

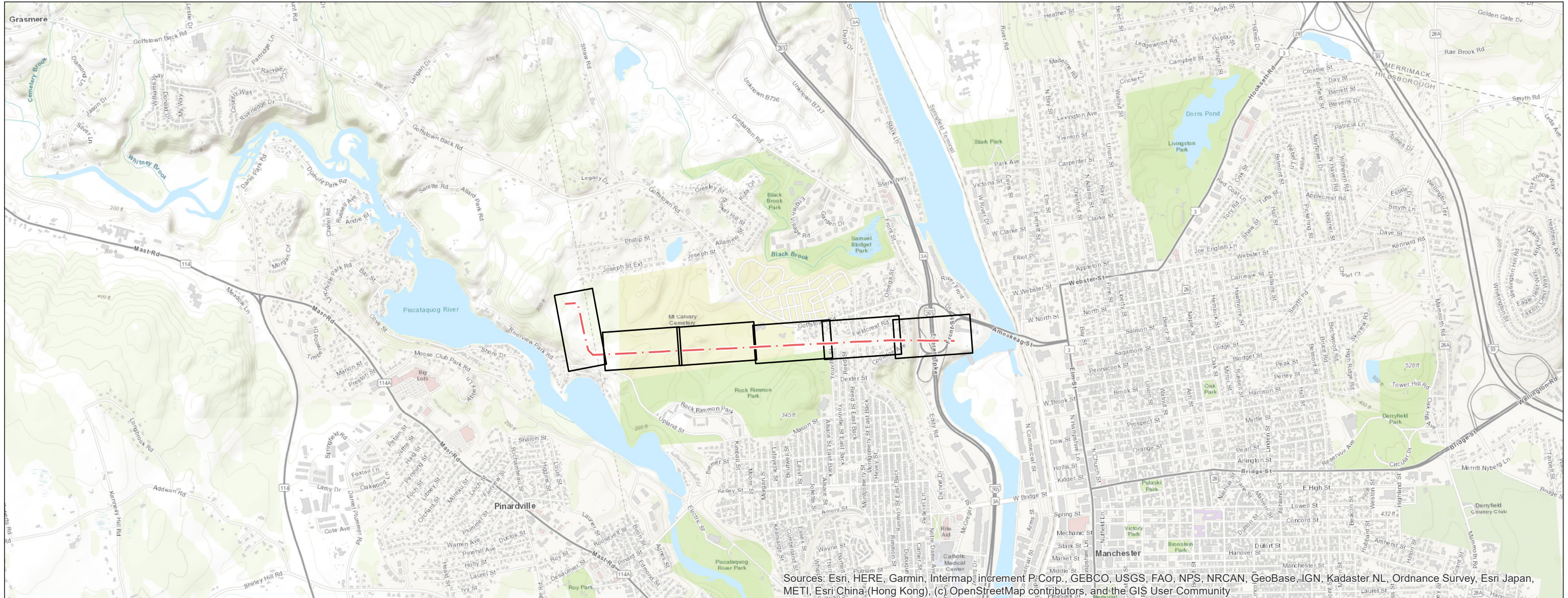
P106 Line - Structure Replacement Project

GOFFSTOWN AND MANCHESTER, NEW HAMPSHIRE

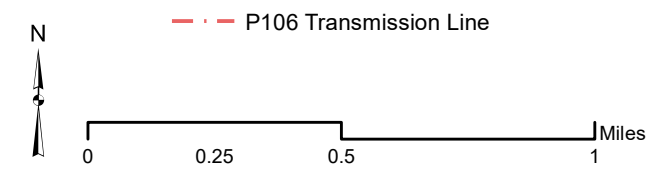
Surface Groundwater Maps

Map Set

Date: September 1, 2022



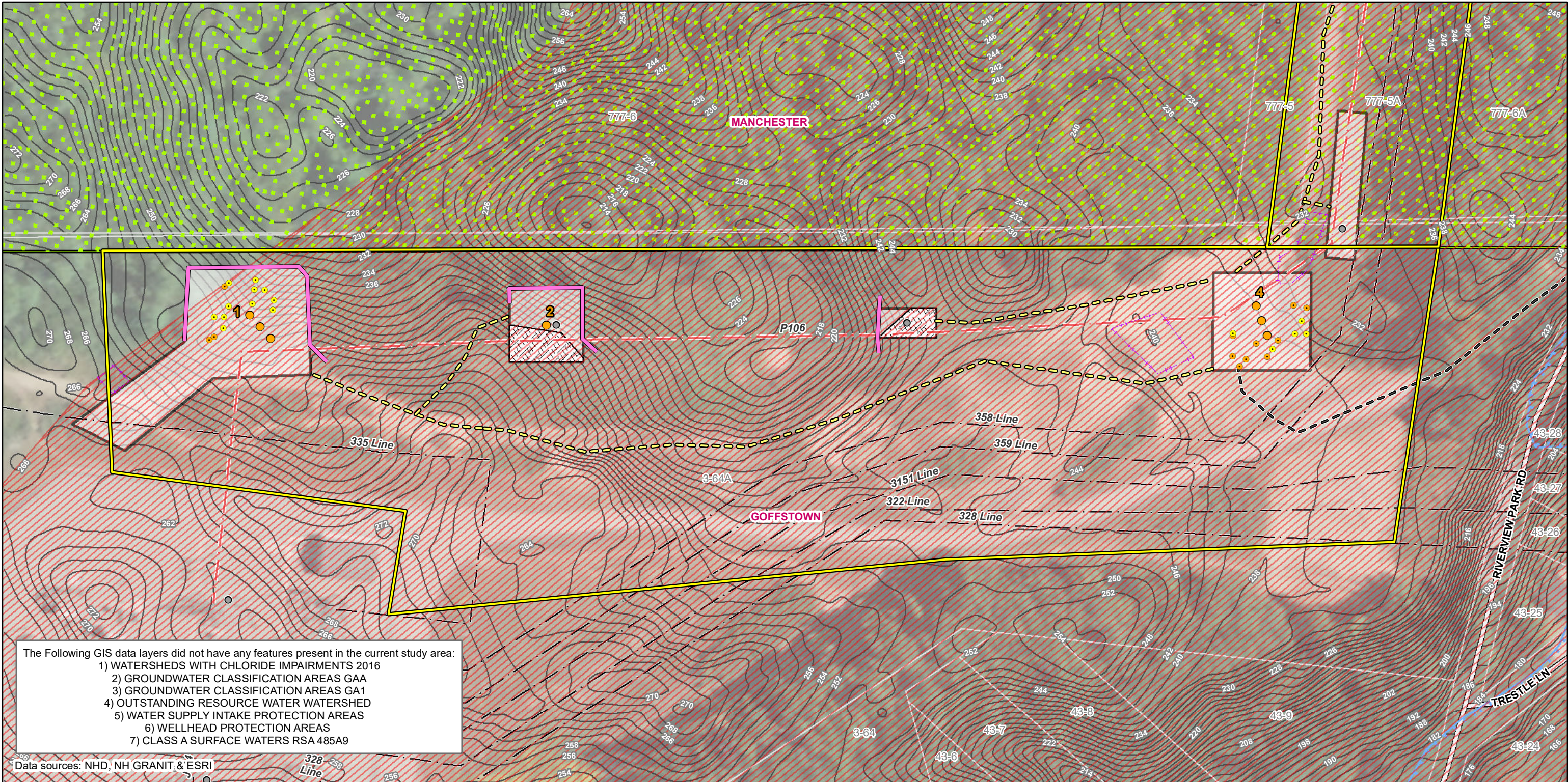
PREPARED FOR:
EVERSOURCE
 107 Selden Street
 Berlin, CT 06037



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NO.	DATE	REVISIONS
1	10/18/22	Minor update to structures, work pads and access roads to match Final AoT Plans (10/14/22)

PREPARED BY:
NORMANDEAU ASSOCIATES
 Environmental Consultants



The Following GIS data layers did not have any features present in the current study area:

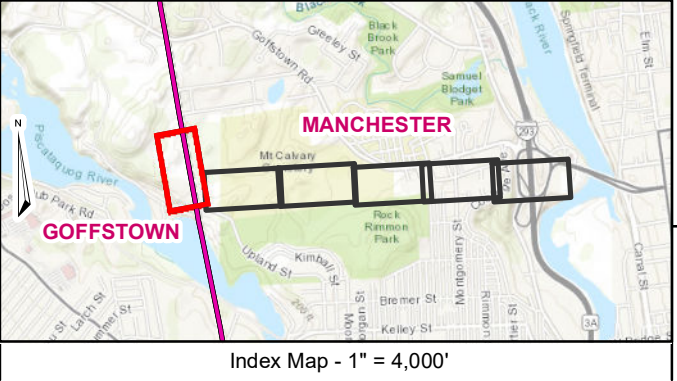
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- 2) GROUNDWATER CLASSIFICATION AREAS GAA
- 3) GROUNDWATER CLASSIFICATION AREAS GA1
- 4) OUTSTANDING RESOURCE WATER WATERSHED
- 5) WATER SUPPLY INTAKE PROTECTION AREAS
- 6) WELLHEAD PROTECTION AREAS
- 7) CLASS A SURFACE WATERS RSA 485A9

Data sources: NHD, NH GRANIT & ESRI

- | | | |
|------------------------------------|----------------------------|--|
| ● Pole | — NHD Streams | ▨ Designated River Corridor |
| ● Guy Wire (New) | — Roads (NHDOT) | ▨ Groundwater Classification Areas GA1 (None Present) |
| ● Guy Wire (Reused) | — 2 Foot Contours | ▨ Groundwater Classification Areas GA2 |
| ● Existing Structures- Other Lines | ■ Field Delineated Wetland | ▨ Outstanding Resource Water Watersheds (None Present) |
| — Proposed Access Road | ■ Storm Hard Survey Areas | ▨ Parcel Boundaries (From NH GRANIT) |
| — Existing Access Road | ■ Upland Matting | ▨ Town Line |
| — EPSC | ■ Work Pad | |
| — RTE Fence | ■ FEMA Flood Zone | |
| — Transmission Lines | ■ Right-of-Way | |
| — P106 Transmission Line | | |

