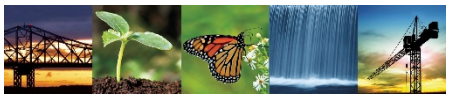

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F: 603.624.9463
www.gza.com

December 19, 2018
File No. 04.0190507.66

City of Portsmouth
Planning Director
Attn: Juliet Walker, Planning Director
1 Junkins Ave
Portsmouth, New Hampshire 03801

Re: Conditional Use Permit Application
Eversource Energy
E194 and U181 Transmission Line Maintenance Project
Portsmouth, New Hampshire

Dear Juliet Walker:

This letter transmits a Conditional Use Permit Application on behalf of Eversource Energy (Eversource), for the E194 & U181 Transmission Line Structure Maintenance Project (see attached Locus Plan). On behalf of Eversource, GZA GeoEnvironmental, Inc. (GZA) is requesting consideration of a Conditional Use Permit application for temporary and permanent impacts within wetlands and wetland buffers in the City of Portsmouth.

The proposed project involves the replacement of select E194 & U181 Transmission Line structures. The E194 & U181 Transmission Lines are approximately 68 years old and require routine maintenance for the lines to continue to function reliably. During recent line inspections, Eversource determined that approximately seven (7) utility structures (i.e. utility poles) must be replaced in the City of Portsmouth due to damages such as horizontal splitting, rotting, and woodpecker damage. The E194 & U181 Transmission Lines provide power to customers in Portsmouth, Newington, Rye, Greenland and Stratham. Eversource has indicated that a failure in one structure could potentially result in failure of adjacent structures, resulting in a widespread outage to customers along the E194 & U181 Transmission Lines. The proposed utility pole structure replacements will consist of two or three pole structures and supporting guy wire installation, similar to the existing utility pole structures. Due to the environment, the new structures will be steel instead of wood to prevent woodpecker damage in the future.

A total of 29 utility poles were replaced along the E194 and U181 Transmission Lines in late 2017 and early 2018. Twenty-six (26) utility poles were identified as high priority for replacement during earlier line inspections. Three (3) additional utility poles were added as an amendment to the Conditional Use Permit application due to storm damage in August 2017. The City of Portsmouth approved a Conditional Use Permit to

replace the 29 utility poles in September 2017. Recent inspections in 2018 along the E194 and U181 Transmission Lines identified seven (7) additional utility pole replacements as high priorities for replacement and are proposed to be replaced in winter/early spring of 2019. The proposed seven (7) additional utility pole replacements are approximately 2.25 miles north of the previously approved 29 utility pole replacements.

Level work areas need to be temporarily established around utility poles located within wetlands and wetland buffers for safety purposes while conducting work. A total of seven structure locations must be accessed. Of the seven poles, three (3) are located within inland wetlands and will result in temporary impacts within the wetlands for access and replacement.

In order to access and work on various utility poles, two (2) wetland areas and three (3) wetland buffer areas must be temporarily crossed with timber matting. Eversource will utilize existing access routes and established trails in the ROW corridor to the greatest extent feasible. In addition, timber matting will be utilized at the temporary wetland crossings to limit and prevent rutting during construction. Total temporary wetland impacts include approximately 27,060 square feet for access and 240 square feet for utility pole replacement. Total temporary wetland buffer impacts total 3,114 square feet (see E194 & U181 Transmission Line Maintenance Plans, Table 1 - Wetland and Buffer Area Analysis, and Table 2 - Wetland and Buffer Impact Analysis).

Where necessary, straw wattle, silt fence, or similar erosion controls will be installed as part of maintenance activities, to prevent sedimentation into wetlands. In addition, disturbed areas will be graded, seeded, and mulched as necessary to restore upland and wetland areas following construction completion (see Sheets 1 and 2).

The project also includes extensive best management practices to protect rare species and exemplary communities. Review of NH Natural Heritage Bureau (NHB) Database indicated that although there are NHB records present in the vicinity, the proposed project is not expected to impact rare species in the vicinity of the project work area. However, Eversource will continue to use Best Management Practices (BMPs) to monitor for turtles and snakes daily prior to construction activities. Observed turtles and snakes will be moved off construction access roads and matts to limit and prevent mortality to turtles and snakes during construction.

In accordance with the City of Portsmouth Zoning Ordinance, Article 10, section 10.1017.60, a Conditional Use Permit may be issued by the Planning Board for the construction of Public and Private Utilities within Rights-of-Ways in Wetlands and Wetland Buffers provided that certain conditions are satisfied. The following section describes how the proposed project meets the stated conditions.

A. ***The proposed construction is in the public interest***. The proposed project is necessary to maintain the power supply of the existing transmission line. The existing lines are approximately 68 years old and select poles must be replaced immediately due to horizontal splitting, rotting, and woodpecker holes. If the work is not conducted, the utility poles could eventually fail and prevent power transmission. The project will improve the existing transmission line and increase reliability. This project does not propose any expansion of the existing utility line ROW and does not include the construction of new lines. The project is maintenance of existing infrastructure.

B. ***Design, construction, and maintenance methods will utilize best management practices to minimize any detrimental impact of such use upon the wetland and will include restoration of the site as nearly as possible to its original grade, condition, and vegetated state***. Where access routes temporarily cross a wetland, the proposed project has been designed to minimize temporary wetland impacts through the

use of wetland matting. The structures requiring replacement are intentionally accessed from the nearest roads (e.g. Arthur F. Brady Drive and Gosling Road), to minimize the length of required timber matting.

Best management practices that include the installation and maintenance of erosion and sediment barriers will be used during construction and post-construction. The areas of temporary impact will be seeded and mulched with an herbaceous seed mix to establish permanent vegetative cover, as necessary, to promote restoration as nearly as possible to its original grade, condition, and vegetated state. Erosion and sediment barriers will be removed from the site after vegetation has been established. Introduction of invasive plant species will be prevented by requiring contractors to clean all soils and vegetation from construction equipment and matting before equipment arrives on Site, as well as prior to leaving the Site. As required as part of the last conditional use permit, approved September 21, 2017 by the City of Portsmouth Planning Board, if any invasive plants are encountered in the excavation locations of the poles, invasive plants will be removed and properly disposed.

C. ***No alternative feasible route exists which does not cross or alter a wetland or have a less detrimental impact on a wetland***. The proposed access routes have been designed to utilize existing access routes and minimize wetland impact to the greatest extent practicable. There are no alternatives with less impact that maintain the safety and reliability of the existing transmission line.

