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September 26, 2025

Rebecca Tepper, Secretary
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114
RE: J136S Tap Line Rebuild Project Expanded Environmental Notification Form

Dear Secretary Tepper:

On behalf of the Massachusetts Electric Company ("MECO"), BSC Group, Inc. is pleased to submit this Expanded Environmental Notification Form ("EENF") for various refurbishment activities and system improvements along the approximately 3 miles J136S Tap Line overhead electrical utility line, which extend through Leominster and Sterling in Massachusetts (the "Project"). The proposed project includes required maintenance and system improvements to mitigate potential risks of electrical failure and to provide reliable delivery of electrical service.

The Project is located within an active utility Right-of-Way ("ROW") that contains existing utility structures and associated overhead lines, historically used access routes, and areas of managed vegetation. MECO is proposing to rebuild the entire line, replacing all structures in an off-set alignment. Project impacts from construction are associated with permanent land alteration from conversion of vegetative cover types due to tree removal, access road and work area establishment and improvements, and the installation of replacement structures. Additionally, the Project will result in temporary impacts related to the use of construction matting within wetland resource areas. MECO has designed the Project to avoid adverse impacts to the greatest extent practicable.

MECO is submitting this EENF because the Project requires state agency actions and exceeds or potentially exceeds one or more MEPA thresholds. MECO respectfully requests that MEPA allow a Single Environmental Impact Report ("SEIR") filing in accordance with 301 CMR 11.06(8).

Please publish the Notice of Availability for this EENF in the October 8, 2025, Environmental Monitor to initiate the 30-day public review and comment period. MECO will distribute electronic copies to public agencies, the EJ Reference List, and municipal officials in accordance with 301 CMR 11.16(2) (see **Appendix B:** MEPA EENF Distribution List) before or on the date of publication. The Public Notice of Environmental Review was published in local newspapers on September 26, 2025, in accordance with 301 CMR 11.15(1).

Please do not hesitate to contact me at 617-896-4317or spatisteas@bscgroup.com or Timothy Sullivan with MECO at Timothy.Sullivan@nationalgrid.com with any questions or comments.

Sincerely,
BSC Group, Inc.



**Sióna O'Flynn Patisteas**
Ecological Project Manager
Environmental Permitting Specialist

Expanded Environmental Notification Form

# J136S Tap Line Rebuild Project

September 2025


PREPARED FOR

**Massachusetts Electric Company**
170 Data Drive
Waltham, MA 02451

PREPARED BY

BSC GROUP
1 Mercantile St, Suite 610
Worcester, MA 01608

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| Abbreviation | |
|---|---|
| ACEC | Area of Critical Environmental Concern |
| ACHP | Advisory Council on Historic Preservation |
| ACI | American Concrete Institute |
| ACSS | Aluminum Conductor Steel Supported |
| ANSI | American National Standards Institute |
| AP | Flexible Adaptation Pathways |
| APE | Area of Potential Effect |
| ASCE | American Society of Civil Engineers |
| ATVs | All-Terrain Vehicles |
| AUL | Activity and Use Limitation |
| Bank | Inland Bank |
| BLSF | Bordering Land Subject to Flooding |
| BMPs | Best Management Practices |
| BSC | BSC Group, Inc. |
| BVW | Bordering Vegetated Wetlands |
| CAD | Confined Aquatic Disposal |
| CBOs | Community-Based Organizations |
| CDF | Confined Disposal Facility |
| CGP | Construction General Permit |
| CMR | Code of Massachusetts Regulations |
| CWA | Clean Water Act |
| CVP | Certified Vernal Pool |
| DEIR | Draft Environmental Impact Report |
| DGA | Designated Geographic Area |
| DPH | Massachusetts Department of Public Health |
| EEA | Executive Office of Energy and Environmental Affairs |
| EFI | Environmental Field Issue |
| EFSB | Energy Facility Siting Board |
| EIR | Environmental Impact Report |
| EJ | Environmental Justice |
| ENF | Environmental Notification Form |
| EENF | Expanded Environmental Notification Form |
| EOEEA | Executive Office of Energy and Environmental Affairs (Defined Section 61 Finding) |
| EPA | United States Environmental Protection Agency |
| ESA | Endangered Species Act |
| °F | Degrees Fahrenheit |
| FAC | Facultative |

| | |
|---|---|
| FAA | Federal Aviation Administration |
| FEMA | Federal Emergency Management Act |
| ft | Feet/Foot |
| G&P | Gray & Pape, Inc. |
| gpd | gallons per day |
| IEEE | Institute of Electrical and Electronics Engineers |
| ILSF | Isolated Land Subject To Flooding |
| IVM | Integrated Vegetation Management |
| IVW | Isolated Vegetated Wetland |
| KCMIL | kilo circular mil |
| km | Kilometer |
| kV | kilovolt |
| LiDAR | Light Detection and Ranging |
| lf | Linear Feet |
| LOD | Limit of Disturbance |
| LSCSF | Land Subject to Coastal Storm Flowage |
| LUWW | Land Under Water Bodies and Waterways |
| m | Meters |
| MA | Massachusetts |
| MACRIS | Massachusetts Cultural Resource Information System |
| MA WPA | Massachusetts Wetlands Protection Act |
| MassDEP | Massachusetts Department of Environmental Protection |
| MassGIS | Massachusetts Geographic Information Systems |
| MECO | Massachusetts Electric Company |
| MEPA | Massachusetts Environmental Protection Act |
| MESA | Massachusetts Endangered Species Act |
| M.G.L | General Laws of Massachusetts |
| MHC | Massachusetts Historical Commission |
| MRPC | Montachusett Regional Planning Commission |
| MVP | Municipal Vulnerability Preparedness |
| MWRA | Massachusetts Water Resources Authority |
| NEP | New England Power Company |
| NERC | North American Electric Reliability Commission |
| NESC | National Electric Safety Code |
| NHESP | Natural Heritage and Endangered Species Program |
| NHPA | National Historic Preservation Act |
| NOAA | National Oceanic and Atmospheric Administration |
| NOI | Notice of Intent |

| | |
|---|---|
| NOT | Notice of Termination |
| NPC | Notice of Project Change |
| NPDES | National Pollutant Discharge Elimination System |
| NRHP | National Register of Historic Places |
| NWI | National Wetlands Inventory |
| OMP | Operation and Maintenance Plan |
| OOC | Order of Conditions |
| OPGW | Optical Ground Wire |
| ORW | Outstanding Resource Water |
| PCN | Pre-Construction Notification |
| PEM | Palustrine Emergent |
| PFO | Palustrine Forested |
| PSS | Palustrine Scrub/Shrub |
| PVPs | Potential Vernal Pools |
| RA | Riverfront Area |
| RAO | Response Action Outcome |
| RC | Regional Coordination |
| RMAT | Resilient Massachusetts Action Team |
| ROW | right-of-way |
| RTA | Regional Transit Agencies |
| RTN | Release Tracking Number |
| SEIR | Single Environmental Impact Review |
| sf | square feet |
| SHMCAP | State Hazard Mitigation and Climate Adaptation Plan |
| SHPO | State Historic Preservation Officer |
| SS | Site Suitability |
| SWAP | Source Water Assessment and Protection |
| SWPPP | Stormwater Pollution Prevention Plan |
| TDM | transportation demand management |
| TIP | Transportation Improvements Plan |
| TMA | Transportation Management Association |
| TMDL | Total Maximum Daily Load |
| TOY | Time-of-year |
| ULSD | Ultra-Low Sulfur Diesel |
| USACE | United States Army Corps of Engineers |
| USFWS | United States Fish and Wildlife Service |
| USGS | United States Geological Survey |
| USTs | Underground Storage Tanks |

| | |
|---|---|
| VMP | Vegetation Management Plan |
| VP | Vernal Pool |
| WHPA | Wellhead Protection Area |
| WOTUS | Waters of the United States |
| WQC | Water Quality Certification/Certificate |
| WTGH/A | Wampanoag Tribe of Gay Head (Aquinnah) |

# *Commonwealth of Massachusetts*

**Executive Office of Energy and Environmental Affairs**
**Massachusetts Environmental Policy Act (MEPA) Office**

## Environmental Notification Form

***For Office Use Only***

EEA#:_____

MEPA Analyst: _____

*The information requested on this form must be completed in order to submit a document electronically for review under the Massachusetts Environmental Policy Act, 301 CMR 11.00.*

| | | |
|---|---|---|
| **Project Name:** J136S Tap Line Rebuild Project | | |
| **Street Address:** Existing overhead electric transmission right-of-way crossing multiple public ways | | |
| **Municipality:** Sterling and Leominster | **Watershed**: Nashua | |
| **Universal Transverse Mercator Coordinates:**<br><br>UTM Easting UTM Northing<br><br>Start: 274654 274442<br><br>End: 4705479 4709873 | Latitude: Start: 42.471569,<br>End: 42.508352<br><br>Longitude: Start: -71.738262<br>End: -71.745422 | |
| **Estimated commencement date:** Q1 2027 | **Estimated completion date:** Q4 2027 | |
| **Project Type:** Overhead Transmission Line | **Status of project design:** 70% complete | |
| **Proponent:** Massachusetts Electric Company (“MECO”) | | |
| **Street Address:** 170 Data Drive | | |
| **Municipality:** Waltham | **State:** MA | **Zip Code:** 02451 |
| **Name of Contact Person:**<br>▪ Sióna Patisteas (Consultant)<br>▪ Timothy Sullivan (Proponent) | | |
| **Firm/Agency:** BSC Group, Inc. | **Street Address:** 1 Mercantile Street, Suite 610 | |
| **Municipality:** Worcester | **State:** MA | **Zip Code:** 01608 |
| **Phone:** (617) 896-4317 | **Fax:** | **E-mail:** spatisteas@bscgroup.com |

**Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?**
☒**Yes** ☐**No**

**If this is an Expanded Environmental Notification Form ("ENF") (see 301 CMR 11.05(7)) or a Notice of Project Change ("NPC"), are you requesting:**

MECO is filing an Expanded Environmental Notification Form ("EENF").

| | |
|---|---|
| **a Single EIR? (see 301 CMR 11.06(8))** | ☒Yes ☐No |
| **a Rollover EIR? (see 301 CMR 11.06(13))** | ☐Yes ☒No |
| **a Special Review Procedure? (see 301CMR 11.09)** | ☐Yes ☒No |
| **a Waiver of mandatory EIR? (see 301 CMR 11.11)** | ☐Yes ☒No |
| **a Phase I Waiver? (see 301 CMR 11.11)** | ☐Yes ☒No |

*(Note: Greenhouse Gas Emissions analysis must be included in the Expanded ENF.)*

**Which MEPA review threshold(s) does the project meet or exceed (see 301 CMR 11.03)?**

This Project exceeds or potentially exceeds the following Massachusetts Environmental Protection Act ("MEPA"), Environmental Impact Report ("EIR") and Environmental Notification Form ("ENF") thresholds:

### Table 1: MEPA EIR and ENF Thresholds Potentially Exceeded by the Project

| MEPA EIR Threshold |
|---|
| **Wetlands, Waterways and Tidelands:** Alteration of one or more acres of Bordering Vegetated Wetlands ("BVW"). (301 CMR 11.03(3)(a)(1)(a)) |
| **Environmental Justice ("EJ"):** The Secretary shall require an Environmental Impact Report ("EIR") for any Project that is located within a Designated Geographic Area ("DGA") around an EJ Population. (301 CMR 11.06(7)(b)) |
| **MEPA ENF Thresholds** |
| **Land:** Direct alteration of 25 or more acres of land, unless the Project is consistent with an approved conservation farm plan or forest cutting plan or other similar generally accepted agricultural or forestry practices. (301 CMR 11.03(1)(b)(1)) |
| **Wetlands, Waterways and Tidelands:** Provided a Permit is required, alteration of 5,000 or more square feet ("sf") of BVW. (301 CMR 11.03(3)(b)(1)(d)) |

**Which State Agency Permits will the project require?**

- Massachusetts Department of Environmental Protection ("MassDEP") - Section 401 Individual Water Quality Certificate ("WQC")

**Identify any financial assistance or land transfer from an Agency of the Commonwealth, including the Agency name and the amount of funding or land area in acres:**

Not applicable. No financial assistance or land transfer will be associated with this Project.

