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MANAGEMENT

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T: 603.623.3600
F: 603.624.9463
www.gza.com



April 2, 2021
File No. 04.0190999.44

Town of Madbury
Planning Board
Attn: Mark Avery, Chair
13 Town Hall Road,
Madbury, NH 03823

Re: Conditional Use Permit Application
Eversource Energy
M183 Transmission Line Structure Replacement Project
Madbury, New Hampshire

Dear Chairman Sullivan:

This letter transmits a Conditional Use Permit Application on behalf of Public Service Company of New Hampshire doing business as Eversource Energy (Eversource), for the M183 Transmission Line Structure Replacement Project (see attached **Figure 1, Locus Plan**). On behalf of Eversource, GZA GeoEnvironmental, Inc. (GZA) is requesting consideration of a Conditional Use Permit Application for required temporary impacts within the Town of Madbury Wet Areas Conservation Overlay District.

The proposed project involves the replacement of four existing utility structures (i.e. utility poles) along the M183 Transmission Line. The proposed replacement structures are rated as having severe defects and need to be replaced in order for the transmission line to continue to function safely and reliably. The proposed structure replacements were selected based on site visit evaluations of the M183 Transmission Line.

The M183 Transmission Line is located within an existing 150-foot wide utility right-of-way (ROW). In the Town of Madbury, the proposed work area begins off Evans Road and continues easterly for approximately one mile, terminating at Garrison Lane in Madbury.

GZA delineated wetlands in 2016 and reviewed wetland boundaries in 2021 in accordance with the procedures and standards outlined in Corps of Engineers Wetlands Delineation Manual¹ and Routine Determination Method in conjunction with the Regional Supplement² to the Corps of Engineers Wetland Delineation Manual. In addition, GZA will be submitting a separate wetland permit through the New Hampshire Department of Environmental Services for the proposed project in Madbury.

In total, four utility poles are proposed to be replaced in Madbury on the M183 Transmission Line (see **Figure 2, Access and Permitting Plans**). The majority of utility structures will be approximately 5-10 feet higher than the existing utility structures due to updated National Electrical Safety Code requirements

¹ U.S. Army Corps of Engineers, Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

² U.S. Army Corps of Engineers, 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, C.V. Noble and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, Mississippi; U.S. Army Engineer Research and Development Center.



In the Town of Madbury, the proposed project requires approximately 23,849 sq. ft. of temporary wetland impact to predominantly palustrine scrub-shrub wetlands that are located within the existing maintained utility ROW for construction access and temporary work pad placement (see **Table 1**). Timber matting will be used within wetlands to minimize and prevent rutting and compaction. Upon completion of work, timber mats will be removed and temporarily disturbed wetlands will be restored by seeding and mulching. Upland access routes and work pads will be improved using gravel and stone as necessary to provide safe access and work areas for utility pole replacements. Structure locations and construction access were closely reviewed in the field during the design of the project to minimize impacts in the Wet Areas Overlay Conservation District. Wherever possible, access is proposed using existing access routes to limit disturbance to natural wetlands and wetland buffers.

Table 1 – Summary of wetlands and associated temporary wetland and buffer impacts.

Wetland ID	Classification	Temporary Wetland Impact (SF)	Wetland Buffer Impact (SF)
MW-13	PSS/EM1E	623	1,856
MW-14	PSS/EM1E	10,230	8,172
MW-14.1	PSS/EM1E	724	
MW-15	PSS/EM1E	12,272	488

(1) Key to classifications:

- P = palustrine wetland system
 - UB = unconsolidated bottom
 - 3 = mud
- SS = scrub-shrub
 - 1 = broad-leaved deciduous
- EM = emergent
 - 1=persistent
- R = riverine wetland system
 - 2 = lower perennial
 - UB = unconsolidated bottom

Modifiers:

- b = beaver
- A = temporarily flooded
- B = saturated
- C = seasonally flooded
- E = saturated or seasonally flooded
- F = semi permanently flooded

In accordance with *Article IV, Section 9(D) of the Madbury Zoning Ordinance*, a Conditional Use Permit may be issued by the Planning Board if it is found the use is consistent with the ordinances, does not have an adverse impact on wet areas and provided that all of the following conditions are found to exist:

- A. **The site is suitable for the proposed use.** The project proposes to maintain the M183 Transmission Line which is located within an existing and maintained ROW. The proposed access within the Wet Areas Conservation Overlay District to utility structure replacements is being undertaken to ensure the M183 Transmission Line continues to function safely and reliably. The utility structures will be replaced in their current alignment and there is no expansion of the existing ROW or installation new utility lines. The use does not require public services.
- B. **The impacts of the proposed use on abutting properties and the neighborhood shall be no greater than the impacts of adjacent existing uses or other uses permitted in the zone.** The impacts of the proposed use on abutting properties and the neighborhood will not exceed the impacts of adjacent existing uses as there will be no change in use. The project proposes to replace four existing wood pole structures with four steel pole structures. The poles will be approximately 5-10 feet higher than the existing utility structures due to updated National Electrical Safety Code requirements and are not anticipated to increase the noise, odor, or vibrations of the existing transmission line.
- C. **The proposed layout and design shall be compatible with the established character of the neighborhood and shall mitigate any external impacts of the use on the neighborhood.** The project proposes to maintain the



M183 Transmission Line which is located within an existing and maintained ROW. The utility structures will be replaced in their current alignment and there is no expansion of the existing ROW or installation new utility lines. Transmission poles will be constructed in proximity to the existing poles with moderate differences in height and appearance.

- D. **The proposed use including all related development activities shall preserve identified natural, cultural, historic and scenic resources on the site and shall not degrade such resources identified on abutting properties.** The access for the project has been sited to avoid areas within wetlands and wetland buffers to the greatest extent practicable. In addition, the project utilizes existing access routes within the ROW to the greatest extent to limit and prevent new disturbance. Where access routes temporarily cross a wetland, the proposed project has been designed to minimize temporary wetland impacts by using wetland matting. Matting will be temporarily placed in a narrow section of the wetland where available and within existing access routes in order to provide appropriate access and prevent rutting.
- E. **The proposed use will have no adverse impact to the wet area.** As discussed above, the impacts to wetlands will be temporary as a result of access and work pad placement and minimized by using existing access routes when possible. The proposed project minimizes adverse impacts to the wetlands by utilizing timber matting in wetland areas in order to prevent and minimize rutting and compaction in the wetland. Erosion controls will be installed to further minimize and prevent impacts to the surrounding wetland. In addition, impacts were minimized to the greatest extent through careful design of the proposed structure replacements.