D. ***Alterations of natural vegetation or managed woodland will occur only to the extent necessary to achieve construction goals***. The proposed project is located within an existing and maintained utility ROW that is routinely mowed. The wetlands on Site are classified primarily as a mix of palustrine emergent wetland systems with persistent vegetation and palustrine scrub-shrub wetland systems with broad-leaved deciduous vegetation. Dominant species includes narrow leaf cattail (*Typha angustifolia*), purple loosestrife (*Lythrum salicaria*), phragmites (*Phragmites australis*), reed canary grass (*Phalaris arundinacea*), multiflora rose (*Rosa multiflora*), and staghorn sumac (*Rhus typhina*). The project avoids prime wetland and rare/exemplary communities. No exemplary communities or rare species are known within the direct vicinity of the Site (see attached NHB memo #18-3563).

The proposed project will utilize existing access routes to limit disturbance to wetlands and wetland buffers to the greatest extent feasible. Natural vegetation will be temporarily impacted using timber matting only where necessary to achieve construction goals. Best management practices will be used to restore the site as nearly as possible to its original grade, condition and vegetated state. Wetland impact areas will be restored upon completion of work by mulching and seeding impacted areas using the New England Erosion Control and Restoration Mix seed or equivalent.

Please feel free to contact us with any questions.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Tracy Tarr, CWS, CWB, CESSWI
Senior Project Manager

Deborah M. Zarta Gier, CNRP
Principal-in-Charge

TLT/DMZ

Attachments: Conditional Use Permit Application form
Photo Log
List of Abutters
Figure 1 – Locus Plan
Figure 2 – E194 & U181 Transmission Line Maintenance Plans
Table 1 – Wetland and Buffer Area Analysis
Table 2 - Wetland and Buffer Impact Analysis
Application Fee

Conditional Use Permit Application Form

City of Portsmouth
Application for Conditional Use Permit
For Use, Activity or Alteration in a Wetland or Wetland Buffer
[Zoning Ordinance – Section 10.1010 – Wetlands Protection]

Date Submitted: _____ Fee: _____

Site Address: Echo Ave to Gosling Road Map _____ Lot see attached

Zoning District: Residential, Mixed, Industrial Lot area: 2,532,552 sq. ft.

Owner		Applicant	
Name	Eversource Energy (ROW)	Name	Eversource Energy, Attn: Jeremy Fennell
Address	13 Legends Drive	Address	13 Legends Drive
	Hooksett, NH 03106		Hooksett, NH 03106
Phone	603-634-3396	Phone	603-634-3396
Email	jeremy.fennell@eversource.com	Email	jeremy.fennell@eversource.com

Proposed Activity (check all that apply):

- ☐ New structure
- ☐ Expansion of existing structure
- ■ Other site alteration (specify): Replacement of seven (7) utility pole structures.

Impacted Jurisdictional Area(s) (check all that apply):

- ■ Inland wetland ■ Inland wetland buffer
- ☐ Tidal wetland ☐ Tidal wetland buffer

Total area of inland wetland (both on and off the parcel): 848,353 within ROW sq. ft.

Distance of proposed structure or activity to edge of wetland: 0 ft.

	Total Area on Lot		Area to be Disturbed	
Inland wetland	848,353	sq. ft.	27,300	sq. ft.
Tidal wetland	N/A	sq. ft.	N/A	sq. ft.
Wetland buffer	799,673	sq. ft.	3,114	sq. ft.

Description of site and proposed construction: _____

The project includes the replacement of seven (7) existing utility poles associated with the E194 and U181 Transmission Lines (see attached narrative for additional information).

See reverse side for Submission Requirements and Information for Applicant.
Both sides must be signed to complete this form.

Eversource Energy ROW (Attn: Jeremy Fennell) Date: _____

Owner

Jeremy Fennell Date: 12/20/2018

Applicant (if different)

Submission Requirements

The applicant must file 22 copies (10 copies for the Conservation Commission and 12 copies for the Planning Board) of a stamped and folded Site Plan to scale showing the location of the proposed structure, use, activity or alteration in relation to the wetland, as determined by on-site inspection by a certified wetland scientist at a time when conditions are favorable for such inspection and delineation. The plan shall include all information specified in Section 10.1017.20 of the Zoning Ordinance, and shall include a locus map with a north arrow.

Information for Applicant

If there is any question, however slight, of the presence of wetlands on the site, the applicant should consult the City Wetlands Map on file in the Planning Department. If it appears that wetlands might exist on site, the applicant should become familiar with the provisions of Section 10.1010 of the Zoning Ordinance.

Review by Independent Certified Wetland Scientist

In the majority of cases the Planning Board will require the opinion of a qualified independent certified wetland scientist. In such cases the procedure is that the Board applies to the Rockingham County Conservation District for the services of such an individual. The findings of the certified wetland scientist will include, but are not limited to, the suitability of the site for the proposed use and the effect of the project on the wetlands on site and in the vicinity.

The certified wetland scientist will render a report to the District, with copies to the Planning Board and the Conservation Commission. The District will bill the City directly for the services of the certified wetland scientist. The owner /applicant shall forward a check to the City made payable to Rockingham County Conservation District prior to the petition being reviewed by either the Conservation Commission or the Planning Board.

Following the receipt of the report from the Rockingham County Conservation District, the Conservation Commission will review the application and will make a recommendation to the Planning Board. Once such a recommendation is made by the Conservation Commission, the Planning Board will schedule a Public Hearing.

I have read and understand the above information. I will pay any additional fees due as required above.

_____ Date: _____

Owner

_____ Date: 12/20/2018

Applicant (if different)

Photo Log

PHOTO LOG
E194 & U181 Transmission Line Maintenance Project
Portsmouth, NH

Photos Taken: November 2018

Photograph No. 1: View of existing U181 & E194 maintained Transmission Line Corridor and Wetland PW-21. There are no proposed wetland impacts in this system.

Photograph No. 2: View of U181 Structure 21 off Echo Avenue.

PHOTO LOG
E194 & U181 Transmission Line Maintenance Project
Portsmouth, NH

Photos Taken: November 2018

Photograph No. 3: View of Wetland PW-22 off Echo Avenue. There are no proposed wetland impacts in this system.

Photograph No. 4: View of Structures U181-20 & E194-20 to be replaced within Wetland PW-23. Timber matting will be used to minimize and prevent rutting in the wetland.

PHOTO LOG
E194 & U181 Transmission Line Maintenance Project
Portsmouth, NH

Photos Taken: November 2018

Photograph No. 5: View of the existing maintained ROW corridor from within Wetland PW-24. There are no proposed wetland impacts in this system.

Photograph No. 6: View of Structures U181-17 & E194-17 off Echo Avenue to be replaced.

PHOTO LOG
E194 & U181 Transmission Line Maintenance Project
Portsmouth, NH

Photos Taken: November 2018

Photograph No. 7: View of the existing maintained ROW corridor from within Wetland PW-25. There are no proposed wetland impacts in this system.

