2022.	
(Attach proof of delivery)				. ,	
B. Date a copy of the application was sent to the	local river advisory com	imittee if	required by	Env-Wq 1503.05(e) ² : <u>3/ 1 /2022.</u>	
(Attach proof of delivery)					
C. Type of plan required: 🗌 Land Conversion 🗌	Detailed Developmen	nt 🛛 Exc	avation, Gra	ding & Reclamation 🗌 Steep Slope	
D. Additional plans required: Stormwater Dra	inage & Hydrologic Soil	Groups	Source C	Control 🗌 Chloride Management	
E. Total area of disturbance: <u>2,560,742</u> square fe	et				
 F. Additional impervious cover as a result of the p coverage). 	project: square fe	eet (use	the "-" symb	ol to indicate a net reduction in impervious	
Total final impervious cover: <u>0</u> square feet					
G. Total undisturbed cover: <u>0</u> square feet					
H. Number of lots proposed: <u>0</u>					
I. Total length of roadway: <u>O</u> linear feet					
J. Name(s) of receiving water(s): <u>0</u>					
K. Identify all other NHDES permits required for t the required approval has been issued provide	he project, and for each the permit number, re	n indicate gistratior	e whether an h date, or ap	application has been filed and is pending, or if proval letter number, as applicable.	
	Application Files	12		Status	
			Pending	If Issued:	
1. Water Supply Approval	🗌 Yes 🛛 No 🗌]N/A		Permit number:	
2. Wetlands Permit	Yes 🗌 No 🗌]N/A	\boxtimes	Permit number: TBD	
3. Shoreland Permit	Yes 🗌 No 🗌]N/A	\boxtimes	Permit number: TBD	
4. UIC Registration	🗌 Yes 🛛 No 🗌]N/A		Registration date:	
5. Large/Small Community Well Approval	🗌 Yes 🛛 No 🗌	N/A		Approval letter date:	
6. Large Groundwater Withdrawal Permit	🗌 Yes 🛛 No 🗌]N/A		Permit number:	
7. Other:	Yes No			Permit number:	
L. List all species identified by the Natural Heritag	ge Bureau as threatened	d or enda	ingered or of	f concern: <u>None</u>	
M. Using NHDES's Web GIS OneStop program (www the impairments identified for each receiving w <u>BIOASSESSMENTS, 560</u>	M. Using NHDES's Web GIS OneStop program (<u>www2.des.state.nh.us/gis/onestop/</u>), with the Surface Water Impairment layer turned on, list the impairments identified for each receiving water. If no pollutants are listed, enter "N/A." <u>BENTHIC-MACROINVERTEBRATE</u> <u>BIOASSESSMENTS, 560</u>				
N. Did the applicant/applicant's agent have a pre- If yes, name of staff member: Ridgely Mauck	-application meeting wi	ith AOT s	taff?	🛛 Yes 🗌 No	
O. Will blasting of bedrock be required?	Yes No If aced on the plans, avail /pip/publications/wd/d	yes, esti able at: ocument	mated quant s/wd-10-12.	tity of blast rock: cubic yards	
NOTE: If greater than 5,000 cubic yards of blas submitted to NHDES. Contact AOT staff for ad	t rock will be generated ditional detail.	l, a grour	ndwater mor	nitoring program must be developed and	

ridge.mauck@des.nh.gov or (603) 271-2147 NHDES Alteration of Terrain Bureau, PO Box 95, Concord, NH 03303-0095

www.des.nh.gov

¹ Env-Wq 1503.05(c)(6), requires proof that a completed application form, checklist, plans and specifications, and all other supporting materials have been sent or delivered to the governing body of each municipality in which the project is proposed.

² Env-Wq 1503.05(c)(6), requires proof that a completed application form, checklist, plans and specifications, and all other supporting materials have been sent or delivered to the Local River Advisory Committee, if the project is within ¼ mile of a designated river.

11. CHECK ALL APPLICATION ATTACHMENTS THAT APPLY (SUBMIT WITH APPLICATION IN ORDER LISTED)
 LOOSE: △ Signed application form: des.nh.gov/organization/divisions/water/aot/index.htm (with attached proof(s) of delivery) △ Check for the application fee: des.nh.gov/organization/divisions/water/aot/fees.htm △ Color copy of a USGS map with the property boundaries outlined (1" = 2,000' scale) □ If Applicant is not the property owner, proof that the applicant will have a legal right to undertake the project on the property if a permit is issued to the applicant.
BIND IN A REPORT IN THE FOLLOWING ORDER:
 PLANS: One set of design plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details) Pre & post-development color coded soil plans on 11" x 17" (see Application Checklist for details) Pre & post-development drainage area plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details)
100-YEAR FLOODPLAIN REPORT: All information required in Env-Wq 1503.09, submitted as a separate report.
ADDITIONAL INFORMATION RE: NUTRIENTS, CLIMATE

REVIEW APPLICATION FOR COMPLETENESS & CONFIRM INFORMATION LISTED ON THE APPLICATION IS INCLUDED WITH SUBMITTAL.

12. REQUIRED SIGNATURES	
JF By initialing here, I acknowledge that I am required in PDF format on a CD within one week after permi	by Env-Wq 1503.20(e) to submit a copy of all approved documents to the department it approval.
By signing below, I certify that:	
 The information contained in or otherwise submitted w knowledge and belief; 	with this application is true, complete, and not misleading to the best of my
 I understand that the submission of false, incomplete, application, revoke any permit that is granted based or established by RSA 310-A:3 if I am a professional engin 	or misleading information constitutes grounds for the department to deny the n the information, and/or refer the matter to the board of professional engineers neer; and
• I understand that I am subject to the penalties specifie	d in New Hampshire law for falsification in official matters, currently RSA 641.
	APPLICANT'S AGENT:
Signature:	Date: <u>3/1/2</u> 022
Name (print or type): <u>Jeremy Fennell</u>	Title: Licensing and Permitting Specialist
	PROPERTY OWNER'S AGENT:
Signature:	Date:
Name (print or type):	Title:

ATTACHMENT A:

ALTERATION OF TERRAIN PERMIT APPLICATION CHECKLIST

Check the box to indicate the item has been provided or provide an explanation why the item does not apply.

DESIGN PLANS

- Plans printed on 34 36" by 22 24" white paper
- PE stamp
- Wetland delineation
- Temporary erosion control measures
- Treatment for all stormwater runoff from impervious surfaces such as roadways (including gravel roadways), parking areas, and nonresidential roof runoff. Guidance on treatment BMPs can be found in Volume 2, Chapter 4 of the NH Stormwater Management Manual.
- Pre-existing 2-foot contours
- Proposed 2-foot contours
- Drainage easements protecting the drainage/treatment structures
- Compliance with the Wetlands Bureau, RSA 482- A <u>http://des.nh.gov/organization/divisions/water/wetlands/index.htm</u>. Note that artificial detention in wetlands is not allowed.
- Compliance with the Comprehensive Shoreland Protection Act, RSA 483-B. <u>http://des.nh.gov/organization/divisions/water/wetlands/cspa</u>
- Benches. Benching is needed if you have more than 20 feet change in elevation on a 2:1 slope, 30 feet change in elevation on a 3:1 slope, 40 feet change in elevation on a 4:1 slope.
- Check to see if any proposed ponds need state Dam permits. <u>http://des.nh.gov/organization/divisions/water/dam/documents/damdef.pdf</u>

DETAILS

- Typical roadway x-section
- Detention basin with inverts noted on the outlet structure
- Stone berm level spreader
- Outlet protection riprap aprons
- A general installation detail for an erosion control blanket
- Silt fences or mulch berm
- Storm drain inlet protection. Note that since hay bales must be embedded 4 inches into the ground, they are not to be used on hard surfaces such as pavement.
- Hay bale barriers
- Stone check dams
- Gravel construction exit
- Temporary sediment trap
- The treatment BMP's proposed
- Any innovative BMP's proposed

NHDES-W-01-003

CONSTRUCTION SEQUENCE/EROSION CONTROL

Note that the project is to be managed in a manner that meets the requirements and intent of RSA 430:53 and Chapter Agr 3800 relative to invasive species.

Note that perimeter controls shall be installed prior to earth moving operations.

Note that temporary water diversion (swales, basins, etc) must be used as necessary until areas are stabilized.

Note that ponds and swales shall be installed early on in the construction sequence (before rough grading the site).

Note that all ditches and swales shall be stabilized prior to directing runoff to them.

- Note that all roadways and parking lots shall be stabilized within 72 hours of achieving finished grade.
- X Note that all cut and fill slopes shall be seeded/loamed within 72 hours of achieving finished grade
- Note that all erosion controls shall be inspected weekly AND after every half-inch of rainfall.

Note the limits on the open area allowed, see Env-Wq 1505.02 for detailed information.

Example note: The smallest practical area shall be disturbed during construction, but in no case shall exceed 5 acres at any one time before disturbed areas are stabilized.

Note the definition of the word "stable"

Example note: An area shall be considered stable if one of the following has occurred:

- Base course gravels have been installed in areas to be paved.
- A minimum of 85 percent vegetated growth has been established.
- A minimum of 3 inches of non-erosive material such stone or riprap has been installed.
- Or, erosion control blankets have been properly installed.
- Note the limit of time an area may be exposed Example note: All areas shall be stabilized within 45 days of initial disturbance.
- Provide temporary and permanent seeding specifications. (Reed canary grass is listed in the Green Book; however, this is a problematic species according to the Wetlands Bureau and therefore should not be specified)

Provide winter construction notes that meet or exceed our standards.

Standard Winter Notes:

- All proposed vegetated areas that do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting, elsewhere. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events.
- All ditches or swales which do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions.
- After October 15, incomplete road or parking surfaces, where work has stopped for the winter season, shall be protected with a minimum of 3 inches of crushed gravel per NHDOT item 304.3.

Note at the end of the construction sequence that "Lot disturbance, other than that shown on the approved plans, shall not commence until after the roadway has the base course to design elevation and the associated drainage is complete and stable." – This note is applicable to single/duplex family subdivisions, when lot development is not part of the permit.

DRAINAGE ANALYSES

NHDES-W-01-003

Please double-side 8 $\frac{1}{2}$ × 11" sheets where possible but, **do not** reduce the text such that more than one page fits on one side.

PE stamp

Rainfall amount obtained from the Northeast Regional Climate Center- <u>http://precip.eas.cornell.edu/</u>. Include extreme precipitation table as obtained from the above referenced website.

Drainage analyses, in the following order:

- Pre-development analysis: Drainage diagram.
- Pre-development analysis: Area Listing and Soil Listing.
- Pre-development analysis: Node listing 1-year (if applicable), 2-year, 10-year and 50-year.
- Pre-development analysis: Full summary of the 10-year storm.
- Post-development analysis: Drainage diagram.
- Post-development analysis: Area Listing and Soil Listing.
- Post-development analysis: Node listing for the 2-year, 10-year and 50-year.
- Post-development analysis: Full summary of the 10-year storm.

Review the Area Listing and Soil Listing reports

- Hydrologic soil groups (HSG) match the HSGs on the soil maps provided.
- There is the same or less HSG A soil area after development (check for each HSG).
- There is the same or less "woods" cover in the post-development.
- Undeveloped land was assumed to be in "good" condition.
- The amount of impervious cover in the analyses is correct.

Note: A good check is to subtract the total impervious area used in the pre analysis from the total impervious area used in the post-analysis. For residential projects without demolition occurring, a good check is to take this change in impervious area, subtract out the roadway and divide the remaining by the number of houses/units proposed. Do these numbers make sense?

Check the storage input used to model the ponds.

Check to see if the artificial berms pass the 50-year storm, i.e., make sure the constructed berms on ponds are not overtopped.

Check the outlet structure proposed and make sure it matches that modeled.

Check to see if the total areas in the pre and post analyses are same.

Confirm the correct NRCS storm type was modeled (Coos, Carroll & Grafton counties are Type II, all others Type III).

PRE- AND POST-DEVELOPMENT DRAINAGE AREA PLANS

Plans printed on 34 - 36" by 22 - 24" on white paper.

Submit these plans separate from the soil plans.

- A north arrow.
- A scale.
- Labeled subcatchments, reaches and ponds.
- Tc lines.
- A clear delineation of the subcatchment boundaries.
- Roadway station numbers.
- Culverts and other conveyance structures.

PRE AND POST-DEVELOPMENT COLOR-CODED SOIL PLANS

NHDES-W-01-003 In 11" × 17" sheets suitable, as long as it is readable.
Submit these plans separate from the drainage area plans.
A north arrow.
A scale.
Name of the soil scientist who performed the survey and date the soil survey took place.
2-foot contours (5-foot contours if application is for a gravel pit) as well as other surveyed features.
Delineation of the soil boundaries and wetland boundaries.
Delineation of the subcatchment boundaries.
Soil series symbols (e.g., 26).
A key or legend which identifies each soil series symbol and its associated soil series name (e.g., 26 = Windsor).
The hydrologic soil group color coding (A = Green, B = yellow, C= orange, D=red, Water=blue, & Impervious = gray).
Please note that excavation projects (e.g., gravel pits) have similar requirements to that above, however the following are common exceptions/additions:
Drainage report is not needed if site does not have off-site flow.
5 foot contours allowed rather than 2 foot.
No PE stamp needed on the plans.
Add a note to the plans that the applicant must submit to the Department of Environmental Services a written update of the project and revised plans documenting the project status every five years from the date of the Alteration of Terrain permit.
Add reclamation notes.
See NRCS publication titled: <i>Vegetating New Hampshire Sand and Gravel Pits</i> for a good resource, it is posted online at: http://des.nh.gov/organization/divisions/water/aot/categories/publications .
ADDITIONAL INFORMATION RE: NUTRIENTS, CLIMATE
If project will discharge stormwater to a surface water impaired for phosphorus and/or nitrogen, include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen.
If project will discharge stormwater to a Class A surface water or Outstanding Resource Water, include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen.
If project will discharge stormwater to a lake or pond not covered previously, include information to demonstrate that project will not

cause net increase in phosphorus in the lake or pond.

If project is within a Coastal/Great Bay Region community, include info required by Env-Wq 1503.08(l) if applicable.



Appendix B – Abutters List



Eversource E115 Transmission Line OPGW and Structure Replacement Project Ashland, Bristol, Holderness, New Hampton, and Bridgewater New Hampshire

Ashland	0209-0006-0001	213-015-000
Tax Map-Lot	0209-0001-0000	213-019-000
003-003-002	0408-0002-0000	213-016-000
008-001-035	0408-0001-0000	213-017-000
008-001-036	0208-0001-0000	213-018-000
008-001-038	0209-0006-0002	213-012-000
008-001-002	Bristol	213-011-000
008-001-001	Tax Map-Lot	224-023-000
008-001-006	210-10	224-035-000
008-001-040	210-9	224-013-000
008-001-041	210-11	224-011-000
008-001-022	210-3	224-010-000
008-001-023	210-8	224-009-000
008-001-002-001	210-4	227-037-000
008-001-002-002	210-6	227-022-000
006-003-001	219-1	227-036-000
006-003-003	219-1.01	227-035-000
007-001-011	219-34	227-034-000
006-002-004	219-37	227-032-000
006-002-006	218-9	227-002-000
005-001-006	219-38	224-046-000
005-001-004	218-10	224-047-000
004-001-001	218-13	224-053-000
004-001-003	222-16	224-055-000
003-003-001	222-16.1	224-057-000
005-002-010	222-38	224-058-000
003-002-008	219-37-1	224-059-000
003-002-004	209-6	224-060-000
Bridgewater	Holderness	227-032-001
Tax Map-Lot	Tax Map-Lot	New Hampton
0201-0015-0000	210-017-000	Tax Map-Lot
0201-0016-0001	210-012-000	R16-002-000
0201-0017-0000	210-008-002	R16-002-A00
0201-0018-0000	210-008-000	R16-014-000
0201-0019-0000	210-011-000	R16-020-000
0201-0021-0000	213-036-000-011	R16-003-000
0201-0022-0001	210-010-000	R16-001-A00
0201-0022-2100	213-034-000	R16-001-000
0201-0022-0022	213-029-000	R16-011-000
0202-0012-0001	213-028-000	R20-004-000
0202-0012-0000	213-026-000	R20-006-000
0209-0011-0001	213-022-000	R20-007-000
-	-	

Annendix	R -	Parcels	Intersecting	Project	Δrea
Appendix	D -	Parceis	intersecting	Project	Area

R20-008-000

R20-022-000

R20-010-000

R20-021-000

R20-019-000

R20-011-000

R20-012-000

R20-018-000

R20-013-000 R20-016-000

R20-040-000

R20-069-000

R15-015-000

1



Appendix C – New Hampshire Natural Heritage Bureau Report and E-Mail Review from NHB and New Hampshire Fish and Game

To: Lindsey White, GZA GeoEnvironmental 5 Commerce Park North Suite 201 Bedford, NH 03110

- From: NH Natural Heritage Bureau
- Date: 12/2/2021 (valid until 12/2/2022)
- **Re:** Review by NH Natural Heritage Bureau of request submitted 11/19/2021

Permits: MUNICIPAL POR - New Hampton, NHDES - Wetland Standard Dredge & Fill - Major, USACE - General Permit, USEPA - Stormwater Pollution Prevention

NHB ID:	NHB21-3651	Applicant:	Lindsey White
Location:	New Hampton		
	Eversource Right-of-Way		
Project			
Description:	The proposed project include	es the replace	ement of existing utility
1	structures along the existing	E115 and Tr	ansmission Line in New
	Hampton, New Hampshire.		

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

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 11/19/2021 3:12:32 PM, and cannot be used for any other project.