Municipality: Goffstown/Manchester

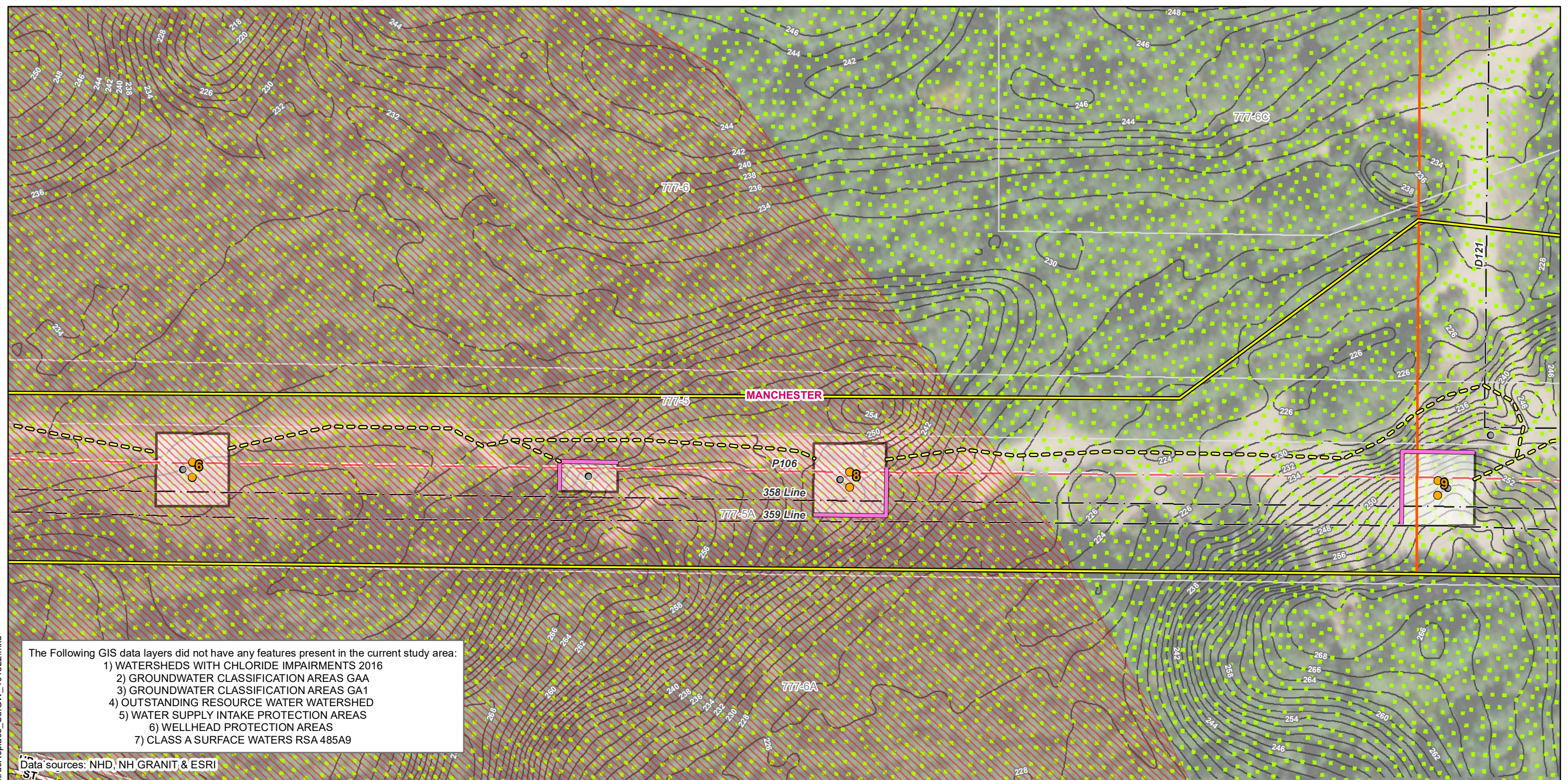
1 inch = 100 feet



Eversource - P106 Line
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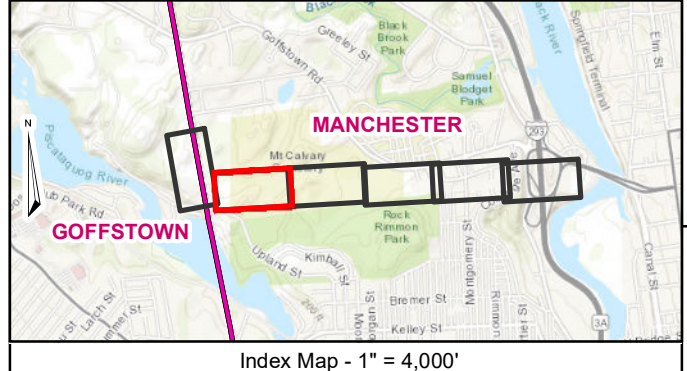
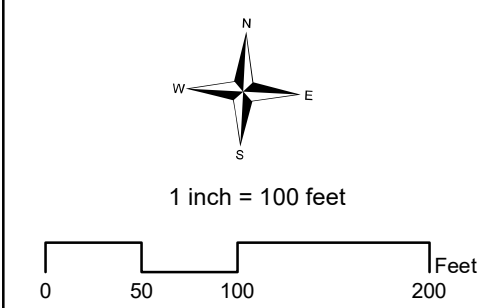
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Data sources: NHD, NH GRANIT & ESRI

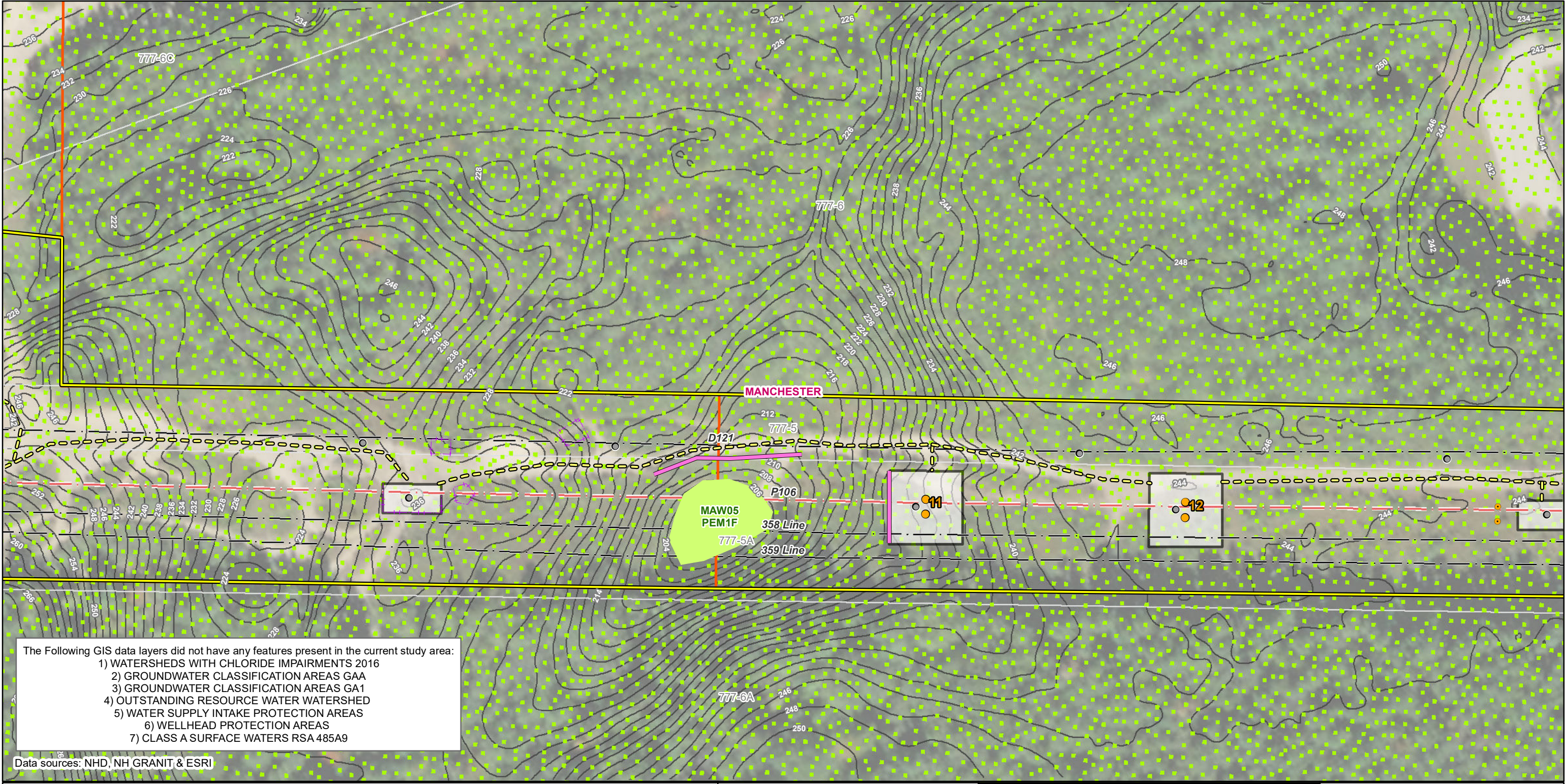
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| Transmission Lines | Right-of-Way | |
| P106 Transmission Line | | |

Municipality: Manchester



Eversource - P106 Line
 Structure Replacement
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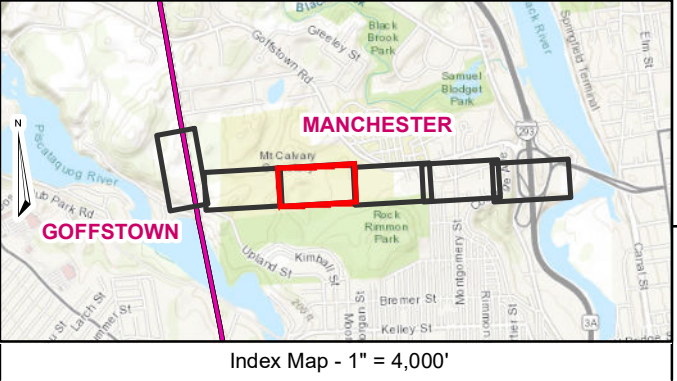
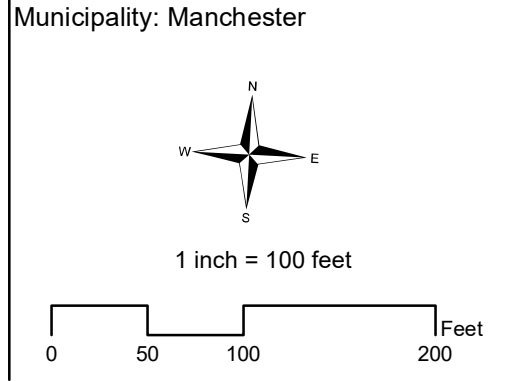


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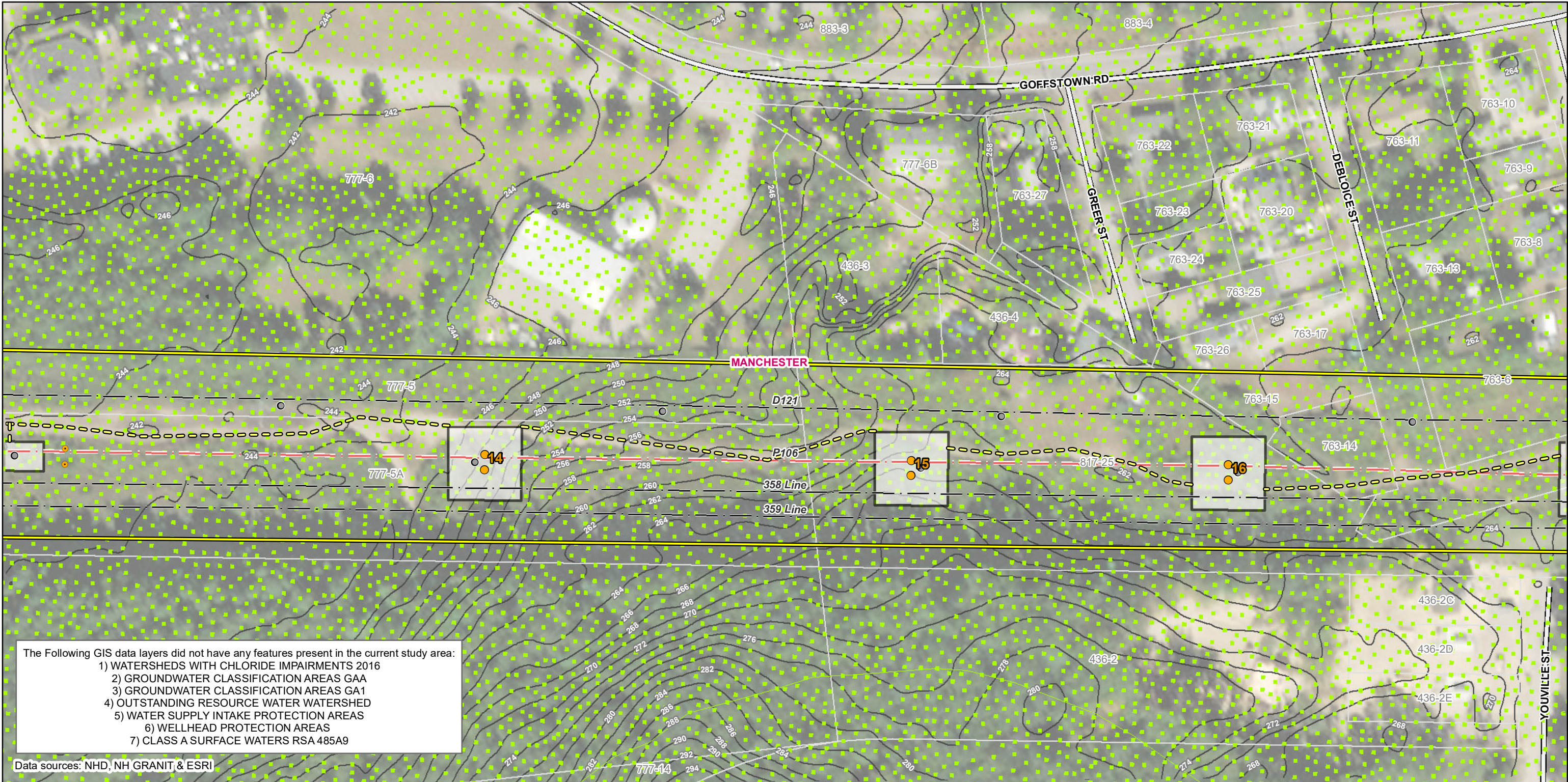
Data sources: NHD, NH GRANIT & ESRI

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EPSC	Work Pad	
RTE Fence	FEMA Flood Zone	
Transmission Lines	Right-of-Way	
P106 Transmission Line		