Photograph No. 8: View of the existing maintained ROW corridor from within Wetland PW-26. There are no proposed wetland impacts in this system

PHOTO LOG
E194 & U181 Transmission Line Maintenance Project
Portsmouth, NH

Photos Taken: November 2018

Photograph No. 9: View of the existing and maintained ROW corridor from within Wetland PW-27 facing north.

Photograph No. 10: View of Structure U181-12 to be replaced within Wetland PW-27 off Gosling Road. Timber matting will be used to minimize and prevent rutting in the wetland.

PHOTO LOG
E194 & U181 Transmission Line Maintenance Project
Portsmouth, NH

Photos Taken: November 2018

Photograph No. 11: View of the existing maintained ROW corridor from within Wetland PW-28. There are no proposed wetland impacts in this system.

Photograph No. 12: View of the existing maintained ROW corridor from within Wetland PW-28. There are no proposed wetland impacts in this system

PHOTO LOG
E194 & U181 Transmission Line Maintenance Project
Portsmouth, NH

Photos Taken: November 2018

Photograph No. 13: View of Structure U181-2 to be replaced off Gosling Road.

Photograph No. 14: View of the existing maintained ROW corridor from within Wetland PW-29. There are no proposed wetland impacts in this system

List of Abutters

E194 & U181 Transmission Line Structure Replacement Project
Eversource Energy
Abutters List
Portsmouth, New Hampshire

Tax Map 214, Lot 2
GSP Schiller LLC
220 Atlantic Road
Stamford, CT 06902

Tax Map 215, Lot 1
Retrosi Properties LLC
150 Gosling Road
Portsmouth, NH 03801

Tax Map 236, Lot 33
Two Way Realty LLC
120 Spaulding Turnpike
Portsmouth, NH 03801

Tax Map 236, Lot 34
Tax Map 236, Lot 36
James Mulvey
85 Pine River Path
Effingham, NH 03882

Tax Map 236, Lot 39
Spaulding Group LLC
180 Spaulding Turnpike
Portsmouth, NH 03801

Tax Map 237, Lot 49
Jeffrey Abrams
165 Woodlawn Circle
Portsmouth, NH 03801

Tax Map 237, Lot 50
Kristen Cremer
175 Woodlawn Circle
Portsmouth, NH 03801

Tax Map 237, Lot 51
Frank Lawrence
Eunice Lawrence
6 Birnum Woods Road
Stratham, NH 03885

Tax Map 237, Lot 52
Peter Anania
197 Woodlawn Circle
Portsmouth, NH 03801

Tax Map 237, Lot 53
Michael Randall
Kristina Randall
231 Woodlawn Circle
Portsmouth, NH 03801

Tax Map 237, Lot 54
Charles Karpenko
Lynne Karpenko
47 Main Street
Salisbury, MA 01952

Tax Map 237, Lot 55
Victor Love
Kim Love
184 Echo Avenue
Portsmouth, NH 03801

Tax Map 237, Lot 56
N E Marine and Industrial Institute
200 Spaulding Turnpike
Portsmouth, NH 03801

Tax Map 237, Lot 57
Crown View Properties LLC
21 Pine Street
Newport, NH 03773

Tax Map 237, Lot 58
David Palumbo
Lorraine Palumbo
181 Echo Avenue
Portsmouth, NH 03801

Tax Map 237, Lot 60
Echo Hill Condo Assoc.
Echo Avenue
Portsmouth, NH 03801

Tax Map 238, Lot 2
SLF Realty Group LLC
400 Spaulding Turnpike
Portsmouth, NH 03801

Tax Map 237, Lot 3
Tax Map 237, Lot 4
Marcus Katkin
James Katkin
1400 Woodbury Avenue
Portsmouth, NH 03801

E194 & U181 Transmission Line Structure Replacement Project
Eversource Energy
Abutters List
Portsmouth, New Hampshire

Tax Map 238, Lot 16
DPF 1600 Woodbury Avenue LLC
C/O Marvin Poer & Company
3520 Piedmont Road NE Suite 410
Atlanta, GA 30305

Tax Map 238, Lot 20
R K Portsmouth LLC
C/O R K Funding LLC
50 Cabot Street
Needham, MA 02494

Tax Map 239, Lot 7, Sub Lot 1
The Pep Boys Manny Moe and Jack
108 Town Park Drive NW
Kennesaw, GA 30144

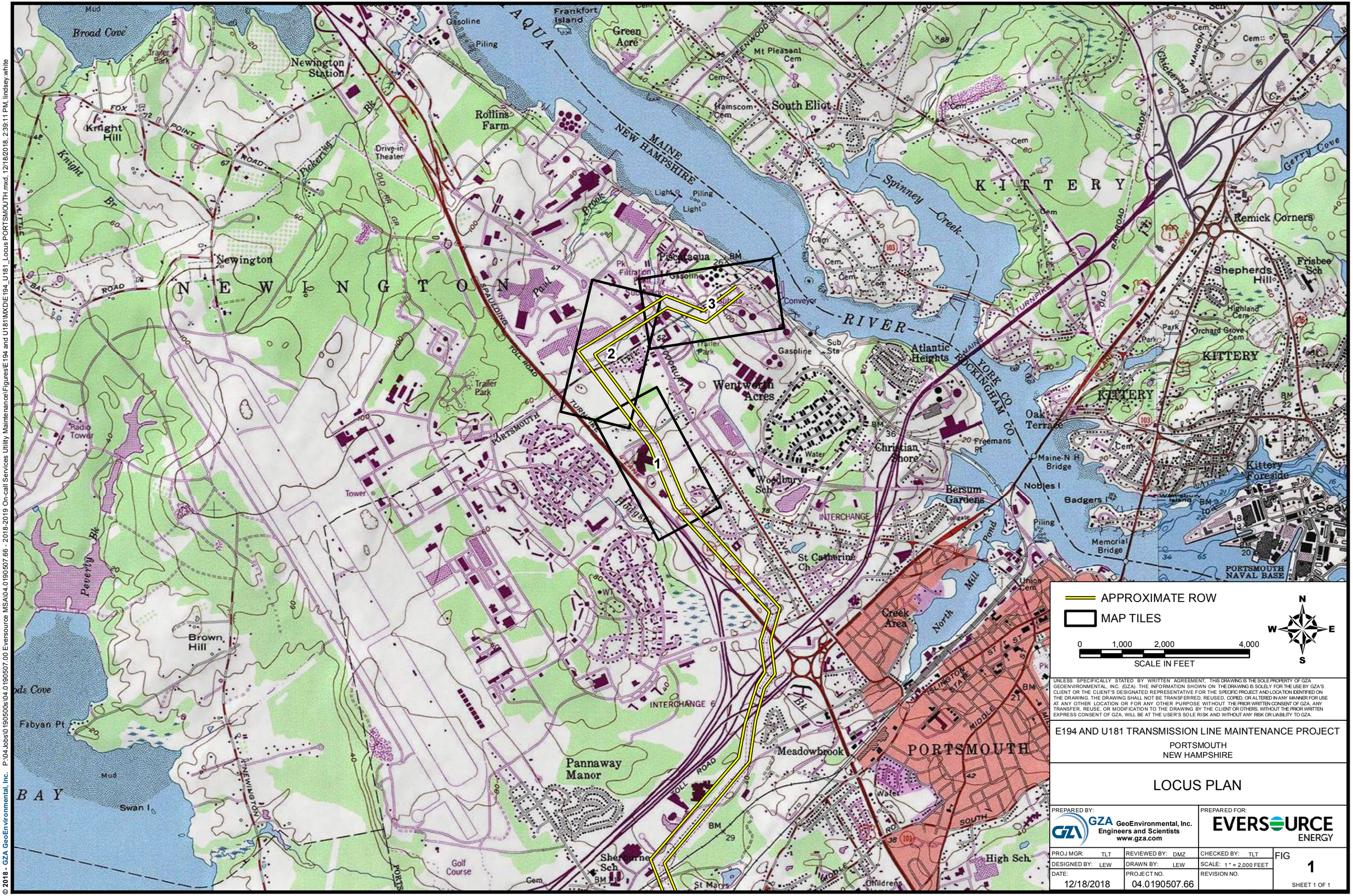
Tax Map 239, Lot 8
YDNIC LLC
C/O Cameron & Mittleman LLP
301 Promenade Street
Providence, RI 02908