MAP OF PROJECT BOUNDARIES FOR: NHB21-3651

NHB21-3651



- To: Lindsey White 5 Commerce Park North Suite 201 Bedford, NH 03110
- From: NH Natural Heritage Bureau
- Date: 11/19/2021 (This letter is valid through 11/19/2022)
 - Re: Review by NH Natural Heritage Bureau of request dated 11/19/2021

Permit Types: Stormwater Pollution Prevention Wetland Standard Dredge & Fill - Major General Permit Bridgewater

- NHB ID: NHB21-3653
- Applicant: Lindsey White
- Location: Bridgewater Tax Map: Multiple, Tax Lot: Multiple Address: Eversource Right-of-Way
- **Proj. Description:** The proposed project includes the replacement of existing utility structures along the existing E115 Transmission Line in Bridgewater, New Hampshire.

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

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



MAP OF PROJECT BOUNDARIES FOR: NHB21-3653

To: Lindsey White 5 Commerce Park North Suite 201 Bedford, NH 03110

From: NH Natural Heritage Bureau

Date: 11/19/2021 (This letter is valid through 11/19/2022)

Re: Review by NH Natural Heritage Bureau of request dated 11/19/2021

Permit Types: Stormwater Pollution Prevention Wetland Standard Dredge & Fill - Major General Permit Bristol

NHB ID: NHB21-3652

- Applicant: Lindsey White
- Location: Bristol Tax Map: Multiple, Tax Lot: Multiple Address: Eversource Right-of-Way

Proj. Description: The proposed project includes the replacement of existing utility structures along the existing E115 Transmission Line in Bristol, New Hampshire.

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

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



MAP OF PROJECT BOUNDARIES FOR: NHB21-3652
To: Lindsey White, GZA GeoEnvironmental 5 Commerce Park North Suite 201 Bedford, NH 03110

- From: NH Natural Heritage Bureau Date: 12/2/2021 (valid until 12/2/2022)
- **Re:** Review by NH Natural Heritage Bureau of request submitted 11/19/2021

Permits: MUNICIPAL POR - Ashland, NHDES - Wetland Standard Dredge & Fill - Major, USACE - General Permit, USEPA - Stormwater Pollution Prevention

NHB ID:	NHB21-3654	Applicant:	Lindsey White
Location:	Ashland Eversource Right-of-Way		
Project	The proposed project includ	as the ranks	ament of existing utility
Description:	structures along the existing	E115 Transr	nission Line in Ashland

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

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 11/19/2021 3:29:51 PM, and cannot be used for any other project.

MAP OF PROJECT BOUNDARIES FOR: NHB21-3654



Department of Natural and Cultural Resources Division of Forests and Lands (603) 271-2214 fax: 271-6488 DNCR/NHB 172 Pembroke Rd. Concord, NH 03301 To: Lindsey White, GZA GeoEnvironmental 5 Commerce Park North Suite 201 Bedford, NH 03110

- From: NH Natural Heritage Bureau Date: 12/2/2021 (valid until 12/2/2022)
- **Re:** Review by NH Natural Heritage Bureau of request submitted 11/19/2021

Permits: MUNICIPAL POR - Holderness, NHDES - Wetland Standard Dredge & Fill - Major, USACE - General Permit, USEPA - Stormwater Pollution Prevention

NHB ID:	NHB21-3655	Applicant:	Lindsey White
Location:	Holderness Eversource Right-of-Way		
Project Description:	The proposed project include	es the replace	ement of existing utility
Description	structures along the existing New Hampshire.	E115 Transı	nission Line in Holderness,

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

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 11/19/2021 3:35:02 PM, and cannot be used for any other project.

MAP OF PROJECT BOUNDARIES FOR: NHB21-3655

NHB21-3655

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

Lindsey White

From:	Tuttle, Kim <kim.a.tuttle@wildlife.nh.gov></kim.a.tuttle@wildlife.nh.gov>		
Sent:	Thursday, January 13, 2022 9:40 AM		
То:	Lindsey White		
Subject:	RE: NHB21-3651, NHB21- 3654, NHB21-3655 E115 Rebuild Project		

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Hi Lindsey,

Thanks you for adding the turtle and reptile BMPs below. The NHFG Nongame Program does not require further review of the E115 rebuild (NHB21-3651, NHB21-3654, and NHB21-3655).

Thanks,

Kim Tuttle Wildlife Biologist NH Fish and Game 11 Hazen Drive Concord, NH 03301 603-271-6544

From: Lindsey White <Lindsey.White@gza.com>
Sent: Thursday, January 13, 2022 9:23 AM
To: Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>
Cc: Wadiak, Kathleen <Kathleen.P.Wadiak@wildlife.nh.gov>; Bouchard, Jessica <Jessica.R.Bouchard@dncr.nh.gov>
Subject: RE: NHB21-3651, NHB21- 3654, NHB21-3655 E115 Rebuild Project

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Hi Kim,

Thank you for your review, we will absolutely include the wood turtle flyer, typical reptile BMPs and NHFG contacts as follows:

- 1. Prior to daily construction activities, timber matting will be reviewed for snakes and turtles. GZA will provide an environmental addendum to the daily tailboards by the contracts to include guidance on protocols for snakes and provide identification for spotted turtle, wood turtle, Blanding's turtle and northern black racer snake.
- 2. Observed snakes and turtles will be moved off of construction access roads to limit and prevent mortality to snakes and turtles during construction.
- **3.** Erosion control matting, if utilized, will consist of jute matting. Matting with plastic mesh will be avoided to limit unintentional mortality to snakes.
- **4.** At the conclusion of the project, a summary report of any rare species observations will be provided to the NHFG Nongame Program.
- 5. Impacts to vernal pools and potential vernal pools will be avoided.

The following notes will be added as well:

- 6. IF SPOTTED, WOOD OR BLANDING'S TURTLES ARE FOUND LAYING EGGS IN A WORK AREA, PLEASE CONTACT MELISSA DOPERALSKI (603-479-1129 cell) or JOSH MEGYESY (cell 978-578-0802) FOR FURTHER INSTRUCTIONS.
- 7. ALL OBSERVATIONS OF EASTERN HOGNOSE SNAKE SEEN AT ANY TIME MUST BE IMMEDIATELY REPORTED to the NHFG Department (MELISSA DOPERALSKI (603-479-1129 cell) or JOSH MEGYESY (cell 978-578-0802) FOR FURTHER INSTRUCTIONS. Please attempt to photograph this species to send to us for verification.
- 8. All observations of northern black racer snakes encountered from the end of September through the month of April must be IMMEDIATELY REPORTED to the NHFG Department (Melissa Doperalski 603-479-1129 (cell) or Brendan Clifford 603-944-0885) as this indicates a potential hibernaculum in the area. Please attempt to photograph this species if possible. Black racers have been known to den communally at the base of power poles and have been known to occur in Manchester. If one is seen at the base of a pole during this time period, work should cease immediately at that pole location and the incident called in to us.

Thanks!

Lindsey E. White, CPSS Project Manager GZA | 5 Commerce Park North | Bedford, NH 03110 0: 603.232.8753 | c: 603.770.5752 | lindsey.white@gza.com | www.gza.com | LinkedIn

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From: Tuttle, Kim <<u>Kim.A.Tuttle@wildlife.nh.gov</u>>
Sent: Wednesday, January 12, 2022 10:16 AM
To: Lindsey White <<u>Lindsey.White@gza.com</u>>
Cc: Wadiak, Kathleen <<u>Kathleen.P.Wadiak@wildlife.nh.gov</u>>; Bouchard, Jessica <<u>Jessica.R.Bouchard@dncr.nh.gov</u>>
Subject: RE: NHB21-3651, NHB21- 3654, NHB21-3655 E115 Rebuild Project

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Hello Lindsey,

I talked with Kat about this- we would be comfortable with not rereviewing the 3 jobs if Eversource included the wood turtle BMPs and flyer as well as the current NHFG biologist immediate contact note for the contractors if nesting wood turtles are encountered. Ultimately, I think it is a DES decision whether they will accept this under their rules.

Thanks,

Kim Tuttle Wildlife Biologist NH Fish and Game 11 Hazen Drive Concord, NH 03301 603-271-6544 From: Bouchard, Jessica <<u>Jessica.R.Bouchard@dncr.nh.gov</u>>
Sent: Tuesday, January 11, 2022 4:03 PM
To: Lindsey White <<u>Lindsey.White@gza.com</u>>
Cc: Tuttle, Kim <<u>Kim.Tuttle@wildlife.nh.gov</u>>; Wadiak, Kathleen <<u>Kathleen.P.Wadiak@wildlife.nh.gov</u>>
Subject: RE: NHB21-3651, 3654, 3655 E115 Rebuild Project

Hi Lindsey,

Thanks for the inquiry. This does not affect the Natural Heritage Bureau review, however, it could affect the F&G review. They just had a rule change go effective, and I haven't gotten the chance to read it yet. I'll let F&G speak for themselves.

Kim and Kat, these three Datachecks were no hits letters. Please see Lindsey's email below. Can you confirm that including AoT would not change the resulting Datacheck Letter or the actions required by F&G as a result of these projects also requiring an AoT permit?

Thanks,

Jessica

From: Lindsey White <Lindsey.White@gza.com>
Sent: Tuesday, January 11, 2022 3:43 PM
To: Bouchard, Jessica <Jessica.R.Bouchard@dncr.nh.gov>
Subject: NHB21-3651, 3654, 3655 E115 Rebuild Project

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HI Jessica,

We wanted to reach out regarding the NHB reports for NHB21-3651, 3654, and 3655 which were submitted on behalf of the upcoming E115 Transmission Line Rebuild Project.

All three were determined to have No Impact based on the proposed project. We should have also checked off Alteration of Terrain when we submitted for the NHB reports which looking at the list of permits checked off we did not include. We wanted to confirm that including AoT would not change the resulting report. If you could please confirm or advise otherwise that would be great.

Thanks so much! Lindsey

Lindsey E. White, CPSS Project Manager GZA | 5 Commerce Park North | Bedford, NH 03110 0: 603.232.8753 | c: 603.770.5752 | lindsey.white@gza.com | www.gza.com | LinkedIn

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Appendix D – Natural Resources Conservation Service Web Soil Survey



United States Department of Agriculture

Natural Resources Conservation

Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants Custom Soil Resource Report for Grafton County, New Hampshire, and Merrimack and Belknap Counties, New Hampshire



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/? cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



MAP LEGEND				
Area of Inte	e rest (AOI) Area of Interest (AOI)	8	Spoil Area Stony Spot	
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	Severely Eroded Spot Sinkhole Slide or Slip Sodic Spot			

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Grafton County, New Hampshire Survey Area Data: Version 25, Aug 31, 2021

Soil Survey Area: Merrimack and Belknap Counties, New Hampshire Survey Area Data: Version 27, Aug 31, 2021

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 8, 2011—Aug 30, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
22B	Colton gravelly sandy loam, 3 to 8 percent slopes	18.0	0.6%
22C	Colton gravelly sandy loam, 8 to 15 percent slopes	7.3	0.3%
22E	Colton gravelly sandy loam, 15 to 60 percent slopes	0.7	0.0%
36A	Adams loamy sand, 0 to 3 percent slopes	112.5	3.9%
36B	Adams loamy sand, 3 to 8 percent slopes	106.7	3.7%
36C	Adams loamy sand, 8 to 15 percent slopes	261.1	9.0%
36E	Adams loamy sand, 15 to 60 percent slopes	333.8	11.6%
56C	Becket fine sandy loam, 8 to 15 percent slopes	97.8	3.4%
56D	Becket fine sandy loam, 15 to 25 percent slopes	38.6	1.3%
57B	Becket fine sandy loam, 0 to 8 percent slopes, very stony	1.2	0.0%
57C	Becket fine sandy loam, 8 to 15 percent slopes, very stony	26.7	0.9%
57D	Becket fine sandy loam, 15 to 25 percent slopes, very stony	126.4	4.4%
57E	Becket fine sandy loam, 25 to 35 percent slopes, very stony	70.2	2.4%
61B	Tunbridge-Lyman-Rock outcrop complex, 0 to 8 percent slopes	29.9	1.0%
61C	Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes	45.9	1.6%
61D	Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes	127.9	4.4%
61E	Tunbridge-Lyman-Rock outcrop complex, 25 to 60 percent slopes	58.2	2.0%
90C	Tunbridge-Lyman complex, 8 to 15 percent slopes, rocky	128.6	4.5%
90D	Tunbridge-Lyman complex, 15 to 25 percent slopes, rocky	113.7	3.9%
102	Sunday loamy sand	2.6	0.1%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Podunk fine sandy loam, 0 to 3 percent slopes, frequently flooded	24.9	0.9%
105	Rumney fine sandy loam, 0 to 3 percent slopes, frequently flooded	1.1	0.0%
201	Ondawa fine sandy loam, 0 to 3 percent slopes, occasionally flooded	41.0	1.4%
254B	Hermon and Monadnock soils, 3 to 8 percent slopes	16.1	0.6%
254D	Monadnock and Hermon soils, 15 to 25 percent slopes	11.7	0.4%
255B	Hermon and Monadnock soils, 0 to 8 percent slopes, very stony	19.5	0.7%
255C	Hermon and Monadnock soils, 8 to 15 percent slopes, very stony	16.6	0.6%
255D	Monadnock and Hermon soils, 15 to 25 percent slopes, very stony	44.2	1.5%
255E	Monadnock and Hermon soils, 25 to 35 percent slopes, very stony	54.9	1.9%
298	Pits, gravel	24.1	0.8%
299	Udorthents, smoothed	30.2	1.0%
347B	Lyme and Moosilauke soils, 3 to 8 percent slopes, very stony	17.1	0.6%
558B	Skerry fine sandy loam, 3 to 8 percent slopes	7.7	0.3%
559B	Skerry fine sandy loam, 0 to 8 percent slopes, very stony	38.6	1.3%
559C	Skerry fine sandy loam, 8 to 15 percent slopes, very stony	35.1	1.2%
613	Croghan loamy fine sand, 0 to 3 percent slopes	1.9	0.1%
614	Kinsman sand	6.1	0.2%
W	Water	108.9	3.8%
Subtotals for Soil Survey A	rea	2,207.3	76.5%
Totals for Area of Interest		2,887.2	100.0%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
5A	Rippowam very fine sandy loam, 0 to 3 percent slopes, frequently flooded	4.2	0.1%	
22E	Colton gravelly sandy loam, 15 to 60 percent slopes	94.3	3.3%	

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Custom Soil Resource Report

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
36A	Adams loamy sand, 0 to 3 percent slopes, wooded	3.0	0.1%
36B	Adams loamy sand, 3 to 8 percent slopes, wooded	73.0	2.5%
36C	Adams loamy sand, 8 to 15 percent slopes, wooded	90.6	3.1%
36E	Adams loamy sand, 15 to 60 percent slopes, wooded	131.5	4.6%
57C	Becket fine sandy loam, 8 to 15 percent slopes, very stony	9.7	0.3%
57D	Becket fine sandy loam, 15 to 25 percent slopes, very stony	17.9	0.6%
77C	Marlow fine sandy loam, 8 to 15 percent slopes, very stony	1.6	0.1%
102A	Sunday loamy fine sand, 0 to 3 percent slopes, occasionally flooded	4.1	0.1%
190C	Adams-Lyman complex, 8 to 15 percent slopes, rocky	12.5	0.4%
190D	Adams-Lyman complex, 15 to 35 percent slopes, very rocky	2.0	0.1%
201A	Ondawa fine sandy loam, 0 to 3 percent slopes, occasionally flooded	76.8	2.7%
380C	Tunbridge-Lyman-Becket complex, 8 to 15 percent slopes, very stony	21.6	0.7%
380D	Tunbridge-Lyman-Becket complex, 15 to 25 percent slopes, very stony	72.9	2.5%
380E	Tunbridge-Lyman-Becket complex, 25 to 60 percent slopes, very stony	0.1	0.0%
415B	Moosilauke fine sandy loam, 3 to 8 percent slopes, very stony	8.1	0.3%
559C	Skerry fine sandy loam, 8 to 15 percent slopes, very stony	12.1	0.4%
613A	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	5.5	0.2%
647B	Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony	9.0	0.3%
w	Water	28.8	1.0%
Subtotals for Soil Survey Area		679.5	23.5%
Totals for Area of Interest		2,887.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas

shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Grafton County, New Hampshire

22B—Colton gravelly sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2yjfp Elevation: 10 to 2,000 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Colton and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colton

Setting

Landform: Outwash deltas Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Base slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Sandy-skeletal glaciofluvial deposits

Typical profile

Ap - 0 to 7 inches: gravelly sandy loam Bs - 7 to 14 inches: gravelly loamy sand BC - 14 to 24 inches: very gravelly coarse sand C - 24 to 65 inches: extremely gravelly coarse sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3s Hydrologic Soil Group: A Ecological site: F146XY071ME - Sandy Hydric soil rating: No

Minor Components

Adams

Percent of map unit: 10 percent

Landform: Outwash deltas Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Convex Hydric soil rating: No

Sheepscot

Percent of map unit: 3 percent Landform: Outwash deltas Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Croghan

Percent of map unit: 2 percent Landform: Outwash deltas Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Concave Hydric soil rating: No

22C—Colton gravelly sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2yjfn Elevation: 10 to 2,000 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Colton and similar soils: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Colton

Setting

Landform: Outwash terraces Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope, base slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Sandy-skeletal glaciofluvial deposits

Typical profile

Ap - 0 to 7 inches: gravelly sandy loam

- Bs 7 to 14 inches: gravelly loamy sand
- BC 14 to 24 inches: very gravelly coarse sand
- C 24 to 65 inches: extremely gravelly coarse sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: A Ecological site: F146XY071ME - Sandy Hydric soil rating: No

Minor Components

Adams

Percent of map unit: 10 percent Landform: Outwash terraces Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Sheepscot

Percent of map unit: 3 percent Landform: Outwash terraces Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Croghan

Percent of map unit: 2 percent Landform: Outwash terraces Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Concave Hydric soil rating: No

22E—Colton gravelly sandy loam, 15 to 60 percent slopes

Map Unit Setting

National map unit symbol: 2yjft Elevation: 10 to 2,000 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Colton and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colton

Setting

Landform: Eskers, kames Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope, crest Down-slope shape: Convex Across-slope shape: Convex Parent material: Sandy-skeletal glaciofluvial deposits