Eversource - P106 Line
 Structure Replacement
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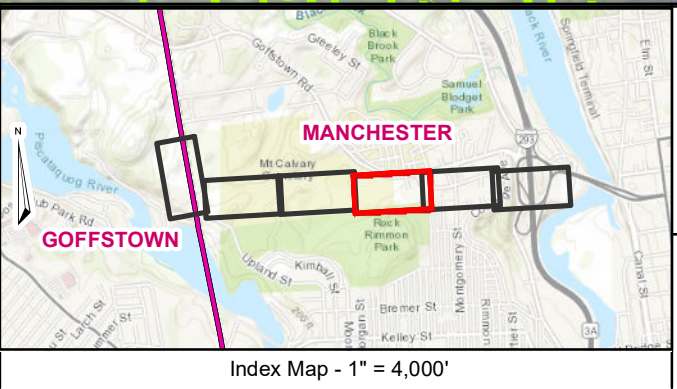
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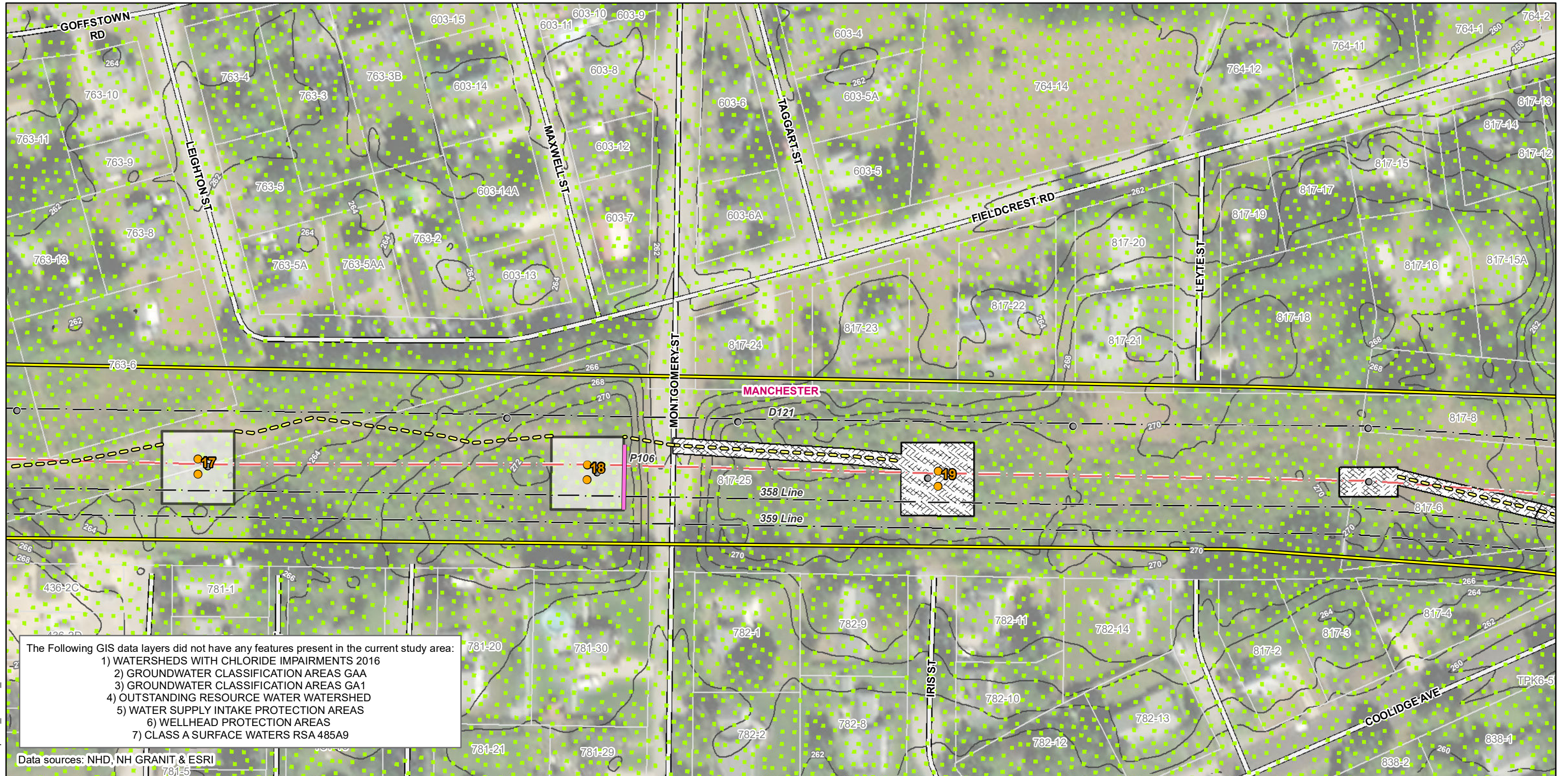
Municipality: Manchester

1 inch = 100 feet



Eversource - P106 Line
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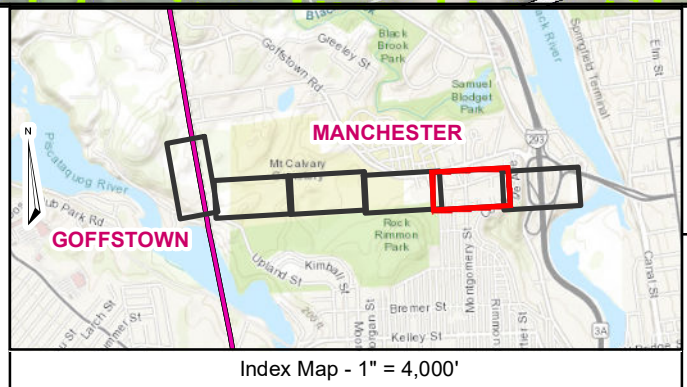
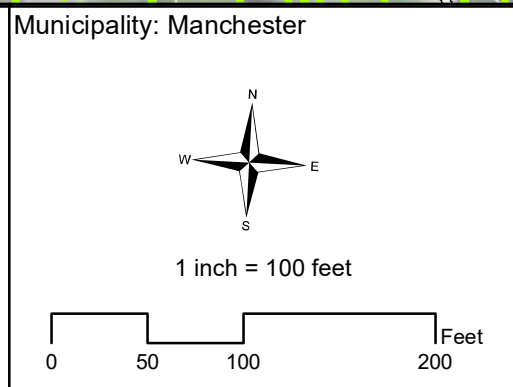
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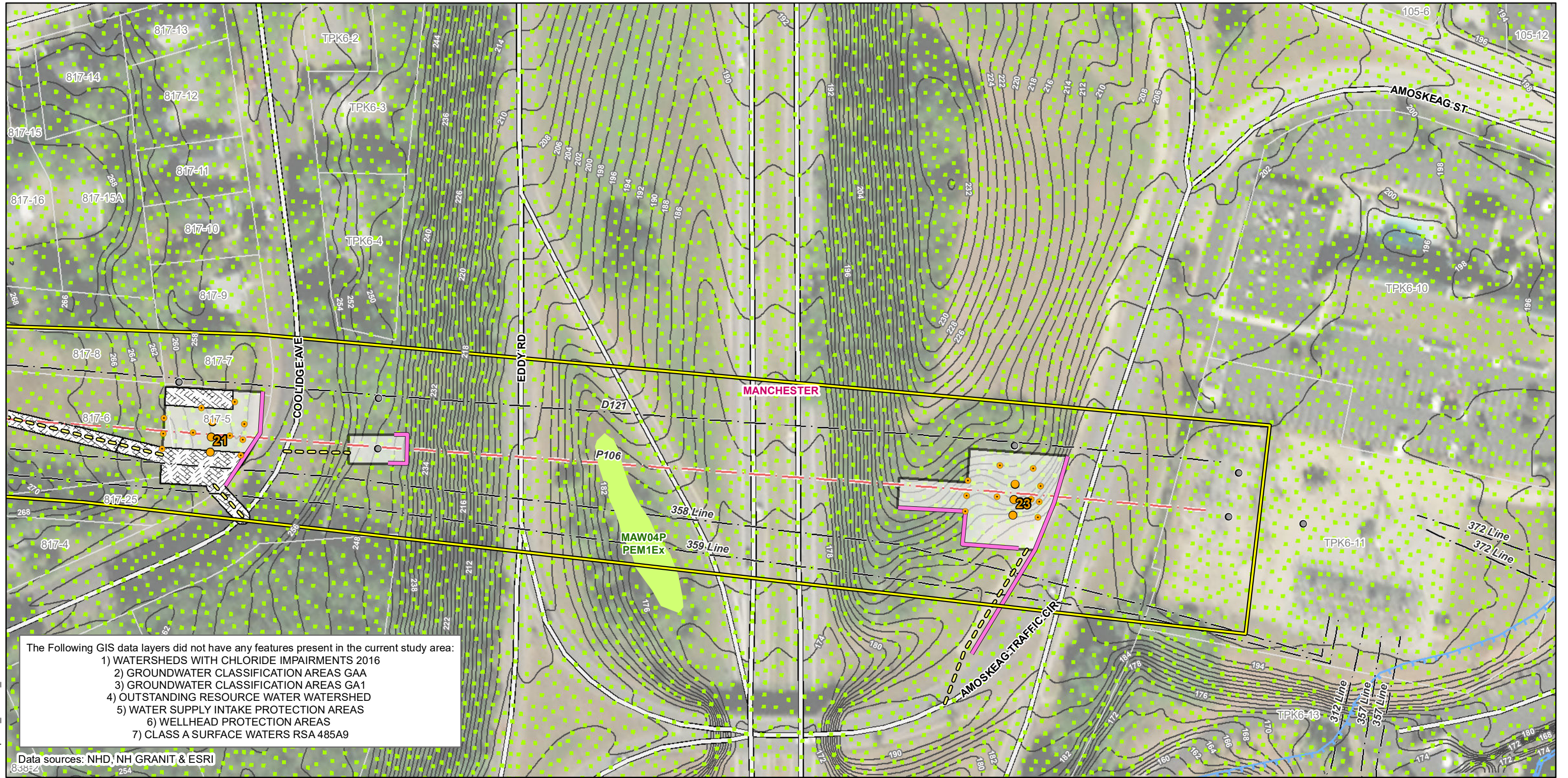
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P106 Transmission Line		



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 Structure Replacement
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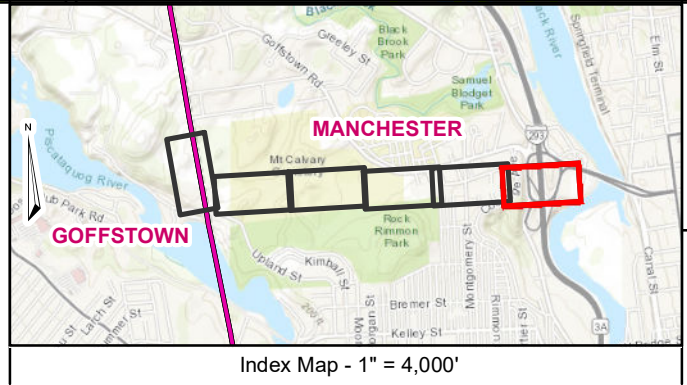
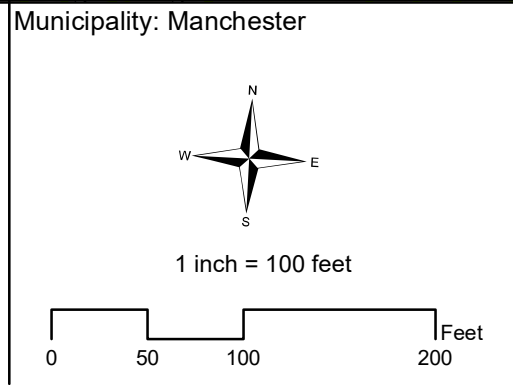
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Data sources: NHD, NH GRANIT & ESRI
836-Z
254