## Table 2: Summary of Project Size and Environmental Impacts

| Summary of Project Size and Environmental Impacts | Existing | Change | Total |
|---|---|---|---|
| | | | |
| Total site acreage | 92.45 +/- | | |
| New acres of land altered | | Pre-Restoration[1]: 36 +/-<br>Post-Restoration: 33 +/- | |
| Acres of impervious area | 26 +/- | 0[2] | 26 +/- |
| Square feet of new bordering vegetated wetlands alteration | | Tree removal: 50,810[3] | |
| Square feet of new other wetland alteration | | Riverfront Area ("RA"):<br>Pre-restoration[1]: 107,217<br>Post-Restoration[4]: 49,405 | |
| Acres of new non-water dependent use of tidelands or waterways | | N/A | |
| | | | |
| Gross square footage | N/A | N/A | N/A |
| Number of housing units | N/A | N/A | N/A |
| Maximum height (feet ["ft"])[5] | 100 | 85 | 135 |
| | | | |
| Vehicle trips per day | NA | NA | NA |
| Parking spaces | NA | NA | NA |
| | | | |
| Water Use (gallons per day ["gpd"]) | NA | NA | NA |
| Water withdrawal (gpd) | NA | NA | NA |
| Wastewater generation/treatment (gpd) | NA | NA | NA |
| Length of water mains (miles) | NA | NA | NA |
| Length of sewer mains (miles) | NA | NA | NA |
| Has this project been filed with MEPA before?<br>☐ Yes (EEA #_____) ☒No | | | |
| Has any project on this site been filed with MEPA before?<br>☐ Yes (EEA #_____) ☒No | | | |

**Note**: Values are conservative estimates. Some resource areas overlap and may result in overlapping impacts.

[1] 'Restored' areas include gravel or graded areas to be loamed and seeded post-construction. As such, the pre-restoration values include all permanent project impacts, while post-restoration values exclude the restored gravel/graded areas.

[2] Current impervious areas include roads, parking lots, rooftops, sidewalks, driveways, and other concrete surfaces. The Project includes removal of 42 existing structures and installation of 40 new structures (85 poles removed, and 43 poles installed). This will result in a net decrease in impervious area from structure foundations.

[3] In addition to conversion of vegetative covert type (associated with tree removal), temporary placement of construction matting in BVW (approximately 35,948-sf) is also proposed. This will result in temporary impacts only and Bordering Vegetated Wetlands ("BVW") will be restored post-construction.

[4] All graded/graveled areas in RA will be restored post-construction; therefore, conversion of vegetative cover type (associated with tree removal) will be the only permanent impact in RA. The pre-restoration value represents graded and gravel areas (to be restored), plus tree removals. The post-restoration value is tree removals only.

[5] Maximum values listed. Existing structure heights range from 45-feet ("ft") to 100-ft. Proposed structure height ranges from 40-ft to 135-ft. Structure height changes are typically between 20-ft to 35-ft, with a maximum change in height of 85-ft.

## GENERAL PROJECT INFORMATION – all proponents must fill out this section
## PROJECT DESCRIPTION:

### Describe the existing conditions and land uses on the project site:

Massachusetts Electric Company ("MECO") is proposing to conduct a rebuild of the existing J136S 115 kilovolt ("kV") overhead electric transmission tap line[1] ("J136S Tap Line" or "the Line" or "the Tap Line"). The overall Project is referred to as the J136S Tap Line Rebuild Project (the "Project"). The Project will be located within the existing Tap Line right-of-way ("ROW") beginning at the Pratts Junction (#225) Substation at 26 Pratts Junction Road in Sterling and terminates at the Litchfield Street (#207) Substation at 189 Litchfield Street in Leominster. Please refer to the United States Geological Survey ("USGS") Map and MEPA General Purpose Plans (the "Plans") in **Attachment A:** Project Figures for more information.

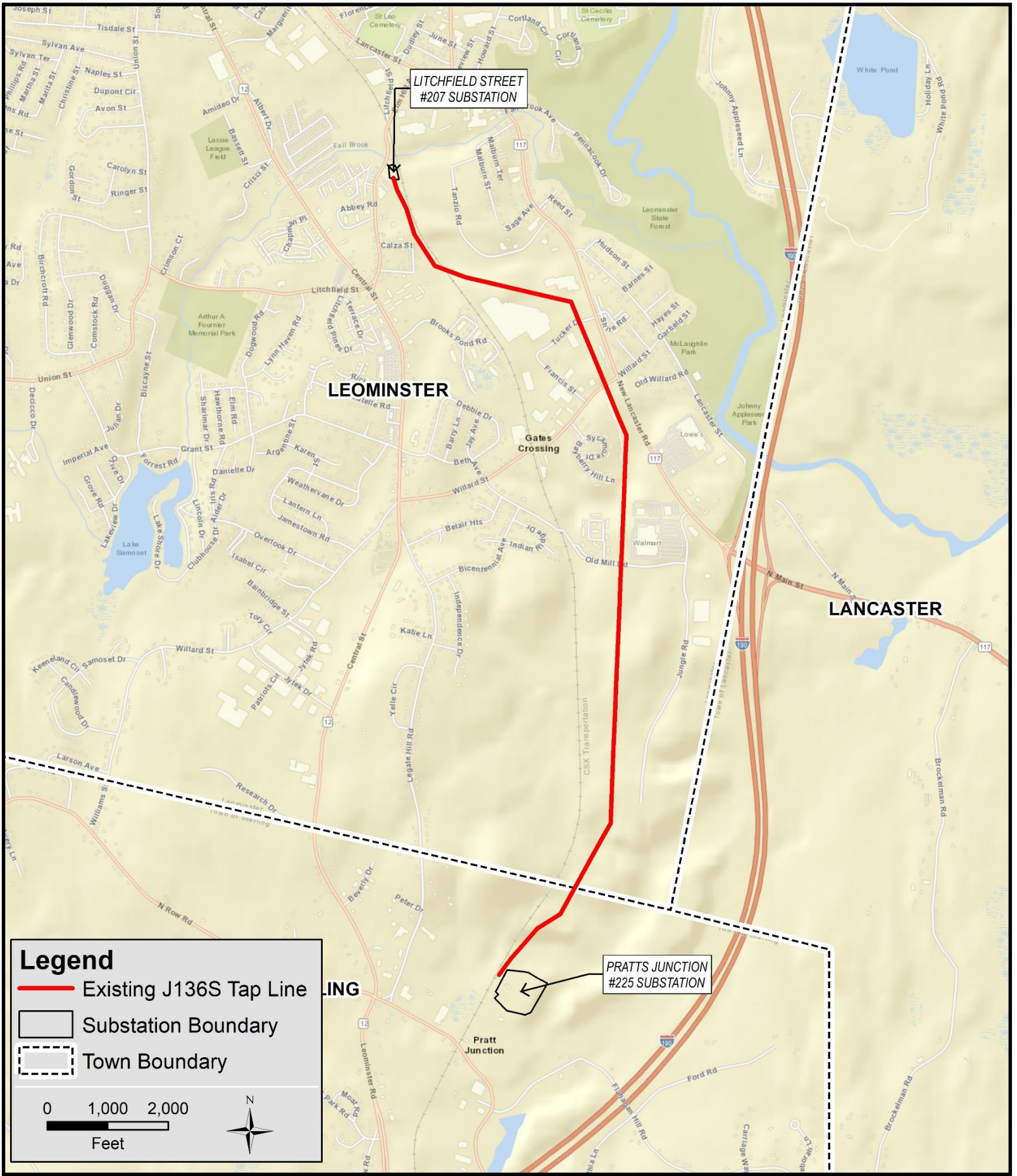
The scope of the Project includes complete rebuild of the existing tap line. Rebuild activities will include structure replacements along a new alignment, reconductoring with a higher-capacity aluminum and steel conductor, replacement of the shieldwire with an optical ground wire ("OPGW"), tree removals in select areas to allow construction in an off-set alignment from the existing Line, and access and work envelope improvement to facilitate Project construction and future operations and maintenance work on the Line.

Existing Conditions

The Project ROW is generally oriented south-to-north, through the Town of Sterling and the City of Leominster. All Project activities will be located within these two municipalities. Please refer to **Figure 1** for an overview of the Project ROW.

The existing Tap Line has a total of 42 structures primarily supported on wood H-frame structures. The existing structures on the Tap Line primarily are directly embedded in the ground, with some structures supported on concrete foundations. Several structures along the Line are original structures constructed in the late 1960's with other structures having been replaced in 2007. Additional past replacements include the majority of the insulators which MECO installed in 2006.

[1] Tap line are transmission line that serve as a connection between a primary transmission line (i.e., the mainline) and a substation facility.




**J136S Tap Line Rebuild Project**

nationalgrid
BSC GROUP

**Figure 1-1**
*Overview of the Project Route*

Existing Land Use:

The land within the ROW has been actively used and maintained as a transmission line corridor since the 1960s. Today, the Existing Tap Line provides electricity to the City of Leominster and transmits power from the Pratts Junction Substation to the Litchfield Street Substation. The Project ROW is approximately three miles; typically, 250-feet ("ft") in easement width; and approximately 92.45 acres in total land area. Several parcels along the ROW are owned in fee by MECO or New England Power Company ("NEP"). The ROW is generally comprised of moderately level terrain with some hills of gentle to moderate slope. There is a large "ravine" at the south end of the ROW between Structures 3 and 4. Most of the upland within the maintained portion of the ROW consists of closed-scrub and open heath communities interspersed with herbaceous pioneer communities. Where undeveloped, the vegetative community occupying the edge of the ROW is best characterized as typical southern New England transitional upland forest and forested wetland.