Typical profile

Ap - 0 to 7 inches: gravelly sandy loam *Bs - 7 to 14 inches:* gravelly loamy sand *BC - 14 to 24 inches:* very gravelly coarse sand *C - 24 to 65 inches:* extremely gravelly coarse sand

Properties and qualities

Slope: 15 to 60 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Adams

Percent of map unit: 10 percent Landform: Kames, eskers Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Side slope, crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Sheepscot

Percent of map unit: 3 percent Landform: Kames, eskers Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Concave Hydric soil rating: No

Croghan

Percent of map unit: 2 percent Landform: Kames, eskers Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

36A—Adams loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2x1c9 Elevation: 10 to 2,000 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Adams and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams

Setting

Landform: Outwash deltas Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Base slope *Down-slope shape:* Linear *Across-slope shape:* Linear *Parent material:* Sandy glaciofluvial deposits

Typical profile

Ap - 0 to 7 inches: loamy sand *Bs* - 7 to 21 inches: sand *BC* - 21 to 27 inches: sand *C* - 27 to 65 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3s Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Colton

Percent of map unit: 8 percent Landform: Outwash deltas Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Base slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Croghan

Percent of map unit: 5 percent Landform: Outwash deltas Landform position (two-dimensional): Backslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Nicholville

Percent of map unit: 2 percent Landform: Outwash deltas Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Convex Hydric soil rating: No

36B—Adams loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2wqnc Elevation: 10 to 2,000 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Adams and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams

Setting

Landform: Outwash deltas Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Sandy glaciofluvial deposits

Typical profile

Ap - 0 to 7 inches: loamy sand *Bs* - 7 to 21 inches: sand *BC* - 21 to 27 inches: sand *C* - 27 to 65 inches: sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3s Hydrologic Soil Group: A Ecological site: F144BY601ME - Dry Sand Hydric soil rating: No

Minor Components

Croghan

Percent of map unit: 5 percent Landform: Outwash deltas Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Concave Hydric soil rating: No

Colton

Percent of map unit: 5 percent Landform: Outwash deltas Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Base slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Nicholville

Percent of map unit: 3 percent Landform: Outwash deltas Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Sheepscot

Percent of map unit: 2 percent Landform: Outwash deltas Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

36C—Adams loamy sand, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2wqn8 Elevation: 10 to 2,000 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Adams and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams

Setting

Landform: Outwash terraces Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Linear Parent material: Sandy glaciofluvial deposits

Typical profile

Ap - 0 to 7 inches: loamy sand *Bs* - 7 to 21 inches: sand *BC* - 21 to 27 inches: sand *C* - 27 to 65 inches: sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: A Ecological site: F144BY601ME - Dry Sand Hydric soil rating: No

Minor Components

Colton

Percent of map unit: 8 percent Landform: Outwash terraces Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope, base slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Croghan

Percent of map unit: 3 percent Landform: Outwash terraces Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Concave Hydric soil rating: No

Sheepscot

Percent of map unit: 2 percent Landform: Outwash terraces Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Nicholville

Percent of map unit: 2 percent Landform: Outwash terraces Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

36E—Adams loamy sand, 15 to 60 percent slopes

Map Unit Setting

National map unit symbol: 9fjc Elevation: 150 to 2,200 feet Mean annual precipitation: 30 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 70 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Adams and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams

Setting

Parent material: Sandy outwash derived mainly from granite, gneiss and schist

Typical profile

- H1 0 to 6 inches: loamy sand
- H2 6 to 26 inches: sand
- H3 26 to 65 inches: sand

Properties and qualities

Slope: 15 to 60 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Available water supply, 0 to 60 inches: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: A Ecological site: F144BY601ME - Dry Sand Hydric soil rating: No

Minor Components

Not named

Percent of map unit: 5 percent Hydric soil rating: No

Croghan

Percent of map unit: 4 percent Hydric soil rating: No

Kinsman

Percent of map unit: 3 percent Landform: Depressions Hydric soil rating: Yes

Pillsbury

Percent of map unit: 3 percent Landform: Ravines Hydric soil rating: Yes

56C—Becket fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w9pl Elevation: 200 to 1,380 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of statewide importance

Map Unit Composition

Becket and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Becket

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam

Bs1 - 7 to 14 inches: fine sandy loam

Bs2 - 14 to 24 inches: gravelly sandy loam

BC - 24 to 33 inches: gravelly sandy loam

Cd - 33 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3e Hydrologic Soil Group: C Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods) Hydric soil rating: No

Minor Components

Skerry

Percent of map unit: 6 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions Down-slope shape: Convex, concave Across-slope shape: Linear, concave Hydric soil rating: No

Tunbridge

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Pillsbury

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes Monadnock

Percent of map unit: 2 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

56D—Becket fine sandy loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2w9pm Elevation: 260 to 1,440 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Becket and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Becket

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam

Bs1 - 7 to 14 inches: fine sandy loam *Bs2 - 14 to 24 inches:* gravelly sandy loam *BC - 24 to 33 inches:* gravelly sandy loam *Cd - 33 to 65 inches:* gravelly loamy sand

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: C Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods) Hydric soil rating: No

Minor Components

Skerry

Percent of map unit: 6 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Convex, concave Across-slope shape: Convex, concave Hydric soil rating: No

Tunbridge

Percent of map unit: 5 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Pillsbury

Percent of map unit: 2 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Monadnock

Percent of map unit: 2 percent

Custom Soil Resource Report

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

57B—Becket fine sandy loam, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w9pn Elevation: 230 to 1,540 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Becket, very stony, and similar soils: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Becket, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

E - 2 to 4 inches: fine sandy loam

Bhs - 4 to 5 inches: fine sandy loam

Bs1 - 5 to 7 inches: fine sandy loam

Bs2 - 7 to 14 inches: fine sandy loam

Bs3 - 14 to 24 inches: gravelly sandy loam

BC - 24 to 33 inches: gravelly sandy loam

Cd - 33 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent Surface area covered with cobbles, stones or boulders: 1.1 percent Depth to restrictive feature: 21 to 43 inches to densic material Drainage class: Well drained

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods) Hydric soil rating: No

Minor Components

Skerry, very stony

Percent of map unit: 6 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Convex, concave Across-slope shape: Linear, concave Hydric soil rating: No

Pillsbury, very stony

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Tunbridge, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Monadnock, very stony

Percent of map unit: 2 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

57C—Becket fine sandy loam, 8 to 15 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w9pp Elevation: 200 to 1,570 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Becket, very stony, and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Becket, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material *E - 2 to 4 inches:* fine sandy loam

Bhs - 4 to 5 inches: fine sandy loam

Bs1 - 5 to 7 inches: fine sandy loam

Bs2 - 7 to 14 inches: fine sandy loam

Bs3 - 14 to 24 inches: gravelly sandy loam

BC - 24 to 33 inches: gravelly sandy loam

Cd - 33 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 21 to 43 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods) Hydric soil rating: No

Minor Components

Skerry, very stony

Percent of map unit: 5 percent
Landform: Mountains, hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope
Microfeatures of landform position: Closed depressions, closed depressions, open depressions
Down-slope shape: Convex, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

Tunbridge, very stony

Percent of map unit: 5 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Pillsbury, very stony

Percent of map unit: 3 percent

Landform: Mountains, hills

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope

Microfeatures of landform position: Closed depressions, closed depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Monadnock, very stony

Percent of map unit: 2 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

57D—Becket fine sandy loam, 15 to 25 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w9pq Elevation: 330 to 1,710 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Becket, very stony, and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Becket, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

E - 2 to 4 inches: fine sandy loam

Bhs - 4 to 5 inches: fine sandy loam

Bs1 - 5 to 7 inches: fine sandy loam

Bs2 - 7 to 14 inches: fine sandy loam

Bs3 - 14 to 24 inches: gravelly sandy loam

BC - 24 to 33 inches: gravelly sandy loam

Cd - 33 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 15 to 25 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 21 to 43 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods) Hydric soil rating: No

Minor Components

Lyman, very stony

Percent of map unit: 5 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Skerry, very stony

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Convex, concave Across-slope shape: Convex, concave Hydric soil rating: No

Monadnock, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Pillsbury, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

57E—Becket fine sandy loam, 25 to 35 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w9ps Elevation: 460 to 2,030 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Becket, very stony, and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Becket, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

E - 2 to 4 inches: fine sandy loam

Bhs - 4 to 5 inches: fine sandy loam

Bs1 - 5 to 7 inches: fine sandy loam

Bs2 - 7 to 14 inches: fine sandy loam

Bs3 - 14 to 24 inches: gravelly sandy loam

BC - 24 to 33 inches: gravelly sandy loam

Cd - 33 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 25 to 35 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 21 to 43 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: C Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods) Hydric soil rating: No

Minor Components

Lyman, very stony

Percent of map unit: 5 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Skerry, very stony

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Convex, concave Across-slope shape: Convex, concave Hydric soil rating: No

Pillsbury, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Monadnock, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

61B—Tunbridge-Lyman-Rock outcrop complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2tv97 Elevation: 160 to 3,480 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 60 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Tunbridge, very stony, and similar soils: 41 percent *Lyman, very stony, and similar soils:* 30 percent *Rock outcrop:* 17 percent *Minor components:* 12 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tunbridge, Very Stony

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Shoulder, backslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material

Oa - 3 to 5 inches: highly decomposed plant material

E - 5 to 8 inches: fine sandy loam

Bhs - 8 to 11 inches: fine sandy loam

Bs - 11 to 26 inches: fine sandy loam

BC - 26 to 28 inches: fine sandy loam

R - 28 to 38 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Hydric soil rating: No

Description of Lyman, Very Stony

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest Down-slope shape: Convex Across-slope shape: Convex Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 10 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent Depth to restrictive feature: 0 inches to lithic bedrock Capacity of the most limiting layer to transmit water (Ksat): Very low to very high (0.00 to 14.17 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8s Hydric soil rating: Unranked

Minor Components

Peru, very stony

Percent of map unit: 5 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: No

Moosilauke, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Monadnock, very stony

Percent of map unit: 2 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Peacham, very stony

Percent of map unit: 2 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

61C—Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2trpj Elevation: 160 to 3,480 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 60 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Tunbridge, very stony, and similar soils: 39 percent *Lyman, very stony, and similar soils:* 30 percent *Rock outcrop:* 19 percent *Minor components:* 12 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tunbridge, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, mountainbase, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material *Oa - 3 to 5 inches:* highly decomposed plant material

E - 5 to 8 inches: fine sandy loam

Bhs - 8 to 11 inches: fine sandy loam

Bs - 11 to 26 inches: fine sandy loam

BC - 26 to 28 inches: fine sandy loam

R - 28 to 38 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent Surface area covered with cobbles, stones or boulders: 1.5 percent Depth to restrictive feature: 20 to 40 inches to lithic bedrock Drainage class: Well drained

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr) Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Ecological site: F144BY702ME - Shallow and Moderately-deep Till Hydric soil rating: No

Description of Lyman, Very Stony

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank,

mountainbase, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent

Surface area covered with cobbles, stones or boulders: 1.5 percent

Depth to restrictive feature: 11 to 24 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: F144BY702ME - Shallow and Moderately-deep Till Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, mountainbase, side slope, crest Down-slope shape: Convex Across-slope shape: Convex Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 10 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent Depth to restrictive feature: 0 inches to lithic bedrock Capacity of the most limiting layer to transmit water (Ksat): Very low to very high (0.00 to 14.17 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8s Hydric soil rating: Unranked

Minor Components

Peru, very stony

Percent of map unit: 5 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountaintop, mountainflank, mountainbase, side slope, crest Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: No

Moosilauke, very stony

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountaintop, mountainflank, mountainbase, side slope, crest Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Monadnock, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, mountainbase, side slope, crest *Down-slope shape:* Convex *Across-slope shape:* Convex *Hydric soil rating:* No

61D—Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2trpk Elevation: 520 to 1,970 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 60 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Tunbridge, very stony, and similar soils: 40 percent *Lyman, very stony, and similar soils:* 29 percent *Rock outcrop:* 18 percent *Minor components:* 13 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tunbridge, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material

Oa - 3 to 5 inches: highly decomposed plant material

E - 5 to 8 inches: fine sandy loam

Bhs - 8 to 11 inches: fine sandy loam

Bs - 11 to 26 inches: fine sandy loam

BC - 26 to 28 inches: fine sandy loam

R - 28 to 38 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent Surface area covered with cobbles, stones or boulders: 1.5 percent Depth to restrictive feature: 20 to 40 inches to lithic bedrock Drainage class: Well drained

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr) Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Ecological site: F144BY702ME - Shallow and Moderately-deep Till Hydric soil rating: No

Description of Lyman, Very Stony

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent

Surface area covered with cobbles, stones or boulders: 1.5 percent

Depth to restrictive feature: 11 to 24 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: F144BY702ME - Shallow and Moderately-deep Till Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest Down-slope shape: Convex Across-slope shape: Convex Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 10 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent Depth to restrictive feature: 0 inches to lithic bedrock Capacity of the most limiting layer to transmit water (Ksat): Very low to very high (0.00 to 14.17 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8s Hydric soil rating: Unranked

Minor Components

Peru, very stony

Percent of map unit: 6 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: No

Moosilauke, very stony

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Monadnock, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

61E—Tunbridge-Lyman-Rock outcrop complex, 25 to 60 percent slopes

Map Unit Setting

National map unit symbol: 2trph Elevation: 430 to 2,490 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 60 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Tunbridge, very stony, and similar soils: 42 percent *Lyman, very stony, and similar soils:* 31 percent *Rock outcrop:* 17 percent *Minor components:* 10 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tunbridge, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 38 inches: bedrock

Properties and qualities

Slope: 25 to 60 percent Surface area covered with cobbles, stones or boulders: 1.5 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock Drainage class: Well drained Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr) Depth to water table: More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None *Available water supply, 0 to 60 inches:* Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: C Ecological site: F144BY702ME - Shallow and Moderately-deep Till Hydric soil rating: No

Description of Lyman, Very Stony

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 25 to 60 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Ecological site: F144BY702ME - Shallow and Moderately-deep Till Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Mountains, hills Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, free face, side slope, free face Down-slope shape: Convex

Across-slope shape: Convex Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 10 inches: bedrock

Properties and qualities

Slope: 25 to 60 percent Depth to restrictive feature: 0 inches to lithic bedrock Capacity of the most limiting layer to transmit water (Ksat): Very low to very high (0.00 to 14.17 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8s Hydric soil rating: Unranked

Minor Components

Peru, very stony

Percent of map unit: 6 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: No

Moosilauke, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainflank, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Monadnock, very stony

Percent of map unit: 1 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

90C—Tunbridge-Lyman complex, 8 to 15 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trpn Elevation: 430 to 1,870 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 60 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Tunbridge, rocky, and similar soils: 50 percent *Lyman, rocky, and similar soils:* 33 percent *Minor components:* 17 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tunbridge, Rocky

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, mountainbase, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material

Oa - 3 to 5 inches: highly decomposed plant material

E - 5 to 8 inches: fine sandy loam

Bhs - 8 to 11 inches: fine sandy loam

Bs - 11 to 26 inches: fine sandy loam

BC - 26 to 28 inches: fine sandy loam

R - 28 to 38 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3e Hydrologic Soil Group: C Ecological site: F144BY702ME - Shallow and Moderately-deep Till Hydric soil rating: No

Description of Lyman, Rocky

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank,

mountainbase, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: D Ecological site: F144BY702ME - Shallow and Moderately-deep Till Hydric soil rating: No

Minor Components

Peru, rocky

Percent of map unit: 9 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountaintop, mountainflank, mountainbase, side slope, crest *Microfeatures of landform position:* Closed depressions, closed depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: No

Cabot, rocky

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountaintop, mountainflank, mountainbase, side slope, crest Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Berkshire, rocky

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, mountainbase, side slope, crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, mountainbase, side slope, crest Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: Unranked

90D—Tunbridge-Lyman complex, 15 to 25 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trpm Elevation: 520 to 1,770 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 60 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Tunbridge, rocky, and similar soils: 50 percent *Lyman, rocky, and similar soils:* 33 percent *Minor components:* 17 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tunbridge, Rocky

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material *Oa - 3 to 5 inches:* highly decomposed plant material *E - 5 to 8 inches:* fine sandy loam *Bhs - 8 to 11 inches:* fine sandy loam *Bs - 11 to 26 inches:* fine sandy loam *BC - 26 to 28 inches:* fine sandy loam *R - 28 to 38 inches:* bedrock

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: C Ecological site: F144BY702ME - Shallow and Moderately-deep Till Hydric soil rating: No

Description of Lyman, Rocky

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest Down-slope shape: Convex Across-slope shape: Convex *Parent material:* Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6e Hydrologic Soil Group: D Ecological site: F144BY702ME - Shallow and Moderately-deep Till Hydric soil rating: No

Minor Components

Peru, rocky

Percent of map unit: 10 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: No

Cabot, rocky

Percent of map unit: 5 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Berkshire, rocky

Percent of map unit: 1 percent

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest

Down-slope shape: Convex *Across-slope shape:* Convex *Hydric soil rating:* No

Rock outcrop

Percent of map unit: 1 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: Unranked

102—Sunday loamy sand

Map Unit Setting

National map unit symbol: 9ffs Elevation: 10 to 1,750 feet Mean annual precipitation: 34 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 80 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Sunday and similar soils: 90 percent Minor components: 10 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sunday

Typical profile

H1 - 0 to 9 inches: loamy sand *H2 - 9 to 65 inches:* sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: NoneFrequent

Frequency of ponding: None *Available water supply, 0 to 60 inches:* Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3s Hydrologic Soil Group: A Ecological site: F144BY110ME - Broad Floodplain Riparian Complex Hydric soil rating: No

Minor Components

Not named

Percent of map unit: 4 percent Hydric soil rating: No

Podunk

Percent of map unit: 3 percent Hydric soil rating: No

Ondawa

Percent of map unit: 3 percent Hydric soil rating: No

104—Podunk fine sandy loam, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2qgvv Elevation: 10 to 1,480 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 54 degrees F Frost-free period: 80 to 160 days Farmland classification: All areas are prime farmland