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P106 Transmission Line		



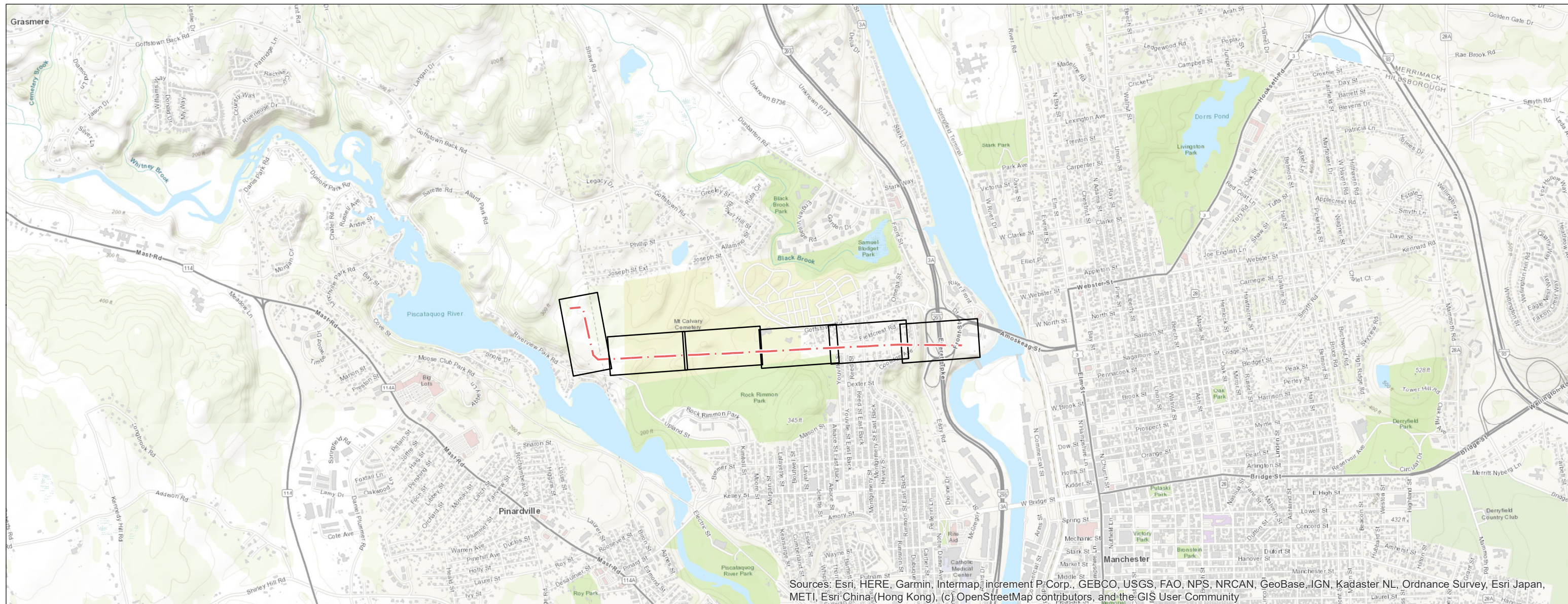
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P106 Line - Structure Replacement Project

GOFFSTOWN AND MANCHESTER, NEW HAMPSHIRE

Alteration of Terrain Maps

Date: October 14, 2022



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

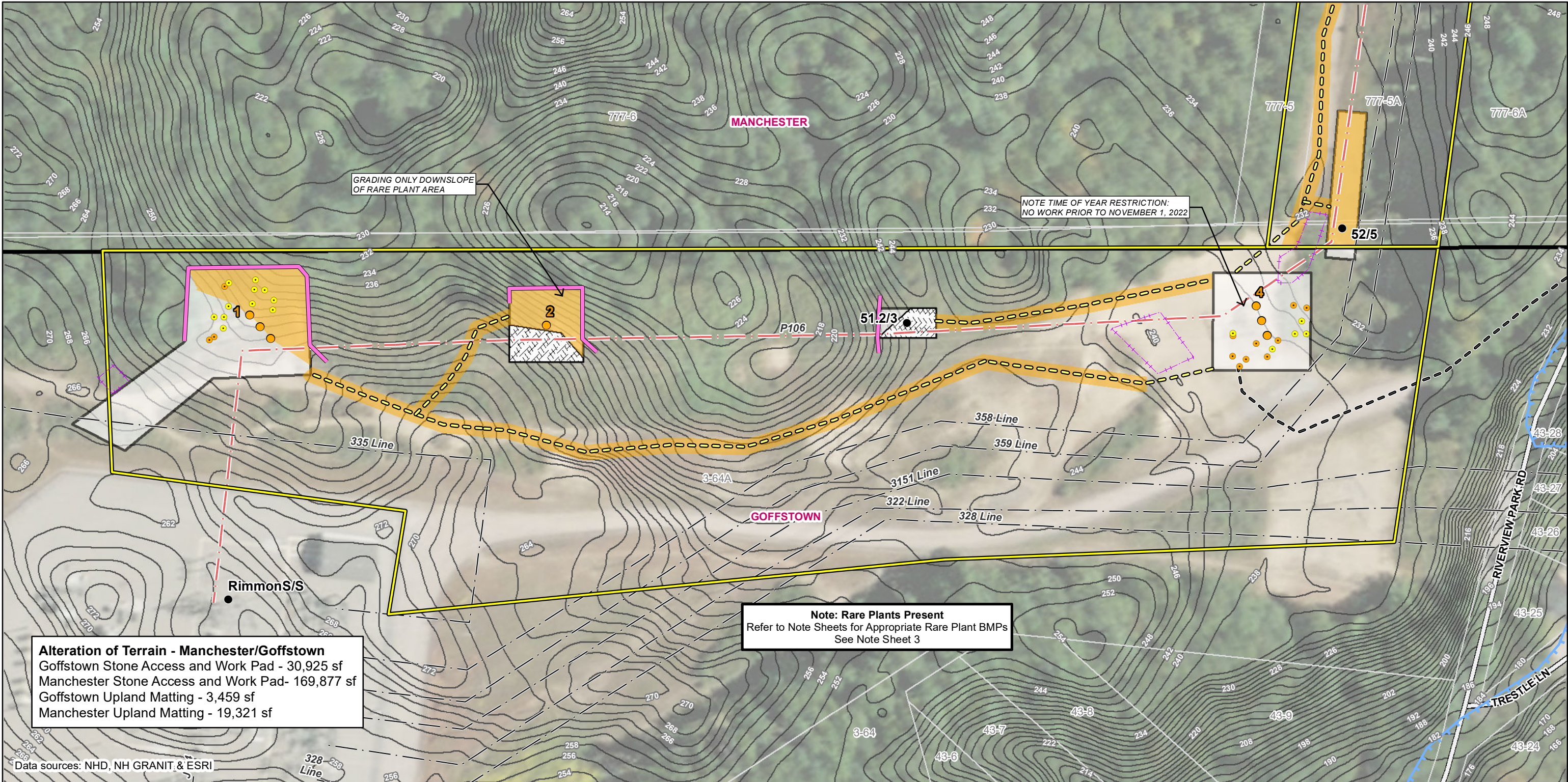
PREPARED FOR:
EVERSOURCE
 107 Selden Street
 Berlin, CT 06037



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NO.	DATE	REVISIONS

PREPARED BY:
NORMANDEAU ASSOCIATES
 ENVIRONMENTAL CONSULTANTS

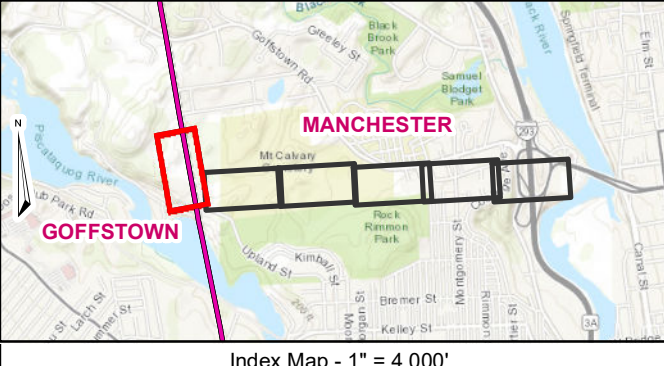
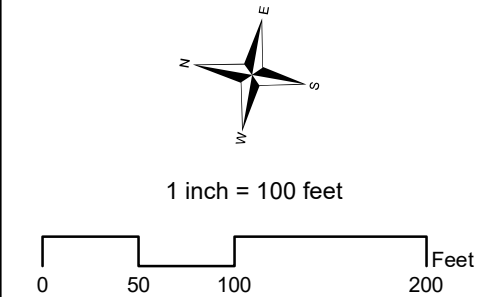


Alteration of Terrain - Manchester/Goffstown
 Goffstown Stone Access and Work Pad - 30,925 sf
 Manchester Stone Access and Work Pad- 169,877 sf
 Goffstown Upland Matting - 3,459 sf
 Manchester Upland Matting - 19,321 sf

Data sources: NHD, NH GRANIT & ESRI

- | | | |
|------------------------|--------------------------|--------------------------------------|
| ● Pole | — EPSC | ▨ Upland Matting |
| ● Guy Wire (New) | — RTE Fence | ▭ Work Pad |
| ● Guy Wire (Reused) | — Transmission Lines | ▭ FEMA Flood Zone |
| ● Structure to Remain | — P106 Transmission Line | ▭ Right-of-Way |
| — Proposed Access Road | — 2 Foot Contours | ▭ AoT Disturbance Area |
| — Existing Access Road | — NHD Streams | ▭ Parcel Boundaries (From NH GRANIT) |
| | — Roads (NHDOT) | ▭ Town Line |
| | ▭ Delineated Wetlands | |

Municipality: Goffstown/Manchester



Index Map - 1" = 4,000'

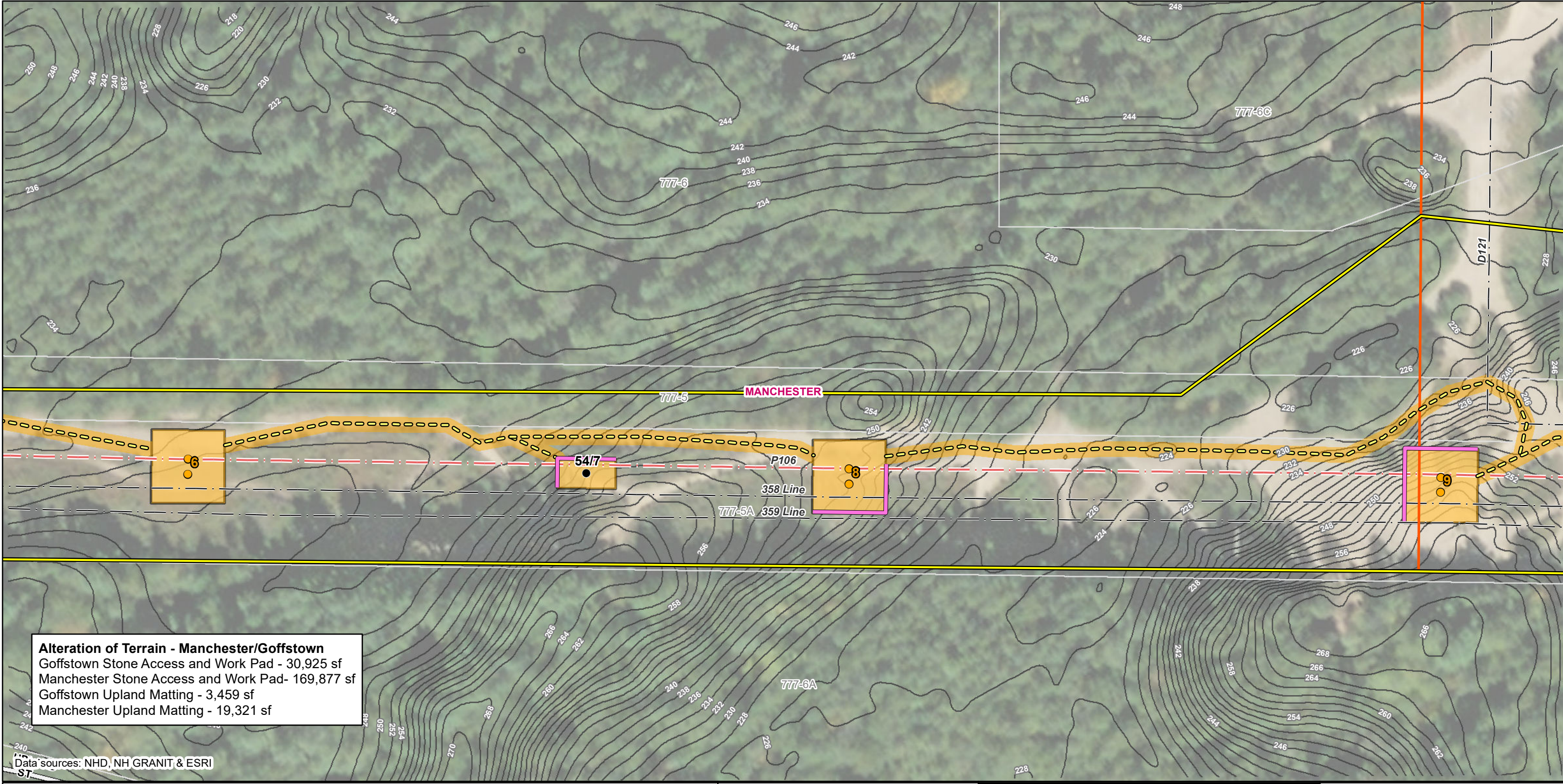
Eversource - P106 Line
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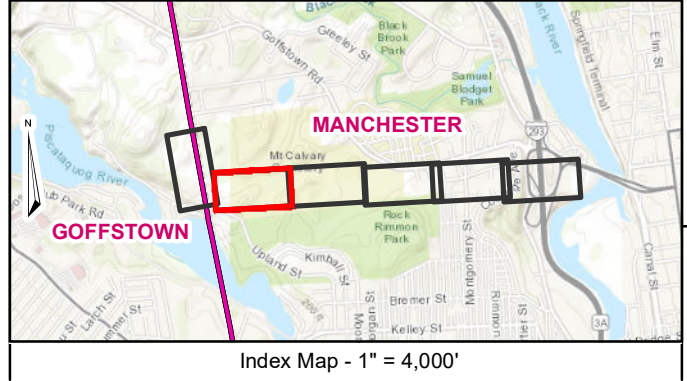
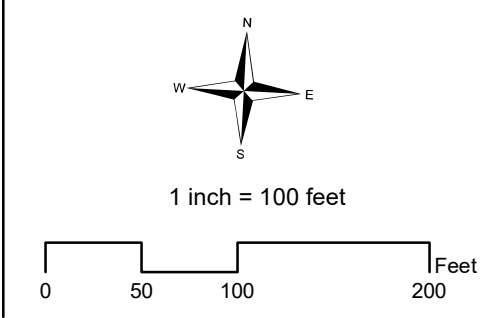