Tax Map 239, Lot 13, Sub Lot 2
Tax Map 239, Lot 16
Tax Map 239, Lot 18
Bed Bath & Beyond
650 Liberty Avenue
Union, NJ 07083

Wetland Scientist
GZA GeoEnvironmental, Inc.
Attn: Tracy Tarr, CWS, CWB, CESSWI
5 Commerce Park North, Suite 201
Bedford, NH 03110

Owner/Applicant
Eversource Energy (a.k.a. PSNH)
Tax Map 281, Lot 2
13 Legends Drive
Hooksett, NH 03106

Figure 1 – Locus Plan



APPROXIMATE ROW

MAP TILES

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0 1,000 2,000 4,000

SCALE IN FEET

E194 AND U181 TRANSMISSION LINE MAINTENANCE PROJECT

PORTSMOUTH
NEW HAMPSHIRE

LOCUS PLAN

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

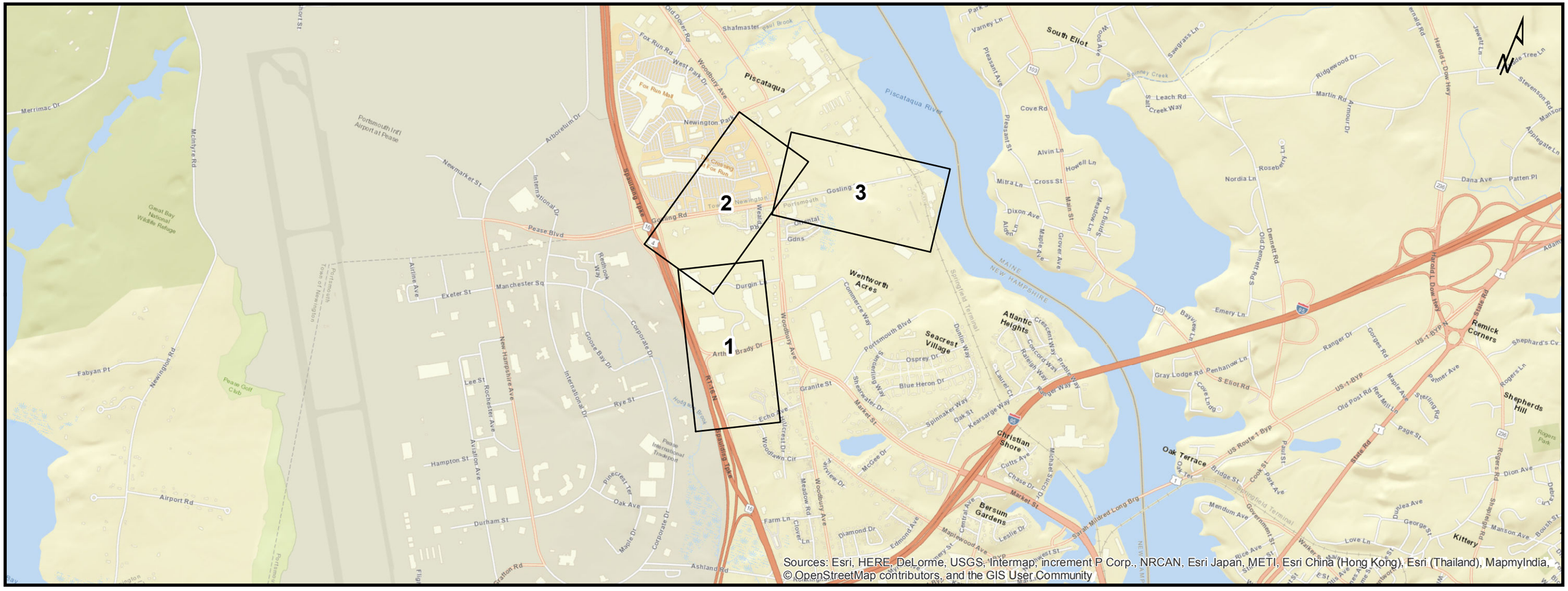
PREPARED FOR:
EVERSOURCE ENERGY

PROJ MGR: TLT	REVIEWED BY: DMZ	CHECKED BY: TLT	FIG 1
DESIGNED BY: LEW	DRAWN BY: LEW	SCALE: 1 " = 2,000 FEET	
DATE: 12/18/2018	PROJECT NO. 04.0190507.66	REVISION NO.	SHEET 1 OF 1