MECO has thoroughly evaluated the existing conditions on the Project area using extensive field investigations and data collection, Massachusetts Geographic Information Systems ("MassGIS") data layers, mapping, and agency coordination. As an active ROW, the site is currently used for utility activities, including existing utility structures, access and vegetation management. As described in **Section 4:** *Land Use* and shown in **Table 4-1**, approximately 69 percent of the land along the Project ROW is industrial, 13 percent is exempt properties[2], while commercial use comprises approximately five percent of the adjoining land. The remaining land use is a combination of transportation and residential development.

Approximately 27.26 acres of Open Space are located within the 300-ft study buffer (approximately 11.8 percent), and approximately 12.64 acres of Open Space are located within the Project ROW itself (approximately 13.67 percent). The J136S Tap Line ROW transects three Open Space parcels, all owned by the City of Leominster. Of these, two parcels are managed by the City of Leominster Water Department and one (the Nashua Valley Conservation Area) is managed by the City of Leominster Conservation Commission. Project activities are limited to the existing ROW within these parcels. All three parcels are associated with Community Groundwater Wells and associated wellhead protection area ("WHPA"). The J136S Tap Line ROW is not within Zone I (400 ft of the public water supply well) but is within Zone II aquifer recharge area.

During field surveys in 2022 and 2023, field survey teams identified 10 wetland areas, six perennial streams and rivers, three intermittent streams along the Project ROW. Bordering Land Subject to Flooding ("BLSF"), Inland Bank ("Bank"), and Riverfront Area ("RA") are also present in the Project area. There are no certified vernal pools ("CVP") within the ROW. Refer to **Section 5:** *Wetlands, Waterways, and Water Resources* for additional details about wetland resource areas on the Project ROW. Wetlands within the ROW typically consist of scrub/shrub, emergent marsh, or wet meadow communities. Forested wetlands are also present within areas where the ROW has not been managed to its full width. The Project ROW does not intersect any rare species habitat, though a portion of the off-ROW access through the Pratts Junction Substation property traverses Priority Habitat.

Cultural resources in the Project area have been identified and summarized in **Section 7:** *Historic, Archaeological and Cultural Resources*. MECO engaged Gray & Pape, Inc. ("G&P") to complete cultural due diligence for the Project. As part of this effort, G&P performed both background research and a

[2] Exempt Property qualifies for tax exemption under various provisions of the law and include public land and facilities, hospitals, schools, churches and cultural institutions, M.G.L. Chp. 59 §5. This category of land use includes federal, state, and local land (municipal and authorities); charitable (hospitals, cemeteries); and educational institutions.

field inspection of the Project area. The background research included reviewing existing cultural resource reports, prior correspondence, and records of historic and archaeological sites maintained by the Massachusetts Historical Commission ("MHC"). No archaeological sites were identified within the Project study area around the Tap Line.

**Describe the proposed project and its programmatic and physical elements:**
*NOTE: The project description should summarize both the project's direct and indirect impacts (including construction period impacts) in terms of their magnitude, geographic extent, duration and frequency, and reversibility, as applicable. It should also discuss the infrastructure requirements of the project and the capacity of the municipal and/or regional infrastructure to sustain these requirements into the future.*

MECO is proposing to rebuild the J136S Tap Line to address deteriorating asset conditions of the structures and to reconductor the Line to provide a higher capacity for future power demands. As part of the proposed refurbishment and to provide high speed communication between substations, MECO will replace the existing shieldwires with OPGW. Generally, the aging structures along the Line pose a threat to the reliability of the transmission system supplying the Leominster area. Additionally, the condition of the wood structures poses a risk to personnel and public safety and will incur greater costs associated with ad hoc replacement if the aging infrastructure issues are not addressed.

To address these concerns, MECO proposes replacing the Tap Line within the existing ROW. MECO will reconductor the Line, replacing the existing copper conductor with a composite conductor made of a steel core and aluminum strands, which will improve system reliability and increase capacity without increasing the voltage of the line. The proposed rebuild will be off-set from the centerline of the existing infrastructure to allow replacement infrastructure to be constructed while the Line is in service. MECO is proposing to construct the rebuilt Line on steel monopole structures to reduce the off-set distance. The steel monopoles will be taller than the H-Frame structures to accommodate the shift from a horizontal to vertical arrangement of the conductor wires.

The condition of access varies throughout the ROW. In some areas, existing access is in need of repair and does not meet MECO's standard to safely support specialized equipment. New access is required in other areas where structures will be realigned and there is no existing access. Additionally, MECO will require work areas in the locations of the off-set structure locations to build and maintain the structures. As part of the Project, MECO will maintain or improve access and install work areas throughout the ROW corridor.

The primary purpose of the Project is to complete required system improvements that will address poor asset conditions, mitigate potential risks of electrical failure, and provide long-term reliable delivery of electrical service. Refer to **Attachment A:** Project Figures that depict existing conditions and the proposed activities along the length of the ROW.

Project Activities:

Construction activities will be confined to Project ROW and within the Limit of Disturbance ("LOD") as shown in **Attachment A**: Project Figures. The Project ROW easement is generally 250-ft wide or located within MECO and NEP fee-owned parcels. Currently, the cleared width of the ROW is typically 150-ft (ranges from 100-ft to 175-ft).

MECO is proposing construction activities including; structure replacements; tree removals resulting in the conversion of vegetative cover types; access improvements; the use of construction matting for

temporary access and work areas; and the temporary use of construction matting within work areas in wetland resource areas during construction. Further details of these activities are provided in the Project Narrative (Refer to **Section 3:** *Construction Procedure*s). The majority of structure replacements will be replacing existing wooden H-frame type structures with a combination of steel single pole davit arm and steel H-frame structures for improved asset reliability and lifespan. Structures will be both directly embedded into the ground and supported on concrete "caisson" foundations.

The Project includes the rebuild of the existing Tap Line in a new alignment along the Tap Line. The new alignment is offset approximately 40-ft east of the existing alignment. The offset is necessary so that the existing line can remain in service during construction. To accommodate the offset and provide a safe area for construction, future maintenance, and operation, MECO will remove trees in select locations along the eastern edge of the existing Project ROW. The alteration of land associated with tree removal consists of the conversion of one vegetation cover type to another. MECO proposes to remove trees along the current forested edge of the ROW while preserving the existing undergrowth to the extent feasible.

Additionally, MECO is proposing access improvements along the Project ROW to facilitate construction and future maintenance of the Line. Access road improvements/maintenance are required throughout the ROW to re-establish access which has deteriorated over time, and which no longer meets MECO's safety standards. During planning and design, MECO aimed to use existing and/or historic access or pathways along and adjacent to the ROW, wherever feasible. Information on system improvement activities for Line refurbishment work (including construction access), is provided in more detail in the attached Project narrative (**Sections 1** through **3**). Additional information on construction means and methods is provided in **Section 3** of the Narrative.

Anticipated Project Impacts:

MECO has designed the Project to avoid adverse impacts to the extent practicable. As an active utility ROW, most of the Project ROW is managed for compatible vegetation through a cyclical vegetation management program and subject to operations and maintenance activities. Project impacts include the conversion of vegetative cover type resulting from tree removals and work within wetland resource areas. The majority of wetland impacts are temporary and are associated with the use of construction matting along access and within work areas during construction. Permanent wetland alteration consists of the conversion of forested edge wetland areas to scrub-shrub or emergent habitat due to conversion of vegetative type, which is necessary for the safe and reliable operation of the Line. MECO has avoided replacing structures in BVW, Inland Banks, and Land Under Water Bodies and Waterways ("LUWW") and the one existing structure in BVW will be relocated outside of BVW. All impacts have been avoided in BLSF. Additional information on procedures and policies implemented during construction for ROW access, maintenance, and construction Best Management Practices ("BMPs") is provided in **Section 8:** *Avoidance, Minimization and Mitigation Measure*s.

The Project exceeds or potentially exceeds the MEPA thresholds identified **Table 1**, above. Potential and temporary impacts, including alterations, to all resource categories are summarized in **Table 3,** below. A total resource area impact cannot be summed from this table due to overlapping resource areas and conflicting units.

## Table 3: Summary of J136S Tap Line Rebuild Impacts[3]

| Resource Area | Temporary Impacts | Permanent Impacts/Conversion |
|---|---|---|
| New Land Altered | N/A | Total – approximately 36 +/- acres*<br>▪ Conversion of vegetative cover types (13.0+/- acres) associated with tree removal[2]<br>▪ New/improved access<br>▪ New/replacement structure foundations<br>▪ Cut/fill for access, and work envelopes<br>▪ Stabilization material in new/improved sections of existing access<br>*Approximately 33 acres post restoration[1] |
| Bordering Vegetated Wetland ("BVW") | Total – approximately 0.8 +/- acres<br>▪ Construction mats for access where BVW crossings could not be avoided<br>▪ Temporary work envelopes, including construction mats for work pads and pull pads that overlap with BVW | Total – approximately 1.2 +/- acres<br>▪ Conversion of vegetative cover types associated with tree removal[2] |
| **Other Wetland Resource Areas** | | |
| Riverfront Area ("RA") | Total – approximately 1.3 +/- acres<br>▪ Vegetation management activities<br>▪ Temporary work envelopes, including construction mats for work pads and pull pads | Total – approximately 1.1 +/- acres*<br>▪ Conversion of vegetative cover types[1]<br>▪ New/improved access<br>▪ New/replacement structure foundations<br>▪ Cut/fill for access, and work envelopes<br>▪ Stabilization material in new/improved sections of existing access<br>*approximately 2.5 acres prior to restoration[1] |
| Waterways | Waterways crossings do not involve structures within the waterways, only temporary access for construction. No adverse impacts are anticipated from waterways crossings. | |
| Rare Species Impacts | The Project ROW falls outside the Priority or Estimated Habitat; however, MECO will use existing access that passes through a Priority Habitat area in Leominster (access to Structure 7). Consultation with Natural Heritage and Endangered Species Program ("NHESP") is not required for this access since there is no impact proposed, and work will take place under an existing Operations and Maintenance Plan ("OMP") with NHESP. Also, per Massachusetts Wetlands Protection Act ("MA WPA") requirements, MECO will submit the Notice of Intent ("NOI") filed with the City of Leominster Conservation Commission to NHESP. | |
| Historical/Archaeological Impacts | Historical/archaeological areas may have potential impacts where construction -related activities occur within areas of high archaeological sensitivity. Surveys are ongoing to identify areas of concern, and to identify appropriate avoidance measures for implementation, as required. | |

[3] Along with the wetlands listed in the table, an impact analysis was conducted for the inland bank, Bordering Land Subject to Flooding ("BLSF"), isolated wetland, and Land Under Water Bodies and Waterways ("LUWW") within the Project ROW. No impacts are proposed in these resource areas.

| Resource Area | Temporary Impacts | Permanent Impacts/Conversion |
|---|---|---|

1. 'Restored' areas include gravel or graded areas to be loamed and seeded post-construction. As such, the pre-restoration values include all permanent project impacts, while post-restoration values exclude the restored gravel/graded areas. All new gravel access and work areas in Riverfront Area ("RA") will be restored.
2. This value includes the conversion of vegetated types (e.g., trees) to other vegetated types (e.g., shrubs).