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- | | | |
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| Pole | EPSC | Upland Matting |
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| | Storm Hard Study Areas | |

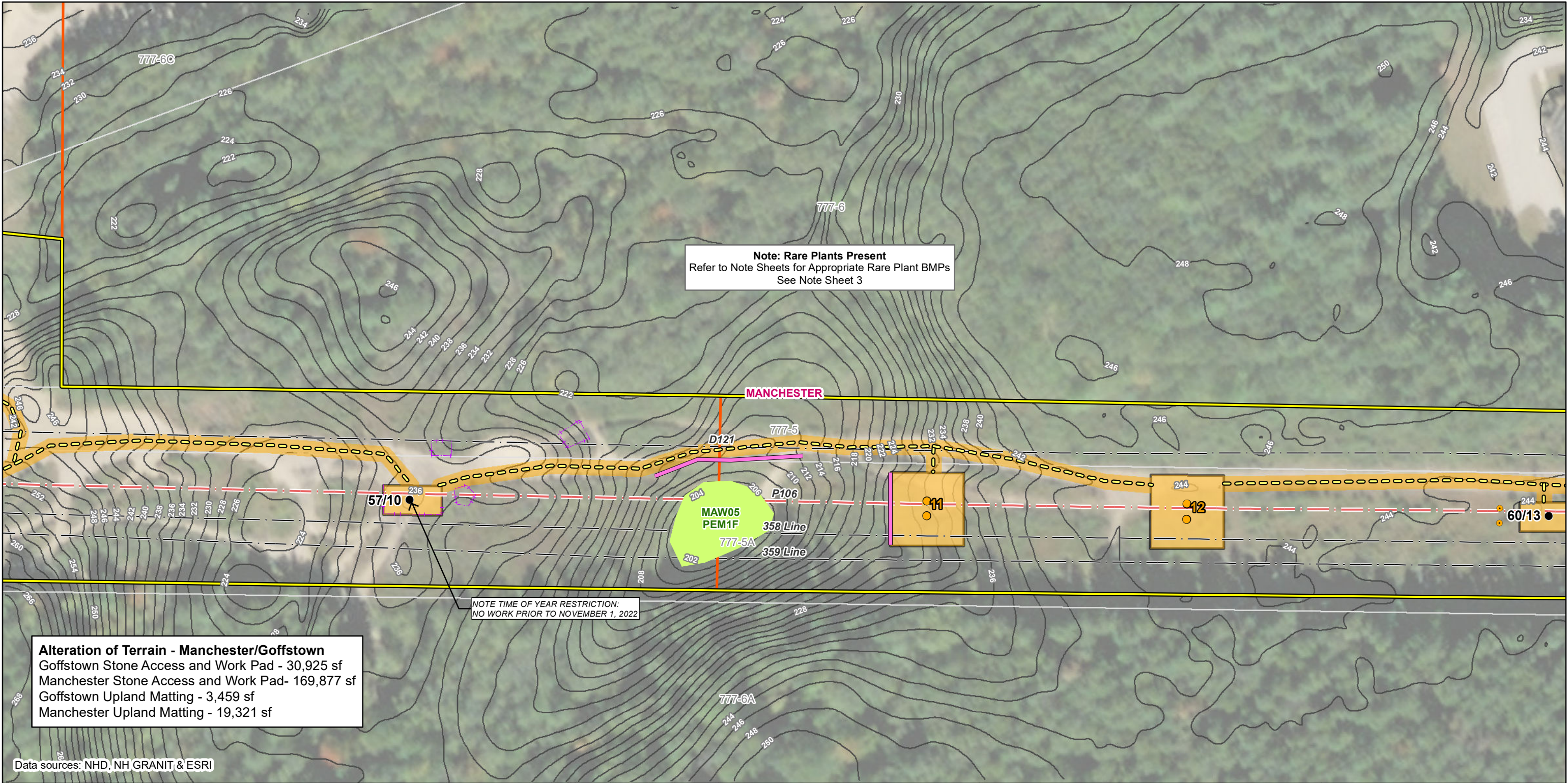
Municipality: Manchester



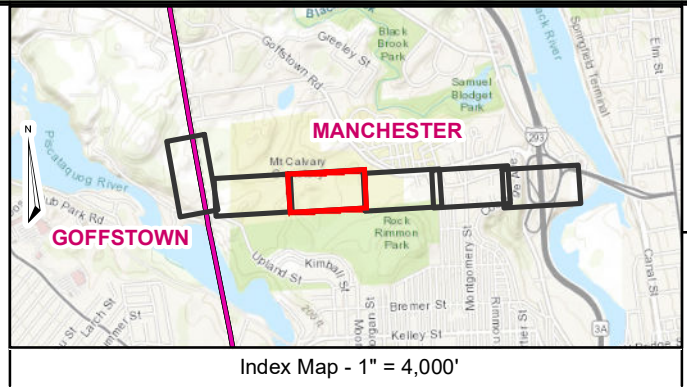
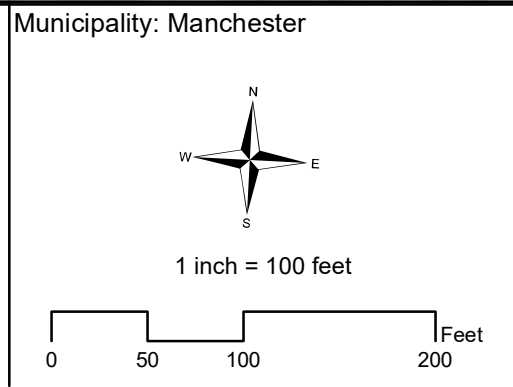
Eversource - P106 Line
 Structure Replacement
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Pole	EPSC	Upland Matting
Guy Wire (New)	RTE Fence	Work Pad
Guy Wire (Reused)	Transmission Lines	FEMA Flood Zone
Structure to Remain	P106 Transmission Line	Right-of-Way
Proposed Access Road	2 Foot Contours	AoT Disturbance Area
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Eversource - P106 Line
 Structure Replacement
 Alteration of Terrain Plans

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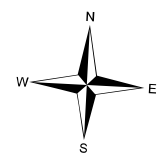
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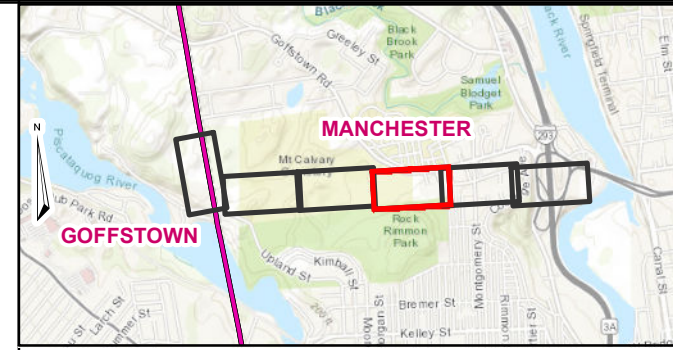
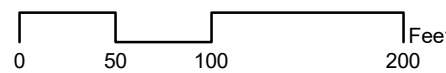
Data sources: NHD, NH GRANIT & ESRI

- | | | |
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Municipality: Manchester



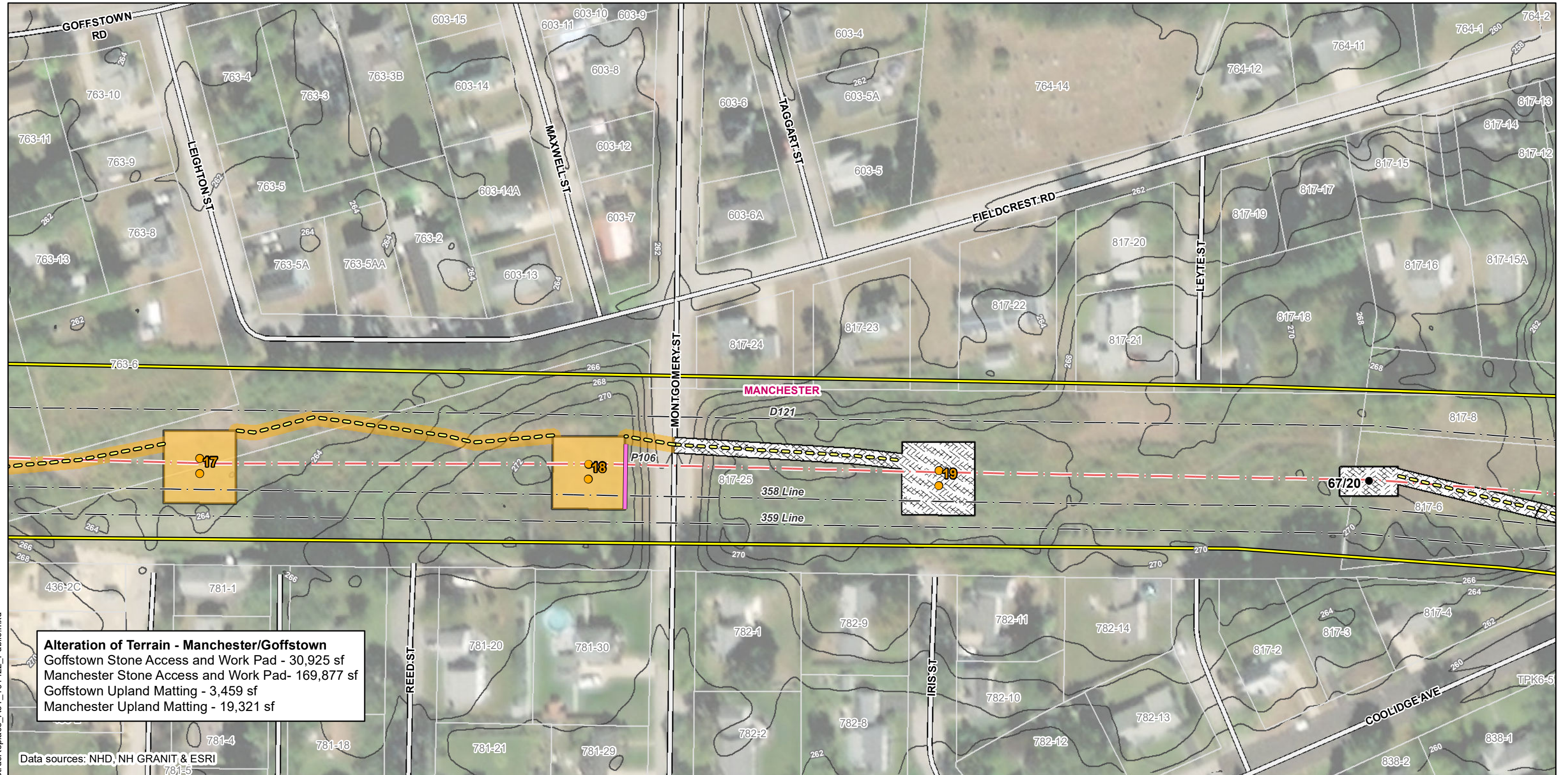
1 inch = 100 feet



Eversource - P106 Line
 Structure Replacement
 Alteration of Terrain Plans

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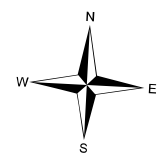


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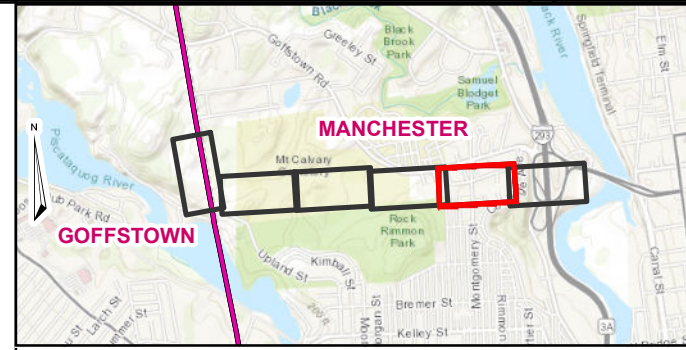
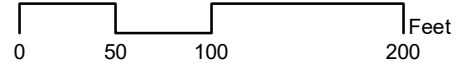
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- | | | |
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| | Delineated Wetlands | |