Figure 2 – E194 & U181 Transmission Line Maintenance Plans

E194 & U181 TRANSMISSION LINE MAINTENANCE PROJECT

PORTSMOUTH, NEW HAMPSHIRE
ACCESS AND PERMITTING PLANS
12/20/2018



PREPARED FOR

EVERSOURCE ENERGY

INDEX OF FIGURES

1 inch = 2,045 feet

PREPARED BY

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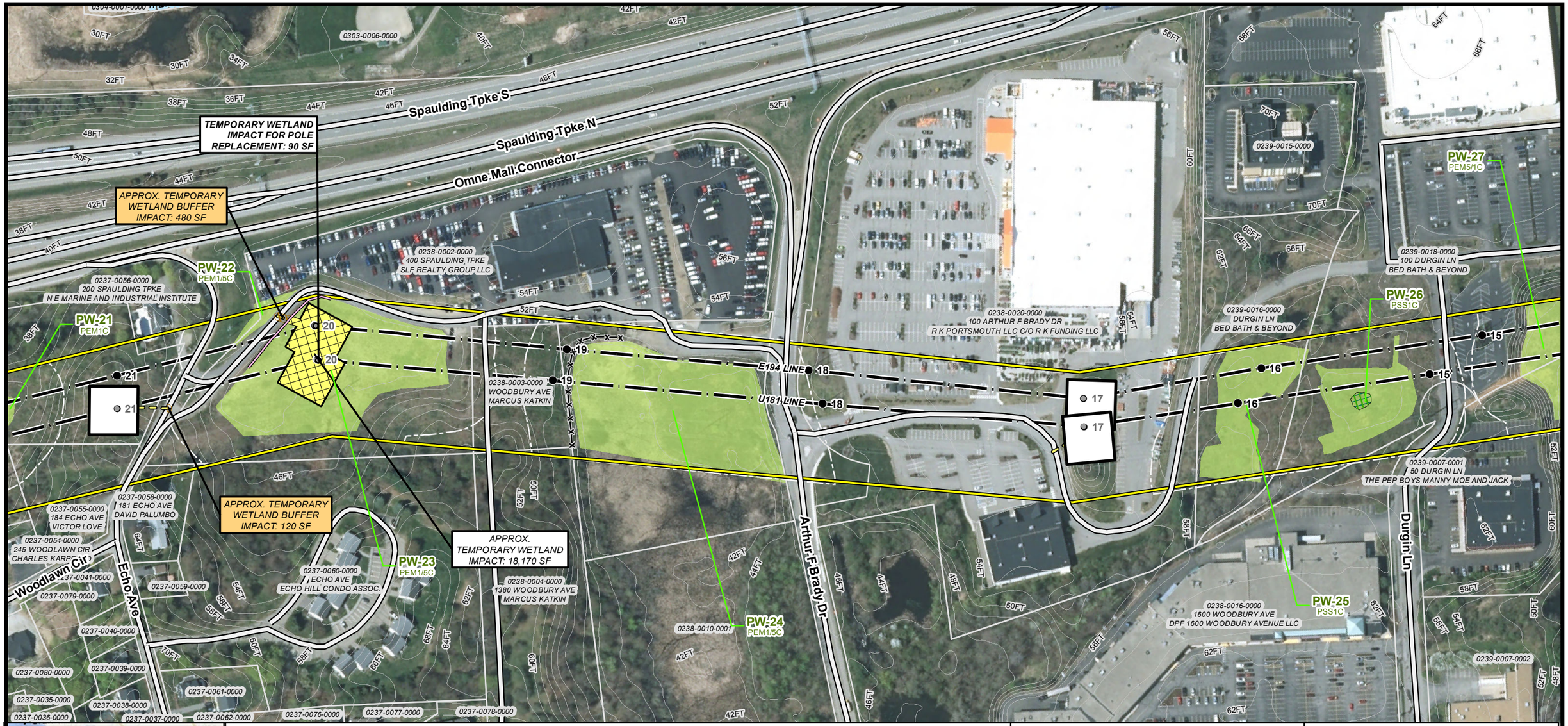
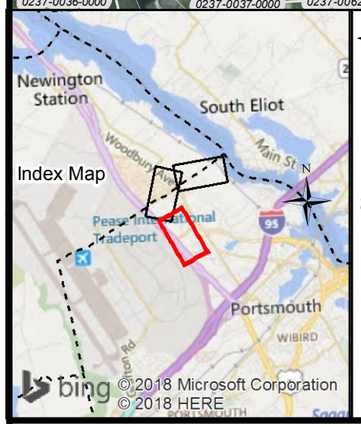
Path: P:\04Jobs\0190500s\04.0190507.00 Eversource MSA\04.0190507.66 - 2018-2019 On-call Services Utility Maintenance\Figures\E194 and U181\MXD\E194_U181 PORTSMOUTH PLANS 2019.mxd





Greenland — Current Town: **Portsmouth** — Portsmouth

- EXISTING STRUCTURE
- STRUCTURE TO BE REPLACED
- 2FT ELEVATION CONTOUR
- EROSION CONTROL
- FENCE
- TEMPORARY WETLAND IMPACT
- WORK PAD
- PRIMARY ACCESS
- NHD FLOWLINES
- DOT ROADS
- APPROXIMATE ROW
- LOCAL WETLAND BUFFER
- PARCEL BOUNDARY
- TOWN BOUNDARY
- FIELD DELINEATED WETLANDS
- POTENTIAL VERNAL POOL

0 100 200 400 Feet

NOTES:
1. AERIAL IMAGERY WAS OBTAINED FROM NH GRANIT CLEARINGHOUSE AND IS DATED 2015.
2. STRUCTURES AND TRANSMISSION LINE DATA WAS PROVIDED BY EVERSOURCE ENERGY.
3. NHD FLOWLINES, DOT ROADS, TOWN BOUNDARIES AND PARCEL BOUNDARIES WERE OBTAINED FROM NH GRANIT CLEARINGHOUSE.
4. FIELD DELINEATED WETLANDS WERE DELINEATED BY GZA GEOENVIRONMENTAL, INC. IN 2016 AND LOCATED USING A HANDHELD EOS ARROW GNSS RECEIVER WITH ACCURACY WITHIN 2.5M.
5. APPROXIMATE ROW WAS GENERATED USING MILESHEETS PROVIDED BY EVERSOURCE ENERGY.
6. 2FT ELEVATION CONTOURS WERE OBTAINED FROM NH GRANIT CLEARINGHOUSE.