**Describe the on-site project alternatives (and alternative off-site locations, if applicable), considered by the proponent, including at least one feasible alternative that is allowed under current zoning, and the reasons(s) that they were not selected as the preferred alternative:**
***NOTE**: The purpose of the alternatives analysis is to consider what effect changing the parameters and/or siting of a project, or components thereof, will have on the environment, keeping in mind that the objective of the MEPA review process is to avoid or minimize damage to the environment to the greatest extent feasible. Examples of alternative projects include alternative site locations, alternative site uses, and alternative site configurations.*

MECO evaluated a series of Project alternatives for the potential to meet the identified need of the Project (Refer to **Section 1.6:** *Project Need and Benefits* of the Project Narrative) and to determine the approach that best balances the reliability, cost, and environmental impacts. As a refurbishment Project along an existing transmission line ROW, there are a limited number of viable alternatives to the proposed Project. **Section 2:** *Alternatives Analysis* provides detailed information on the alternatives considered for the Project. This includes: (1) a No Build Alternative, (2) a Partial Rebuild Alternative, (3) a Design Alternative, and (4) a Complete Rebuild Alternative.

The **No-Build Alternative** was rejected, as the Tap Line would remain in place and MECO would not undertake the necessary capital project to address performance issues and physical issues on the Tap Line. The **Partial Rebuild Alternative** was eliminated because the Tap Line cannot be de-energized, as it is the sole feed to the Litchfield Street Substation, making construction infeasible. The **Design Alternatives** were dismissed as infeasible in light of the objectives of the Proponent due to both operational and environmental constraints. When compared to the complete rebuilding of the Line, the Design Alternatives would result in greater impacts to wetlands and waterways and increase the overall Project footprint.

The **Complete Rebuild Alternative** was selected as the most reliable and only practicable option. Replacing aging wood H-frame with steel monopoles significantly improves the durability and lifespan of the Line, enhances performance, eliminates the risk of the line failing and ensures a safer transmission system, lowers long term maintenance costs, and minimizes environmental impacts to the surrounding resource areas, while meeting the Project's needs and objectives.

**Summarize the mitigation measures proposed to offset the impacts of the preferred alternative:**

To avoid and minimize Project impacts, MECO has incorporated the following actions and considerations throughout the planning and design phases:

- Several asset condition and reliability needs were combined into one Project scope in an effort to reduce the need for repeat disturbances to wetlands and adjacent property owners in this shared ROW;
- Existing ROW and access are being used to avoid new land disturbance, where feasible;
- Field investigations were completed to assess constructability and avoid/mitigate sensitive

resources;

- Agency consultations are in progress;
- Replacement structures are being located outside of BVW where feasible; and
- Temporary construction mat BMPs will be utilized to minimize wetland impacts.

During construction, MECO crews will follow a set of internal environmental guidance policies for implementing ROW access, maintenance, and construction BMPs. By consistently implementing these procedures, MECO ensures that transmission lines are constructed by trained personnel in a manner that minimizes potential impacts to the environment, adheres to permit conditions, and meets industry standards. Key elements of the construction policy include pre-construction field investigations, implementing field-appropriate BMPs, field inspections during construction, and postconstruction inspections. MECO's Environmental Guidance document is included in **Attachment C**.

As well as implementing avoidance and minimization measures, MECO will provide mitigation for unavoidable impacts. MECO anticipates proposed mitigation to include the following:

- In situ restoration of wetland resource areas impacted by temporary construction matting
- Restoration of work area and access modifications within uplands in RA
- Restoration of wetland where structure will be removed
- Section 404 compensatory mitigation for secondary impacts – In Lieu Fee Program payment
- Voluntary funding contribution to compensate for tree loss

Avoidance, minimization, and mitigation measures are discussed in more detail in **Section 8** of the Narrative.

Additional mitigation measures will be implemented as required by federal, state, and local permitting agencies. MECO anticipates that the final mitigation plan will be developed during the permitting processes outlined in the next section, and that the plan will fully address the required permit conditions and agency concerns. Further information on the mitigation plan will be provided in the Single Environmental Impact Review ("SEIR"). MECO anticipates that avoidance, minimization, and mitigation will demonstrate no net loss of existing wetland functions, values, and statutory interests within the watersheds.

## If the project is proposed to be constructed in phases, please describe each phase:

The Project is not proposed to be constructed in phases. Since the existing Line must remain in service during the construction of the rebuilt Line, work will be sequenced such that the Line will be constructed and put in service, then the existing Line will be removed, followed by restoration activities.

## AREAS OF CRITICAL ENVIRONMENTAL CONCERN:

**Is the project within or adjacent to an Area of Critical Environmental Concern ("ACEC")?**

☐ Yes (Specify_____)
☒ No

**If yes, does the ACEC have an approved Resource Management Plan? ___** Yes ___ No;
**If yes, describe how the project complies with this plan.**
**_____**

**Will there be stormwater runoff or discharge to the designated ACEC?** ___ Yes ___ No;
**If yes, describe and assess the potential impacts of such stormwater runoff/discharge to the designated ACEC. _____**

**RARE SPECIES:**

**Does the project site include Estimated and/or Priority Habitat of State-Listed Rare Species? (see http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/priority_habitat/priority_habitat_home.htm)**

☐Yes (Specify_____ ) ☒No

The Project ROW falls outside the Priority or Estimated Habitat; however, MECO will use an existing utility access road to Structure 7 which passes through a Priority Habitat in Leominster. Travel across this area is covered under MECO's OMP with the NHESP. MECO will submit a NOI to notify the City of Leominster, which will be copied to NHESP.

**HISTORICAL /ARCHAEOLOGICAL RESOURCES:**

**Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?**

☐Yes (Specify_____ ) ☒No

**If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources?** ☐Yes (Specify_____) ☒No

Review of the Inventory of Historic and Archaeological Assets of the Commonwealth indicates that several historic sites are located adjacent to the Project area. MECO's cultural resource consultant (G&P), has conducted a cultural resources due diligence, Phase 1A and 1B assessments, and Intensive (Locational) Archaeological Survey Report, (dated April 10, 2025). The report was submitted to the MHC and their concurrence letter was received on May 23, 2025. An Architectural Assessment for Structure Height Increases was prepared in June 2025. The report has been submitted to MHC and is currently under review. Additional information regarding the surveys to identify and evaluate historic and archaeological resources for the Project can be found in Section 7 of the attached narrative.

**WATER RESOURCES:**

**Is there an Outstanding Resource Water ("ORW") on or within a half-mile radius of the project site?** ☐ Yes ☒No;

**If yes, identify the ORW and its location.**

*(NOTE: Outstanding Resource Waters include Class A public water supplies, their tributaries, and bordering wetlands; active and inactive reservoirs approved by MassDEP; certain waters within Areas of Critical Environmental Concern, and certified vernal pools. Outstanding resource waters are listed in the Surface Water Quality Standards, 314 CMR 4.00.)*

**Are there any impaired water bodies on or within a half-mile radius of the project site?** ☒ Yes ☐ No; **If yes, identify the water body and pollutant(s) causing the impairment:**

## Table 4: Impaired Water Bodies Within 0.5 Miles of the Project ROW

| Waterbody | Watershed | Water Type Category | Category | Pollutants Causing Impairment | Cause |
|---|---|---|---|---|---|
| Fall Brook | Nashua | River | 5-Required TMDL | N/A | N/A |
| North Nashua River | Nashua | River | 5-Required TMDL | Escherichia Coli (E. Coli) | Odor |
| Wekepeke Brook | Nashua | River | 5-Required TMDL | Escherichia Coli (E. Coli) | N/A |

Source: Massachusetts Department of Environmental Protection (MassDEP), 2022 Integrated List of Waters (305(b)/303(d)). *https://www.mass.gov/doc/final-massachusetts-integrated-list-of-waters-for-the-clean-water-act-2022-reporting-cycle/download*

Notes: Total Maximum Daily Load ("TMDL")

**Is the project within a medium or high stress basin, as established by the Massachusetts Water Resources Commission?** _☒_ Yes ☐ No

**STORMWATER MANAGEMENT:**

**Generally describe the project's stormwater impacts and measures that the project will take to comply with the standards found in MassDEP's Stormwater Management Regulations:**

MECO will employ construction-phase BMPs for stormwater management including sediment and erosion controls. Additionally, during the construction of the Project, MECO will construct stormwater management features such as swales, water bars, plunge pools, and/or check dams. These stormwater management features will promote stability of the constructed access improvements, reducing the potential for significant erosion and/or washout, and protecting sensitive resource areas. MECO has prepared a Stormwater Report to document compliance with the Massachusetts Stormwater Management Standards (**Attachment G**). Town-specific Stormwater Management Reports will be submitted with NOIs for each municipality traversed by the Project.

MECO will submit a Stormwater Pollution Prevention Plan ("SWPPP") for the Project in compliance with the United States Environmental Protection Agency's ("EPA") National Pollutant Discharge Elimination System ("NPDES") program under the Stormwater Construction General Permit ("CGP"). The SWPPP establishes a construction period contact list, presents a description of the proposed work, and identifies stormwater controls, spill prevention, and inspection practices to be implemented for the management of construction-related stormwater discharges from the Project. The SWPPP clearly identifies parties responsible for monitoring and reporting any activities out of compliance with the SWPPP or other environmental permits or approvals, and for handling extraordinary situations. The SWPPP also defines monitoring to occur until all disturbed areas on the site have been stabilized using standard BMPs. In this manner, the potential impacts associated with land disturbance (e.g. erosion and sedimentation) will be proactively managed so that impacts can be avoided.

**MASSACHUSETTS CONTINGENCY PLAN:**

**Has the project site been, or is it currently being, regulated under M.G.L.c.21E or the Massachusetts Contingency Plan?** _X_ Yes ___ No;

**If yes, please describe the current status of the site (including Release Tracking Number ("RTN"), cleanup phase, and Response Action Outcome classification):**

## Table 5: Proximal Sites Under M.G.L. c.21E of the Massachusetts Contingency Plan

| Release Tracking Number ("RTN") | Cit/Town | Address | Site Name | Compliance Status | Response Action Outcome ("RAO") Class |
|---|---|---|---|---|---|
| 2-0012349 | Sterling | Pratts Junction Rd | Pratts Junction Substation | RAO | A3 |

Source: Massachusetts Department of Environmental Protection ("MassDEP"), Oil and/or Hazardous Material Sites.