Map Unit Composition

Podunk and similar soils: 86 percent Minor components: 14 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Podunk

Setting

Landform: Flood plains Landform position (three-dimensional): Tread Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Coarse-loamy alluvium derived from schist and/or coarse-loamy alluvium derived from quartzite and/or coarse-loamy alluvium derived from granite and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam

Bw1 - 10 to 18 inches: fine sandy loam Bw2 - 18 to 30 inches: fine sandy loam C - 30 to 65 inches: loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2w Hydrologic Soil Group: B/D Ecological site: F144BY110ME - Broad Floodplain Riparian Complex Hydric soil rating: No

Minor Components

Rumney

Percent of map unit: 5 percent Landform: Flood plains Landform position (three-dimensional): Tread Microfeatures of landform position: Closed depressions Down-slope shape: Linear, concave Across-slope shape: Linear, concave Hydric soil rating: Yes

Ondawa

Percent of map unit: 4 percent Landform: Flood plains Landform position (three-dimensional): Tread Microfeatures of landform position: Rises Down-slope shape: Linear, convex Across-slope shape: Linear, convex Hydric soil rating: No

Medomak

Percent of map unit: 2 percent Landform: Flood plains Microfeatures of landform position: Closed depressions Down-slope shape: Linear Across-slope shape: Linear, concave Hydric soil rating: Yes

Sunday

Percent of map unit: 2 percent Landform: Flood plains Landform position (three-dimensional): Tread Microfeatures of landform position: Rises Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Charles

Percent of map unit: 1 percent Landform: Flood plains Landform position (three-dimensional): Tread Microfeatures of landform position: Closed depressions Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

105—Rumney fine sandy loam, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2qgvs Elevation: 0 to 2,440 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 54 degrees F Frost-free period: 80 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Rumney and similar soils: 84 percent Minor components: 16 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rumney

Setting

Landform: Flood plains Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Coarse-loamy alluvium derived from schist and/or coarse-loamy alluvium derived from quartzite and/or coarse-loamy alluvium derived from granite and gneiss

Typical profile

Ap - 0 to 9 inches: fine sandy loam Bg1 - 9 to 20 inches: fine sandy loam Bg2 - 20 to 30 inches: sandy loam Cg - 30 to 65 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: FrequentNone

Frequency of ponding: None *Available water supply, 0 to 60 inches:* Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4w Hydrologic Soil Group: B/D Ecological site: F144BY110ME - Broad Floodplain Riparian Complex Hydric soil rating: Yes

Minor Components

Medomak

Percent of map unit: 6 percent Landform: Flood plains Microfeatures of landform position: Closed depressions Down-slope shape: Linear Across-slope shape: Concave Hydric soil rating: Yes

Podunk

Percent of map unit: 5 percent Landform: Flood plains Landform position (three-dimensional): Tread Microfeatures of landform position: Rises Down-slope shape: Linear, convex Across-slope shape: Linear, convex Hydric soil rating: No

Charles

Percent of map unit: 3 percent Landform: Flood plains Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

Ondawa

Percent of map unit: 2 percent Landform: Flood plains Landform position (three-dimensional): Tread Microfeatures of landform position: Rises Down-slope shape: Linear, convex Across-slope shape: Linear, convex Hydric soil rating: No

201—Ondawa fine sandy loam, 0 to 3 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2qgvy

Elevation: 0 to 1,800 feet *Mean annual precipitation:* 31 to 95 inches *Mean annual air temperature:* 27 to 54 degrees F *Frost-free period:* 80 to 160 days *Farmland classification:* All areas are prime farmland

Map Unit Composition

Ondawa and similar soils: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Ondawa

Setting

Landform: Flood plains Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Coarse-loamy alluvium derived from schist and/or coarse-loamy alluvium derived from quartzite and/or coarse-loamy alluvium derived from granite and gneiss

Typical profile

Ap - 0 to 9 inches: fine sandy loam *Bw - 9 to 30 inches:* fine sandy loam *C - 30 to 65 inches:* loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 1 Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Podunk

Percent of map unit: 8 percent Landform: Flood plains Landform position (three-dimensional): Tread Microfeatures of landform position: Closed depressions Down-slope shape: Linear, concave Across-slope shape: Linear, concave Hydric soil rating: No

Sunday

Percent of map unit: 3 percent

Landform: Flood plains Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Rumney

Percent of map unit: 3 percent Landform: Flood plains Landform position (three-dimensional): Tread Microfeatures of landform position: Closed depressions Down-slope shape: Linear, concave Across-slope shape: Linear, concave Hydric soil rating: Yes

Adams

Percent of map unit: 1 percent Landform: Flood plains Landform position (three-dimensional): Tread Microfeatures of landform position: Rises Down-slope shape: Linear, convex Across-slope shape: Linear, convex Hydric soil rating: No

254B—Hermon and Monadnock soils, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2x9pc Elevation: 0 to 1,380 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 54 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of statewide importance

Map Unit Composition

Hermon and similar soils: 45 percent Monadnock and similar soils: 40 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hermon

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Sandy and gravelly supraglacial meltout till derived from granite and gneiss

Typical profile

Ap - 0 to 9 inches: sandy loam Bs1 - 9 to 16 inches: very gravelly sandy loam Bs2 - 16 to 32 inches: extremely gravelly loamy sand C - 32 to 65 inches: very gravelly coarse sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2s Hydrologic Soil Group: A Hydric soil rating: No

Description of Monadnock

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Down-slope shape: Convex Across-slope shape: Convex

Parent material: Loamy supraglacial meltout till derived from granite and gneiss and/or mica schist and/or phyllite over sandy and gravelly supraglacial meltout till derived from granite and gneiss and/or mica schist and/or phyllite

Typical profile

Ap - 0 to 7 inches: fine sandy loam

Bs1 - 7 to 9 inches: fine sandy loam

Bs2 - 9 to 19 inches: gravelly fine sandy loam

BC - 19 to 22 inches: gravelly fine sandy loam

2C1 - 22 to 42 inches: gravelly loamy sand

2C2 - 42 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 15 to 30 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.3 inches)
Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2s Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Lyme

Percent of map unit: 5 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Colton

Percent of map unit: 5 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Peru

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Convex, concave Across-slope shape: Linear, concave Hydric soil rating: No

Waumbek

Percent of map unit: 2 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Convex, concave Across-slope shape: Linear, concave Hydric soil rating: No

254D—Monadnock and Hermon soils, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2x9pf Elevation: 490 to 1,380 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 54 degrees F Frost-free period: 90 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Monadnock and similar soils: 45 percent Hermon and similar soils: 40 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Monadnock

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial meltout till derived from granite and gneiss and/or mica schist and/or phyllite over sandy and gravelly supraglacial meltout till derived from granite and gneiss and/or mica schist and/or phyllite

Typical profile

Ap - 0 to 7 inches: fine sandy loam

Bs1 - 7 to 9 inches: fine sandy loam

Bs2 - 9 to 19 inches: gravelly fine sandy loam

BC - 19 to 22 inches: gravelly fine sandy loam

2C1 - 22 to 42 inches: gravelly loamy sand

2C2 - 42 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 15 to 25 percent

Depth to restrictive feature: 15 to 30 inches to strongly contrasting textural stratification

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: B Hydric soil rating: No

Description of Hermon

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Sandy and gravelly supraglacial meltout till derived from granite and gneiss

Typical profile

Ap - 0 to 9 inches: sandy loam Bs1 - 9 to 16 inches: very gravelly sandy loam Bs2 - 16 to 32 inches: extremely gravelly loamy sand C - 32 to 65 inches: very gravelly coarse sand

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Waumbek

Percent of map unit: 8 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Convex, concave Across-slope shape: Convex, concave Hydric soil rating: No

Lyme

Percent of map unit: 7 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope

Custom Soil Resource Report

Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

255B—Hermon and Monadnock soils, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2x9pg Elevation: 0 to 1,380 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 54 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Hermon, very stony, and similar soils: 45 percent *Monadnock, very stony, and similar soils:* 40 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Hermon, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Sandy and gravelly supraglacial meltout till derived from granite and gneiss

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material *E - 2 to 3 inches:* sandy loam *Bhs - 3 to 9 inches:* sandy loam *Bs1 - 9 to 16 inches:* very gravelly sandy loam *Bs2 - 16 to 32 inches:* extremely gravelly loamy sand *C - 32 to 65 inches:* very gravelly coarse sand

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.03 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None *Frequency of ponding:* None *Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm) *Available water supply, 0 to 60 inches:* Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: A Hydric soil rating: No

Description of Monadnock, Very Stony

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial meltout till derived from granite and gneiss and/or mica schist and/or phyllite over sandy and gravelly supraglacial meltout till derived from granite and gneiss and/or mica schist and/or phyllite

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material

E - 3 to 8 inches: fine sandy loam

Bs1 - 8 to 10 inches: fine sandy loam

Bs2 - 10 to 12 inches: fine sandy loam

Bs3 - 12 to 22 inches: gravelly fine sandy loam

BC - 22 to 25 inches: gravelly fine sandy loam

2C1 - 25 to 45 inches: gravelly loamy sand

2C2 - 45 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 18 to 36 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high

(0.14 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Colton, very stony Percent of map unit: 5 percent Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Waumbek, very stony

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Convex, concave Across-slope shape: Linear, concave Hydric soil rating: No

Lyme, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Peru, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Convex, concave Across-slope shape: Linear, concave Hydric soil rating: No

255C—Hermon and Monadnock soils, 8 to 15 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2x9ph Elevation: 0 to 1,610 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 54 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Hermon, very stony, and similar soils: 45 percent *Monadnock, very stony, and similar soils:* 40 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Hermon, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Sandy and gravelly supraglacial meltout till derived from granite and gneiss

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material

E - 2 to 3 inches: sandy loam

Bhs - 3 to 9 inches: sandy loam

Bs1 - 9 to 16 inches: very gravelly sandy loam

Bs2 - 16 to 32 inches: extremely gravelly loamy sand

C - 32 to 65 inches: very gravelly coarse sand

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: A Hydric soil rating: No

Description of Monadnock, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex *Parent material:* Loamy supraglacial meltout till derived from granite and gneiss and/or mica schist and/or phyllite over sandy and gravelly supraglacial meltout till derived from granite and gneiss and/or mica schist and/or phyllite

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material

E - 3 to 8 inches: fine sandy loam

Bs1 - 8 to 10 inches: fine sandy loam

Bs2 - 10 to 12 inches: fine sandy loam

Bs3 - 12 to 22 inches: gravelly fine sandy loam

BC - 22 to 25 inches: gravelly fine sandy loam

2C1 - 25 to 45 inches: gravelly loamy sand

2C2 - 45 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 18 to 36 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Waumbek, very stony

Percent of map unit: 5 percent

Landform: Mountains, hills

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope

Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions

Down-slope shape: Convex, concave

Across-slope shape: Linear, concave

Hydric soil rating: No

Lyme, very stony

Percent of map unit: 5 percent

Landform: Mountains, hills

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope

Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave Hydric soil rating: Yes

Colton, very stony

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Peru, very stony

Percent of map unit: 1 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions Down-slope shape: Convex, concave Across-slope shape: Linear, concave Hydric soil rating: No

255D—Monadnock and Hermon soils, 15 to 25 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2x9pj Elevation: 430 to 1,540 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 54 degrees F Frost-free period: 90 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Monadnock, very stony, and similar soils: 45 percent Hermon, very stony, and similar soils: 40 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Monadnock, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial meltout till derived from granite and gneiss and/or mica schist and/or phyllite over sandy and gravelly supraglacial meltout till derived from granite and gneiss and/or mica schist and/or phyllite

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material

E - 3 to 8 inches: fine sandy loam

Bs1 - 8 to 10 inches: fine sandy loam

Bs2 - 10 to 12 inches: fine sandy loam

Bs3 - 12 to 22 inches: gravelly fine sandy loam

BC - 22 to 25 inches: gravelly fine sandy loam

2C1 - 25 to 45 inches: gravelly loamy sand

2C2 - 45 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 15 to 25 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 18 to 36 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: B Hydric soil rating: No

Description of Hermon, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Sandy and gravelly supraglacial meltout till derived from granite and gneiss

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material

E - 2 to 3 inches: sandy loam

Bhs - 3 to 9 inches: sandy loam

Bs1 - 9 to 16 inches: very gravelly sandy loam

Bs2 - 16 to 32 inches: extremely gravelly loamy sand

C - 32 to 65 inches: very gravelly coarse sand

Properties and qualities

Slope: 15 to 25 percent

Surface area covered with cobbles, stones or boulders: 1.1 percent Depth to restrictive feature: More than 80 inches Drainage class: Somewhat excessively drained Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.03 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Waumbek, very stony

Percent of map unit: 8 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Convex, concave Across-slope shape: Convex, concave Hydric soil rating: No

Lyme, very stony

Percent of map unit: 7 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

255E—Monadnock and Hermon soils, 25 to 35 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2x9pl Elevation: 490 to 1,710 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 54 degrees F Frost-free period: 90 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Monadnock, very stony, and similar soils: 45 percent Hermon, very stony, and similar soils: 40 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Monadnock, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex

Parent material: Loamy supraglacial meltout till derived from granite and gneiss and/or mica schist and/or phyllite over sandy and gravelly supraglacial meltout till derived from granite and gneiss and/or mica schist and/or phyllite

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material

E - 3 to 8 inches: fine sandy loam

Bs1 - 8 to 10 inches: fine sandy loam

Bs2 - 10 to 12 inches: fine sandy loam

Bs3 - 12 to 22 inches: gravelly fine sandy loam

BC - 22 to 25 inches: gravelly fine sandy loam

2C1 - 25 to 45 inches: gravelly loamy sand

2C2 - 45 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 25 to 35 percent

Surface area covered with cobbles, stones or boulders: 1.1 percent

Depth to restrictive feature: 18 to 36 inches to strongly contrasting textural stratification

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: B Hydric soil rating: No

Description of Hermon, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex *Parent material:* Sandy and gravelly supraglacial meltout till derived from granite and gneiss

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material *E - 2 to 3 inches:* sandy loam *Bhs - 3 to 9 inches:* sandy loam *Bs1 - 9 to 16 inches:* very gravelly sandy loam *Bs2 - 16 to 32 inches:* extremely gravelly loamy sand *C - 32 to 65 inches:* very gravelly coarse sand

Properties and qualities

Slope: 25 to 35 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Waumbek, very stony

Percent of map unit: 8 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Convex, concave Across-slope shape: Convex, concave Hydric soil rating: No

Lyme, very stony

Percent of map unit: 7 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

298—Pits, gravel

Map Unit Setting

National map unit symbol: 9fh5 Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 55 degrees F Frost-free period: 30 to 250 days Farmland classification: Not prime farmland

Map Unit Composition

Pits: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

299—Udorthents, smoothed

Map Unit Setting

National map unit symbol: 9fh6 Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 55 degrees F Frost-free period: 60 to 250 days Farmland classification: Not prime farmland

Map Unit Composition

Udorthents: 90 percent Minor components: 10 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Miscellaneous areas

Percent of map unit: 10 percent Hydric soil rating: No

347B—Lyme and Moosilauke soils, 3 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 9fhx Elevation: 460 to 4,000 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 55 degrees F *Frost-free period:* 60 to 160 days *Farmland classification:* Not prime farmland

Map Unit Composition

Lyme and similar soils: 55 percent *Moosilauke and similar soils:* 30 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Lyme

Setting

Landform: Ground moraines Parent material: Till

Typical profile

Oe - 0 to 6 inches: mucky peat *H1 - 6 to 11 inches:* cobbly fine sandy loam *H2 - 11 to 22 inches:* cobbly fine sandy loam *H3 - 22 to 65 inches:* gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 6.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: A/D Ecological site: F144BY305ME - Wet Loamy Flat Hydric soil rating: Yes

Description of Moosilauke

Setting

Landform: Ground moraines Parent material: Glacial drift

Typical profile

H1 - 0 to 5 inches: fine sandy loam *H2 - 5 to 22 inches:* fine sandy loam *H3 - 22 to 65 inches:* sand

Properties and qualities

Slope: 3 to 8 percent Surface area covered with cobbles, stones or boulders: 1.6 percent Depth to restrictive feature: More than 80 inches Drainage class: Poorly drained Runoff class: Low Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr) Depth to water table: About 0 to 18 inches Frequency of flooding: None Frequency of ponding: None Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: A/D Ecological site: F144BY303ME - Acidic Swamp Hydric soil rating: Yes

Minor Components

Not named

Percent of map unit: 8 percent Hydric soil rating: No

Not named wet

Percent of map unit: 7 percent Landform: Depressions Hydric soil rating: Yes

558B—Skerry fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w9p8 Elevation: 260 to 1,210 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: All areas are prime farmland

Map Unit Composition

Skerry and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Skerry

Setting

Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainbase, interfluve Down-slope shape: Convex Across-slope shape: Linear Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Ap - 0 to 6 inches: fine sandy loam Bs1 - 6 to 20 inches: gravelly fine sandy loam Bs2 - 20 to 25 inches: gravelly fine sandy loam Cd1 - 25 to 34 inches: gravelly loamy sand Cd2 - 34 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 21 to 43 inches to densic material
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2w Hydrologic Soil Group: C/D Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods) Hydric soil rating: No

Minor Components

Colonel

Percent of map unit: 6 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope Landform position (three-dimensional): Mountainbase, interfluve Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Linear, concave Across-slope shape: Concave Hydric soil rating: No

Becket

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Brayton

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainbase, interfluve Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Hermon

Percent of map unit: 2 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

559B—Skerry fine sandy loam, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w9pc Elevation: 160 to 1,380 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Skerry, very stony, and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Skerry, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainbase, interfluve Down-slope shape: Convex Across-slope shape: Linear Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material

E - 2 to 4 inches: fine sandy loam

- Bhs 4 to 6 inches: fine sandy loam
- Bs1 6 to 20 inches: gravelly fine sandy loam
- Bs2 20 to 25 inches: gravelly fine sandy loam