E194 AND U181 TRANSMISSION LINES MAINTENANCE PROJECT

ACCESS AND PERMITTING PLANS
DECEMBER 20, 2018

PORTSMOUTH
NEW HAMPSHIRE
PAGE 1 OF 3

Project No.: 04.0190507.66

1 inch = 200 feet

EVERSOURCE ENERGY

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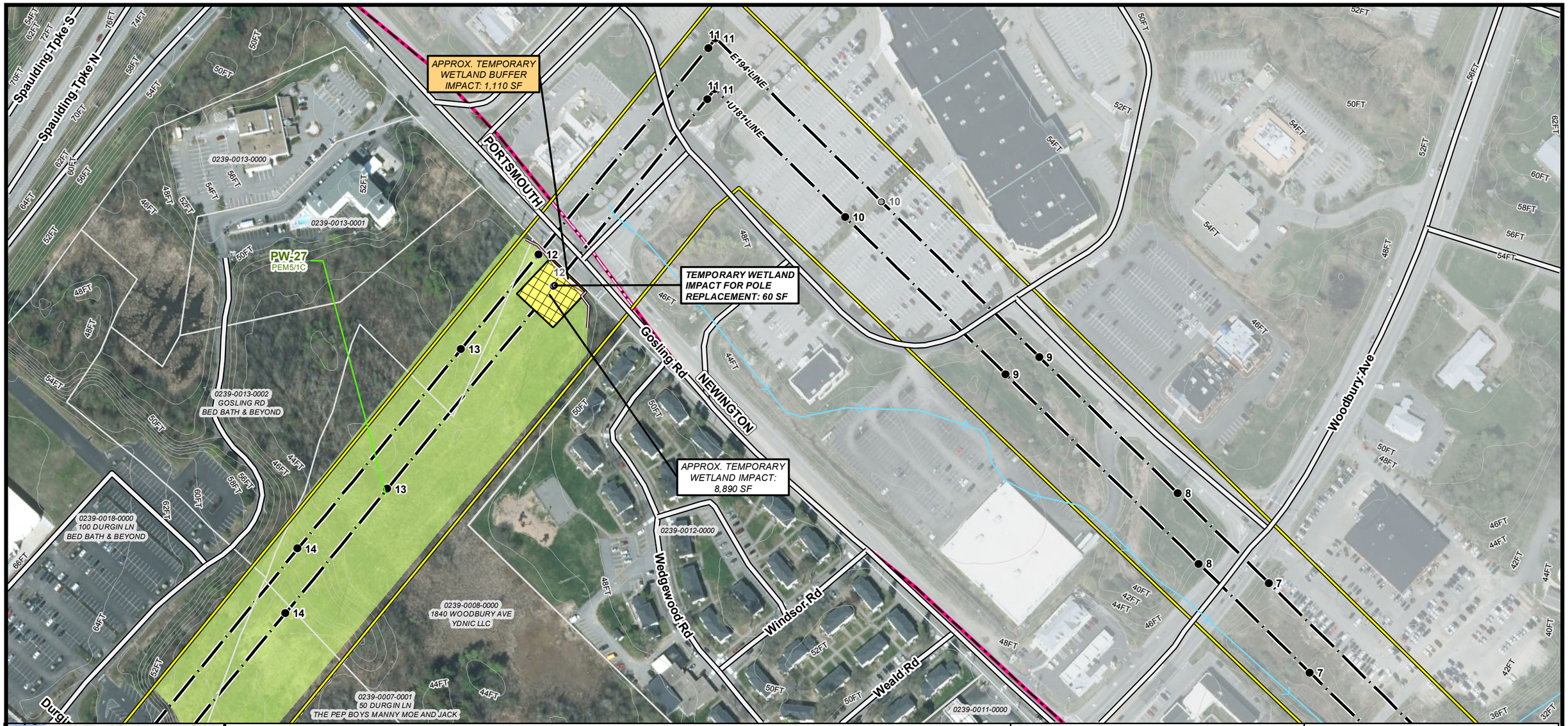
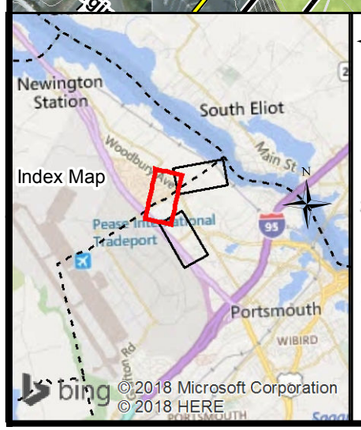
Path: P:\04Jobs\0190500s\04.0190507.00 Eversource MSA\04.0190507.66 - 2018-2019 On-call Services Utility Maintenance\Figures\E194 and U181\MXD\E194_U181 PORTSMOUTH PLANS 2019.mxd





Greenland ← → Portsmouth

Current Town: **Portsmouth/Newington**

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E194 AND U181 TRANSMISSION LINES MAINTENANCE PROJECT

ACCESS AND PERMITTING PLANS
DECEMBER 20, 2018

PORTSMOUTH
NEW HAMPSHIRE
PAGE 2 OF 3

Project No.: 04.0190507.66

1 inch = 200 feet

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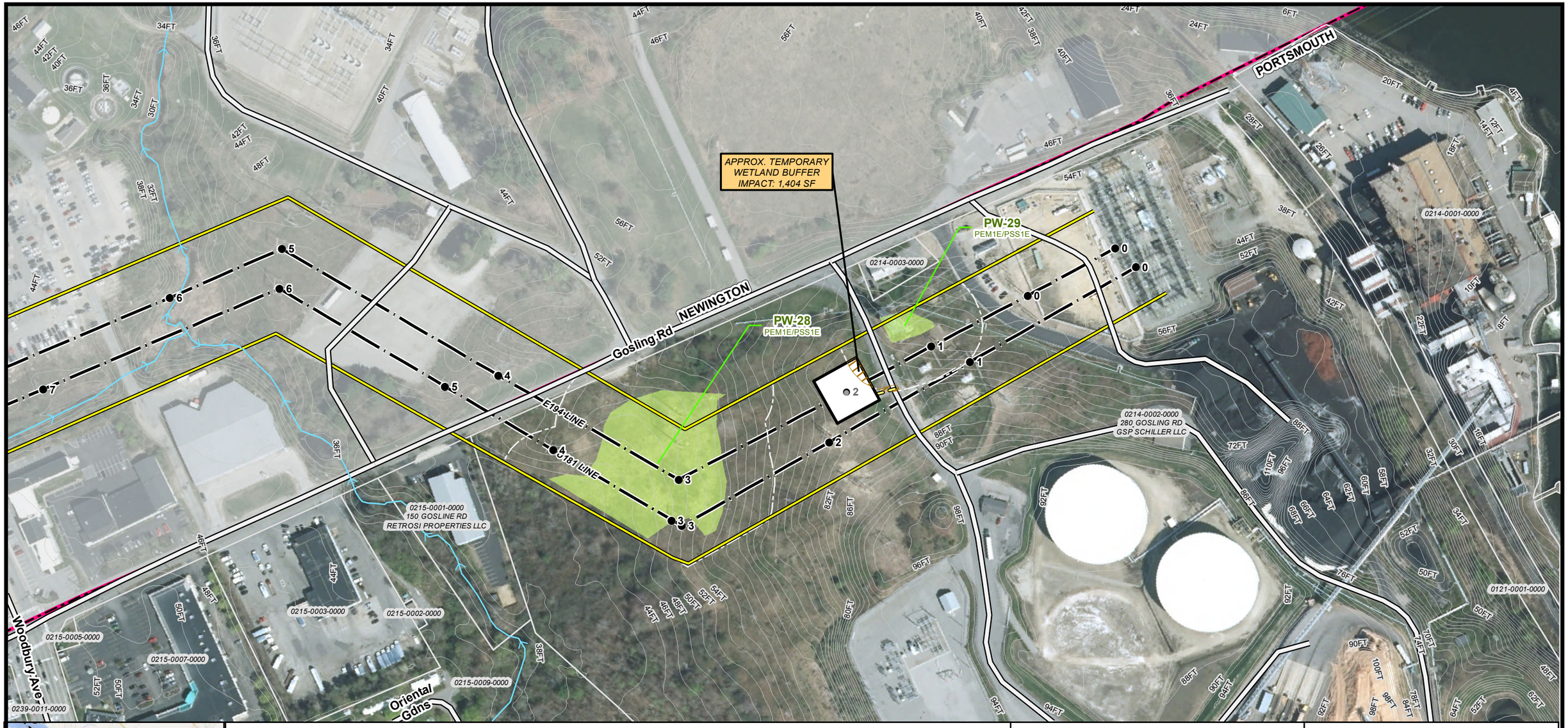