Note: For Class A-1 Response Action Outcome ("RAOs"), contamination has been cleaned up to background levels. At sites with Class A-2 RAOs, contamination may be above background levels but below Method 1 cleanup standards, or otherwise at "No Significant Risk." Similarly, sites with Class B-1 RAOs may have contaminant levels at background levels or may be below Method 1 Standards and/or otherwise at No Significant Risk. Class A-3, A-4, B-2 and B-3 RAOs are sites that are closed with Activity and Use Limitations ("AULs"). PN is the new designation indicating a Permanent Solution has been achieved with no conditions.

**Is there an Activity and Use Limitation ("AUL") on any portion of the project site?**

_X_ Yes ___ No;

**If yes, describe which portion of the site and how the project will be consistent with the AUL:**

An Activity and Use Limitation ("AUL") was identified with the Pratts Junction Substation in Sterling, MA. However, no work is proposed within the limits of the AUL, nor will there be subsurface work within the Substation.

**Are you aware of any Reportable Conditions at the property that have not yet been assigned an Release Tracking Number ("RTN")?** Yes ___ No _X_**; if yes, please describe:**_____

**SOLID AND HAZARDOUS WASTE:**

**If the project will generate solid waste during demolition or construction, describe alternatives considered for re-use, recycling, and disposal of, e.g., asphalt, brick, concrete, gypsum, metal, wood:**

*(NOTE: Asphalt pavement, brick, concrete and metal are banned from disposal at Massachusetts landfills and waste combustion facilities and wood is banned from disposal at Massachusetts landfills. See 310 CMR 19.017 for the complete list of banned materials.)*

The intent is for all existing wood and steel towers proposed for removal to be transported to an appropriate recycling and/or disposal facility. The removal and recycling will be consistent with all applicable regulations.

**Will your project disturb asbestos containing materials?** Yes ___ No _X_**;**
**if yes, please consult state asbestos requirements at http://mass.gov/MassDEP/air/asbhom01.htm**

**DESIGNATED WILD AND SCENIC RIVER:**

**Is this project site located wholly or partially within a defined river corridor of a federally designated Wild and Scenic River or a state designated Scenic River?**

Yes ___ No _X_; **If yes, specify name of river and designation:**

**If yes, does the project have the potential to impact any of the "outstandingly remarkable" resources of a federally Wild and Scenic River or the stated purpose of a state designated Scenic River?** Yes ___ No ___;

**If yes, specify name of river and designation: _____;**

**If yes, will the project will result in any impacts to any of the designated "outstandingly remarkable" resources of the Wild and Scenic River or the stated purposes of a Scenic River.** Yes ___ No ___;

**If yes, describe the potential impacts to one or more of the "outstandingly remarkable" resources or stated purposes and mitigation measures proposed.**

## ATTACHMENTS:

1. List of all attachments to this document.

   - **Attachment A:** Project Figures
   - **Attachment B:** ENF Distribution List
   - **Attachment C:** National Grid Environmental Guidance Document (EG-303NE)
   - **Attachment D:** RMAT Tool Output Report
   - **Attachment E:** Environmental Justice
   - **Attachment F:** Agency Correspondence
   - **Attachment G:** Legal Ad Confirmation

2. U.S.G.S. map (good quality color copy, 8-½ x 11 inches or larger, at a scale of 1:24,000) indicating the project location and boundaries.

Refer to **Attachment A:** Project Figures

3. Plan, at an appropriate scale, of existing conditions on the project site and its immediate environs, showing all known structures, roadways and parking lots, railroad rights-of-way, wetlands and water bodies, wooded areas, farmland, steep slopes, public open spaces, and major utilities.

Refer to **Attachment A:** Project Figures

4. Plan, at an appropriate scale, depicting environmental constraints on or adjacent to the project site such as Priority and/or Estimated Habitat of state-listed rare species, Areas of Critical Environmental Concern, Chapter 91 jurisdictional areas, Article 97 lands, wetland resource area delineations, water supply protection areas, and historic resources and/or districts.

Refer to **Attachment A:** Project Figures

5. Plan, at an appropriate scale, of proposed conditions upon completion of project (if construction of the project is proposed to be phased, there should be a site plan showing conditions upon the completion of each phase).

Refer to **Attachment A:** Project Figures

6. List of all agencies and persons to whom the proponent circulated the ENF, in accordance with 301 CMR 11.16(2).

Refer to **Attachment B:** ENF Distribution List

7. List of municipal and federal permits and reviews required by the project, as applicable.

Please refer to **Attachment F**: Agency Correspondence

8. **Printout of output report from RMAT Climate Resilience Design Standards Tool, available here.**

Refer to **Attachment C:** RMAT Tool Output Report

9. **Printout from the EEA EJ Maps Viewer showing the project location relative to Environmental Justice (EJ) Populations located in whole or in part within a 1-mile and 5-mile radius of the project site.**

Refer to **Attachment D:** Environmental Justice

**LAND SECTION – all proponents must fill out this section**

**I. Thresholds / Permits**

**a. Does the project meet or exceed any review thresholds related to land (see 301 CMR 11.03(1)** _X__ Yes __No; **If yes, specify each threshold:**

Direct alteration of 25 or more acres of land, unless the Project is consistent with an approved conservation farm plan or forest cutting plan or other similar generally accepted agricultural or forestry practices. (301 CMR 11.03(1)(b)(1)).

Approximately 36 acres of alteration are proposed, which includes conversion of vegetative cover type, temporary construction matting, permanent and temporary work and pull pad areas, and access improvements prior to restoration.

**II. Impacts and Permits**

**a. Describe, in acres, the current and proposed character of the project site, as follows:**

| | Existing | Change | Total |
|---|---|---|---|
| Footprint | N/A | N/A | N/A |
| Internal Roadways | N/A | N/A | N/A |
| Parking and other paved Area | N/A | N/A | N/A |
| Other altered areas | 92.45 acres | 36 acres | 92.45 acres |
| Undeveloped areas | N/A | N/A | N/A |
| **Total: Project Site Acreage** | **92.45 acres** | **36 acres*** | **92.45 acres** |

*36 acres prior to restoration, 33 acres after restoration. See Tables 4 and 5.

**b. Has any part of the project site been in active agricultural use in the last five years?** ___ Yes _X_ No**; if yes, how many acres of land in agricultural use (with prime state or locally important agricultural soils) will be converted to nonagricultural use?**

No land in agricultural use will be converted to nonagricultural use.

**c. Is any part of the project site currently or proposed to be in active forestry use?** ___ Yes _X_ No; **If yes, please describe current and proposed forestry activities and indicate whether any part of the site is the subject of a forest management plan approved by the Department of Conservation and Recreation:**

**d. Does any part of the project involve conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97?** ___ Yes _X_ No; **If yes, describe:**

**e. Is any part of the project site currently subject to a conservation restriction, preservation restriction, agricultural preservation restriction or watershed preservation restriction?** _X_ Yes___ No; I**f yes, does the project involve the release or modification of such restriction?** ___ Yes _X_ No; **If yes, describe:**

**f. Does the project require approval of a new urban redevelopment project or a fundamental change in an existing urban redevelopment project under M.G.L.c.121A?** ___ Yes _X_ No; **If yes, describe:**

**g. Does the project require approval of a new urban renewal plan or a major modification of an existing urban renewal plan under M.G.L.c.121B?** ___ Yes _X_ No; **If yes, describe:**

## III. Consistency

**a. Identify the current municipal comprehensive land use plan**

**Title:** See Below **Date:** See Below

The current municipal comprehensive land use plans are:

- Sterling, Massachusetts (Town of Sterling Master Plan, March 2022)
- The City of Leominster did not have a comprehensive plan, and therefore, is not cited.

**a. Describe the project's consistency with that plan with regard to:**

**1) economic development** See Below

**2) adequacy of infrastructure** See Below

**3) open space impacts** See Below

**4) compatibility with adjacent land uses** See Below

Town of Sterling

The Town of Sterling Draft Master Plan describes the Town's plans specific to Land Use and Development, Economic Development, Housing, Natural, Historic, and Cultural Resources, Transportation and Circulation, and Open Space and Recreation.

A review of Sterling's land use and open space goals has concluded that the Project corresponds with the implementation of this Plan. The Town of Sterling works in concert alongside their residents, business owners, officials, and organizations to facilitate land use planning which capitalizes on the region's most important assets. The Plan developed review growth trends within the region and outline sets of strategic goals and policies aimed at promoting sound land use planning that protects the town's rural and scenic character. Utility facilities or services are not explicitly addressed.

As noted previously, the purpose of the Project is to undertake necessary upgrades and improvements to the existing electrical transmission system so it may continue to provide safe, reliable electric power and to maintain compliance with regional and national electric standards. Additionally, the Project is proposed to be constructed on MECO-owned land or easement, and within an existing transmission line ROW, and necessary measures will be taken to ensure no damage to the natural, historic, and open space resources, therefore it is not anticipated that the Project will have any impact on Land Use, Economic Development, Housing, Natural, and Historic, and Cultural Resources, Transportation and Circulation, and Open Space and Recreation.

**b. Identify the current Regional Policy Plan of the applicable Regional Planning Agency (RPA)**

**RPA:** Montachusett Regional Planning Commission
**Title:** Montachusett Regional Strategic Framework Plan **Date:** April 2011

c. **Describe the project's consistency with that plan with regard to:**
   **1) economic development** See Below
   **2) adequacy of infrastructure** See Below
   **3) open space impacts** See Below
   **4) compatibility with adjacent land uses** See Below

The Project is located within the areas covered by the Montachusett Regional Planning Commission ("MRPC"). The Montachusett Regional Strategic Framework Plan describes the Region's plans specific to Housing, Land Use, Economic Development, Historic Preservation, Open Space Preservation, Community Development, Energy and Water Management. Policy documents developed by this Commission reviewed growth trends within the region and outlined sets of strategic goals and policies aimed at promoting sound land use planning. They evaluated how growth trends are likely to affect development within their regions as well as in each subregion in the future. The regional objective and goals in the document are primarily concerned with promoting equal housing rights, promoting economic activity that retains and attracts income, and preserving and enhancing the availability of open space. Utility facilities or services are not explicitly addressed.

As noted previously, the purpose of this Project is to undertake necessary upgrades and improvements to the existing electrical transmission system so it may continue to provide safe, reliable electric power and to maintain compliance with regional and national electric standards. The Project is within an existing ROW, and no new cross-country ROWs are proposed. As a result, this Project is consistent with the policies contained in the planning documents, and a safe, reliable source of electric power is vital to the overall well-being of these communities.