Cd1 - 25 to 34 inches: gravelly loamy sand

Cd2 - 34 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent

Surface area covered with cobbles, stones or boulders: 1.1 percent *Depth to restrictive feature:* 21 to 43 inches to densic material

Drainage class: Moderately well drained Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr) Depth to water table: About 19 to 34 inches Frequency of flooding: None Frequency of ponding: None Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C/D Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods) Hydric soil rating: No

Minor Components

Pillsbury, very stony

Percent of map unit: 6 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainbase, interfluve Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Becket, very stony

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Colonel, very stony

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope Landform position (three-dimensional): Mountainbase, interfluve Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Linear, concave Across-slope shape: Concave Hydric soil rating: No

Monadnock, very stony

Percent of map unit: 1 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

559C—Skerry fine sandy loam, 8 to 15 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w9pd *Elevation:* 160 to 1,540 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Skerry, very stony, and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Skerry, Very Stony

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material

E - 2 to 4 inches: fine sandy loam

Bhs - 4 to 6 inches: fine sandy loam

Bs1 - 6 to 20 inches: gravelly fine sandy loam

Bs2 - 20 to 25 inches: gravelly fine sandy loam

Cd1 - 25 to 34 inches: gravelly loamy sand

Cd2 - 34 to 65 inches: gravelly loamy sand

Properties and gualities

Slope: 8 to 15 percent Surface area covered with cobbles, stones or boulders: 1.1 percent Depth to restrictive feature: 21 to 43 inches to densic material Drainage class: Moderately well drained Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr) Depth to water table: About 19 to 34 inches Frequency of flooding: None Frequency of ponding: None *Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm) Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C/D Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods) Hydric soil rating: No

Minor Components

Becket, very stony

Percent of map unit: 6 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Colonel, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions Down-slope shape: Linear, concave Across-slope shape: Concave Hydric soil rating: No

Monadnock, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Pillsbury, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

613—Croghan loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2wqnz Elevation: 150 to 2,300 feet Mean annual precipitation: 36 to 65 inches Mean annual air temperature: 37 to 46 degrees F Frost-free period: 90 to 135 days Farmland classification: Farmland of statewide importance

Map Unit Composition

Croghan and similar soils: 80 percent *Minor components:* 20 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Croghan

Setting

Landform: Outwash deltas Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Linear Parent material: Sandy glaciofluvial deposits

Typical profile

Ap - 0 to 7 inches: loamy fine sand Bs - 7 to 17 inches: loamy fine sand BC - 17 to 30 inches: fine sand C - 30 to 65 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2w Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Naumburg

Percent of map unit: 10 percent Landform: Outwash deltas Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Concave Hydric soil rating: No

Adams

Percent of map unit: 5 percent Landform: Outwash deltas Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Base slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Colton

Percent of map unit: 3 percent Landform: Outwash deltas Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Base slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Sheepscot

Percent of map unit: 2 percent Landform: Outwash deltas Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Tread Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

614—Kinsman sand

Map Unit Setting

National map unit symbol: 9fk3 Elevation: 10 to 2,800 feet Mean annual precipitation: 30 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 80 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Kinsman and similar soils: 90 percent

Minor components: 10 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Kinsman

Setting

Landform: Outwash terraces Parent material: Outwash

Typical profile

H1 - 0 to 8 inches: sand *H2 - 8 to 24 inches:* sand *H3 - 24 to 65 inches:* gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4w Hydrologic Soil Group: A/D Ecological site: F144BY303ME - Acidic Swamp Hydric soil rating: Yes

Minor Components

Croghan

Percent of map unit: 4 percent Hydric soil rating: No

Searsport

Percent of map unit: 3 percent Landform: Swamps Hydric soil rating: Yes

Chocorua

Percent of map unit: 3 percent Landform: Bogs Hydric soil rating: Yes

W-Water

Map Unit Composition Water: 100 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Merrimack and Belknap Counties, New Hampshire

5A—Rippowam very fine sandy loam, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 9dl8 Elevation: 200 to 790 feet Mean annual precipitation: 40 to 50 inches Mean annual air temperature: 45 to 52 degrees F Frost-free period: 100 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Rippowam, frequently flooded, and similar soils: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Rippowam, Frequently Flooded

Setting

Landform: Flood plains Down-slope shape: Linear Across-slope shape: Convex Parent material: Sandy and/or coarse-loamy alluvium derived from granite, gneiss or schist

Typical profile

H1 - 0 to 6 inches: very fine sandy loam *H2 - 6 to 26 inches:* very fine sandy loam *H3 - 26 to 65 inches:* fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4w Hydrologic Soil Group: A/D Ecological site: F144AY014CT - Wet Sandy Low Floodplain Hydric soil rating: Yes

Minor Components

Saco

Percent of map unit: 10 percent Landform: Flood plains

Down-slope shape: Concave *Across-slope shape:* Concave *Hydric soil rating:* Yes

Pootatuck

Percent of map unit: 5 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

22E—Colton gravelly sandy loam, 15 to 60 percent slopes

Map Unit Setting

National map unit symbol: 2yjft Elevation: 10 to 2,000 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Colton and similar soils: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Colton

Setting

Landform: Eskers, kames Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope, crest Down-slope shape: Convex Across-slope shape: Convex Parent material: Sandy-skeletal glaciofluvial deposits

Typical profile

Ap - 0 to 7 inches: gravelly sandy loam Bs - 7 to 14 inches: gravelly loamy sand BC - 14 to 24 inches: very gravelly coarse sand C - 24 to 65 inches: extremely gravelly coarse sand

Properties and qualities

Slope: 15 to 60 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) *Available water supply, 0 to 60 inches:* Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Adams

Percent of map unit: 10 percent Landform: Eskers, kames Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Side slope, crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Sheepscot

Percent of map unit: 3 percent Landform: Eskers, kames Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Concave Hydric soil rating: No

Croghan

Percent of map unit: 2 percent Landform: Kames, eskers Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

36A—Adams loamy sand, 0 to 3 percent slopes, wooded

Map Unit Setting

National map unit symbol: 2x1cb Elevation: 10 to 2,000 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Adams, wooded, and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams, Wooded

Setting

Landform: Outwash deltas Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Linear Parent material: Sandy glaciofluvial deposits

Typical profile

Oe - 0 to 4 inches: moderately decomposed plant material *E - 4 to 6 inches:* loamy sand *Bs - 6 to 21 inches:* sand *BC - 21 to 27 inches:* sand *C - 27 to 65 inches:* sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3s Hydrologic Soil Group: A Ecological site: F144BY601ME - Dry Sand Hydric soil rating: No

Minor Components

Croghan

Percent of map unit: 5 percent Landform: Outwash deltas Landform position (two-dimensional): Backslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Colton

Percent of map unit: 5 percent Landform: Outwash deltas Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Base slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Allagash

Percent of map unit: 3 percent Landform: Outwash terraces Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Side slope, base slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Nicholville

Percent of map unit: 2 percent Landform: Outwash terraces Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Convex Hydric soil rating: No

36B—Adams loamy sand, 3 to 8 percent slopes, wooded

Map Unit Setting

National map unit symbol: 2w40c Elevation: 250 to 2,940 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Adams, wooded, and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams, Wooded

Setting

Landform: Outwash deltas Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Base slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Sandy glaciofluvial deposits

Typical profile

Oe - 0 to 4 inches: moderately decomposed plant material *E - 4 to 6 inches:* loamy sand *Bs - 6 to 21 inches:* sand *BC - 21 to 27 inches:* sand *C - 27 to 65 inches:* sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3s Hydrologic Soil Group: A Ecological site: F144BY601ME - Dry Sand Hydric soil rating: No

Minor Components

Colton

Percent of map unit: 6 percent Landform: Outwash deltas Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Base slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Croghan

Percent of map unit: 5 percent Landform: Outwash deltas Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Allagash

Percent of map unit: 3 percent Landform: Outwash deltas Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Side slope, base slope Down-slope shape: Linear Across-slope shape: Convex Hydric soil rating: No

Nicholville

Percent of map unit: 1 percent Landform: Outwash deltas Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

36C—Adams loamy sand, 8 to 15 percent slopes, wooded

Map Unit Setting

National map unit symbol: 2w40d Elevation: 250 to 2,940 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Adams, wooded, and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams, Wooded

Setting

Landform: Eskers, outwash terraces Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope, crest Down-slope shape: Linear Across-slope shape: Convex Parent material: Sandy glaciofluvial deposits

Typical profile

Oe - 0 to 4 inches: moderately decomposed plant material *E - 4 to 6 inches:* loamy sand *Bs - 6 to 21 inches:* sand *BC - 21 to 27 inches:* sand *C - 27 to 65 inches:* sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 4e Hydrologic Soil Group: A Ecological site: F144BY601ME - Dry Sand Hydric soil rating: No

Minor Components

Colton

Percent of map unit: 7 percent Landform: Outwash terraces, eskers Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope, crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Croghan

Percent of map unit: 5 percent Landform: Outwash terraces, eskers Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Nicholville

Percent of map unit: 2 percent Landform: Outwash terraces, eskers Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Allagash

Percent of map unit: 1 percent Landform: Outwash terraces, eskers Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope, crest Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

36E—Adams loamy sand, 15 to 60 percent slopes, wooded

Map Unit Setting

National map unit symbol: 2wqns Elevation: 390 to 2,940 feet Mean annual precipitation: 40 to 50 inches Mean annual air temperature: 37 to 46 degrees F Frost-free period: 90 to 135 days Farmland classification: Not prime farmland

Map Unit Composition

Adams, wooded, and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams, Wooded

Setting

Landform: Outwash terraces, kames Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope, crest Down-slope shape: Linear Across-slope shape: Linear Parent material: Sandy glaciofluvial deposits

Typical profile

Oe - 0 to 4 inches: moderately decomposed plant material

E - 4 to 6 inches: loamy sand

Bs - 6 to 21 inches: sand

BC - 21 to 27 inches: sand

C - 27 to 65 inches: sand

Properties and qualities

Slope: 15 to 60 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Colton

Percent of map unit: 10 percent Landform: Kames, outwash terraces Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope, crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Champlain

Percent of map unit: 5 percent Landform: Kames, outwash terraces Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope, crest Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Croghan

Percent of map unit: 3 percent Landform: Outwash terraces, kames Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Concave Hydric soil rating: No

Hermon, very stony

Percent of map unit: 2 percent Landform: Kames Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Base slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

57C—Becket fine sandy loam, 8 to 15 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w9pp Elevation: 200 to 1,570 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Becket, very stony, and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Becket, Very Stony

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material *E - 2 to 4 inches:* fine sandy loam *Bhs - 4 to 5 inches:* fine sandy loam *Bs1 - 5 to 7 inches:* fine sandy loam

Bs2 - 7 to 14 inches: fine sandy loam Bs3 - 14 to 24 inches: gravelly sandy loam BC - 24 to 33 inches: gravelly sandy loam Cd - 33 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 21 to 43 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods) Hydric soil rating: No

Minor Components

Skerry, very stony

Percent of map unit: 5 percent
Landform: Mountains, hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope
Microfeatures of landform position: Open depressions, closed depressions, closed depressions, open depressions
Down-slope shape: Convex, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

Tunbridge, very stony

Percent of map unit: 5 percent Landform: Hills, mountains Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Pillsbury, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Open depressions, closed depressions, closed depressions, open depressions
Down-slope shape: Concave *Across-slope shape:* Concave *Hydric soil rating:* Yes

Monadnock, very stony

Percent of map unit: 2 percent Landform: Hills, mountains Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

57D—Becket fine sandy loam, 15 to 25 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w9pq Elevation: 330 to 1,710 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Becket, very stony, and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Becket, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

E - 2 to 4 inches: fine sandy loam

Bhs - 4 to 5 inches: fine sandy loam

Bs1 - 5 to 7 inches: fine sandy loam

Bs2 - 7 to 14 inches: fine sandy loam

Bs3 - 14 to 24 inches: gravelly sandy loam

BC - 24 to 33 inches: gravelly sandy loam

Cd - 33 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 15 to 25 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 21 to 43 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods) Hydric soil rating: No

Minor Components

Lyman, very stony

Percent of map unit: 5 percent Landform: Hills, mountains Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Skerry, very stony

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Convex, concave Across-slope shape: Convex, concave Hydric soil rating: No

Pillsbury, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Monadnock, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

77C—Marlow fine sandy loam, 8 to 15 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2ty5p Elevation: 520 to 1,900 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 55 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Marlow, very stony, and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Marlow, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy lodgment till derived from granite and/or loamy lodgment till derived from mica schist and/or loamy lodgment till derived from phyllite

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material A - 2 to 5 inches: fine sandy loam E - 5 to 8 inches: fine sandy loam

Bs1 - 8 to 15 inches: fine sandy loam

Bs2 - 15 to 19 inches: fine sandy loam

BC - 19 to 33 inches: gravelly fine sandy loam

Cd - 33 to 65 inches: fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 20 to 41 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None *Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm) *Available water supply, 0 to 60 inches:* Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods) Hydric soil rating: No

Minor Components

Peru, very stony

Percent of map unit: 6 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Open depressions, open depressions, closed depressions, closed depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: No

Berkshire, very stony

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Tunbridge, very stony

Percent of map unit: 3 percent Landform: Hills, mountains Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Pillsbury, very stony

Percent of map unit: 2 percent

Landform: Mountains, hills

Landform position (two-dimensional): Footslope, toeslope

- *Landform position (three-dimensional):* Mountainflank, mountainbase, interfluve, nose slope, side slope
- *Microfeatures of landform position:* Open depressions, open depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

102A—Sunday loamy fine sand, 0 to 3 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 9dgn Elevation: 250 to 1,970 feet Mean annual precipitation: 40 to 50 inches Mean annual air temperature: 37 to 46 degrees F Frost-free period: 80 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Sunday, occasionally flooded, and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sunday, Occasionally Flooded

Setting

Landform: Flood plains Parent material: Sandy and/or coarse-loamy alluvium

Typical profile

Oe - 0 to 1 inches: slightly decomposed plant material *H1 - 1 to 2 inches:* loamy fine sand *H2 - 2 to 65 inches:* loamy fine sand

Properties and qualities Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: OccasionalNone Frequency of ponding: None Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3s Hydrologic Soil Group: A Ecological site: F144BY110ME - Broad Floodplain Riparian Complex Hydric soil rating: No

Minor Components

Podunk

Percent of map unit: 5 percent

Landform: Flood plains Hydric soil rating: No

Ondawa

Percent of map unit: 5 percent Landform: Flood plains Hydric soil rating: No

Rumney

Percent of map unit: 5 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Convex Hydric soil rating: Yes

190C—Adams-Lyman complex, 8 to 15 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cs Elevation: 250 to 2,940 feet Mean annual precipitation: 36 to 50 inches Mean annual air temperature: 37 to 46 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Adams and similar soils: 50 percent Lyman and similar soils: 35 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams

Setting

Landform: Kames Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Linear Parent material: Sandy glaciofluvial deposits

Typical profile

Oe - 0 to 4 inches: moderately decomposed plant material *E - 4 to 6 inches:* loamy sand *Bs - 6 to 21 inches:* sand *BC - 21 to 27 inches:* sand *C - 27 to 65 inches:* sand

Properties and qualities

Slope: 8 to 15 percent *Depth to restrictive feature:* More than 80 inches

Drainage class: Somewhat excessively drained Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3s Hydrologic Soil Group: A Hydric soil rating: No

Description of Lyman

Setting

Landform: Kames

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent

Surface area covered with cobbles, stones or boulders: 1.5 percent

Depth to restrictive feature: 11 to 24 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Hydric soil rating: No

Minor Components

Croghan

Percent of map unit: 5 percent Landform: Kames Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Concave Hydric soil rating: No

Tunbridge

Percent of map unit: 5 percent Landform: Kames Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Side slope, crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Colton

Percent of map unit: 4 percent Landform: Kames Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent Landform: Kames Landform position (two-dimensional): Summit, shoulder Landform position (three-dimensional): Nose slope, crest, free face Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

190D—Adams-Lyman complex, 15 to 35 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 2wqnw Elevation: 250 to 2,940 feet Mean annual precipitation: 36 to 50 inches Mean annual air temperature: 37 to 46 degrees F Frost-free period: 90 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Adams and similar soils: 45 percent Lyman and similar soils: 40 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams

Setting

Landform: Kames Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear Across-slope shape: Linear Parent material: Sandy glaciofluvial deposits

Typical profile

Oe - 0 to 4 inches: moderately decomposed plant material *E - 4 to 6 inches:* loamy sand *Bs - 6 to 21 inches:* sand *BC - 21 to 27 inches:* sand *C - 27 to 65 inches:* sand

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7e Hydrologic Soil Group: A Hydric soil rating: No

Description of Lyman

Setting

Landform: Kames Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Side slope, crest Down-slope shape: Convex Across-slope shape: Convex Parent material: Loamy supraglacial till derived from granite and gneiss and/or

loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material *A - 1 to 3 inches:* loam

E - 3 to 5 inches: fine sandy loam *Bhs - 5 to 7 inches:* loam *Bs1 - 7 to 11 inches:* loam *Bs2 - 11 to 18 inches:* channery loam *R - 18 to 79 inches:* bedrock

Properties and qualities

Slope: 15 to 35 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Hydric soil rating: No

Minor Components

Colton

Percent of map unit: 5 percent Landform: Kames Landform position (two-dimensional): Summit, backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Tunbridge

Percent of map unit: 5 percent Landform: Kames Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Side slope, crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Rock outcrop

Percent of map unit: 3 percent Landform: Kames Landform position (two-dimensional): Summit, shoulder Landform position (three-dimensional): Nose slope, crest, free face Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Croghan

Percent of map unit: 2 percent Landform: Kames Landform position (two-dimensional): Footslope, toeslope

Custom Soil Resource Report

Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Concave Hydric soil rating: No

201A—Ondawa fine sandy loam, 0 to 3 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2qgvy Elevation: 0 to 1,800 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 54 degrees F Frost-free period: 80 to 160 days Farmland classification: All areas are prime farmland