Eversource has retained GZA to complete regular erosion control inspections during construction and provide guidance to the contractor to maintain compliance with local, state, and federal environmental permits. In addition, GZA will coordinate with the contractor to complete best management practices (BMPs) to protect wildlife species during construction. Wetland impact areas will be mulched and restored using a native seed mix. Siltation controls will be removed when adjacent areas are stabilized.

Please feel free to contact us with any questions.

Very truly yours,
GZA GEOENVIRONMENTAL, INC.

Conor Madison, CPESC, CESSWI
Assistant Project Manager

Tracy Tarr, CWS, CCESSWI
Associate Principal

Deborah Zarta Gier, CNRP
Consultant/Reviewer

CEM/DMZ/TLT: jc

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- Attachments:
- Conditional Use Permit Application Form
 - Photo Log
 - List of Abutters
 - Figure 1 – Locus Plan
 - Figure 2 – Access and Permitting Plans
 - Application Fee



Application for Conditional Use Permit
Madbury Planning Board
 www.madburynh.org

Form Date
 2018-03-22

Please review the zoning ordinance at <http://www.madburynh.org/pb>

Applicant Name: Public Service Company of NH d/b/a Eversource Energy Phone: 603-634-3256

Address: c/o Kurt Nelson at 13 Legends Drive, Hooksett, NH 03106

Email: kurt.nelson@eversource.com

Contact Name: Conor Madison at GZA GeoEnvironmental, Inc Phone: 603-232-8784

Address: 5 Commerce Park N, Suite 201, Bedford, NH 03110

Email: conor.madison@gza.com

Owner Name: Public Service Company of New Hampshire Phone: 603-634-3256

Address: c/o Kurt Nelson at 13 Legends Drive, Hooksett, NH


Email: kurt.nelson@eversource.com

Map # See attached Lot # See Attached

Description of proposed conditional use:
 PSNH proposes to replace two poles along the M183 Transmission Line in the Town of Madbury. The proposed work will occur within the existing, maintained right-of-way (ROW) and no additional widening of the ROW is proposed. The wooden poles will be replaced with steel poles within ten feet of the original pole location. Pole height increases are necessary to maintain minimum clearance safety standards. Timber matting will be used within wetlands to minimize and prevent rutting and compaction. In addition, the project utilizes existing access routes within the ROW to the greatest extent to limit and prevent new disturbance. Upon completion of work, timber mats will be removed and temporarily disturbed wetlands will be restored by seeding and mulching.

A complete application must include a \$200 application fee.

Please email relevant documents in PDF format to webmaster@madburynh.org

Applicant(s) and Owner(s) :  _____ Date 4/2/2021 _____

Signature _____ Date _____

Signature _____ Date _____

PHOTO LOG
M183 Transmission Line Structure Replacement Project
Madbury, New Hampshire

Photos Taken: March 24, 2021



Photograph No. 1: Looking northerly at M183 Structure 3 to be replaced.



Photograph No. 2: Looking easterly in Wetland MW-14 toward M183 Structure 3.

PHOTO LOG
M183 Transmission Line Structure Replacement Project
Madbury, New Hampshire

Photos Taken: March 24, 2021



Photograph No. 3: Looking northerly from Evans Road at M183 Structure 4 to be replaced.



Photograph No. 4: Looking easterly at existing access road from Evans Road to M183 Structure 5 to be replaced.

PHOTO LOG
M183 Transmission Line Structure Replacement Project
Madbury, New Hampshire

Photos Taken: March 24, 2021



Photograph No. 5: Looking easterly at existing access road to M183 Structure 12 to be replaced.



Photograph No. 6: Looking easterly at M183 Structure 3 to be replaced.



**M183 Transmission Line Structure Replacement Project
Eversource Energy
Abutters List
Madbury, New Hampshire**

Wetland Scientist

GZA GeoEnvironmental, Inc.
Attn: Conor Madison, CPESC, CESSWI
5 Commerce Park North, Suite 201
Bedford, NH 03110

Owner/Applicant,

Eversource Energy (a.k.a. PSNH)
PO Box 270
Hartford, CT 06141

Tax Map 009-060-000

Town of Madbury
13 Town Hall Road,
Madbury, NH 03823

Tax Map 009-012-0A0

Ballestero, Joel
44 Evans Road,
Madbury, NH 03823

Tax Map 009-018-000

Gangwer, Jesse
105 Perkins Road,
Madbury, NH 03823

Tax Map 009-060-0G0

Lababidi, Ziad
21 Garrison Lane
Madbury, NH 03823

Tax Map 009-004-000

Lockhardt, Michael
45 Pudding Hill Road,
Madbury, NH 03823

Tax Map 009-011-000

Walker, Jody
54 Evans Road,
Madbury, NH 03823

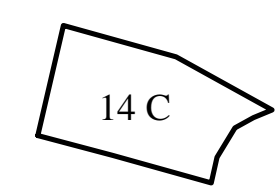
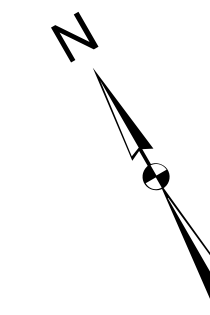
Tax Map 008-007-000

Gong, Brian
43 Evans Road,
Madbury, NH 03823

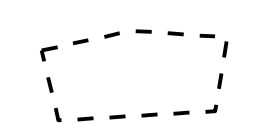
Tax Map 008-002-000

Jurrissen Family Realty Trust
15 Pendexter Road,
Madbury, NH 03823

Town of Madbury, New Hampshire
Tax Parcel Map 9



Tax Parcel [lot subplot]