**RARE SPECIES SECTION**

I. **Thresholds / Permits**

A. **Will the project meet or exceed any review thresholds related to rare species or habitat (see 301 CMR 11.03(2))? ___** Yes **_X_** No; **if yes, specify, in quantitative terms:**

*(NOTE: If you are uncertain, it is recommended that you consult with the Natural Heritage and Endangered Species Program ("NHESP") prior to submitting the ENF.)*

B. **Does the project require any state permits related to rare species or habitat? ___ Yes _X_ No**

C. **Does the project site fall within mapped rare species habitat (Priority or Estimated Habitat?) in the current Massachusetts Natural Heritage Atlas (attach relevant page)?** _X_ Yes ___No.

D. **If you answered "No" to all questions A, B and C, proceed to the Wetlands, Waterways, and Tidelands Section. If you answered "Yes" to either question A or question B, fill out the remainder of the Rare Species section below.**

II. **Impacts and Permits**

A. **Does the project site fall within Priority or Estimated Habitat in the current Massachusetts Natural Heritage Atlas (attach relevant page)? _X__ Yes _ No. If yes,**

The Project ROW falls outside the Priority or Estimated Habitat; MECO's off-ROW access to a single structure in Leominster (Structure 7) will cross through Priority Habitat but that work is covered by MECO's OMP with NHESP.

1. **Have you consulted with the Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program (NHESP)? ___ Yes _X_ No; if yes, have you received a determination as to whether the project will result in the "take" of a rare species? ___ Yes _X_ No; If yes, attach the letter of determination to this submission.**

2. **Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)?** ___ Yes __ No; **If yes, provide a summary of proposed measures to minimize and mitigate rare species impacts**

3. **Which rare species are known to occur within the Priority or Estimated Habitat?**

The Project ROW overlaps with Estimated and/or Priority Habitat for one reptile. The names and locations of these species are not provided, as requested by NHESP.

4. **Has the site been surveyed for rare species in accordance with the Massachusetts Endangered Species Act?** ___ Yes _X_ No;

5. **If your project is within Estimated Habitat, have you filed a Notice of**

**Intent or received an Order of Conditions for this project?** ___ Yes _X_ No; **If yes, did you send a copy of the Notice of Intent to the Natural Heritage and Endangered Species Program, in accordance with the Wetlands Protection Act regulations?** ___ Yes _X_ No;

**B. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)?** ___ Yes _X_ No; **If yes, provide a summary of proposed measures to minimize and mitigate impacts to significant habitat:**

## WETLANDS, WATERWAYS, AND TIDELANDS SECTION

### I. Thresholds / Permits

**A. Will the project meet or exceed any review thresholds related to wetlands, waterways, and tidelands (see 301 CMR 11.03(3))?** _X_ Yes ___ No; **If yes, specify, in quantitative terms:**

The Project is anticipated to trigger the following wetland MEPA thresholds. Refer to Table 3 for the quantification of impacts associated with the following thresholds:

- (301 CMR 11.03(3)(a)(1)(a)) - Alteration of one or more acres of BVW
- (301 CMR 11.03(3)(b)(1)(d)) – Provided a Permit is required, alteration of 5,000-sf or more of BVW

**B. Does the project require any state permits (or a local Order of Conditions) related to wetlands, waterways, or tidelands?** _X_ Yes ___ No; **If yes, specify which permit:**

- Individual Section 401 WQC from MassDEP.
- Orders of Conditions from local Conservation Commissions.

**C. If you answered "No" to <u>both</u> questions A and B, proceed to the Water Supply Section. If you answered "Yes" to <u>either</u> question A or question B, fill out the remainder of the Wetlands, Waterways, and Tidelands Section below.**

### II. Wetlands Impacts and Permits

**A. Does the project require a new or amended Order of Conditions under the Wetlands Protection Act (M.G.L. c.131A)?** _X__ Yes ___ No; **if yes, has a Notice of Intent been filed?** ___ Yes _X_ No; **If yes, list the date and MassDEP file number: _____; If yes, has a local Order of Conditions been issued?** ___ Yes ___ No; **Was the Order of Conditions appealed?** ___ Yes ___ No. **Will the project require a Variance from the Wetlands regulations?** ___ Yes _X__ No.

**B. Describe any proposed permanent or temporary impacts to wetland resource areas located on the project site:**

Temporary impacts associated with construction matting are proposed within areas that are jurisdictional under the MA WPA regulations. Permanent impacts associated with access improvement and grading are proposed within buffer zones. No permanent or temporary impacts are proposed within Inland Bank or LUWW. Permanent alteration due to conversion of vegetative cover type are proposed within BVW and RA. Refer to Section 5 of the Narrative for a description of wetland resource areas and anticipated impacts.

**C. Estimate the extent and type of impact that the project will have on wetland resources, and indicate whether the impacts are temporary or permanent:**

| <u>Coastal Wetlands</u> | <u>Area (square feet) or Length (linear feet)</u> | <u>Temporary or Permanent Impact?</u> |
|---|---|---|
| **Land Under the Ocean** | 0 | N/A |

| | | |
|---|---|---|
| **Designated Port Areas** | 0 | N/A |
| **Coastal Beaches** | 0 | N/A |
| **Coastal Dunes** | 0 | N/A |
| **Barrier Beaches** | 0 | N/A |
| **Coastal Banks** | 0 | N/A |
| **Rocky Intertidal Shores** | 0 | N/A |
| **Salt Marshes** | 0 | N/A |
| **Land Under Salt Ponds** | 0 | N/A |
| **Land Containing Shellfish** | 0 | N/A |
| **Fish Runs** | 0 | N/A |
| **Land Subject to Coastal Storm Flowage** | 0 | N/A |
| **Fish Runs** | 0 | N/A |
| | | |
| **Inland Wetlands** | | |
| **Bank ("If")** | See Table 3 | See Table 3 |
| **Bordering Vegetated Wetlands** | See Table 3 | See Table 3 |
| **Isolated Vegetated Wetlands** | See Table 3 | See Table 3 |
| **Land under Water** | See Table 3 | See Table 3 |
| **Isolated Land Subject to Flooding** | See Table 3 | See Table 3 |
| **Bordering Land Subject to Flooding** | See Table 3 | See Table 3 |
| **Riverfront Area** | See Table 3 | See Table 3 |

**D. Is any part of the project:**

1. **Proposed as a limited project**? _X__Yes __No**; if yes, what is the area (in sf)?**

As an electrical utility replacement Project, the entire Project is a limited project.

2. **The construction or alteration of a dam?** ___Yes _X_No**; if yes, describe:**
3. **Fill or structure in a velocity zone or regulatory floodway?** ___Yes _X_No;
4. **Dredging or disposal of dredged material?** ___Yes _X_No**; if yes, describe the volume of dredged material and the proposed disposal site:**
5. **A discharge to an Outstanding Resource Water (ORW) or an Area of Critical Environmental Concern (ACEC)?** ___Yes _X_No
6. **Subject to a wetlands restriction order?** ___ Yes _X_No**; if yes, identify the area (in sf):**
7. **Located in buffer zones?** _X_Yes ___No**; If yes, how much (in sf):** 140,198.90-sf

**E. Will the project:**

1. **Be subject to a local wetlands ordinance or bylaw?** ___Yes _X__No
2. **Alter any federally-protected wetlands not regulated under state law?** ___ Yes __X_ No**; if yes, what is the area (sf)?**

## III. Waterways and Tidelands Impacts and Permits

**A. Does the project site contain waterways or tidelands (including filled former tidelands) that are subject to the Waterways Act, M.G.L.c.91?** ___ Yes _X_ No**; if yes, is there a current Chapter 91 License or Permit affecting the project site?** ___ Yes _X_ No; **if yes, list the date and license or permit number and provide a copy of the historic map used to determine extent of filled tidelands:**

Pursuant to 310 CMR 9.05(3)(g)(1), because a final Order of Conditions ("OOC") issued under M.G.L. c. 131, §40 and 310 CMR 10.00 will be issued for all Project waterways crossing, the crossings do not require authorization under c. 91.

Refer to Section 9.1.4.1 in the Project Narrative for additional details.

**B. Does the project require a new or modified license or permit under M.G.L.c.91?** ___ Yes _X_ No**; if yes, how many acres of the project site subject to M.G.L.c.91 will be for non-water-dependent use? Current ___ Change ___ Total ___ If yes, how many square feet of solid fill or pile-supported structures (in sf)?**

**C. For non-water-dependent use projects, indicate the following:**

**Area of filled tidelands on the site:** N/A

**Area of filled tidelands covered by buildings:** N/A

**For portions of site on filled tidelands, list ground floor uses and area of each use:** N/A

**Does the project include new non-water-dependent uses located over flowed tidelands?** ___ Yes _X_ No;

**Height of building on filled tidelands** N/A

**Also show the following on a site plan: Mean High Water, Mean Low Water, Water-dependent Use Zone, location of uses within buildings on tidelands, and interior and exterior areas and facilities dedicated for public use, and historic high and historic low water marks.**

**D. Is the project located on landlocked tidelands?** ___ Yes _X_ No; **If yes, describe the project's impact on the public's right to access, use and enjoy jurisdictional tidelands and describe measures the project will implement to avoid, minimize or mitigate any adverse impact:**

**E. Is the project located in an area where low groundwater levels have been identified by a municipality or by a state or federal agency as a threat to building foundations?** ___ Yes _X_ No; **If yes, describe the project's impact on groundwater levels and describe measures the project will implement to avoid, minimize, or mitigate any adverse impact:**

**F. Is the project non-water-dependent and located on landlocked tidelands or waterways or tidelands subject to the Waterways Act and subject to a mandatory EIR?** ___ Yes _X_ No;

*(NOTE: If yes, then the project will be subject to Public Benefit Review and Determination.)*

**G. Does the project include dredging?** ___ Yes _X_ No; **If yes, answer the following questions:**

**What type of dredging? Improvement ___ Maintenance ___ Both ____**

**What is the proposed dredge volume, in cubic yards (cys) _____**

**What is the proposed dredge footprint ____length (ft) ___width (ft) ____depth (ft);**

**Will dredging impact the following resource areas?**

**Intertidal** ___ Yes _X_ No; **If yes,** ___ sq ft

**Outstanding Resource Waters** ___ Yes _X_ No; **If yes,** ___ sq ft

**Other resource area (i.e. shellfish beds, eel grass beds)** _ Yes X No; **If yes,** __ sq ft

**If yes to any of the above, have you evaluated appropriate and practicable steps to: 1) avoidance; 2) if avoidance is not possible, minimization; 3) if either avoidance or minimize is not possible, mitigation?**