Map Unit Composition

Ondawa and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ondawa

Setting

Landform: Flood plains Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Parent material: Coarse-loamy alluvium derived from schist and/or coarse-loamy alluvium derived from quartzite and/or coarse-loamy alluvium derived from granite and gneiss

Typical profile

Ap - 0 to 9 inches: fine sandy loam *Bw - 9 to 30 inches:* fine sandy loam *C - 30 to 65 inches:* loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 1 Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Podunk

Percent of map unit: 8 percent Landform: Flood plains Landform position (three-dimensional): Tread Microfeatures of landform position: Closed depressions Down-slope shape: Linear, concave Across-slope shape: Linear, concave Hydric soil rating: No

Sunday

Percent of map unit: 3 percent Landform: Flood plains Landform position (three-dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Rumney

Percent of map unit: 3 percent Landform: Flood plains Landform position (three-dimensional): Tread Microfeatures of landform position: Closed depressions Down-slope shape: Linear, concave Across-slope shape: Linear, concave Hydric soil rating: Yes

Adams

Percent of map unit: 1 percent Landform: Flood plains Landform position (three-dimensional): Tread Microfeatures of landform position: Rises Down-slope shape: Linear, convex Across-slope shape: Linear, convex Hydric soil rating: No

380C—Tunbridge-Lyman-Becket complex, 8 to 15 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2xk0m Elevation: 390 to 1,510 feet Mean annual precipitation: 36 to 65 inches *Mean annual air temperature:* 36 to 52 degrees F *Frost-free period:* 90 to 160 days *Farmland classification:* Farmland of local importance

Map Unit Composition

Tunbridge, very stony, and similar soils: 35 percent *Lyman, very stony, and similar soils:* 25 percent *Becket, very stony, and similar soils:* 25 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tunbridge, Very Stony

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or mica schist and/or phyllite

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material

Oa - 3 to 5 inches: highly decomposed plant material

E - 5 to 8 inches: fine sandy loam

Bhs - 8 to 11 inches: fine sandy loam

Bs - 11 to 26 inches: fine sandy loam

BC - 26 to 28 inches: fine sandy loam

R - 28 to 38 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Hydric soil rating: No

Description of Becket, Very Stony

Setting

Landform: Hills, mountains Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope, crest Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

E - 2 to 4 inches: fine sandy loam

Bhs - 4 to 5 inches: fine sandy loam

Bs1 - 5 to 7 inches: fine sandy loam

Bs2 - 7 to 14 inches: fine sandy loam

Bs3 - 14 to 24 inches: gravelly sandy loam

BC - 24 to 33 inches: gravelly sandy loam

Cd - 33 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 21 to 43 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Hydric soil rating: No

Description of Lyman, Very Stony

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or mica schist and/or phyllite

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent

Surface area covered with cobbles, stones or boulders: 1.5 percent Depth to restrictive feature: 11 to 24 inches to lithic bedrock Drainage class: Somewhat excessively drained Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.17 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Hydric soil rating: No

Minor Components

Monadnock, very stony

Percent of map unit: 5 percent Landform: Hills, mountains Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope, crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Skerry, very stony

Percent of map unit: 4 percent
Landform: Hills, mountains
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope, crest
Microfeatures of landform position: Closed depressions, closed depressions, open depressions
Down-slope shape: Convex, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

Searsport, very stony

Percent of map unit: 3 percent

Landform: Mountains, hills

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope, crest

Microfeatures of landform position: Open depressions, open depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave Hydric soil rating: Yes

Moosilauke, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope

Custom Soil Resource Report

Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope, crest Microfeatures of landform position: Open depressions, open depressions, closed depressions, closed depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

380D—Tunbridge-Lyman-Becket complex, 15 to 25 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2xk0n Elevation: 390 to 1,640 feet Mean annual precipitation: 36 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Tunbridge, very stony, and similar soils: 35 percent *Lyman, very stony, and similar soils:* 25 percent *Becket, very stony, and similar soils:* 25 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tunbridge, Very Stony

Setting

Landform: Hills, mountains Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope, crest Down-slope shape: Convex Across-slope shape: Convex Parent material: Loamy supraglacial till derived from granite and gneiss and/or

mica schist and/or phyllite

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material

Oa - 3 to 5 inches: highly decomposed plant material

E - 5 to 8 inches: fine sandy loam

Bhs - 8 to 11 inches: fine sandy loam

Bs - 11 to 26 inches: fine sandy loam

BC - 26 to 28 inches: fine sandy loam

R - 28 to 38 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Hydric soil rating: No

Description of Lyman, Very Stony

Setting

Landform: Hills, mountains Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope, crest Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or mica schist and/or phyllite

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Hydric soil rating: No

Description of Becket, Very Stony

Setting

Landform: Hills, mountains

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope,

crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

E - 2 to 4 inches: fine sandy loam

Bhs - 4 to 5 inches: fine sandy loam

Bs1 - 5 to 7 inches: fine sandy loam

Bs2 - 7 to 14 inches: fine sandy loam

Bs3 - 14 to 24 inches: gravelly sandy loam

BC - 24 to 33 inches: gravelly sandy loam

Cd - 33 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 15 to 25 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 21 to 43 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Monadnock, very stony

Percent of map unit: 4 percent Landform: Hills, mountains Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope, crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Skerry, very stony

Percent of map unit: 4 percent *Landform:* Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank, nose slope, side slope, crest Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Convex, concave Across-slope shape: Linear, concave Hydric soil rating: No

Rock outcrop

Percent of map unit: 4 percent Landform: Hills, mountains Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, nose slope, side slope, crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: Unranked

Moosilauke, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainflank, nose slope, side slope, crest Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

380E—Tunbridge-Lyman-Becket complex, 25 to 60 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2xk0p Elevation: 390 to 1,840 feet Mean annual precipitation: 36 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Tunbridge, very stony, and similar soils: 35 percent *Becket, very stony, and similar soils:* 25 percent *Lyman, very stony, and similar soils:* 25 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Tunbridge, Very Stony

Setting

Landform: Hills, mountains

Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Convex Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or mica schist and/or phyllite

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material

Oa - 3 to 5 inches: highly decomposed plant material

E - 5 to 8 inches: fine sandy loam

Bhs - 8 to 11 inches: fine sandy loam

Bs - 11 to 26 inches: fine sandy loam

BC - 26 to 28 inches: fine sandy loam

R - 28 to 38 inches: bedrock

Properties and qualities

Slope: 25 to 60 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: C Hydric soil rating: No

Description of Lyman, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Loamy supraglacial till derived from granite and gneiss and/or mica schist and/or phyllite

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 25 to 60 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: D Hydric soil rating: No

Description of Becket, Very Stony

Setting

Landform: Hills, mountains Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

E - 2 to 4 inches: fine sandy loam

Bhs - 4 to 5 inches: fine sandy loam

Bs1 - 5 to 7 inches: fine sandy loam

Bs2 - 7 to 14 inches: fine sandy loam

Bs3 - 14 to 24 inches: gravelly sandy loam

BC - 24 to 33 inches: gravelly sandy loam

Cd - 33 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 25 to 60 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 21 to 43 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 5 percent Landform: Hills, mountains Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: Unranked

Monadnock, very stony

Percent of map unit: 4 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Moosilauke, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainflank, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Skerry, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainflank, side slope Microfeatures of landform position: Open depressions, open depressions Down-slope shape: Convex, concave Across-slope shape: Linear, concave Hydric soil rating: No

415B—Moosilauke fine sandy loam, 3 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 21xtt *Elevation:* 250 to 2,940 feet

Mean annual precipitation: 40 to 50 inches Mean annual air temperature: 37 to 46 degrees F Frost-free period: 90 to 135 days Farmland classification: Not prime farmland

Map Unit Composition

Moosilauke and similar soils: 75 percent Minor components: 25 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Moosilauke

Setting

Landform: Drainageways Down-slope shape: Linear Across-slope shape: Convex Parent material: Glacial drift

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material

H1 - 2 to 4 inches: fine sandy loam

H2 - 4 to 10 inches: fine sandy loam

H3 - 10 to 65 inches: fine sand

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 7s Hydrologic Soil Group: A/D Ecological site: F144BY303ME - Acidic Swamp Hydric soil rating: Yes

Minor Components

Chocorua

Percent of map unit: 5 percent Landform: Bogs Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Pillsbury

Percent of map unit: 5 percent Landform: Ground moraines Down-slope shape: Linear Across-slope shape: Convex Hydric soil rating: Yes

Peacham

Percent of map unit: 5 percent Landform: Depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Metacomet

Percent of map unit: 3 percent Landform: Hillslopes Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Skerry

Percent of map unit: 3 percent Landform: Hillslopes Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Searsport

Percent of map unit: 2 percent Landform: Outwash terraces Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Meadowsedge

Percent of map unit: 2 percent Landform: Bogs Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

559C—Skerry fine sandy loam, 8 to 15 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w9pd Elevation: 160 to 1,540 feet Mean annual precipitation: 31 to 65 inches Mean annual air temperature: 36 to 52 degrees F Frost-free period: 90 to 160 days Farmland classification: Farmland of local importance

Map Unit Composition

Skerry, very stony, and similar soils: 85 percent *Minor components:* 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Skerry, Very Stony

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountainflank, mountainbase, interfluve,

nose slope, side slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Loamy lodgment till derived from granite and gneiss and/or schist over sandy lodgment till derived from granite and gneiss and/or schist

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material

E - 2 to 4 inches: fine sandy loam

Bhs - 4 to 6 inches: fine sandy loam

Bs1 - 6 to 20 inches: gravelly fine sandy loam

Bs2 - 20 to 25 inches: gravelly fine sandy loam

Cd1 - 25 to 34 inches: gravelly loamy sand

Cd2 - 34 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent

Surface area covered with cobbles, stones or boulders: 1.1 percent Depth to restrictive feature: 21 to 43 inches to densic material Drainage class: Moderately well drained Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr) Depth to water table: About 19 to 34 inches Frequency of flooding: None Frequency of ponding: None Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: C/D Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods) Hydric soil rating: No

Minor Components

Becket, very stony

Percent of map unit: 6 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Monadnock, very stony

Percent of map unit: 3 percent Landform: Hills, mountains Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Colonel, very stony

Percent of map unit: 3 percent Landform: Hills, mountains Landform position (two-dimensional): Footslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Open depressions, closed depressions, closed depressions, open depressions Down-slope shape: Linear, concave Across-slope shape: Concave Hydric soil rating: No

Pillsbury, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope Microfeatures of landform position: Open depressions, closed depressions, closed depressions, open depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

613A—Croghan loamy fine sand, 0 to 8 percent slopes, wooded

Map Unit Setting

National map unit symbol: 2wqp0 Elevation: 150 to 2,300 feet Mean annual precipitation: 40 to 55 inches Mean annual air temperature: 37 to 46 degrees F Frost-free period: 90 to 135 days Farmland classification: Farmland of statewide importance

Map Unit Composition

Croghan and similar soils: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Croghan

Setting

Landform: Marine terraces, outwash deltas Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope, base slope Down-slope shape: Linear Across-slope shape: Convex Parent material: Sandy glaciofluvial deposits

Typical profile

Oa - 0 to 4 inches: highly decomposed plant material *E - 4 to 6 inches:* loamy fine sand *Bs - 6 to 17 inches:* loamy fine sand *BC - 17 to 30 inches:* fine sand *C - 30 to 65 inches:* sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2w Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Colton

Percent of map unit: 5 percent Landform: Outwash deltas, marine terraces Landform position (two-dimensional): Summit, shoulder Landform position (three-dimensional): Crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Adams

Percent of map unit: 5 percent Landform: Outwash deltas, marine terraces Landform position (two-dimensional): Summit, shoulder Landform position (three-dimensional): Crest Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Naumburg

Percent of map unit: 3 percent

Landform: Outwash deltas, marine terraces Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Base slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Nicholville

Percent of map unit: 2 percent Landform: Outwash deltas, marine terraces Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Side slope, base slope Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

647B—Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2ty6x Elevation: 360 to 2,070 feet Mean annual precipitation: 31 to 95 inches Mean annual air temperature: 27 to 52 degrees F Frost-free period: 90 to 140 days Farmland classification: Not prime farmland

Map Unit Composition

Pillsbury, very stony, and similar soils: 79 percent *Minor components:* 21 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Pillsbury, Very Stony

Setting

Landform: Mountains, hills Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Down-slope shape: Concave Across-slope shape: Concave Parent material: Loamy lodgment till derived from gneiss and/or loamy lodgment till derived from mica schist and/or loamy lodgment till derived from granite

Typical profile

Oe - 0 to 1 inches: mucky peat

A - 1 to 6 inches: fine sandy loam

Bg1 - 6 to 13 inches: cobbly fine sandy loam

Bg2 - 13 to 23 inches: cobbly fine sandy loam

Cd - 23 to 65 inches: cobbly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent

Surface area covered with cobbles, stones or boulders: 1.1 percent Depth to restrictive feature: 21 to 43 inches to densic material Drainage class: Poorly drained Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr) Depth to water table: About 0 to 12 inches Frequency of flooding: None Frequency of ponding: None Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm) Available water supply, 0 to 60 inches: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: D Ecological site: F144BY305ME - Wet Loamy Flat Hydric soil rating: Yes

Minor Components

Peru, very stony

Percent of map unit: 9 percent Landform: Mountains, hills Landform position (two-dimensional): Backslope, footslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Linear, convex Hydric soil rating: No

Peacham, very stony

Percent of map unit: 5 percent Landform: Hills, mountains Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Wonsqueak

Percent of map unit: 4 percent Landform: Hills, mountains Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Microfeatures of landform position: Closed depressions, closed depressions Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Lyman, very stony

Percent of map unit: 3 percent Landform: Mountains, hills Landform position (two-dimensional): Summit, shoulder, backslope Landform position (three-dimensional): Mountainbase, interfluve, base slope Microfeatures of landform position: Rises, rises Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

W-Water

Map Unit Setting

National map unit symbol: wm74 Elevation: 200 to 2,610 feet Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

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Appendix E – Photo Log

PHOTO LOG

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 1: Looking at proposed access and work pad location adjacent to Structure 120.



Photograph No. 2: Looking at proposed access and work pad location for Structure 121.

PHOTO LOG E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 3: Looking at proposed access for Structure 122.



Photograph No. 4: Looking at proposed access and work area for Structure 123 from Route 104.

PHOTO LOG E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 5: Looking at proposed access and work pad location for Structure 124 from Route 104.



Photograph No. 6: Looking at proposed access and work pad location adjacent to Structure 125.
E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 7: Looking at proposed access and work pad location adjacent to Structure 126.



Photograph No. 8: Looking at proposed access and work pad location adjacent to Structure 127.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 9: Looking at proposed access and work pad location adjacent to Structure 128.



Photograph No. 10: Looking at proposed access and work pad location adjacent to Structure 129.



Photograph No. 11: Looking at proposed access for Structure 130.



Photograph No. 12: Looking at proposed access for Structure 131.



Photograph No. 13: Looking at proposed access for Structure 132.



Photograph No. 14: Looking at proposed access and work pad location adjacent to Structure 133.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 15: Looking at proposed access and work pad location adjacent to Structure 134.



Photograph No. 16: Looking at proposed access and work pad location adjacent to Structure 135.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 17: Looking at proposed access and work pad location adjacent to Structure 136.



Photograph No. 18: Looking at proposed access and work pad location adjacent to Structure 137.



Photograph No. 19: Looking at proposed work pad location for Structure 138.



Photograph No. 20: Looking at proposed access from Peaked Hill Road to Structure 138.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 21: Looking at proposed access from Peaked Hill Road to Structure 139.



Photograph No. 22: Looking at proposed access and work pad location for Structure 140.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 23: Looking at proposed access and work pad location for Structure 141.



Photograph No. 24: Looking at proposed access to Structure 142.



Photograph No. 25: Looking at proposed access and work pad location adjacent to Structure 143.



Photograph No. 26: Looking at proposed access to Structure 144.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 27: Looking at proposed access and work pad location adjacent to Structure 145.



Photograph No. 28: Looking at proposed access to Structure 146.



Photograph No. 29: Looking at proposed access from Schaeffer Road to Structure 147.



Photograph No. 30: Looking at proposed access to Structure 148.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 31: Looking at proposed access and work pad location adjacent to Structure 149.



Photograph No. 32: Looking at proposed access to Structure 150.



Photograph No. 33: Looking at proposed access to Structure 151.



Photograph No. 34: Looking at proposed access to Structure 152.



Photograph No. 35: Looking at proposed access and work pad location adjacent to Structure 153.



Photograph No. 36: Looking at proposed access to Structure 154.



Photograph No. 37: Looking at proposed access and work pad location for Structure 155 in the foreground and Structure 156 in the background.



Photograph No. 38: Looking at proposed access for Structure 157.



Photograph No. 39: Looking at proposed work pad location from Abel Road for Structure 158.



Photograph No. 40: Looking at proposed access and work pad location for Structure 159.



Photograph No. 41: Looking at proposed access to Structure 160.



Photograph No. 42: Looking at proposed access for Structure 161.



Photograph No. 43: Looking at proposed access and work pad location adjacent to Structure 162.



Photograph No. 44: Looking at proposed access to Structure 163.



Photograph No. 45: Looking at proposed access to Structure 164.



Photograph No. 46: Looking at proposed access and work pad location for Structure 165.



Photograph No. 47: Looking at proposed access from River Road to Structure 166.



Photograph No. 48: Looking at proposed work pad location at Structure 166.



Photograph No. 49: Looking at proposed access to Structure 167.



Photograph No. 50: Looking at proposed access and work pad location adjacent to Structure 168.



Photograph No. 51: Looking at proposed access from Route 132 to Structure 168.



Photograph No. 52: Looking at proposed access and work pad location from Route 132 to Structure 169.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 53: Looking at proposed access and work pad location at Structure 170.



Photograph No. 54: Looking at proposed access and work pad location at Structure 171.



Photograph No. 55: Looking at proposed access and work pad location for Structure 172.