Municipality: Manchester



1 inch = 100 feet



Index Map - 1" = 4,000'

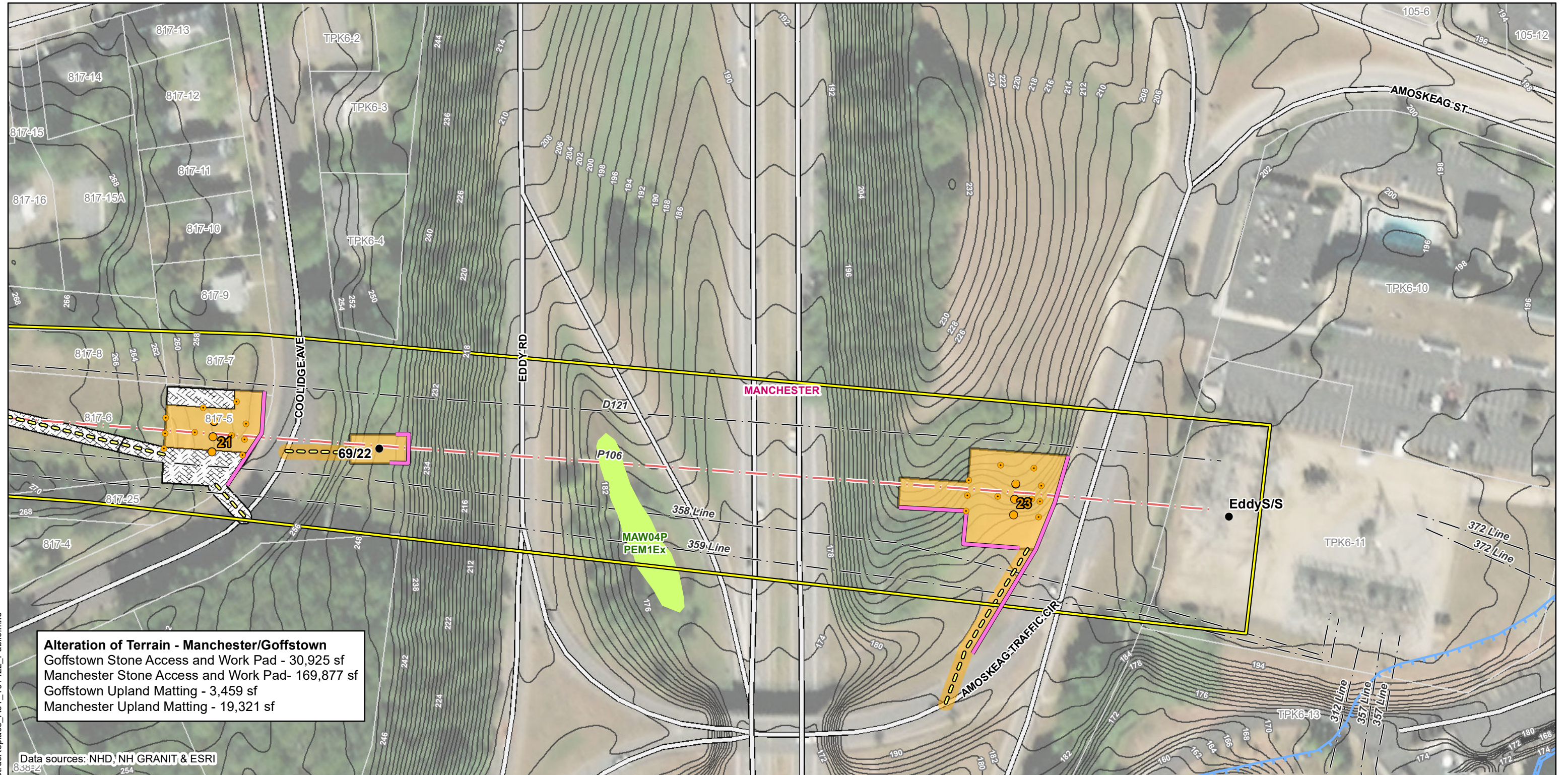
Eversource - P106 Line

Structure Replacement
 Alteration of Terrain Plans

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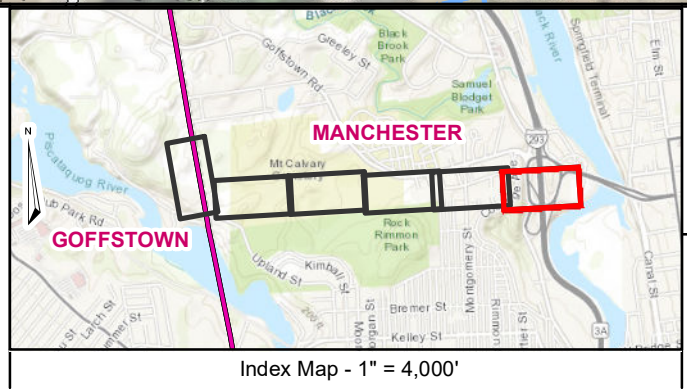
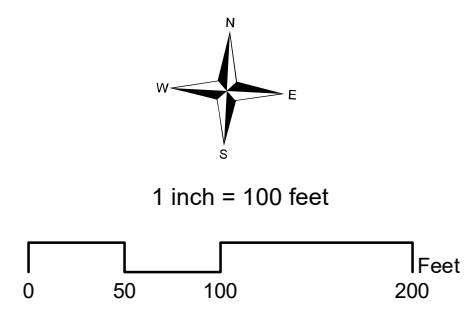


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 836-Z

- Pole
- Guy Wire (New)
- Guy Wire (Reused)
- Structure to Remain
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- Town Line

Municipality: Manchester



Eversource - P106 Line
 Structure Replacement
 Alteration of Terrain Plans

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Construction Sequence:

1. Wetland boundaries to be clearly marked prior to the start of construction; Wetlands were reviewed/delineated by Normandeau Associates, Inc. Summer 2022. The wetland delineations were completed in accordance with the criteria described in the U.S. Army Corps of Engineers Wetland Delineation Manual Technical Report Y-87-1 (January, 1987) and the Regional Supplement for the Northcentral and Northeast Region (January, 2012) and meet the criteria for wetland delineation in accordance with the NH DES administrative rules Env-W t 301.01.
2. MODIFICATIONS IN ACCESS ROUTES, WORK PAD LOCATIONS OR OTHER WETLANDS IMPACT AREAS MUST BE APPROVED BY EVERSOURCE AND IN COMPLIANCE WITH NHDES WETLANDS RULES FOR MINIMUM IMPACT:
 - ENV-WT 307 - GENERAL REQUIREMENTS
 - ENV-WT 313.03 - AVOIDANCE AND MINIMIZATION
 - ENV-WT 521 - UTILITY PROJECT SPECIFIC CONDITIONS
3. Sediment and erosion control measures shall be installed in accordance with the plans and detail provided, as necessary.
4. 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.
5. 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.
6. Remove completely all contamination from any spillage of chemicals or petroleum product with complete rehabilitation of the affected area.
7. 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.
8. Impact to vegetation within wetlands will be limited to the extent necessary to place the timber mats where required.
9. 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.
10. Timber mats will be used along access routes within and adjacent to 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.
11. 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.

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; sooner if heavy rains forecasted.
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. Footings will be abandoned in place to minimize impacts.
18. All swamp mats, material, and debris will be removed from the work area upon the completion of construction.
19. 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.
20. 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.
21. Sediment and erosion control measures will be evaluated and removed if necessary upon the completion of construction.

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 (NH DOT 304.3).

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.
2. All areas shall be stabilized within 45 days of initial disturbance
3. An area shall be considered stable if one of the following has occurred: 1) Base course gravels have been installed in areas to be paved, 2) A minimum of 85 percent vegetated growth has been established, 3) A minimum of 3 inches of non-erosive material such as stone or riprap has been installed, or 4) erosion control blankets have been properly installed
4. Note that all cut and fill slopes shall be seeded/loamed within 72 hours of achieving finished grade
5. As required, construct temporary berms, siltation fences, sediment traps, etc. to prevent erosion & sedimentation of wetlands.
6. 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.
7. Any stripped topsoil shall be stockpiled, without compaction, and stabilized with BMPs.
8. 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.
9. Erosion controls shall be inspected weekly with the timing of weekly visits adjusted if heavy rains/snow melt are forecasted or have occurred.
10. Timber mats must be removed after one growing season.
11. Any erosion control matting used shall be wildlife friendly. No welded plastic webbing, netting, or other similar form shall be used in erosion/siltation controls to avoid entrapment of snakes and other wildlife within the project area.
12. Unless otherwise authorized by NHDES, the Applicant shall keep a sufficient quantity of erosion control supplies on the site at all times during construction to facilitate an expeditious (i.e., within 24 hour) response to any construction related erosion issues on the site.
13. Discharge from dewatering of work areas shall be to sediment basins that are: a) located in uplands; b) lined with hay bales or

other acceptable sediment trapping liners; and c) set back as far as possible from wetlands and surface waters.

14. Mulch used within any wetland/stream bank restoration areas shall be natural straw or equivalent non-toxic, non-seed-bearing organic material.
15. When using an erosion control mix berm, the berm must be a minimum of 12" high, as measured on the uphill side of the barrier, and a minimum of two feet wide at the base.

Plant Protection – General Avoidance and Minimization Measures

1. Limit removal of vegetation to that necessary for construction of the project. Limit tree clearing to the minimum required width to meet safety clearances, leave root systems in place, except over underground installations or where other earthwork must be conducted. Leave herbaceous and shrub vegetation intact wherever practicable.
2. Precautions shall be taken to prevent import or transport of soil or seed stock containing nuisance or invasive species such as Purple Loosestrife, Knotweed, or *Phragmites*. The contractor responsible for work shall appropriately address invasive species in accordance with the NH DOT "Best Management Practices for Roadside Invasive Plants (2008)".
3. To prevent the introduction of invasive plant species to the site, the Applicant's contractor(s) shall clean all soils and vegetation from construction equipment and matting before such equipment is moved to the site.

Wildlife Protection – General Avoidance and Minimization Measures

1. Limit the removal of vegetation to that necessary for construction of the project; this will leave associated wildlife habitat as intact as possible.
2. All erosion control materials used will be wildlife-friendly. No welded plastic webbing, netting, or other similar form with openings greater than 1/8-inch shall be used in erosion/siltation controls to avoid entrapment of snakes and other wildlife within the project area.
3. Timber matting will be used in all wetland areas and will remain in place for the shortest duration possible; if possible, passageways will remain open at the wetland crossing to allow for reptiles to cross under the mat-bridge/pathway; matting will remain up to several weeks
4. Timber matting will be used in upland areas at the far eastern portion of the work area near the best habitat for the listed turtles and where NHB22-1136 indicates the most observations of these species; this will limit ground disturbance
5. Daily sweeps by contractors for all turtle and snake species will be performed when work will occur;
6. Any observations of listed species will be reported and no wildlife will be harmed; contact numbers and fliers will be included on the environmental plans

7. Wildlife friendly erosion controls will be used; no welded plastic netting will be used;
8. Erosion controls will be installed, monitored and maintained to protect adjacent upland and wetland areas from sedimentation and degradation; disturbed areas will be temporarily and permanently stabilized and seeded with a native seed mix; the applicable utility maintenance BMPs will be followed

SPECIFIC WILDLIFE BMPS

New Hampshire Fish and Game AoT Permit Conditions in Accordance with Env-Wq 1504.18 – Wildlife Protection Notes

1. BMPs in the document titled “P106_NHB_NHFG_BMPs_8-22-22” submitted to NHFG 9/23/22 (attached) shall be adhered to at all times during this project.
2. Blanding’s turtle (state endangered), spotted turtle (state threatened), and Northern black racer (state threatened) occur within the vicinity of the project area. All operators and personnel working on or entering the site shall be made aware of the potential presence of these species and shall be provided flyers that help to identify these species, along with NHFG contact information. See Page 5 of the Construction Notes.
3. Observations of Northern black racers in the months of April-May and September-October may indicate the potential for a den site on or near the project site. Observations of this species during this timeframe shall be reported immediately to the New Hampshire Fish and Game Department Nongame and Endangered Wildlife Environmental Review Program. Please contact Melissa Winters (603-479-1129) or Brendan Clifford (603-944-0885). Observations of this species outside of this timeframe can follow general reporting guidance. Please include photograph with text if feasible.
4. Turtles and snakes may be attracted to disturbed ground during nesting season. Turtle nesting season occurs approximately May 15th – June 30th. Nesting areas may include work pads and access roads that are not hard pack gravel and other sandy/gravel work areas. All turtle species nests and Northern black racer nests are protected by NH laws. Be aware of the potential to encounter nesting wildlife in these areas.
5. If a turtle or snake nest is observed or suspected, or a turtle is exhibiting nesting behaviors, operators shall contact Melissa Winters (603-479-1129) or Josh Megyesy (978-578-0802) at NHFG immediately for further consultation. Turtle nests or turtles exhibiting nesting behavior shall not be disturbed.
6. Sweeps of work areas and access routes shall be conducted immediately prior to start of work and equipment movement in order to minimize the potential of animals entering a work area between the sweep and activity.
7. All work activities shall be restricted to the defined roads, construction areas, and staging areas, with no equipment or materials staged or stored outside of the defined areas as shown on plan sheets.