Adjacent Map tax parcels

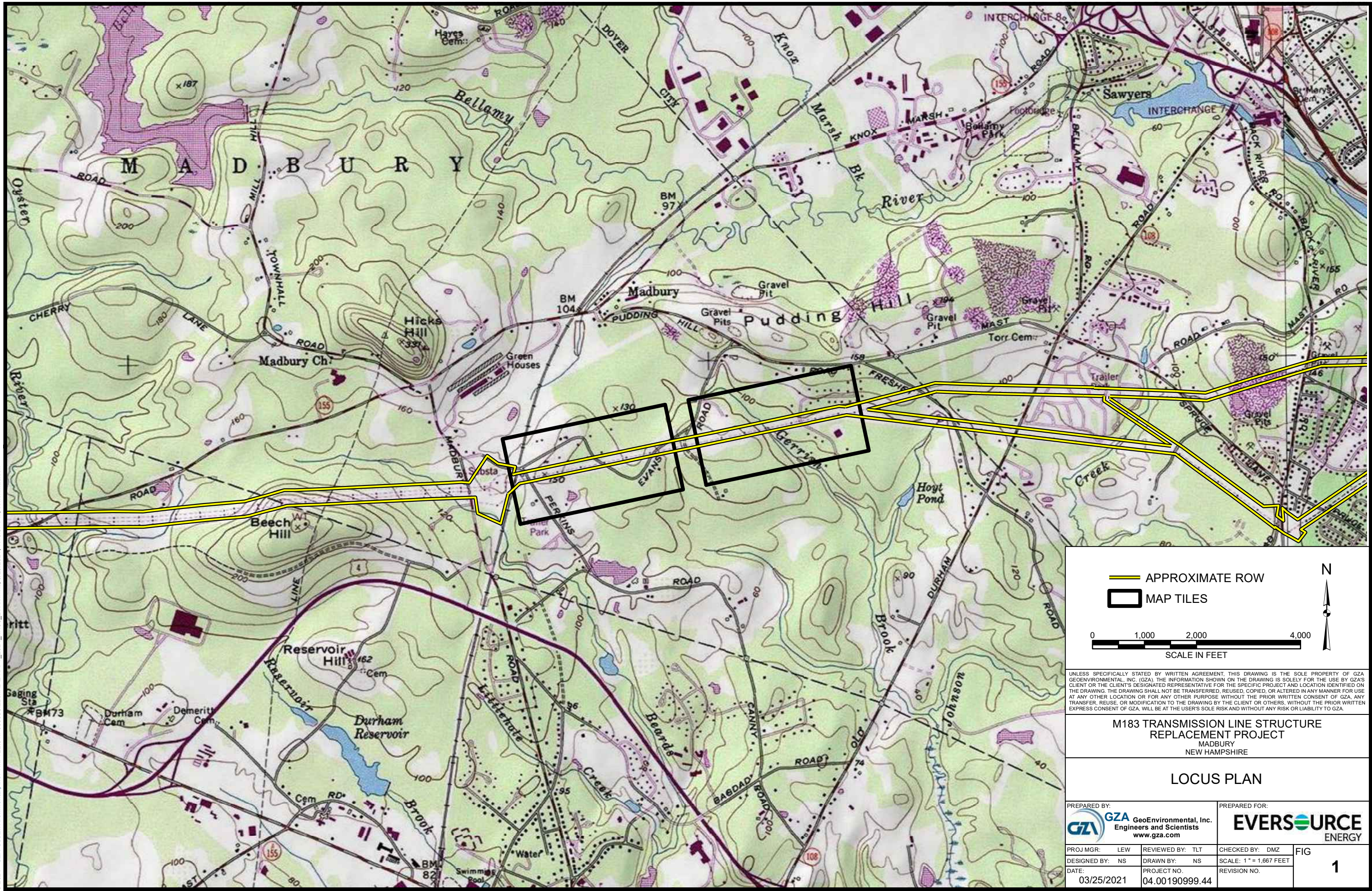


Surface water and railroad features from NH GRANIT GIS database.

Revised 10/2018



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- APPROXIMATE ROW
- MAP TILES



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M183 TRANSMISSION LINE STRUCTURE REPLACEMENT PROJECT
MADBURY
NEW HAMPSHIRE

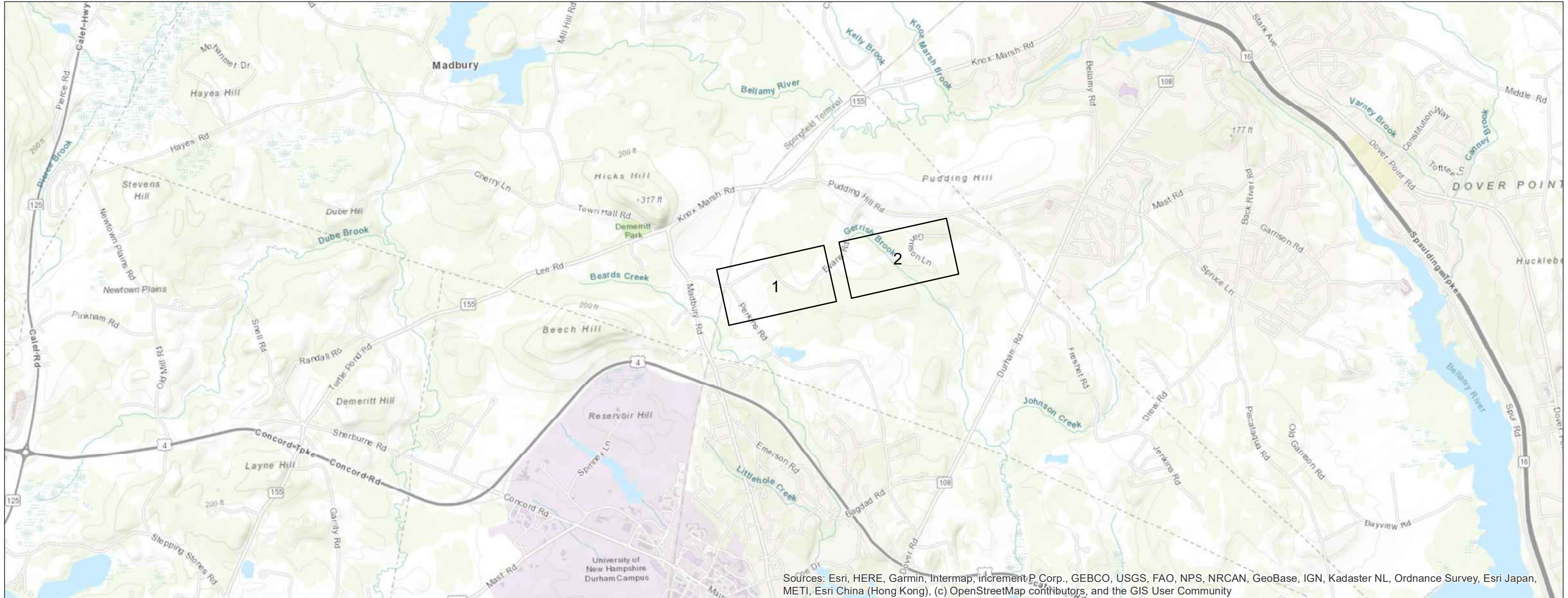
LOCUS PLAN

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: EVERSOURCE ENERGY	
PROJ MGR: LEW	REVIEWED BY: TLT	CHECKED BY: DMZ	FIG
DESIGNED BY: NS	DRAWN BY: NS	SCALE: 1" = 1,667 FEET	1
DATE: 03/25/2021	PROJECT NO: 04.00190999.44	REVISION NO.	