Photograph No. 56: Looking at proposed access to Structure 173.



Photograph No. 57: Looking at proposed access and work pad location for Structure 174.



Photograph No. 58: Looking at proposed access and work pad location adjacent to Structure 175.



Photograph No. 59: Looking at proposed access to Structure 176.



Photograph No. 60: Looking at proposed access to Structure 177 and work pad location for new Structure 58.



Photograph No. 61: Looking at proposed access and work pad location adjacent to Structure 178.



Photograph No. 62: Looking at proposed access to Structure 179.



Photograph No. 63: Looking at proposed access to Structure 180.



Photograph No. 64: Looking at proposed access and work pad location adjacent to Structure 181.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 65: Looking at proposed access and work pad location for structure 182.



Photograph No. 66: Looking at proposed access and work pad location adjacent to Structure 183.



Photograph No. 67: Looking at proposed access to Structure 184.



Photograph No. 68: Looking at proposed access to Structure 185.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 69: Looking at proposed access and work pad location for Structure 186.



Photograph No. 70: Looking at proposed access and work pad location for Structure 187.



Photograph No. 71: Looking at proposed access and work pad location for Structure 188.



Photograph No. 72: Looking at proposed access to Structure 189.



Photograph No. 73: Looking at proposed access to Structure 190.



Photograph No. 74: Looking at proposed access to Structure 191.



Photograph No. 75: Looking at proposed access to Structure 192.



Photograph No. 76: Looking at proposed access to Structure 193.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 77: Looking at proposed access and work pad location for Structure 194.



Photograph No. 78: Looking at proposed access and work pad location for Structure 195.
E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 79: Looking at proposed access from Huckleberry Road to Structure 195.



Photograph No. 80: Looking at proposed access from Huckleberry Road to Structure 196.



Photograph No. 81: Looking at proposed access for Structure 197 from Structure 198.



Photograph No. 82: Looking at proposed access to Structure 199.



Photograph No. 83: Looking at proposed access and work pad location for Structure 200 from Structure 199.



Photograph No. 84: Looking at proposed work pad location for Structure 201.



Photograph No. 85: Looking at proposed access to Structure 202.



Photograph No. 86: Looking at proposed access and work pad location adjacent to Structure 203.



Photograph No. 87: Looking at proposed access to Structure 204.



Photograph No. 88: Looking at proposed access to Structure 205.



Photograph No. 89: Looking at proposed access to Structure 206.



Photograph No. 90: Looking at proposed access to Structure 207.

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Photograph No. 91: Looking at proposed access to Structure 208.



Photograph No. 92: Looking at proposed access to Structure 209.



Photograph No. 93: Looking at proposed access to Structure 210.



Photograph No. 94: Looking at proposed access and work pad location for Structure 210.



Photograph No. 95: Looking at proposed access and work pad location for Structure 211.



Photograph No. 96: Looking at proposed access and work pad location adjacent to Structure 212.



Photograph No. 97: Looking at proposed work pad location for Structure 213 and Structure 213.5.



Photograph No. 98: Looking at proposed access to Structure 214.



Photograph No. 99: Looking at proposed access and work pad location for Structure 215.



Photograph No. 100: Looking at proposed access to Structure 216.



Photograph No. 101: Looking at proposed access to Structure 217.



Photograph No. 102: Looking at proposed access to Structure 218.



Photograph No. 103: Looking at proposed access and work pad location for Structure 219.



Photograph No. 104: Looking at proposed access to Structure 219.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 105: Looking at proposed access and work pad location adjacent to Structure 220.



Photograph No. 106: Looking at proposed access and work pad location adjacent to Structure 221 (right).



Photograph No. 107: Looking at proposed access to Structure 222.



Photograph No. 108: Looking at proposed access and work pad location adjacent to Structure 223.



Photograph No. 109: Looking at proposed access to Structure 224.



Photograph No. 110: Looking at proposed access to Structure 225.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 111: Looking at proposed access and work pad location for Structure 226.



Photograph No. 112: Looking at proposed access to Structure 227.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 113: Looking at proposed access and work pad location for Structure 227.



Photograph No. 114: Looking at proposed access to Structure 228.



Photograph No. 115: Looking at proposed access to Structure 229.



Photograph No. 116: Looking at proposed access to Structure 230.



Photograph No. 117: Looking at proposed access to Structure 231.



Photograph No. 118: Looking at proposed access to Structure 232.



Photograph No. 119: Looking at proposed work pad location for Structure 233.



Photograph No. 120: Looking at proposed access to Structure 234.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 121: Looking at proposed access from John Jenness Road to Structure 235.



Photograph No. 122: Looking at proposed work pad location for Structure 235.



Photograph No. 123: Looking at proposed access and work pad location from John Jenness Road to Structure 236.



Photograph No. 124: Looking at proposed access to Structure 237.



Photograph No. 125: Looking at proposed access from North Ashland Road to Structure 238.



Photograph No. 126: Looking at proposed access from North Ashland Road to Structure 239.



Photograph No. 127: Looking at proposed access and work pad location adjacent to Structure 239.1.



Photograph No. 128: Looking at proposed access and work pad location for Structure 239.2.



Photograph No. 129: Looking at proposed access and work pad location for Structure 239.3.



Photograph No. 130: Looking at proposed access and work pad location adjacent to Structure 239.4.



Photograph No. 131: Looking at proposed access to Structure 239.5.



Photograph No. 132: Looking at proposed access and work pad location adjacent to Structure 239.6.



Photograph No. 133: Looking at proposed access to Structure 239.7.



Photograph No. 134: Looking at proposed access to Structure 239.8.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 135: Looking at proposed access and work pad location adjacent to Structure 239.9.



Photograph No. 136: Looking at proposed access and work pad location for Structure 239.10.



Photograph No. 137: Looking at proposed access and work pad location adjacent to Structure 239.11.



Photograph No. 138: Looking at proposed access and work pad location adjacent to Structure 239.12.



Photograph No. 139: Looking at proposed access and work pad location adjacent to Structure 240.



Photograph No. 140: Looking at proposed access to Structure 240.



Photograph No. 141: Looking at proposed access to Structure 241.



Photograph No. 142: Looking at proposed access and work pad location adjacent to Structure 242.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 143: Looking at proposed access and work pad location adjacent to Structure 243.



Photograph No. 144: Looking at proposed access to Structure 244.



Photograph No. 145: Looking at proposed access and work pad location adjacent to Structure 244.



Photograph No. 146: Looking at proposed access to Structure 245.



Photograph No. 147: Looking at proposed access and work pad location adjacent to Structure 246.



Photograph No. 148: Looking at proposed access to Structure 247.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 149: Looking at proposed access and work pad location adjacent to Structure 247.



Photograph No. 150: Looking at proposed access and work pad location adjacent to Structure 248.


Photograph No. 151: Looking at proposed access and work pad location adjacent to Structure 249.



Photograph No. 152: Looking at proposed access to Structure 250.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 153: Looking at proposed access and work pad location adjacent to Structure 251.



Photograph No. 154: Looking at proposed access to Structure 252.



Photograph No. 155: Looking at proposed access to Structure 253.



Photograph No. 156: Looking at proposed access to Structure 254.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 157: Looking at proposed access and work pad location for Structure 255.



Photograph No. 158: Looking at proposed access to Structure 256.



Photograph No. 159: Looking at proposed access and work pad location from Route 175 for Structure 256.



Photograph No. 160: Looking at proposed access from Route 175 to Structure 257.



Photograph No. 161: Looking at proposed access and work pad location for Structure 257.



Photograph No. 162: Looking at proposed access to Structure 258.



Photograph No. 163: Looking at proposed access to Structure 259.



Photograph No. 164: Looking at proposed access and work pad location adjacent to Structure 260.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 165: Looking at proposed access and work pad location for Structure 261.



Photograph No. 166: Looking at proposed access and work pad location adjacent to Structure 262.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 167: Looking at proposed access and work pad location for Structure 263.



Photograph No. 168: Looking at proposed access to Structure 263.



Photograph No. 169: Looking at proposed access to Structure 264.



Photograph No. 170: Looking at proposed access and work pad location adjacent to Structure 265.



Photograph No. 171: Looking at proposed access to Structure 266.



Photograph No. 172: Looking at proposed access from Trivett Lane to Structure 266.



Photograph No. 173: Looking at proposed access to Structure 267.



Photograph No. 174: Looking at proposed access to Structure 268.



Photograph No. 175: Looking at proposed access to Structure 269.



Photograph No. 176: Looking at proposed access to Structure 270.



Photograph No. 177: Looking at proposed access and work pad location for Structure 271.



Photograph No. 178: Looking at proposed access from Mount Prospect Road to Structure 272.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 179: Looking at proposed work pad location from Mount Prospect Road to Structure 273.



Photograph No. 180: Looking at proposed access from Mount Prospect Road to Structure 273.5.



Photograph No. 181: Looking at proposed work pad location for Structure 274.



Photograph No. 182: Looking at proposed access to Structure 275.



Photograph No. 183: Looking at proposed access to Structure 276.



Photograph No. 184: Looking at proposed access and work pad location adjacent to Structure 276.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 185: Looking at proposed access and work pad location for Structure 277.



Photograph No. 186: Looking at proposed access from Huckins Hill Road to Structure 277.



Photograph No. 187: Looking at proposed access from Huckins Hill Road to Structure 278.



Photograph No. 188: Looking at proposed access and work pad location adjacent to Structure 278.



Photograph No. 189: Looking at proposed access and work pad location adjacent to Structure 279.



Photograph No. 190: Looking at proposed access and work pad location adjacent to Structure 280.



Photograph No. 191: Looking at proposed access to Structure 281.



Photograph No. 192: Looking at proposed access and work pad location adjacent to Structure 282.



Photograph No. 193: Looking at proposed access to Structure 283.



Photograph No. 194: Looking at proposed access to Structure 284.



Photograph No. 195: Looking at proposed work pad location at Structure 284.



Photograph No. 196: Looking at proposed access from Collins Street to E115 Tap Structure 6.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 197: Looking at proposed access and work pad location for E115 Tap Structure 6.



Photograph No. 198: Looking at proposed access to E115 Tap Structure 7.

E115 Transmission Line Rebuild and OPGW Project New Hampton, Bridgewater, Bristol, Ashland, and Holderness, New Hampshire Photos Taken: September 21, 22, 24, 25, 28, & 29 and October 1, 2020



Photograph No. 199: Looking at proposed access and work pad location for E115 Tap Structure 5.



Photograph No. 200: Looking at proposed access from Driveway A166 to E115 Tap Structure 5.



Photograph No. 201: Looking at proposed work pad location from Driveway A166 to E115 Tap Structure 4.



Appendix F – Waiver Request

Alteration of Terrain Waiver Request RSA/Rule: RSA 485-A:17, Env – WQ 1500

Water Division / Alteration of Terrain Bureau / Land resources Management 29 Hazen Drive, PO Box 95 Concord, New Hampshire 03302-0095

A. PROJECT INFORMATION	
E115 Transmission Line Rebuild and OPGW Project Project Name	
Existing E115 Transmission Line Right-of-Way Street Address	
New Hampton, Bristol, Bridgewater, Ashland and Holderness	Multiple
City/Town	Zip Code
Multiple – see attached	
Tax Map/Lot Number	

B. APPLICANT/OWNER INFORMATION				
Jeremy First Name		Fennell Last Name		
Eversource Energy Organization				
13 Legends Drive Street Address				
Hooksett	New Hampshire		03106	
City/Town	State		Zip Code	
jeremy.fennell@eversource.com Email	603-634-3 Telephone		396 Number	

C. APPLICANT/OWNER AGENT INFORMATION					
Lindsey First Name		White Last Name			
GZA GeoEnvironmental, Inc. Organization					
5 Commerce Park North, Suite 201 Street Address					
Bedford	New Hampshire		03110		
City/Town	State		Zip Code		
Lindsey.white@gza.com		603-232-8753			
Email		Telephone Nu	ımber		

D. WAIVER REQUESTS	
Env-Wq 1504.09	Stormwater Drainage Report; Drainage Area Plans;
Rule Section Waiver Request	Hydrologic Soil Group Plans Name of Rule

Reason for Waiver Request

Eversource is requesting a waiver for preparing a Stormwater Drainage Report, Drainage Area Plans and Hydrologic Soil Group Plans for proposed access improvements and work pad grading associated with maintenance of the existing E115 Transmission Line structures. The proposed access and work pad improvements for continued transmission line maintenance work will not result in new impervious surfaces. As a result, stormwater treatment practices are not proposed.

Waiver Timeline

Permanent

Proposed Alternative

The proposed access and work pad improvements will not result in new impervious surface. Therefore, there is no proposed alternative to substitute the requirements of Env-Wq 1504.09.

Compliance with Env- WQ 1509.04

The project proposes to improve access routes and work pads around utility structures for the purpose of maintaining existing utility infrastructure. This project is necessary in order to maintain the safety and reliability of the electrical infrastructure. Access and work pad improvements will be completed using stone and gravel, and therefore stormwater drainage should not be affected by the proposed project. In addition, it is not anticipated that stormwater drainage area plans would show significant differences between existing and proposed conditions. An NRCS Web Soil Survey report was generated to show general soil information within the project area. Since there is no new impervious surface area proposed and stormwater drainage is not anticipated to be affected by the proposed project, it is not anticipated that soils will be significantly impacted by the project.

Best Management Practices will be utilized to protect wetlands from erosion, sedimentation, or other environmental degradation. In addition, gravel work pads will be coated with seed and mulch to allow vegetation growth on the surface, further minimizing and preventing erosion and sedimentation. As a result, Eversource respectfully requests that a Stormwater Drainage Report, Drainage Area Plans, and Hydrologic Soil Group Plans be waived for the purposes of the proposed utility line maintenance project.

Jemel

3/1/2022

Applicant/Owner, Jeremy Fennell, Eversource Energy

Lindsey White

3/1/2022

Applicant/Owner Agent, Lindsey White, GZA

Date

Date



Appendix G – Certified Mail Receipts [Reserved for DES certified mailing receipts]













GZA GeoEnvironmental, Inc.

Revised Plan Pages

CONSTRUCTION SEQUENCE:

1. WETLAND BOUNDARIES TO BE CLEARLY MARKED PRIOR TO THE START OF CONSTRUCTION.

- 2. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAIL PROVIDED, AS NECESSARY.
- 3. WETLAND IMPACTS ASSOCIATED WITH WETLAND CROSSINGS ARE REQUIRED FOR ACCESS BETWEEN STRUCTURES WITHIN THE RIGHT OF WAY.
- 4. ADEQUATE PRECAUTION SHALL BE EXERCISED TO AVOID SPILLAGE OF FUEL OILS, CHEMICALS, OR SIMILAR SUBSTANCES; NO FUELS, LUBRICANTS, CHEMICALS OR SIMILAR SUBSTANCES SHALL BE STORED BENEATH TREES OR IN THE VICINITY OF ANY WETLANDS, RIVER, STREAM OR OTHER BODY OF WATER; OR IN THE VICINITY OF NATURAL OR MAN-MADE CHANNELS LEADING THERETO. NO POWER EQUIPMENT SHALL BE STORED, MAINTAINED, OR FUELED IN ANY AREA ADJACENT TO A WETLAND, RIVER, STREAM OR OTHER BODY OF WATER.
- 5. REMOVE COMPLETELY ALL CONTAMINATION FROM ANY SPILLAGE OF CHEMICALS OR PETROLEUM PRODUCT WITH COMPLETE REHABILITATION OF THE AFFECTED AREA.
- 6. ACCESS ROUTES HAVE BEEN SELECTED TO PREVENT DEGRADATION OF THE RIGHT-OF-WAY AND MINIMIZE ENVIRONMENTAL IMPACT. OPERATIONS SHALL BE CONFINED TO THE SPECIFIED ACCESS ROUTES WITHIN THE PROPOSED WETLAND IMPACT AREA. ACCESS ROUTES SHALL NOT EXCEED A 16 FOOT-WIDTH AND 20 FOOT TOTAL IMPACT AREA.
- 7. IMPACT TO VEGETATION WITHIN WETLANDS WILL BE LIMITED TO THE EXTENT NECESSARY TO PLACE THE TIMBER MATS WHERE REQUIRED.
- 8. LOW GROWING VARIETIES OF VEGETATION ADJACENT TO WETLANDS SHALL BE PRESERVED TO THE EXTENT POSSIBLE. STUMPS AND ROCKS SHALL NOT BE REMOVED, AND THERE SHALL BE NO EXCAVATIONS, FILLS OR GRADING DONE ADJACENT TO WETLANDS, UNLESS MINOR EXCAVATIONS IS NEEDED FOR ACCESS.
- 9. TIMBER MATS WILL BE USED ALONG ACCESS ROUTES WITHIN WETLAND AREAS. THESE MATS ARE CONSTRUCTED OF HEAVY TIMBERS OR COMPOSITE MATERIAL, BOLTED TOGETHER, AND ARE PLACED END-TO-END IN THE WETLAND TO SUPPORT HEAVY EQUIPMENT. ALL SWAMP MATS SHALL BE PLACED AND REMOVED SO AS NOT TO CAUSE ANY RUTS, CHANNELS OR DEPRESSIONS, OR OTHERWISE CAUSE ANY UNDUE DISTURBANCE TO WETLANDS.
- 10. IF TIMBER MAT BMP IS NOT SUFFICIENT DUE TO HIGH WATER, ADDITIONAL BMP'S MAY INCLUDE THE PLACEMENT OF GEOTEXTILE FABRIC, 3"-4" STONE, AND GRAVEL TO PROVIDE A SUITABLE ROAD BED. A TEMPORARY CULVERT MAY BE REQUIRED IN AREAS OF HIGH FLOW TO MAINTAIN HYDROLOGIC CONNECTIVITY. ALL MATERIAL WILL BE REMOVED FROM JURISDICTIONAL AREAS AFTER CONSTRUCTION COMPLETION.
- 11. NO MATERIAL SHALL BE PLACED IN ANY LOCATION OR IN ANY MANNER SO AS TO IMPAIR SURFACE WATER FLOW INTO, THROUGH OR OUT OF ANY WETLAND AREA. NO INSTALLATION SHALL CREATE AN IMPOUNDMENT THAT WILL IMPEDE THE FLOW OF WATER OR CAUSE FLOODING.
- 12. NO MATERIAL SHALL BE TAKEN FROM THE WETLANDS AREA EXCEPT THAT WHICH MUST NECESSARILY BE REMOVED FOR THE STRUCTURE OR FOUNDATION PLACEMENT OR STABILIZATION. ALL EXCESS MATERIAL TAKEN FROM THE WETLAND WILL BE REMOVED FROM THE SITE.
- 13. ANY PROPOSED SUPPORT FILLS SHALL BE CLEAN GRAVEL AND STONE, FREE OF WASTE METAL PRODUCTS, ORGANIC MATERIALS AND SIMILAR DEBRIS AND SHALL NOT EXCEED THE AMOUNT PERMITTED. THIS ALLOWABLE FILL IS THE ONLY FILL THAT MAY REMAIN IN THE WETLAND AFTER CONSTRUCTION. ALL CUT AND FILLS SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- 14. EXCESS SOILS PRODUCED FROM DRILLING WILL BE DISPOSED IN APPROVED UPLAND AREAS AT A MINIMUM DISTANCE OF 100-FT FROM WETLAND AREAS.
- 15. INSTALL NEW POLES IN THE LOCATIONS DESIGNATED ON THE PERMITTING PLANS.
- 16. CABLE INSTALLATION WILL BE PERFORMED IN A MANNER SO AS TO AVOID, OR LIMIT TO THE MAXIMUM EXTENT POSSIBLE, TRAVERSING WETLANDS WITH HEAVY EQUIPMENT. IN SOME CASES, A HELICOPTER MAY BE USED DURING THE INSTALLATION TO MINIMIZE IMPACTS.
- 17. ALL TIMBER MATS, MATERIAL, AND DEBRIS WILL BE REMOVED FROM THE WORK AREA UPON THE COMPLETION OF CONSTRUCTION.
- 18. UPLAND DISTURBED AREAS SHALL BE RESTORED AND STABILIZED UPON COMPLETION OF CONSTRUCTION. WORK PAD RESTORATION SHOULD INCLUDE REDUCING THE WORK PAD TO A 30 BY 60 FOOT AREA, AND REDUCING SLOPES TO A MAXIMUM OF 25%, STOCKPILED MATERIAL SHOULD BE SPREAD TO REDUCE ANY UNNECESSARY SLOPES. GRAVEL WORK PADS AND SLOPES SHOULD BE SCARIFIED TO A MINIMUM OF 3" BEFORE SPREADING TOPSOIL/LOAM AND SEED, AS NECESSARY.
- 19. ALL TEMPORARY WETLAND IMPACTS WILL BE RE-GRADED TO ORIGINAL CONTOURS FOLLOWING CONSTRUCTION. NEW ENGLAND EROSION CONTROL/RESTORATION MIX, AVAILABLE THROUGH NEW ENGLAND WETLAND PLANTS, INC., 820 WEST STREET, AMHERST, MA 01002, 413-548-8000, OR EQUIVALENT SEED MIX SHALL BE APPLIED IN WETLAND AREAS THAT ARE NOT INUNDATED, AS NECESSARY.
- 20. SEDIMENT AND EROSION CONTROL MEASURES WILL BE EVALUATED AND REMOVED IF NECESSARY UPON THE COMPLETION OF CONSTRUCTION.
- 21. COMMERCIAL LOAM WILL NOT BE USED AS PART OF RESTORATION. ONLY IN-SITU TOPSOIL WILL BE USED TO RESTORE DISTURBED AREAS.