**If no to any of the above, what information or documentation was used to support this determination?**

**Provide a comprehensive analysis of practicable alternatives for improvement dredging in accordance with 314 CMR 9.07(1)(b). Physical and chemical data of the sediment shall be included in the comprehensive analysis.**

**Sediment Characterization**

**Existing gradation analysis results?** __ Yes __ No: **If yes, provide results.**

**Existing chemical results for parameters listed in 314 CMR 9.07(2)(b)6?** ___Yes ____No; **If yes, provide results.**

**Do you have sufficient information to evaluate feasibility of the following management options for dredged sediment? If yes, check the appropriate option.**

**Beach Nourishment ___**

**Unconfined Ocean Disposal ___**

**Confined Disposal:**

**Confined Aquatic Disposal ("CAD") ___**

**Confined Disposal Facility ("CDF") ___**

**Landfill Reuse in accordance with COMM-97-001 ___**

**Shoreline Placement ___**

**Upland Material Reuse____**

**In-State landfill disposal____**

**Out-of-state landfill disposal ____**

*(NOTE: This information is required for a 401 Water Quality Certification.)*

## IV. Consistency

**A. Does the project have effects on the coastal resources or uses, and/or is the project located within the Coastal Zone?** ___ Yes _X_ No; **If yes, describe these effects and the projects consistency with the policies of the Office of Coastal Zone Management:**

**B. Is the project located within an area subject to a Municipal Harbor Plan?** ___ Yes _X_ No; **If yes, identify the Municipal Harbor Plan and describe the project's consistency with that plan:**

**WATER SUPPLY SECTION**

**I. Thresholds / Permits**

**A. Will the project meet or exceed any review thresholds related to water supply (see 301 CMR 11.03(4))?** ___ Yes _X_ No; **if yes, specify, in quantitative terms:**

**B. Does the project require any state permits related to water supply?** ___ Yes **_X_** No; **if yes, specify which permit:**

**C. If you answered "No" to both questions A and B, proceed to the Wastewater Section. If you answered "Yes" to either question A or question B, fill out the remainder of the Water Supply Section below.**

**II. Impacts and Permits**

**A. Describe, in gallons per day ("gpd"), the volume and source of water use for existing and proposed activities at the project site:**

| | Existing | Change | Total |
|---|---|---|---|
| **Municipal or regional water supply** | _____ | _____ | _____ |
| **Withdrawal from groundwater** | _____ | _____ | _____ |
| **Withdrawal from surface water** | _____ | _____ | _____ |
| **Interbasin transfer** | _____ | _____ | _____ |

*(NOTE: Interbasin Transfer approval will be required if the basin and community where the proposed water supply source is located is different from the basin and community where the wastewater from the source will be discharged.)*

**B. If the source is a municipal or regional supply, has the municipality or region indicated that there is adequate capacity in the system to accommodate the project?** ___ Yes ___ No

**C. If the project involves a new or expanded withdrawal from a groundwater or surface water source, has a pumping test been conducted?** ___ Yes ___ No; **If yes, attach a map of the drilling sites and a summary of the alternatives considered and the results. _____**

**D. What is the currently permitted withdrawal at the proposed water supply source (in gallons per day)? Will the project require an increase in that withdrawal?** ___Yes ___No; **if yes, then how much of an increase (gpd)? _____**

**E. Does the project site currently contain a water supply well, a drinking water treatment facility, water main, or other water supply facility, or will the project involve construction of a new facility?** ___ Yes ___ No. **If yes, describe existing and proposed water supply facilities at the project site:**

| | Permitted Flow | Existing Avg Daily Flow | Project Flow | Total |
|---|---|---|---|---|
| **Capacity of water supply well(s) (gpd)** | _____ | _____ | _____ | _____ |
| **Capacity of water treatment plant (gpd)** | _____ | _____ | _____ | _____ |

F. **If the project involves a new interbasin transfer of water, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or proposed?**

G. **Does the project involve:**

1. **new water service by the Massachusetts Water Resources Authority or other agency of the Commonwealth to a municipality or water district?** ___ Yes ___ No
2. **a Watershed Protection Act variance?** ___ Yes ___ No; **If yes, how many acres of alteration?**
3. **a non-bridged stream crossing 1,000 or less feet upstream of a public surface drinking water supply for purpose of forest harvesting activities?** ___ Yes ___ No

## III. Consistency

**Describe the project's consistency with water conservation plans or other plans to enhance water resources, quality, facilities and services:**

**WASTEWATER SECTION**

**I. Thresholds / Permits**

**A. Will the project meet or exceed any review thresholds related to wastewater (see 301 CMR 11.03(5))?** ___ Yes **_X_** No; **If yes, specify, in quantitative terms:**

**B. Does the project require any state permits related to wastewater?**

___Yes **_X_** No; **If yes, specify which permit:**

**C. If you answered "No" to both questions A and B, proceed to the Transportation - Traffic Generation Section. If you answered "Yes" to either question A or question B, fill out the remainder of the Wastewater Section below.**

**II. Impacts and Permits**

**A. Describe the volume (in gallons per day) and type of disposal of wastewater generation for existing and proposed activities at the project site (calculate according to 310 CMR 15.00 for septic systems or 314 CMR 7.00 for sewer systems):**

| | Existing | Change | Total |
|---|---|---|---|
| Discharge of sanitary wastewater | _____ | _____ | _____ |
| Discharge of industrial wastewater | _____ | _____ | _____ |
| TOTAL | _____ | _____ | _____ |

| | Existing | Change | Total |
|---|---|---|---|
| Discharge to groundwater | _____ | _____ | _____ |
| Discharge to outstanding resource water | _____ | _____ | _____ |
| Discharge to surface water | _____ | _____ | _____ |
| Discharge to municipal or regional wastewater facility | _____ | _____ | _____ |
| TOTAL | _____ | _____ | _____ |

**B. Is the existing collection system at or near its capacity? ___ Yes ___ No; If yes, then describe the measures to be undertaken to accommodate the project's wastewater flows:**

**C. Is the existing wastewater disposal facility at or near its permitted capacity? ___ Yes___ No; If yes, then describe the measures to be undertaken to accommodate the project's wastewater flows:**

**D. Does the project site currently contain a wastewater treatment facility, sewer main, or other wastewater disposal facility, or will the project**

**involve construction of a new facility? ___ Yes ___ No; if yes, describe as follows:**

| | Permitted | Existing Avg Daily Flow | Project Flow | Total |
|---|---|---|---|---|
| **Wastewater treatment plant capacity (in gallons per day)** | _____ | _____ | _____ | _____ |

**E. If the project requires an interbasin transfer of wastewater, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or new?**

*(NOTE: Interbasin Transfer approval may be needed if the basin and community where wastewater will be discharged is different from the basin and community where the source of water supply is located.)*

**F. Does the project involve new sewer service by the Massachusetts Water Resources Authority ("MWRA") or other Agency of the Commonwealth to a municipality or sewer district?** ___ Yes ___ No

**G. Is there an existing facility, or is a new facility proposed at the project site for the storage, treatment, processing, combustion or disposal of sewage sludge, sludge ash, grit, screenings, wastewater reuse (gray water) or other sewage residual materials?** ___ Yes ___ No; **If yes, what is the capacity (tons per day):**

| | Existing | Change | Total |
|---|---|---|---|
| **Storage** | _____ | _____ | _____ |
| **Treatment** | _____ | _____ | _____ |
| **Processing** | _____ | _____ | _____ |
| **Combustion** | _____ | _____ | _____ |
| **Disposal** | _____ | _____ | _____ |

**H. Describe the water conservation measures to be undertaken by the project, and other wastewater mitigation, such as infiltration and inflow removal.**

## III. Consistency

**A. Describe measures that the proponent will take to comply with applicable state, regional, and local plans and policies related to wastewater management:**

**B. If the project requires a sewer extension permit, is that extension included in a comprehensive wastewater management plan? ___ Yes ___ No; If yes, indicate the EEA number for the plan and whether the project site is within a sewer service area recommended or approved in that plan:**

## TRANSPORTATION SECTION (TRAFFIC GENERATION)

**I. Thresholds / Permit**

**A. Will the project meet or exceed any review thresholds related to traffic generation (see 301 CMR 11.03(6))? ___ Yes _X_ No; If yes, specify, in quantitative terms:**

**B. Does the project require any state permits related to state-controlled roadways? ___ Yes _X_ No; if yes, specify which permit:**

**C. If you answered "No" to both questions A and B, proceed to the Roadways and Other Transportation Facilities Section. If you answered "Yes" to either question A or question B, fill out the remainder of the Traffic Generation Section below.**

**II. Traffic Impacts and Permits**

**A. Describe existing and proposed vehicular traffic generated by activities at the project site:**

| | Existing | Change | Total |
|---|---|---|---|
| **Number of parking spaces** | | | |
| **Number of vehicle trips per day** | | | |
| **ITE Land Use Code(s):** | | | |

**B. What is the estimated average daily traffic on roadways serving the site?**

| Roadway | Existing | Total | Total |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |

**C. If applicable, describe proposed mitigation measures on state-controlled roadways that the project proponent will implement:**

**D. How will the project implement and/or promote the use of transit, pedestrian and bicycle facilities and services to provide access to and from the project site?**

**E. Is there a Transportation Management Association ("TMA") that provides transportation demand management ("TDM") services in the area of the project site?** ____ Yes ____ No; **if yes, describe if and how will the project will participate in the TMA:**

**F. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation facilities?** ____ Yes ____ No; **if yes, generally describe:**

**G. If the project will penetrate approach airspace of a nearby airport, has the proponent filed a Massachusetts Aeronautics Commission Airspace Review Form (780 CMR 111.7) and a Notice of Proposed Construction or Alteration with the Federal Aviation Administration**

**(“FAA”) (CFR Title 14 Part 77.13, forms 7460-1 and 7460-2)?**

## III. Consistency

**Describe measures that the proponent will take to comply with municipal, regional, state, and federal plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services:**

**TRANSPORTATION SECTION (ROADWAYS AND OTHER TRANSPORTATION FACILITIES)**

**I. Thresholds**

**A. Will the project meet or exceed any review thresholds related to roadways or other transportation facilities (see 301 CMR 11.03(6))?** ___ Yes _X_ No; **if yes, specify, in quantitative terms:**

**B. Does the project require any state permits related to roadways or other transportation facilities?** ___ Yes _X_ No; **if yes, specify which permit:**

**C. If you answered "No" to both questions A and B, proceed to the Energy Section. If you answered "Yes" to either question A or question B, fill out the remainder of the Roadways Section below.**

**II. Transportation Facility Impacts**

**A. Describe existing and proposed transportation facilities in the immediate vicinity of the project site:**

**B. Will the project involve any**

1. **Alteration of bank or terrain (in linear feet)?** _____
2. **Cutting of living public shade trees (number)?** _____
3. **Elimination of stone wall (in linear feet)?** _____