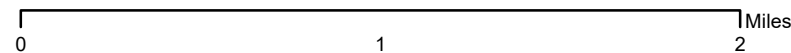
M183 Transmission Line - Structure Replacement Project

MADBURY, NEW HAMPSHIRE Environmental Resources Map

Date: April 2, 2021



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



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Map Sheets 1-2

NO.	DATE	REVISIONS

PREPARED FOR:

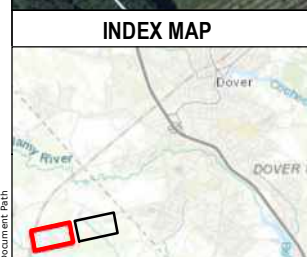
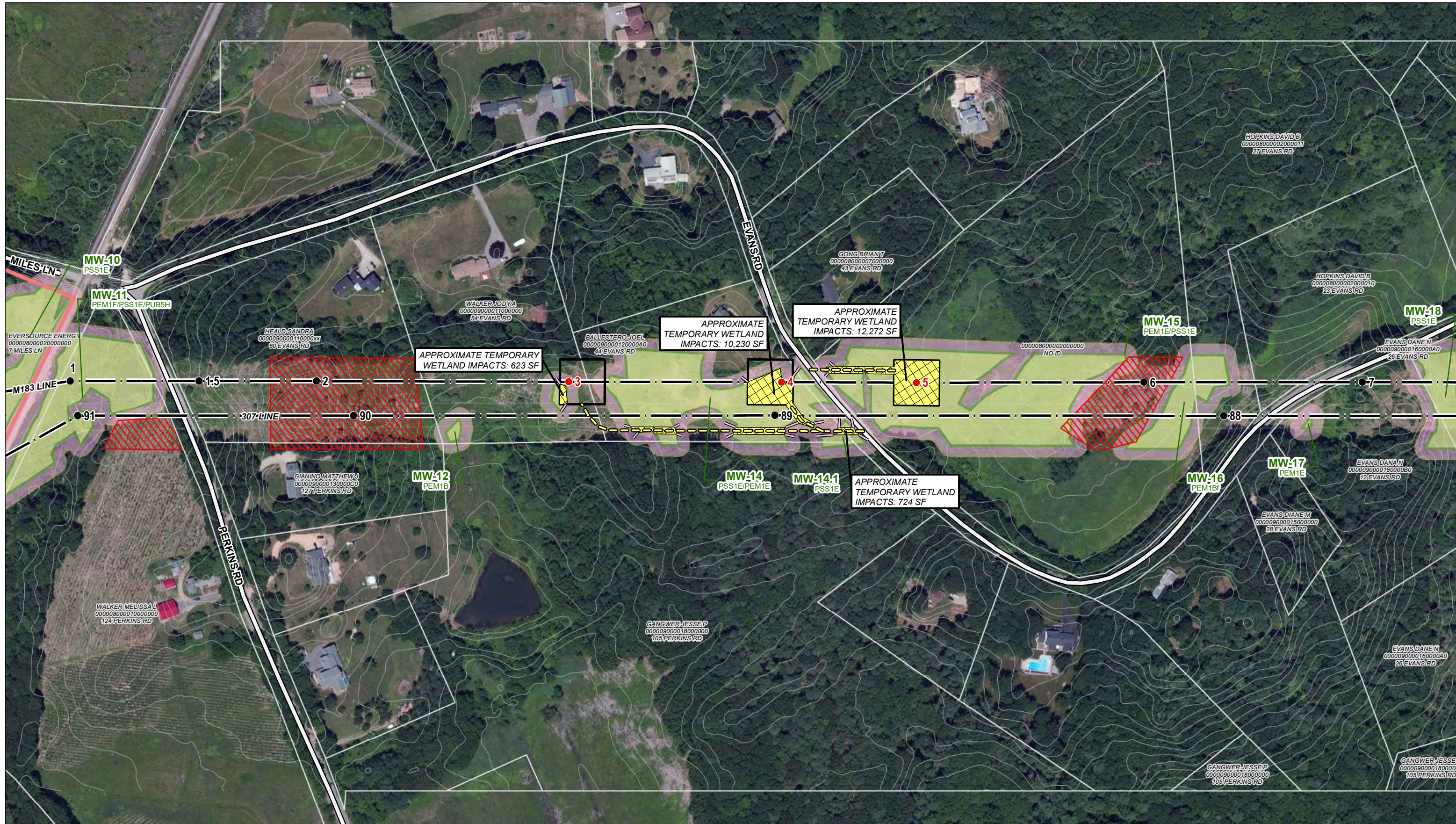


13 Legends Drive
Hooksett, NH 03106

PREPARED BY:

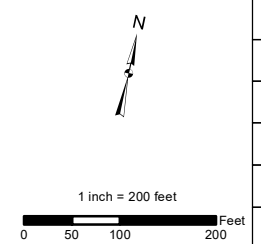


GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com



- EXISTING STRUCTURE
- EXISTING STRUCTURE TO BE REPLACED
- EXISTING STRUCTURE TO BE REMOVED
- 2FT CONTOURS
- EROSION AND SEDIMENT CONTROL
- TRANSMISSION LINE
- TEMPORARY WETLAND IMPACT
- WETLAND BUFFER MADBURY - 25 FT DOVER - 50 FT
- TOWN BOUNDARY
- DOT ROADS
- PRIMARY ACCESS
- SECONDARY ACCESS
- SHORELAND ZONE
- NHD FLOWLINE
- WORK PAD
- PEATLAND
- TIER 3 FLOODPLAIN
- WETLAND
- POTENTIAL VERNAL POOL
- PARCEL BOUNDARY
- EVERSOURCE OWNED PARCEL
- STATE OWNED PARCEL
- ARCHAEOLOGY SENSITIVITY AREAS

This mapping product has been created to comply with submittal requirements to obtain certain regulatory approvals and, as such, there is no reliance on the information contained herein for any other purpose.