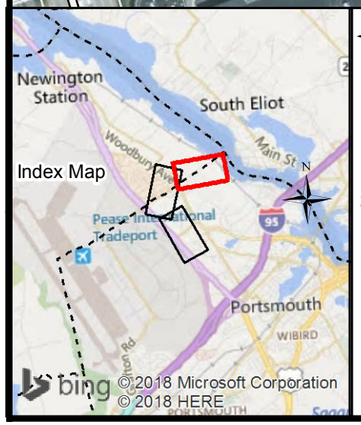

Greenland ← | Current Town: **Portsmouth/Newington** | → Portsmouth

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E194 AND U181 TRANSMISSION LINES MAINTENANCE PROJECT

ACCESS AND PERMITTING PLANS
DECEMBER 20, 2018

PORTSMOUTH
NEW HAMPSHIRE
PAGE 3 OF 3

Project No.: 04.0190507.66

1 inch = 200 feet

EVERSOURCE ENERGY

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. 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 SWAMP 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. SWAMP 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 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. 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.

11. 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.

12. 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.

13. INSTALL NEW POLES IN THE LOCATIONS DESIGNATED ON THE PERMITTING PLANS.

14. 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.

15. 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. FOOTINGS WILL BE ABANDONED IN PLACE TO MINIMIZE IMPACTS.

16. ALL SWAMP MATS, MATERIAL, AND DEBRIS WILL BE REMOVED FROM THE WORK AREA UPON THE COMPLETION OF CONSTRUCTION.

17. UPLAND DISTURBED AREAS SHALL BE RESTORED AND STABILIZED UPON COMPLETION OF CONSTRUCTION.

18. 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.

19. SEDIMENT AND EROSION CONTROL MEASURES WILL BE EVALUATED AND REMOVED IF NECESSARY UPON THE COMPLETION OF CONSTRUCTION.

GENERAL NOTES:

OWNER: EVERSOURCE ENERGY
13 LEGENDS DRIVE
HOOKSETT, NH 03106

1. BASE PLAN PROVIDED BY EVERSOURCE ENERGY. GZA DELINEATED AND LOCATED WETLANDS USING A HANDHELD EOS ARROW GNSS RECEIVER WITH ACCURACY WITHIN 2.5M. EVERSOURCE ENERGY PROVIDED THE UTILITY DESIGN.

2. JURISDICTIONAL WETLANDS WERE DELINEATED BY GZA GEOENVIRONMENTAL, INC. ON DECEMBER 1, 2, 6, & 7, 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.

3. GZA EVALUATED WETLANDS AS POTENTIAL VERNAL POOLS ON DECEMBER 1, 2, 6, & 7, 2016 IN ACCORDANCE WITH "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE", 2016, NEW HAMPSHIRE FISH AND GAME DEPARTMENT, NONGAME AND ENDANGERED WILDLIFE PROGRAM.

4. GZA PERFORMED A WETLANDS FUNCTION AND VALUES ASSESSMENT IN ACCORDANCE WITH THE ACOE'S "HIGHWAY METHODOLOGY WORKBOOK SUPPLEMENT," SEPTEMBER 1999, AND CLASSIFIED WETLANDS IN ACCORDANCE WITH THE "CLASSIFICATION OF WETLAND DEEP WATER HABITATS OF THE UNITED STATES" (COWARDIN, 1979).

5. SITE PLAN IS FOR PERMITTING PURPOSES ONLY AND DOES NOT REPRESENT A PROPERTY BOUNDARY SURVEY.

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.

E194 AND U181 TRANSMISSION LINES MAINTENANCE PROJECT

PORTSMOUTH
NEW HAMPSHIRE

NOTES

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

PREPARED FOR: EVERSOURCE ENERGY

PROJ MGR: TLT	REVIEWED BY: DMZ	CHECKED BY: TLT	SHEET 1 1 OF 2
DESIGNED BY: MJD	DRAWN BY: MJD	SCALE:	
DATE: 12/18/2018	PROJECT NO. 04.0190507.66	REVISION NO.	

Best Management Practices (BMP's) for Straw wattles

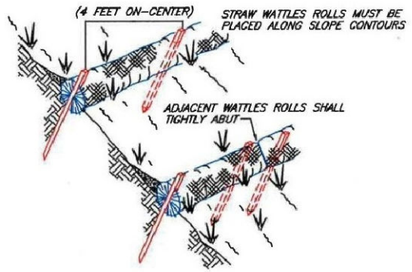
Definition and purpose:
Straw wattles are burlap rolls filled with straw that trap sediment and interrupt water flow by reducing slope lengths.

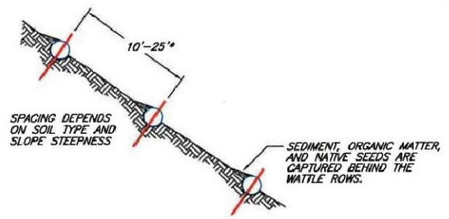
Applications:
* Along erodible or unstablizied slopes
* Spread overland waterflow
* Trap sediment
* Around storm drain inlets to slow water and settle out sediment
* Overlap ends approximately 6 inches

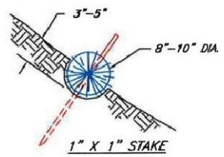
Installation:
Straw wattles are installed parallel to slope contours and perpendicular to sheet flow.