8. Minimize work pad areas, including matting, to the greatest extent possible.
9. All manufactured erosion and sediment control products, with the exception of turf reinforcement mats, utilized for, but not limited to, slope protection, runoff diversion, slope interruption, perimeter control, inlet protection, check dams, and sediment traps shall not contain plastic, or multifilament or monofilament polypropylene netting or mesh with an opening size of greater than 1/8 inches
10. All observations of threatened or endangered species on the project site shall be reported immediately to the NHFG nongame and endangered wildlife environmental review program by phone at 603-271-2461 and by email at NHFGreview@wildlife.nh.gov, with the email subject line containing the NHB DataCheck tool results letter assigned number, the project name, and the term Wildlife Species Observation
11. Photographs of the observed species and nearby elements of habitat or areas of land disturbance shall be provided to NHFG in digital format at the above email address for verification, as feasible
12. In the event a threatened or endangered species is observed on the project site during the term of the permit, the species shall not be disturbed, handled, or harmed in any way prior to consultation with NHFG and implementation of corrective actions recommended by NHFG.
 - a. Site operators shall be allowed to relocate wildlife encountered if discovered within the active work zone and if in direct harm from project activities. Wildlife shall be relocated in close proximity to the capture location but outside of the work zone and in the direction the individual was heading. NHFG shall be contacted immediately if this action occurs.
13. The NHFG, including its employees and authorized agents, shall have access to the property during the term of the permit
14. Wood turtles (state species of special concern) have the potential to occur within the vicinity of the project area. Site operators should be informed of the potential presence of these species and should be provided flyers that help to identify these species along with NHFG contact information should they be encountered during project activities. See Page 5 of the Construction Notes.

From: Document titled “P106_NHB_NHFG_BMPs_8-22-22” submitted to NHFG 9/23/22

Blanding’s turtle (*Emydoidea blandingii*) – State Endangered & Spotted Turtle (*Clemmys guttata*) – State Threatened

- Prior to the start of construction, a qualified biologist shall educate site operators who will be informed of the potential presence of this species and shall be provided with the NH Fish and Game listed species flyer for Blanding’s turtle. The NHFG flyers contain information to identify this species and provide NHFG contact information.

- Blanding’s and spotted turtles may be encountered in both upland and wetland habitats within the project work area. Limited wetland habitat is present within the ROW, but BMPs should apply to all areas. Minimize work in known habitat during the active season (April 1 – October 15) to the greatest extent practicable. Work is proposed only at the end of and mostly outside the active season.
- If work must occur during the active season (April 1 – October 15), contractors working within the ROW will be trained by a qualified biologist on the identification and response protocols for Blanding’s and spotted turtles. A Certified Wildlife Biologist will provide the training (resume to be provided).
- During Inactive Period (Approximately October 16 - March 31), all contractors working within known habitat will be trained by a qualified biologist on the identification and response protocols for Blanding’s and spotted turtles.
- If a Blanding’s or spotted turtle is discovered, the animal shall be photographed and the observing individual will then immediately contact the project Environmental Licensing & Permitting specialist from Eversource who will contact NH F&G for further information, as follows: Josh Megyesy 978-578-0802; or Melissa Winters 603-479-1129; c) If NHF&G staff are unable to be reached, contact the Wildlife Administrator at 603-271-2461.
- Immediately prior to daily construction activities, timber matting shall be reviewed for snakes and turtles. An environmental addendum shall be added to the contractor’s daily tailboards to include guidance on protocols for snakes and provide identification for turtles and snakes.

Northern black racer (*Coluber constrictor constrictor*) – State Threatened

- Site operators shall be informed of the potential presence of this species and shall be provided with the NH Fish and Game listed species flyer for northern black racer. The NHFG flyers contain information to identify this species and provide NHFG contact information.
- Minimize work in known habitat during the active season (April 1 - October 31) to the greatest extent practicable.
- Disturbance for winter work areas should be minimized to the extent possible in order to limit impacts to hibernating snakes. Hibernacula can be impacted by work occurring in the inactive season. A single hibernaculum can host many snakes, so damage to one can result in significant impacts to the population. Northern black racers are known to hibernate directly adjacent to utility structures, so impacts must be considered even in the inactive season.
- If work must occur during the active season, contractors working within the ROW will be trained by a qualified biologist on the identification and response protocols for northern black racers. A Certified Wildlife Biologist will provide the training (resume to be provided).
- If a northern black racer is discovered, the animal shall be photographed and the observing individual will then immediately

- contact the project Environmental Licensing & Permitting specialist from Eversource who will contact NH F&G for further information, as follows: Brendan Clifford 603-944-0885; or Melissa Winters 603-479-1129. or If NHF&G staff are unable to be reached, contact the Wildlife Administrator at 603- 271-2461.
- Immediately prior to daily construction activities, timber matting shall be reviewed for snakes and turtles. An environmental addendum shall be added to the contractor’s daily tailboards to include guidance on protocols for snakes and provide identification for turtles and snakes.
- Erosion control matting (including wattles), if utilized, shall consist of jute matting. In accordance with the NH Department of Natural & Cultural Resources, March 2019 Best Management Practices [BMP] Utility Maintenance in and Adjacent to Wetlands and Waterbodies Manual and Eversource’s BMP Manual for Sediment and Erosion Control, all photodegradable and welded plastic mesh shall be prohibited on this project and only E&S controls made of biodegradable, natural materials shall be utilized in order to prevent mortality to wildlife.
- Observations of northern black racers in the months of April-May and September-October may indicate the potential for a den site on or near the project site. Observations of this species during this timeframe shall be reported immediately to the New Hampshire Fish and Game Department Nongame and Endangered Wildlife Environmental Review Program via the contacts and procedures (including photographs if possible) above. Observations of this species outside of this timeframe can follow general reporting guidance.

Guidance for Blanding’s Turtle, Spotted Turtle and N. Black Racer

- Searches and sweeps shall be conducted immediately before the start of construction and movement of equipment in order to minimize the chance of animals entering an area between the sweep and work.
- In the event a threatened or endangered species is observed on the project site during the term of the permit, the species shall not be disturbed, handled, or harmed in any way prior to consultation with NHFG and implementation of corrective actions recommended by NHFG.
- Site operators shall be allowed to relocate wildlife encountered if discovered within the active work zone and if in direct harm from project activities. Wildlife shall be relocated in close proximity to the capture location but outside of the work zone and in the direction the individual was heading. NHFG shall be contacted immediately if this action occurs.
- At the conclusion of the project, a summary report of any rare species observations shall be provided to the NHFG Nongame Program.

SPECIFIC RTE PLANT BMPS

New Hampshire Natural Heritage Bureau (NHNHB) Recommendations

- All rare plants located during surveys are flagged and/or fenced off so that impacts may be avoided
- Tracked equipment and timber matting should be used in the vicinity of all rare plants (near poles 1,2,3,4,10)
- For any rare plants where impacts cannot be avoided and where **ground disturbance is NOT proposed**, then timber matting should be used then removed immediately upon the completion of work (near poles 1,2,3,4,10). NHNB understands timber matting cannot be used to replace stone work pads and that timber matting will be used in addition to any proposed stone work pads in the vicinity of rare plants
- For any rare plants where impacts cannot be avoided and where **ground disturbance IS proposed** (i.e. ground disturbance from pole replacement at poles 1,2,4,10)
 - The top 6 inches of topsoil will be scraped, set aside, and put back as soon as work in that area is complete as proposed by Normandeau and Eversource and confirmed by the State Botanist as the best method of preservation
 - Note: stockpiled topsoil/sand should be placed outside of RTE plant areas and outside of work area as depicted on plans and fenced off reduce disturbance until replaced during restoration
- In the low density Licorice goldenrod (*Solidago odora*) area between poles 1 and 2 where grading for an access road is proposed to occur:
 - Each individual rare plant should be flagged
 - If any rare plants are proposed to be impacted within the area where **ground disturbance IS proposed** for the construction of an access road then the top 6 inches of topsoil will be scraped, set aside, and put back as soon as work in that area is complete
 - Note: stockpiled topsoil/sand should be placed outside of RTE plant areas and outside of work area as depicted on plans and fenced off reduce disturbance until replaced during restoration
 - If any rare plants are proposed to be impacted within the area where **ground disturbance is NOT proposed** for the construction of an access road, then timber matting should be used then removed immediately upon the completion of work
- Work in the area of Long spined sandbur (*Cenchrus longispinus*) should wait until November 1st to ensure that all plants have gone to seed (near poles 4, 10)



Long spined sandbur (*Cenchrus longispinus*)

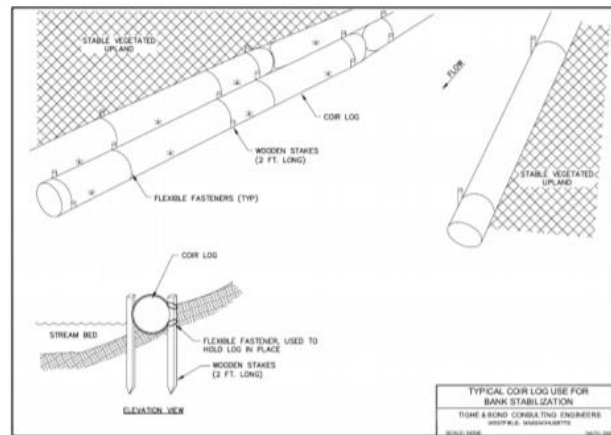


Clasp milkweed (*Asclepias amplexicaulis*)



Licorice goldenrod (*Solidago odora*)

Best Management Practice 4: Coir Logs



Description:
Coir logs, straw wattles, fiber rolls, or SiltSoxx™ consist of compressed weed-free straw fiber or other natural material, placed within a photodegradable mesh cylindrical sock.

- Applications:**
- Streambank, wetland, and slope protection
 - Check dam applications
 - Perimeter and stockpile containment
 - Slope stabilization by shortening slope length, reducing runoff velocity, and trapping mobile soil particles
 - Provides substrate for plant growth upon decay of fiber roll and protects new vegetation growth

- Installation:**
- For slope stabilization, it is critical that coir logs are installed perpendicular to soil movement and parallel to the slope contour.
 - If additional length is needed for application, ends should be overlapping at least 6 inches.
 - If used in slope stabilization, construct trenches half the diameter of the log in which to place the roll. Lay the coir log along the trench, snugly fitting it against the soil. Ensure no gaps exist between the soil and the fiber roll.
 - Install stakes at least every three feet apart along the length of the roll. Additional stakes may be driven on the downslope side of the trenches on highly erosive or very steep slopes.

Best Management Practice 5: Silt Fence

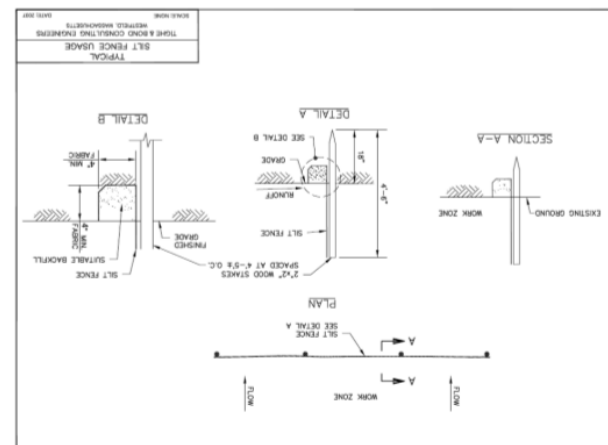


Description:
Silt fence is a temporary sediment barrier consisting of filter fabric attached to supporting posts and entrenched into the soil. This barrier is installed across or at the toe of a slope to intercept and retain small amounts of sediment from disturbed or unprotected areas.

- Applications:**
Consider using silt fence barriers where:
- Flow to the silt fence from a distributed area occurs as overland sheet flow
 - Sedimentation can pollute or degrade adjacent wetlands or watercourses
 - Sedimentation will reduce the capacity of storm drainage systems or adversely affect adjacent areas.
 - **Silt fence should not be used in areas of**

concentrated flows or across streams, channels, swales, ditches or other drainage ways.

- Installation:**
- Install silt fence following the contour of the land as closely as possible.
 - The height of the barrier shall not exceed 36 inches.
 - 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).
 - 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
 - The filter fabric will extend a minimum of 8 inches into the trench which shall be backfilled and the soil compacted over the filter fabric.
 - Fabric barriers shall be removed after the upslope area has been permanently stabilized.
 - 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.
 - Sediment deposits should be removed when they reach approximately one-half the height of the barrier.