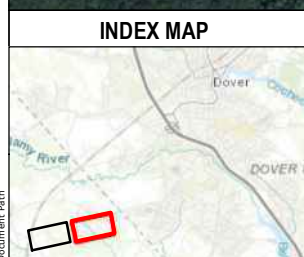
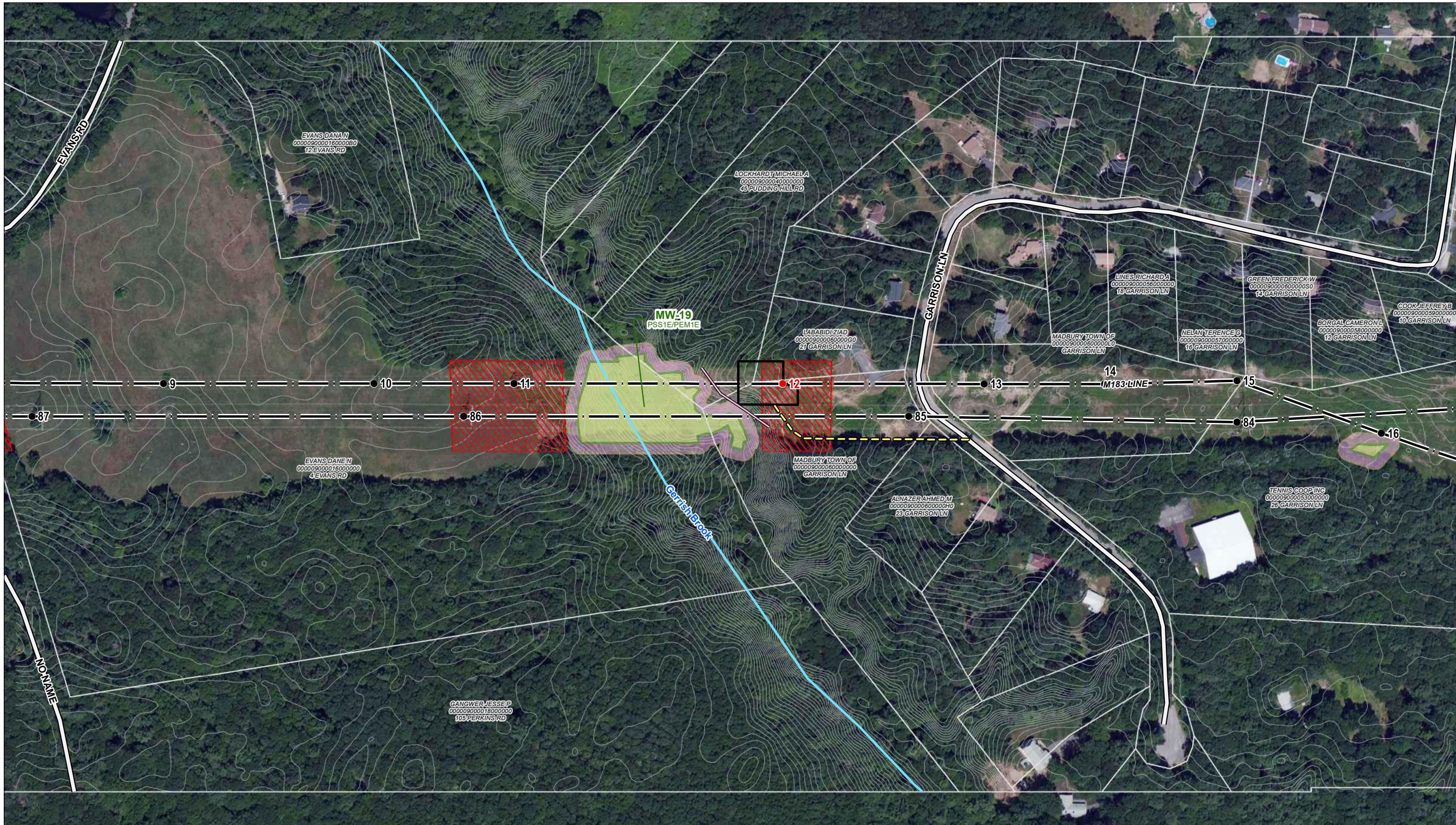


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EVSOURCE ENERGY

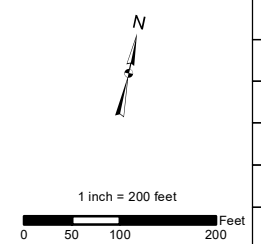
M183 Transmission Line Structure Replacement

Madbury, NH	MAP SHEET
Date: April, 2021	1 OF 1



- EXISTING STRUCTURE
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EVERSOURCE ENERGY	
M183 Transmission Line Structure Replacement	
Madbury, NH	MAP SHEET
Date: April, 2021	2 OF 2
NO.	DATE
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© 2021 - GZA GeoEnvironmental, Inc. \\GZA\Bedford\Jobs\04\Jobs\0190999\04\0190999.dwg - EE Stiling Permitting 2019-2022\04_0190999.dwg - M183 Structure Replacement Project\Figures\MXD\M183 Notesheet 1 UPDATED.mxd, 3/29/2021, 3:02:51 PM, conor.madison