WINTER CONSTRUCTION NOTES

- 1. PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED. STABILIZATION METHODS SHALL INCLUDE SEEDING AND MULCH, AND INSTALLATION OF EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT
- 2. DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE TEMPORARILY STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

3. AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL (NHDOT 304.3). GENERAL NOTES

OWNER: EVERSOURCE ENERGY 13 LEGENDS DRIVE

HOOKSETT, NH 03106

- 1. BASE PLAN PROVIDED BY EVERSOURCE ENERGY. EVERSOURCE ENERGY PROVIDED THE UTILITY DESIGN.
- 2. JURISDICTIONAL WETLANDS WERE DELINEATED BY GZA IN 2020, IN ACCORDANCE WITH THE 1987 U.S. ARMY CORPS OF ENGINEERS' "WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1," AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION," JANUARY 2012.
- 3. GZA PERFORMED A WETLANDS FUNCTION AND VALUES ASSESSMENT IN ACCORDANCE WITH THE ACOE'S "HIGHWAY METHODOLOGY WORKBOOK SUPPLEMENT," SEPTEMBER 1999, IN 2020
- 4. SITE PLAN IS FOR PERMITTING PURPOSES ONLY AND DOES NOT REPRESENT A PROPERTY BOUNDARY SURVEY.
- 5. THE PROJECT WILL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
- 6. IN ACCORANCE WITH ENV-WQ 1505.02, THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- A MINIMUM 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL HAS BEEN INSTALLED
- OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

EROSION CONTROL NOTES:

- 1. INSTALLATION OF EROSION CONTROL GRINDINGS AND/OR SILT FENCES SHALL BE COMPLETE PRIOR TO THE START OF WORK IN ANY GIVEN AREA. EROSION CONTROLS SHALL BE USED DURING CONSTRUCTION AND REMOVED WHEN ALL SLOPES HAVE A HEALTHY STAND OF VEGETATION COVER. EROSION CONTROL MEASURES SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER .25" OR GREATER RAINFALL EVENTS.
- 2. AS REQUIRED, CONSTRUCT TEMPORARY BERMS, SILTATION FENCES, SEDIMENT TRAPS, ETC. TO PREVENT EROSION & SEDIMENTATION OF WETLANDS.
- 3. THE WORK AREA SHALL BE GRADED AND OTHERWISE SHAPED IN SUCH A MANNER AS TO MINIMIZE SOIL EROSION, SILTATION OF DRAINAGE CHANNELS, DAMAGE TO EXISTING VEGETATION, AND DAMAGE TO PROPERTY OUTSIDE LIMITS OF THE WORK AREA. EROSION CONTROL GRINDINGS WILL BE NECESSARY TO ACCOMPLISH THIS END.
- 4. ANY STRIPPED TOPSOIL SHALL BE STOCKPILED, WITHOUT COMPACTION, AND STABILIZED AGAINST EROSION, AS NECESSARY.
- 5. PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 15 TO SEPTEMBER 15. NO DISTURBED AREA SHALL BE LEFT EXPOSED DURING WINTER MONTHS, PLANT ANNUAL RYEGRASS PRIOR TO OCTOBER 15TH.

6. EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.

NEW HAMPSHIRE FISH AND GAME TYPICAL BMPS RELATED TO THREATENED AND ENDAGERED SPECIES

- 1. PRIOR TO DAILY CONSTRUCTION ACTIVITIES, TIMBER MATTING WILL BE REVIEWED FOR SNAKES AND TURTLES. GZA WILL PROVIDE AN ENVIRONMENTAL ADDENDUM TO THE DAILY TAILBOARDS BY THE CONTRACTORS TO INLCUDE GUIDANCE ON PROTOCOLS FOR SNAKES AND PROVIDE IDNETIFICATION FOR SPOTTED TURTLE, WOOD TURTLE, BLANDING'S TURTLE, AND NORTHERN BLACK RACER SNAKE
- 2. OBSERVED SNAKES AND TURTLES WILL BE MOVED OFF OF CONSTRUCTION ACCESS ROADS TO LIMIT AND PREVENT MORTALITY
- TO SNAKES AND TURTLES DURING CONSTRUCTION. 3. EROSION CONTROL MATTING, IF UTILIZED, WILL CONSIST OF JUTE MATTING. MATTING WITH PLASTIC MESH WILL BE AVOIDED TO LIMIT UNINTENTIONAL MORTALITY TO SNAKES.
- 4. AT THE CONCLUSION OF THE PROJECT, A SUMMARY REPORT OF ANY RARE SPECIES OBSERVATIONS WILL BE PROVIDED TO THE NHFG NONGAME PROGRAM.

- THIS SPECIES TO SEND FOR VERIFICATION. 8. ALL OBSERVATIONS OF NORTHERN BLACK RACER SNAKES ENCOUNTE FROM THE END OF SEPTEMBER THROUGH THE MONTH OF APRIL MUS' IMMEDIATELY REPORTED TO THE NHFG DEPARTMENT (MELISSA DOPERALSKI 603-479-1129 (CELL) OR BRENDAN CLIFFORD 603-944-0888 AS THIS INDICATES A POTENTIAL HIBERNACULUM IN THE AREA. PLEAS ATTEMPT TO PHOTOGRAPH THIS SPECIES IF POSSIBLE. BLACK RACEF BEEN KNOWN TO DEN COMMUNALLY AT THE BASE OF POWER POLES. ONE IS SEEN AT THE BASE OF A POLE DURING THIS FIME PERIOD, WOF SHOULD CEASE IMMEDIATELY AT THAT POLE L OCATION AND THE INCID SHOULD CEASE IMMEDIATELY AT THAT POLE LOCATION AND THE INCI
- CALLED IN TO US. 9. PER ENV-WQ 1504.18, THE NHFG, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURIN THE TERM OF THE PERMIT.

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NHEG NONGAMIE PROGRAM. 5. IMPACTS TO VERNAL POOLS AND POTENTIAL VERNAL POOLS WILL BE AVOIDED. 6. IF SPOTTED, WOOD OR BLANDING'S TURTLES ARE FOUND LAYING EGGS IN A WORK AREA, PLEASE CONTACT MELISSA DOPERALSKI (603-479-1129 CELL) OR JOSH MEGYESY (978-578-0802 CELL) FOR FURTHER INSTRUCTIONS. 7. ALL OBSERVATIONS OF EASTERN HOGNOSE SNAKE SEEN AT ANY TIME MUST BE IMMEDIATELY REPORTED TO THE NHFG DEPARTMENT (MELISSA DOPERALSKI OR JOSH MEGYESY) FOR FURTHER INSTRUCTIONS. PLEASE ATTEMPT TO PHOTOGRAPH THIS SPECIES TO SEND FOR VERIFICATION. 9. ALL OBSERVATIONS OF LOOPTIETIN DA OF DA OF DA NAKES ENCOUNTERED.

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ST BE S5) SE RS HAVE IF	UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA), THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENTS DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING, THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA, ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR THER POINE WITHOUT THE PRIOR WRITTEN COMSENT OF GZA.						
RK DENT	E115 TRANSMISSION LINE REBUILD AND OPGW PROJECT						
NG	NEW HAMPTON, BRISTOL, BRIDGEWATER, ASHLAND, AND HOLDERNESS, NEW HAMPSHIRE NOTES						
	PREPARED BY:			PREPARED FOR:			
	GZ	GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com					
	PROJ MGR:	LEW	REVIEWED BY:	TLT	CHECKED BY:	DMZ	SHEET
	DESIGNED BY:	MJD	DRAWN BY:	MJD	SCALE:		64
	DATE:		PROJECT NO.		REVISION NO.		51
Added Waiver Requests

Alteration of Terrain Waiver Request RSA/Rule: RSA 485-A:17, Env – WQ 1500

Water Division / Alteration of Terrain Bureau / Land resources Management 29 Hazen Drive, PO Box 95 Concord, New Hampshire 03302-0095

A. PROJECT INFORMATION	
E115 Transmission Line Rebuild Project Project Name	
Existing E115 Transmission Line Right-of-Way Street Address	
New Hampton, Bristol, Bridgewater, Ashland and Holderness City/Town	Multiple Zip Code
Multiple – see attached plans Tax Map/Lot Number	

B. APPLICANT/OWNER INFORMATION			
Jeremy First Name		Fennell Last Name	
Eversource Energy Organization			
13 Legends Drive Street Address			
Hooksett City/Town	New Hampshire State		03106 Zip Code
Jeremy.fennell@eversource.com Email	•	603-634-339 Telephone Nu	6 imber

C. APPLICANT/OWNER AGENT INFORMATION			
Lindsey First Name		White Last Name	
GZA GeoEnvironmental, Inc. Organization			
5 Commerce Park North, Suite 201 Street Address			
Bedford	New Hampshire		03310
City/Town	State		Zip Code
Lindsey.white@gza.com Email	•	603-770-575 Telephone Nu	2 umber

D. WAIVER REQUESTS	
Env-Wq 1503.21 (d)(6&7)	Notification; Certification
Rule Section Waiver Request	
Dessey for Websey Desseet	

Reason for Waiver Request

Eversource is requesting a waiver for deviations from the approved plans without applying for an amended permit or a new permit if shifts in the proposed project layout occur. Changes in project layout are frequently identified during construction by Eversource and their contractors and may be necessary to safely perform the work. Access shifts would be limited to the extent necessary for safety, would not impact new resources, and access would remain within the existing and maintained ROW. The need for additional permit applications can impact construction schedules and incur costly delays.

Waiver Timeline

Permanent

Proposed Alternative

Allow for the access road centerlines to be relocated during construction, if necessary, up to a distance equal to the approximate width of the ROW (approximately 170-230 feet on the E115 Line). Shifts would not create greater than 5% increase in disturbed area along the individual access segment, which is assumed to be the length of the access road between two work pads/structures.

Allow for the center point of the parking area, assumed to be the structure replacement work pads for transmission line projects, to be relocated during construction, if necessary, up to a distance equal to half the approximate width of the ROW (approximately 170-230 feet on the E115 Line). Shifts would not create greater than 5% increase in disturbed area at each work pad.

This would allow contractors to avoid steep terrain or other hazardous areas, or areas that may require significant grading or earthwork that may not have been identified during initial constructability reviews. Landowners may also request layout changes be made after project permitting is complete. In most cases this shift is done to reduce the amount of disturbed area.

Compliance with Env-Wq 1503.21 (d)(6&7)

The project proposes to improve access routes and work pads around utility structures for the purpose of maintaining existing utility infrastructure. This project is necessary to maintain the safety and reliability of the electrical infrastructure. Proposed disturbances shown on Figures 3 and 4 are the result of avoidance and minimization measures and constructability reviews. Layout changes and shifts will be limited to the proposed alternative above. A reduction in disturbed area is often the result. As previously mentioned, access shifts would be limited to the extent necessary to safely perform work. Access routes will remain within the existing and maintained ROW and would not disturb new resources. Best Management Practices will be utilized to protect wetlands from erosion, sedimentation, or other environmental degradation as originally proposed. Eversource respectfully requests a waiver from limiting shifts of the project road centerlines and parking areas to 20 feet.

E. SIGNATURES

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Applicant/Owner, Jeremy Fennell, Eversource Energy

Lindsey White

Applicant/Owner Agent, Lindsey White, GZA GeoEnvironmental, Inc.

4/1/2022 Date

4/1/2022

Date

Alteration of Terrain Waiver Request RSA/Rule: RSA 485-A:17, Env – WQ 1500

Water Division / Alteration of Terrain Bureau / Land resources Management 29 Hazen Drive, PO Box 95 Concord, New Hampshire 03302-0095

A. PROJECT INFORMATION	
E115 Transmission Rebuild and OPGW Project Project Name	
Existing E115 Transmission Line Right-of-Way Street Address	
New Hampton, Bristol, Bridgewater, Ashland and Holderness City/Town	Multiple Zip Code
Multiple – see attached plans Tax Map/Lot Number	

B. APPLICANT/OWNER INFORMATION			
Jeremy First Name		Fennell Last Name	
Eversource Energy Organization			
13 Legends Drive Street Address			
Hooksett City/Town	New Hampshire State		03106 Zip Code
Jeremy.fennell@eversource.com Email	·	603-634-339 Telephone Nu	6 imber

C. APPLICANT/OWNER AGENT INFORMATION			
Lindsey First Name		White Last Name	
GZA GeoEnvironmental, Inc. Organization	·······		
5 Commerce Park North, Suite 201 Street Address			
Bedford City/Town	New Hampshire State		03110 Zip Code
Lindsey.white@gza.com Email	•	603-770-575 Telephone Nu	2 Imber

D. WAIVER REQUESTS	
Env-Wq 1503.12 (d)(1&2)	Measurement of Contiguous Area Disturbed;
Rule Section Waiver Request	Name of Rule
Reason for Waiver Request	

Eversource is requesting a waiver for including past terrain disturbance in the measurement of contiguous disturbed area included in this E115 Line AOT application. Future disturbance, beyond the scope of E115 line rebuild project described in this application, is not known at this time.

Waiver Timeline

Permanent

Proposed Alternative

Existing terrain alteration associated with past transmission line maintenance within the E115 ROW is minimal. Any existing trails or access roads that may have been created within the last 10 years will be utilized and/or improved as part of this project and have been included in the current calculations within this application. Future structure maintenance may occur within the E115 ROW. Eversource, through consultation with NHDES, will evaluate whether future terrain disturbances within the E115 ROW will be permitted with an amendment to this application or subject to a new, separate application.

Compliance with Env-Wq 1503.12 (d)(1&2)

The project proposes to improve access routes and work pads around utility structures for the purpose of maintaining existing utility infrastructure. This project is necessary to maintain the safety and reliability of the electrical infrastructure. Proposed disturbances anticipated for 2022 within the E115 ROW are included in this application and shown on Figures 3 and 4. Project disturbances included in this application and subsequent permit approvals will be considered if future structure maintenance is proposed within the E115 ROW. Eversource respectfully requests a waiver from including past disturbance in this application. Future disturbances within the E115 ROW will be evaluated and discussed with NHDES and permit amendments or new permit applications will be submitted, if necessary.

E. SIGNATURES

Applicant/Owner, Jeremy Fennell, Eversource Energy

Lindsey White

Applicant/Owner Agent, Lindsey White, GZA GeoEnvironmental, Inc.

4/1/2022

Date

4/1/2022

Date