Best Management Practice 16: Temporary or Permanent Mulch

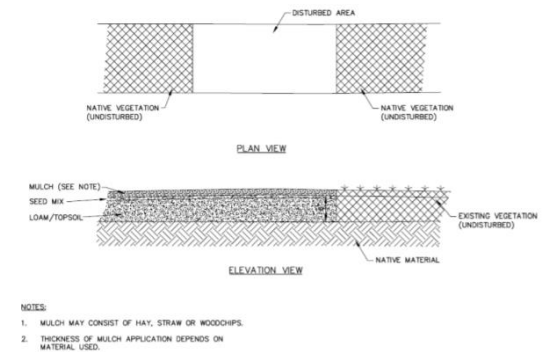


Description:
Temporary mulching is the application of plant residues or other suitable materials to the soil surface. Permanent mulching consists of the application of long-term surface cover such as bark, woodchips or erosion control mix. Permanent mulch can be used as a permanent ground cover, an overwinter stabilization mulch or left to naturalize.

Mulching reduces erosion potential by protecting the exposed soil surface from direct impact by rainfall.

Considerations:

- Apply temporary mulch within 100 feet of streams, wetlands and in lake watersheds within seven days of exposing soil or prior to any storm event.
- Immediately mulch areas that have been temporarily or permanently seeded, following seeding.
- For areas that cannot be seeded within the growing season, mulch for over-winter protection. Seed the area at the beginning of the next growing season.
- Mulch anchoring should be used on slopes with gradients greater than 5% in fall (past September 15), and over-winter (October 15 – May 1).



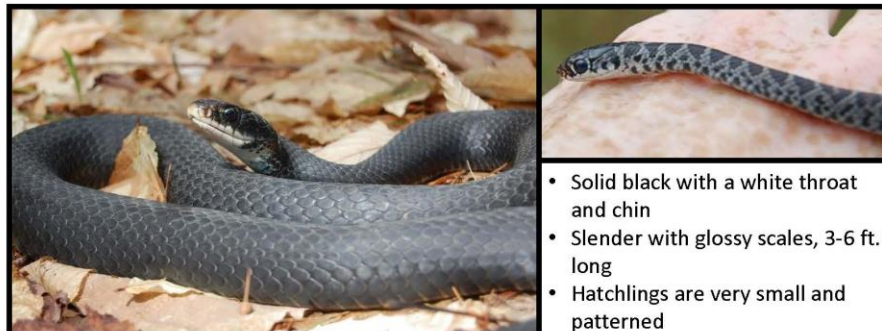
Installation:

Hay or Straw Mulches:

- Use air-dried organic mulches including weed-free hay and straw free of undesirable seeds and coarse materials.
- Application rate should be two bales (70-90 pounds) per 1,000 square feet or 1.5-2 tons (90-100 bales) per acre to cover 75-90% of the ground surface.
- Anchor hay or straw mulch to prevent displacement by wind or flowing water using jute or biodegradable plastic netting or in some cases, organic tackifier.
- When mulch is applied to provide protection over winter (past the growing season), apply it to a depth of four inches (150-200 pounds of hay or straw per 1,000 square feet, or double standard application rate). Seeding cannot generally be expected to grow up through this depth of mulch and will be smothered. If vegetation is desired, remove mulch in the springtime and seed and re-mulch the area.

Northern Black Racer

(New Hampshire state threatened species)



- Solid black with a white throat and chin
- Slender with glossy scales, 3-6 ft. long
- Hatchlings are very small and patterned



Immediately report sightings to NH Fish and Game

Melissa Doperalski (603-479-1129) or

Brendan Clifford (603-944-0885)

Please report promptly, noting specific location and date

Photographs strongly encouraged

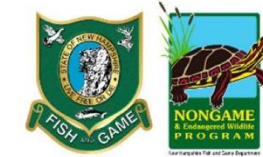


PLEASE REPORT RARE TURTLES

The NH Fish & Game Department is requesting observations of three turtle species that could be encountered onsite.

Report sightings immediately to NHFG Wildlife Division at 603-271-2461 (M-F 8-4) or to NHFG Wildlife Biologist Melissa Winters 603-479-1129 (cell) anytime.

Please report promptly, noting specific location and date – Photographs strongly encouraged



Blanding's turtle (state endangered)

- Large, dark/black domed shell with lighter speckles
- Distinct yellow throat/chin
- Aquatic but often moves on land



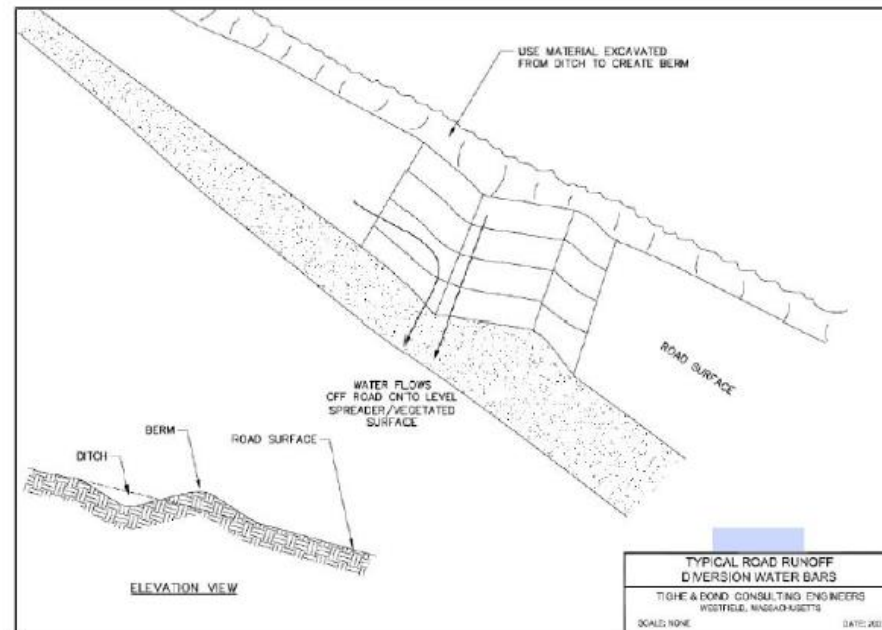
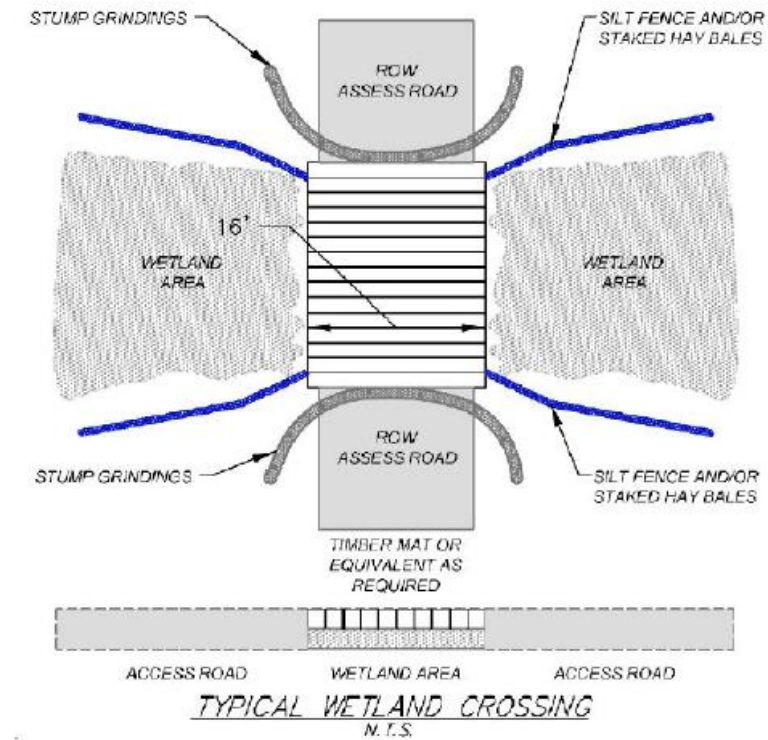
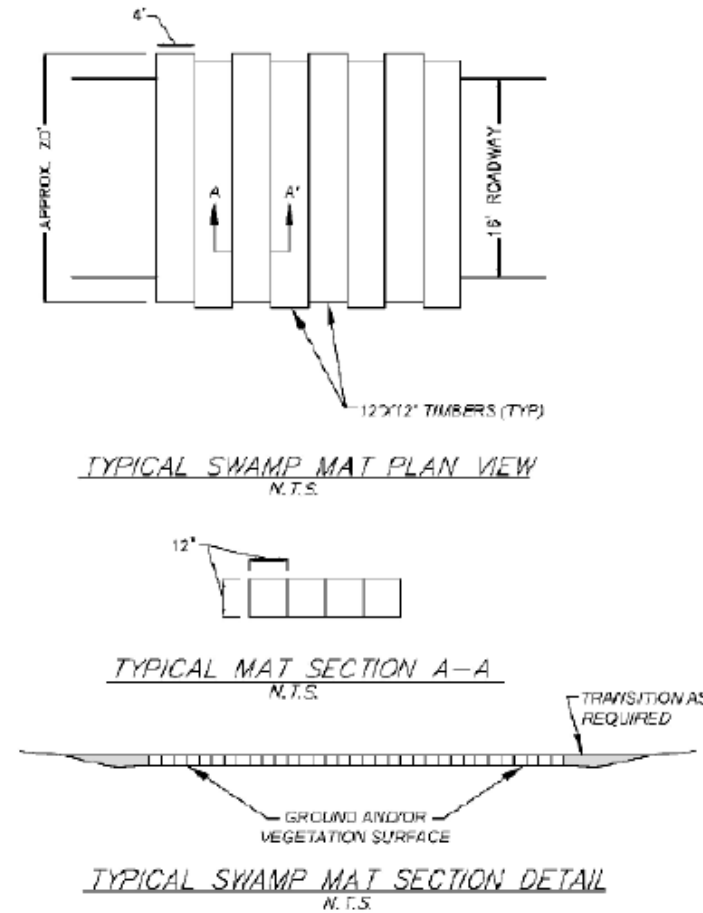
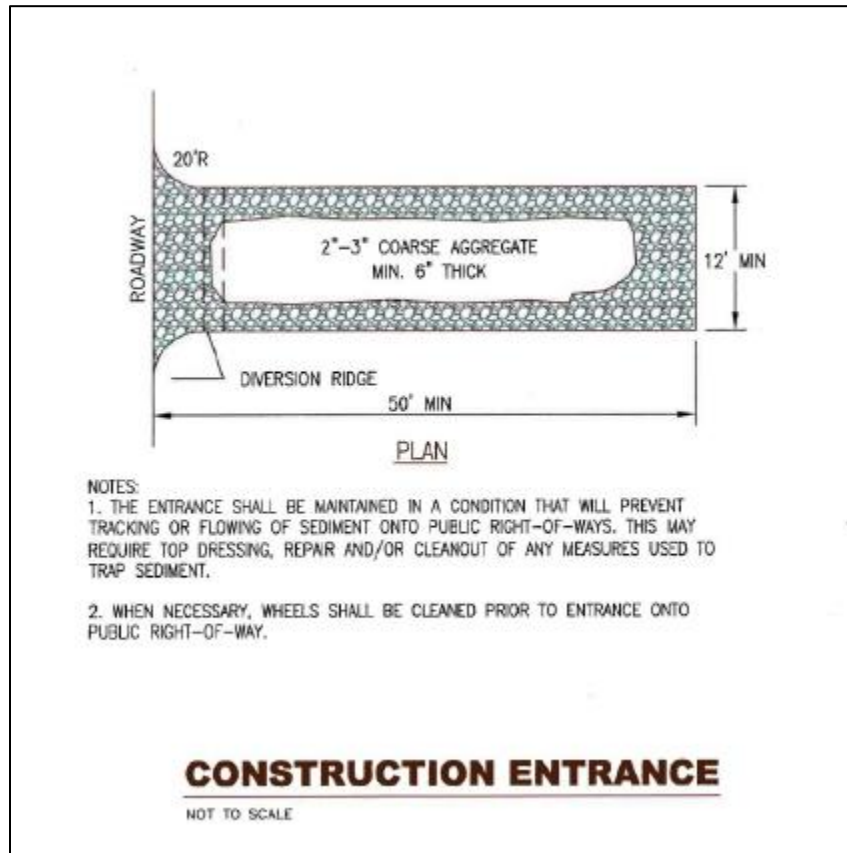
Wood turtle (special concern)

- Sculpted, pyramidal brownish shell
- Orange around neck and limbs
- River/stream turtle spending many months on land



Spotted turtle (state threatened)

- Small, mostly aquatic with black or dark brown with yellow spots.
- Fairly flat shell compared to Blanding's turtle



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)