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. CONSTRUCTION ACTIVITIES SHALL OCCUR DURING PERIODS OF LOW FLOW.
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. ALL OPERATIONS SHALL BE CONFINED TO THE SPECIFIED ACCESS ROUTES WITHIN THE PROPOSED WETLAND IMPACT AREA. ALL ACCESS ROUTES SHALL NOT EXCEED A 16 FOOT-WIDTH.
7. IMPACT TO VEGETATION WITHIN WETLANDS WILL BE LIMITED TO THE EXTENT NECESSARY TO PLACE THE TIMBER MATS WHERE REQUIRED.
8. ALL 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 ALL 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 TIMBER 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. UPLAND ACCESS ROUTES SHALL BE CONSTRUCTED USING CLEAN GRAVEL AND STONE AND GRADED AS NECESSARY TO PROVIDE SAFE ACCESS TO UTILITY POLES WITHIN THE ROW. UPLAND ACCESS ROUTES SHALL NOT EXCEED A 16 FOOT-WIDTH. WATER BARS WILL BE CONSTRUCTED AS NECESSARY DEPENDENT UPON TOPOGRAPHY AND MAINTAINED THROUGHOUT CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION, WATER BARS SHALL BE LEFT IN PLACE.
12. 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.
13. 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.
14. 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.
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. REMOVAL OF THE OLD POLE WILL OCCUR ONCE THE CABLE HAS BEEN INSTALLED ON THE NEW STRUCTURE. THE OLD STRUCTURES WILL BE REMOVED FROM THE SITE. POLES WILL BE CUT AT THE GROUND SURFACE IN WETLAND AREAS AND LEFT IN PLACE.
18. ALL TIMBER MATS, MATERIAL, AND DEBRIS WILL BE REMOVED FROM THE WORK AREA UPON THE COMPLETION OF CONSTRUCTION.
19. UPLAND 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.
20. UPLAND GRAVEL ACCESS ROUTES SHALL BE MAINTAINED UPON COMPLETION OF CONSTRUCTION. AS NECESSARY, STOCKPILED MATERIAL WILL BE SPREAD OVER GRAVEL ROAD FOR RESTORATION.
21. 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.
22. ABRUPT TRANSITIONS BETWEEN GRAVEL UPLAND ACCESS AND REMOVED TIMBER MATS IN WETLANDS SHALL BE TAPERED BACK. A 15-FOOT MINIMUM BUFFER STRIP FROM THE GRAVEL TRANSITION AREA SHOULD BE ESTABLISHED BY SCARIFYING GRAVEL SURFACE, SEEDING AND MULCHING. IF SLOPES AT THE RESTORED TRANSITION AREA ARE GREATER THAN 15%, EROSION CONTROL BLANKET MAY BE INSTALLED TO STABILIZE.
23. SEDIMENT AND EROSION CONTROL MEASURES WILL BE EVALUATED AND REMOVED IF NECESSARY UPON THE COMPLETION OF CONSTRUCTION.
24. COMMERCIAL LOAM WILL NOT BE USED AS PART OF RESTORATION. ONLY IN-SITU TOPSOIL WILL BE USED TO RESTORE DISTURBED AREAS.
25. WHERE OPTIMAL TURTLE BREEDING AREAS OVERLAP WITH DISTURBANCE (AS DETERMINED BY AN ENVIRONMENTAL MONITOR), MINERAL SOILS WILL BE SCARIFIED TO ALLEVIATE COMPACTION AND BECOME MORE SUITED FOR TURTLE BREEDING.
26. NATURALLY VEGETATED LOCAL WETLAND BUFFER AREAS OUTSIDE OF EXISTING TRAILS MUST BE RESTORED UPON COMPLETION OF WORK.

WINTER CONSTRUCTION NOTES

- 1. ALL 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. ALL 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 WETLAND DATA. EVERSOURCE ENERGY PROVIDED THE UTILITY DESIGN.
2. JURISDICTIONAL WETLANDS WERE DELINEATED BY GZA GEOENVIRONMENTAL, INC. IN 2016 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. SELECT WETLANDS WERE REVIEWED BY NORMANDEAU ASSOCIATES IN 2018 AS PART OF SEPARATE MAINTENANCE PROJECTS.
3. GZA EVALUATED WETLANDS AS POTENTIAL VERNAL POOLS IN 2016 IN ACCORDANCE WITH "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE", 1997, NEW HAMPSHIRE FISH AND GAME DEPARTMENT, NONGAME AND ENDANGERED WILDLIFE PROGRAM.
4. AS APPLICABLE, GZA WILL COMPLETE WETLANDS FUNCTION AND VALUES ASSESSMENT IN ACCORDANCE WITH THE ACOE'S "HIGHWAY METHODOLOGY WORKBOOK SUPPLEMENT," SEPTEMBER 1999.
5. SITE PLAN IS FOR PERMITTING PURPOSES ONLY AND DOES NOT REPRESENT A PROPERTY BOUNDARY SURVEY.
6. 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.
7. IN ACCORDANCE 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.
8. ALL AREAS SHALL BE STABILIZED WITH 45 DAYS OF INITIAL DISTURBANCE.
9. IN THE EVENT THAT A RARE OR THREATENED SPECIES IS OBSERVED, THE NEW HAMPSHIRE FISH AND GAME AND NEW HAMPSHIRE NATURAL HERITAGE BUREAU WILL BE NOTIFIED. TURTLE NESTING SEASON EXTENDS FROM LATE MAY THROUGH THE BEGINNING OF JULY. IF WOOD, BLANDING'S OR SPOTTED TURTLES ARE FOUND LAYING EGGS IN THE WORK AREA, CONTACT MELISSA DOPERALSKI AT 603-271-1738 OR JOSH MEGYESY AT 603-271-1125 FOR FURTHER INSTRUCTIONS. OBSERVATIONS OF NORTHERN BLACK RACER SNAKES SEEN IN ANY AREA 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 603-271-0463 OR MELISSA DOPERALSKI AT 603-271-1738). IF NORTHERN BLACK RACER IS FOUND IN A WORK AREA FROM NOVEMBER THROUGH THE MONTH OF APRIL, WORK SHALL IMMEDIATELY CEASE AND THE OBSERVATION MUST BE REPORTED TO THE NHFG (BRENDAN CLIFFORD OR MELISSA DOPERALSKI).

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.
7. EROSION CONTROL MATTING, IF REQUIRED, WILL CONSIST OF JUTE MATTING. MATTING WITH WELDED PLASTIC OR 'BIODEGRADABLE PLASTIC' NETTING OR THREAD WILL BE AVOIDED TO LIMIT UNINTENTIONAL MORTALITY TO SNAKES.

ADDITIONAL RARE SPECIES BMPS

- 1. PRIOR TO DAILY CONSTRUCTION ACTIVITIES, TIMBER MATTING WILL BE REVIEWED FOR SNAKES AND TURTLES.
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.

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.