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)







NOT TO SCALE

NOTES (SILT FENCE)

1. THE HEIGHT OF THE BARRIER SHALL NOT EXEED 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.

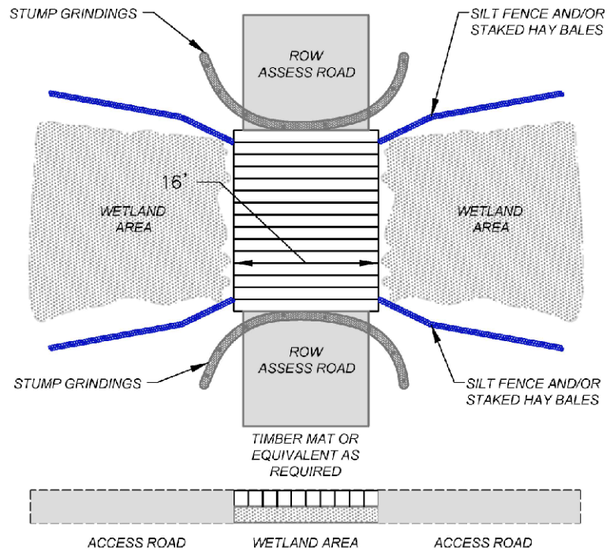
7. FABRIC BARRIERS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

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.

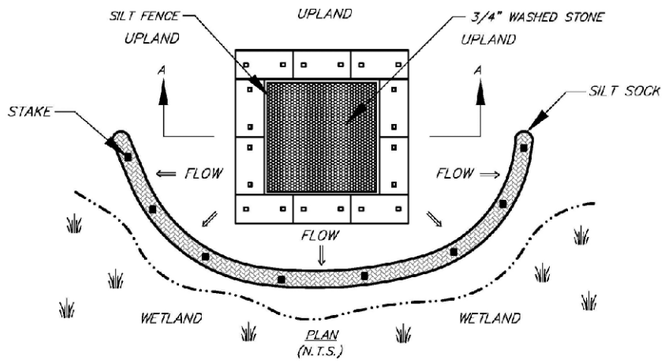
9. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.

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 WETLAND CROSSING
N.T.S.



DEWATERING DETAIL
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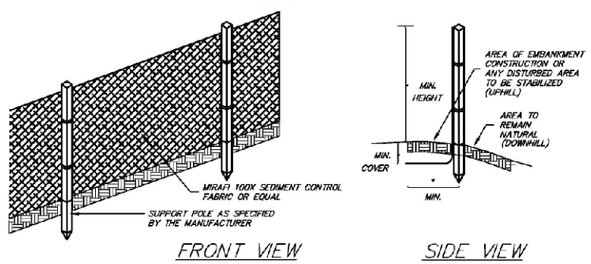
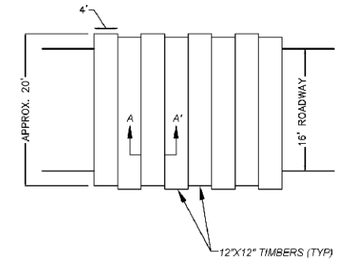
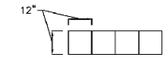


FRONT VIEW SIDE VIEW



TYPICAL SWAMP MAT PLAN VIEW
N.T.S.



TYPICAL MAT SECTION A—A
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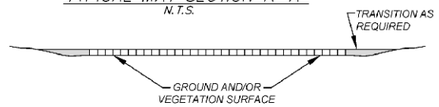

TYPICAL SWAMP MAT SECTION DETAIL
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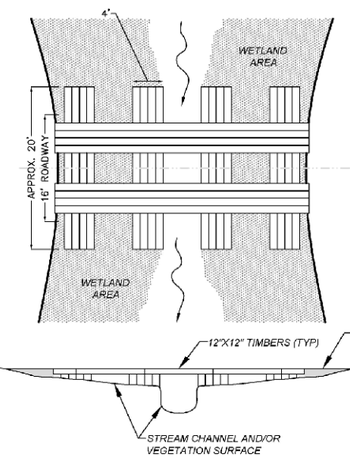

TYPICAL STREAM CROSSING
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E194 AND U181 TRANSMISSION LINES
MAINTENANE PROJECT

PORTSMOUTH, NEW HAMPSHIRE

DETAILS

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: EVERSOURCE ENERGY	
PROJ MGR: TLT	REVIEWED BY: DMZ	CHECKED BY: TLT	SHEET 2
DESIGNED BY: MJD	DRAWN BY: MJD	SCALE:	
DATE: 11/12/2018	PROJECT NO. 04.0190507.66	REVISION NO.	

Table 1 & 2 – Wetland and Buffer Area and Impact Analysis

Table 1
Wetland and Buffer Area Analysis

Town	Wetland ID	Classification	Wetland Area (SF)	Wetland Area (Acres)	Buffer Area (SF)	Buffer Area (Acres)	Buffer Setback (ft)
Portsmouth	PW-17	PEM1E	48,480	1.11	90,286	2.07	100
Portsmouth	PW-18	PEM1C	19,169	0.44	91,867	2.11	
Portsmouth	PW-19	PEM1C	7,792	0.18			
Portsmouth	PW-20	PEM1C	55,998	1.29	154,203	3.54	
Portsmouth	PW-21	PEM1C	98,377	2.26			
Portsmouth	PW-22	PEM1/5C	3,620	0.08	95,082	2.18	
Portsmouth	PW-23	PEM1/5C	85,088	1.95			
Portsmouth	PW-24	PEM1/5C	89,717	2.06	81,644	1.87	
Portsmouth	PW-25	PSS1C	31,754	0.73	106,781	2.45	
Portsmouth	PW-26	PSS1C	26,836	0.62			
Portsmouth	PW-27	PEM5/1C	306,744	7.04	75,166	1.73	
Portsmouth	PW-28	PEM1E/PSS1E	70,314	1.61	69,088	1.59	
Portsmouth	PW-29	PEM1E/PSS1E	4,464	0.10	35,605	0.82	
Total			***848,353***	***19.48***	***799,722***	***18.36***	

Table 2
Wetland and Buffer Impact Analysis

Town	Wetland ID	Classification	Temporary Wetland Impact (SF)	Temporary Wetland Impact for Pole Replacement (SF)	Temporary Wetland Buffer Impact (SF)
Portsmouth	PW-17	PEM1E			
Portsmouth	PW-18	PEM1C			
Portsmouth	PW-19	PEM1C			
Portsmouth	PW-20	PEM1C			
Portsmouth	PW-21	PEM1C			
Portsmouth	PW-22	PEM1/5C			600
Portsmouth	PW-23	PEM1/5C	18,170	180	
Portsmouth	PW-24	PEM1/5C			
Portsmouth	PW-25	PSS1C			
Portsmouth	PW-26	PSS1C			
Portsmouth	PW-27	PEM5/1C	8,890	60	1,110
Portsmouth	PW-28	PEM1E/PSS1E			
Portsmouth	PW-29	PEM1E/PSS1E			1,404
Total			***27,060***	***240***	***3,114***

Application Fee