M183 TRANSMISSION LINE
STRUCTURE REPLACEMENT PROJECT
MADBURY,
NEW HAMPSHIRE

NOTES

Table with project details including GZA logo, EVERSOURCE ENERGY logo, and fields for PROJ MGR, DESIGNED BY, DATE, REVIEWED BY, DRAWN BY, PROJECT NO., CHECKED BY, SCALE, REVISION NO., and SHEET 1 OF 2.

Best Management Practices (BMP's) for Straw wattles

Definition and purpose:

Straw wattles are burlap rolls filled with straw that trap sediment and interrupt water flow by reducing slope lengths.

Applications:

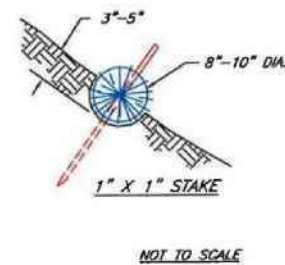
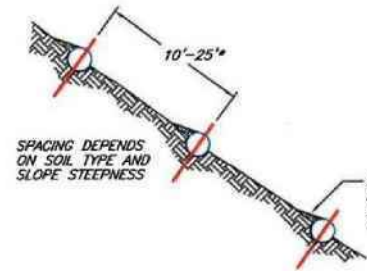
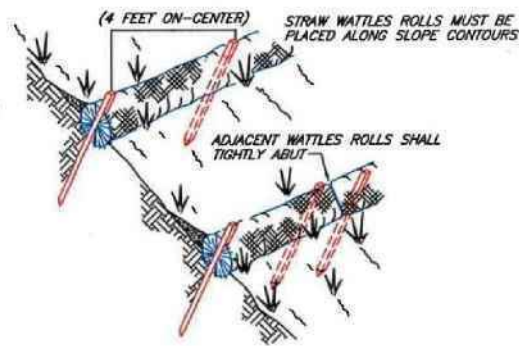
- * Along erodible or unstabilized slopes
- * Spread overland waterflow
- * Trap sediment
- * Around storm drain inlets to slow water and settle out sediment
- * Overlap ends approximately 6 inches

Installation:

Straw wattles are installed parallel to slope contours and perpendicular to sheet flow.

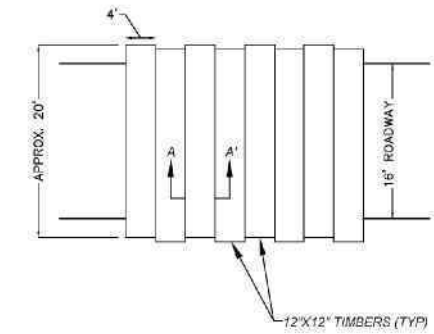
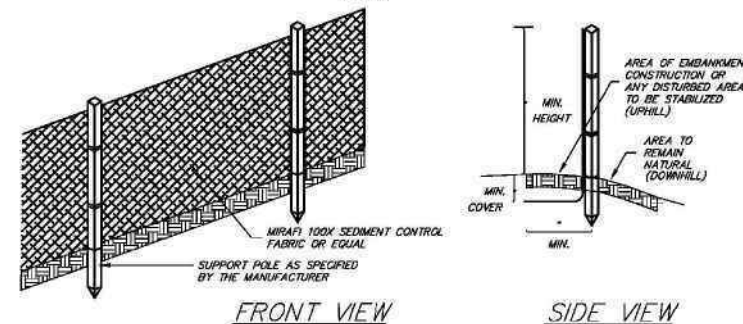
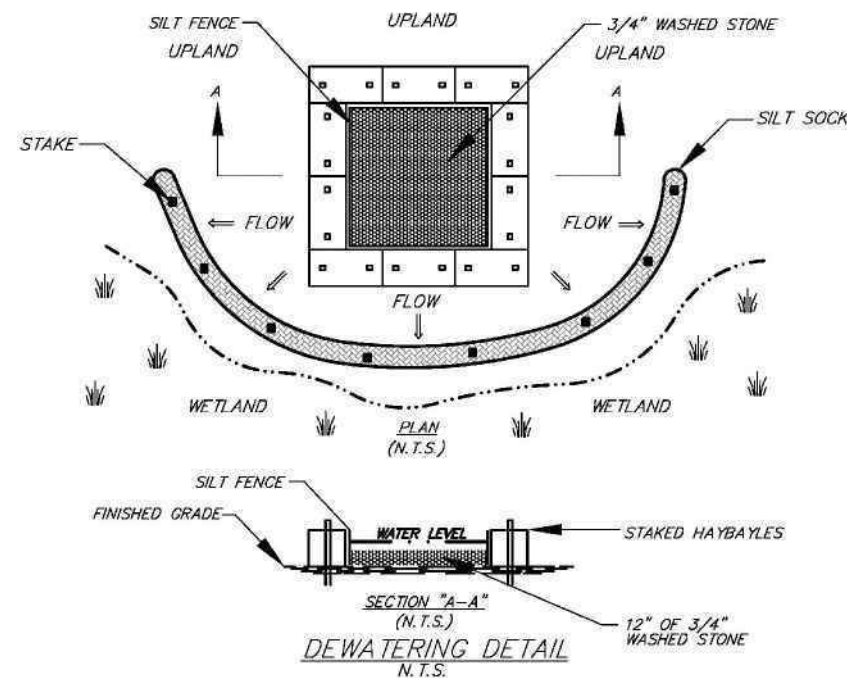
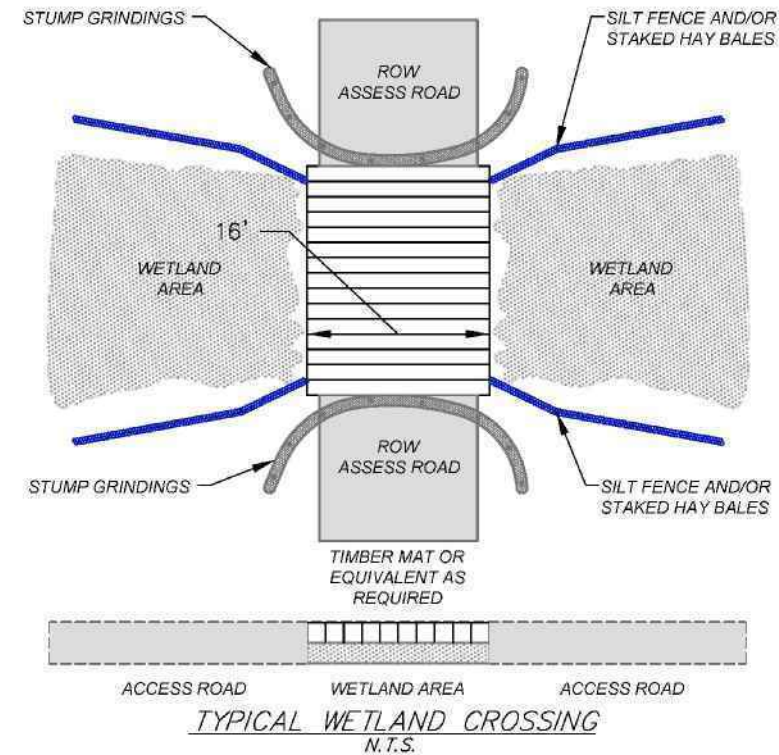
Spacing* - Dependent on slope length, soil steepness and soil type (general range 10 - 25').

Trenching - 2"-5" inch trench
Stacking - at each end and four foot on center (i.e. 25 foot wattle uses 6 stacks)



NOTES (SILT FENCE)

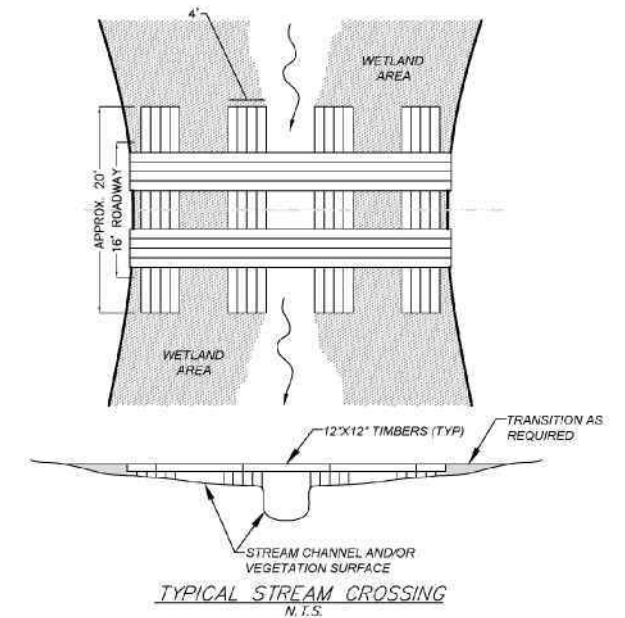
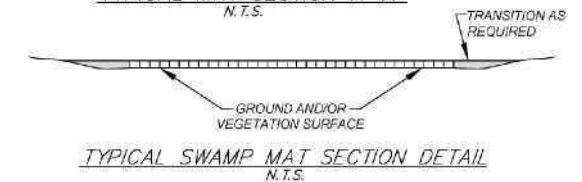
1. THE HEIGHT OF THE BARRIER SHALL NOT EXCEED 36 INCHES.
2. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY SEALED. SEE MANUFACTURER'S RECOMMENDATIONS.
3. POSTS SHALL BE PLACED AT A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT 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.



TYPICAL SWAMP MAT PLAN VIEW
N.T.S.



TYPICAL MAT SECTION A-A
N.T.S.



TYPICAL STREAM CROSSING
N.T.S.

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M183 TRANSMISSION LINE
STRUCTURE REPLACEMENT PROJECT
MADBURY,
NEW HAMPSHIRE

DETAILS

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
EVERSOURCE
ENERGY

PROJ MGR: LEW	REVIEWED BY: DMZ	CHECKED BY: TLT	SHEET 2
DESIGNED BY: MJD	DRAWN BY: MJD	SCALE:	
DATE: 03/29/2021	PROJECT NO. 04.0190999.44	REVISION NO.	



USE OF REPORT

1. GZA GeoEnvironmental, Inc. (GZA) has prepared this report on behalf of, and for the exclusive use of the Eversource Energy (“Client”) for the stated purpose(s) and location(s) identified in the report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not identified in the agreement, for any use, without our prior written permission, shall be at that party’s risk, and without any liability to GZA.

STANDARD OF CARE

2. GZA’s findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Report and/or proposal, and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the data gathered and observations made during the course of our work. Conditions other than described in this report may be found at the subject location(s).
3. GZA’s services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made.

LIMITS TO OBSERVATIONS

4. Natural resource characteristics are inherently variable. Biological community composition and diversity can be affected by seasonal, annual or anthropogenic influences. In addition, soil conditions are reflective of subsurface geologic materials, the composition and distribution of which vary spatially.
5. The observations described in this report were made on the dates referenced and under the conditions stated therein. Conditions observed and reported by GZA reflect the conditions that could be reasonably observed based upon the visual observations of surface conditions and/or a limited observation of subsurface conditions at the specific time of observation. Such conditions are subject to environmental and circumstantial alteration and may not reflect conditions observable at another time.
6. The conclusions and recommendations contained in this report are based upon the data obtained from a limited number of surveys performed during the course of our work on the site, as described in the Report. There may be variations between these surveys and other past or future surveys due to inherent environmental and circumstantial variability.

RELIANCE ON INFORMATION FROM OTHERS

7. Preparation of this Report may have relied upon information made available by Federal, state and local authorities; and/or work products prepared by other professionals as specified in the report. Unless specifically stated, GZA did not attempt to independently verify the accuracy or completeness of that information.

COMPLIANCE WITH REGULATIONS AND CODES

8. GZA’s services were performed to render an opinion on the presence and/or condition of natural resources as described in the Report. Standards used to identify or assess these resources as well as regulatory jurisdiction, if any, are stated in the Report. Standards for identification of jurisdictional resources and regulatory control over them may vary between governmental agencies at Federal, state and local levels and are subject to change over time which may affect the conclusions and findings of this report.



NEW INFORMATION

9. In the event that the Client or others authorized to use this report obtain information on environmental regulatory compliance issues at the site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this work, may modify the conclusions stated in this report.

ADDITIONAL SERVICES

10. GZA recommends that we be retained to provide further investigation, if necessary, which would allow GZA to (1) observe compliance with the concepts and recommendations contained herein; (2) evaluate whether the manner of implementation creates a potential new finding; and (3) evaluate whether the manner of implementation affects or changes the conditions on which our opinions were made.