**III. Consistency**

**Describe the project's consistency with other federal, state, regional, and local plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services, including consistency with the applicable regional transportation plan and the Transportation Improvements Plan ("TIP"), the State Bicycle Plan, and the State Pedestrian Plan:**

## ENERGY SECTION

### I. Thresholds / Permits

A. **Will the project meet or exceed any review thresholds related to energy (see 301 CMR 11.03(7))? ___ Yes _X_ No; if yes, specify, in quantitative terms:**

B. **Does the project require any state permits related to energy? __Yes _X_ No; if yes, specify which permit:**

C. **If you answered "No" to both questions A and B, proceed to the Air Quality Section. If you answered "Yes" to either question A or question B, fill out the remainder of the Energy Section below.**

### II. Impacts and Permits

A. **Describe existing and proposed energy generation and transmission facilities at the project site:**

| | Existing | Change | Total |
|---|---|---|---|
| Capacity of electric generating facility (megawatts) | | | |
| Length of fuel line (in miles) | | | |
| Length of transmission line (in miles) | | | |
| Capacity of transmission line (in kilovolts) | | | |

B. **If the project involves construction or expansion of an electric generating facility, what are:**
   1. **the facility's current and proposed fuel source(s)?**
   2. **the facility's current and proposed cooling source(s)?**

C. **If the project involves construction of an electrical transmission line, will it be located on a new, unused, or abandoned right of way? ___Yes ___No; if yes, please describe:**

D. **Describe the project's other impacts on energy facilities and services:**

### III. Consistency

**Describe the project's consistency with state, municipal, regional, and federal plans and policies for enhancing energy facilities and services:**

## AIR QUALITY SECTION

**I. Thresholds**

**A. Will the project meet or exceed any review thresholds related to air quality (see 301 CMR 11.03(8))? ___ Yes _X_ No; if yes, specify, in quantitative terms:**

**B. Does the project require any state permits related to air quality? ___ Yes _X_ No; if yes, specify which permit:**

**C. If you answered "No" to both questions A and B, proceed to the Solid and Hazardous Waste Section. If you answered "Yes" to either question A or question B, fill out the remainder of the Air Quality Section below.**

**II. Impacts and Permits**

**A. Does the project involve construction or modification of a major stationary source (see 310 CMR 7.00, Appendix A)? ___ Yes ___ No; if yes, describe existing and proposed emissions (in tons per day) of:**

| | Existing | Change | Total |
|---|---|---|---|
| **Particulate matter** | _____ | _____ | _____ |
| **Carbon monoxide** | _____ | _____ | _____ |
| **Sulfur dioxide** | _____ | _____ | _____ |
| **Volatile organic compounds** | _____ | _____ | _____ |
| **Oxides of nitrogen** | _____ | _____ | _____ |
| **Lead** | _____ | _____ | _____ |
| **Any hazardous air pollutant** | _____ | _____ | _____ |
| **Carbon dioxide** | _____ | _____ | _____ |

**B. Describe the project's other impacts on air resources and air quality, including noise impacts:**

**III. Consistency**

**A. Describe the project's consistency with the State Implementation Plan:**

**B. Describe measures that the proponent will take to comply with other federal, state, regional, and local plans and policies related to air resources and air quality:**

MECO will comply with state laws regulating the use of diesel-powered equipment and vehicle idling times during construction. MECO will also take measures to limit vehicle idling times and to reduce air emissions, including the following:

- Any diesel-powered non-road construction equipment with engine horsepower ratings of 50 and above to be used for 30 or more days over the course of construction will either be EPA-Tier 4-compliant or will be retrofitted with EPA-verified (or equivalent) emission control devices such as oxidation catalysts or other comparable technologies (to the extent that they are commercially available) and installed on the exhaust system side of the diesel combustion engine.
- MECO requires the use of ultra-low sulfur diesel ("ULSD") fuel in its diesel-powered construction equipment and limits idling time to five minutes except when engine power is necessary for the delivery of materials or to operate accessories to the vehicle such as power lifts.

- Vehicle idling is to be minimized during construction activities, in compliance with Massachusetts Anti-idling Law, G.L. c. 90 § 16A, c. 111 §§ 142A – 142M, and 310 CMR 7.11.

## SOLID AND HAZARDOUS WASTE SECTION

**I. Thresholds / Permits**

**A. Will the project meet or exceed any review thresholds related to solid or hazardous waste (see 301 CMR 11.03(9))? ___ Yes _X_ No; if yes, specify, in quantitative terms:**

**B. Does the project require any state permits related to solid and hazardous waste? ___ Yes _X_ No; if yes, specify which permit:**

**C. If you answered "No" to both questions A and B, proceed to the Historical and Archaeological Resources Section. If you answered "Yes" to either question A or question B, fill out the remainder of the Solid and Hazardous Waste Section below.**

**II. Impacts and Permits**

**A. Is there any current or proposed facility at the project site for the storage, treatment, processing, combustion or disposal of solid waste? ___ Yes ___ No; if yes, what is the volume (in tons per day) of the capacity:**

| | Existing | Change | Total |
|---|---|---|---|
| Storage | _____ | _____ | _____ |
| Treatment, processing | _____ | _____ | _____ |
| Combustion | _____ | _____ | _____ |
| Disposal | _____ | _____ | _____ |

**B. Is there any current or proposed facility at the project site for the storage, recycling, treatment or disposal of hazardous waste? ___ Yes ___ No; if yes, what is the volume (in tons or gallons per day) of the capacity:**

| | Existing | Change | Total |
|---|---|---|---|
| Storage | _____ | _____ | _____ |
| Recycling | _____ | _____ | _____ |
| Treatment | _____ | _____ | _____ |
| Disposal | _____ | _____ | _____ |

**C. If the project will generate solid waste (for example, during demolition or construction), describe alternatives considered for re-use, recycling, and disposal:**

**D. If the project involves demolition, do any buildings to be demolished contain asbestos? ___ Yes ___ No**

**E. Describe the project's other solid and hazardous waste impacts (including indirect impacts):**

**III. Consistency**

**Describe measures that the proponent will take to comply with the State Solid Waste Master Plan:**

## HISTORICAL AND ARCHAEOLOGICAL RESOURCES SECTION

**I. Thresholds / Impacts**

**A. Have you consulted with the Massachusetts Historical Commission? _X_ Yes _ No; if yes, attach correspondence.**

Please refer to Attachment E: Agency Correspondence.

**B. For project sites involving lands under water, have you consulted with the Massachusetts Board of Underwater Archaeological Resources? ____Yes _X_ No; if yes, attach correspondence**

Not Applicable.

**C. Is any part of the project site a historic structure, or a structure within a historic district, in either case listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? ___ Yes _X_ No; if yes, does the project involve the demolition of all or any exterior part of such historic structure? ___ Yes _X__ No; if yes, please describe:**

**D. Is any part of the project site an archaeological site listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? ___ Yes _X_ No; if yes, does the project involve the destruction of all or any part of such archaeological site? ___ Yes ___ No; if yes, please describe:**

MECO retained G&P to undertake a historic and archaeological review of the Project. G&P completed a due diligence and desktop archaeological sensitivity assessment for the Project in December 2022 to identify cultural resources within a Project study area defined as 1.0 kilometer "km" (0.62 mile) radius around the Project ROW (Elquist 2022)[4]. No archaeological sites were identified within the Project study area around the Tap Line, but G&P did identify 21 inventoried aboveground resources adjacent to the Project ROW. To fulfill anticipated federal cultural resource compliance obligations, G&P recommended an intensive (locational) archaeological survey to identify resources potentially eligible for listing in the National Register of Historic Places ("NRHP") and provided recommendations for their management (Elquist 2022). G&P completed the intensive (locational) survey for the Tap Line G&P between October 2023 and September 2024. No archaeological sites were identified and G&P recommended that no further archaeological investigations are warranted for the Project (Elquist 2025). MHC responded with a concurrence letter in May 2025.

G&P completed a supplemental architectural survey of inventoried aboveground historic resources using Massachusetts Cultural Resource Information System ("MACRIS") and the NRHP database. The intent of this architectural assessment was to determine whether NRHP-eligible or -listed and/or MHC-inventoried resources located within the Project study area were in the viewshed of the proposed structure replacements and, if so, to evaluate whether the Project would have adverse impacts on the aboveground historic resources. The assessment identified 22 areas or individual inventoried above ground resources within the Project study area, five of which have been demolished (as noted in

[4] Elquist, Ora 2022 Cultural Resources Due Diligence and Desktop Archaeological Sensitivity Assessment, Line I135S/J136S Asset Condition Refurbishment (ACR) Project, Fitchburg, Leominster, and Sterling, Massachusetts. Gray & Pape, Inc., Providence Rhode Island. Prepared by Gray & Pape, Inc. for National Grid.

MACRIS). Although some of these remaining resources were partially within the viewshed of the proposed structures and some were NRHP-eligible or potentially eligible, G&P recommended that there are no above ground concerns because the Project will not alter the setting or alter the physical appearance or other characteristics of significance that make the properties NRHP-eligible. G&P submitted a report documenting findings (Mackey 2025)[5] to MHC in June 2025 and concluding that the Project will not have adverse effects on above ground historic resources. A response from MHC is pending.

**E. If you answered "No" to <u>all parts of both</u> questions A, B and C, proceed to the Attachments and Certifications Sections. If you answered "Yes" to <u>any part of either</u> question A or question B, fill out the remainder of the Historical and Archaeological Resources Section below.**

## II. Impacts

**Describe and assess the project's impacts, direct and indirect, on listed or inventoried historical and archaeological resources:**

## III. Consistency

**Describe measures that the proponent will take to comply with federal, state, regional, and local plans and policies related to preserving historical and archaeological resources:**

[5] Mackey, Linda June 2025. Architectural Assessment for Structure Height Increases. Line J136S Tap to Litchfield Street Substation Project Leominster and Sterling, Massachusetts. Providence Rhode Island. Prepared by Gray & Pape, Inc. for National Grid.

## CLIMATE CHANGE ADAPTATION AND RESILIENCY SECTION

**This section of the Environmental Notification Form (ENF) solicits information and disclosures related to climate change adaptation and resiliency, in accordance with the MEPA Interim Protocol on Climate Change Adaptation and Resiliency (the "MEPA Interim Protocol"), effective October 1, 2021. The Interim Protocol builds on the analysis and recommendations of the 2018 Massachusetts Integrated State Hazard Mitigation and Climate Adaptation Plan ("SHMCAP"), and incorporates the efforts of the Resilient Massachusetts Action Team ("RMAT"), the inter-agency steering committee responsible for implementation, monitoring, and maintenance of the SHMCAP, including the "Climate Resilience Design Standards and Guideline" project. The RMAT team recently released the RMAT Climate Resilience Design Standards Tool, which is available here.**

**The MEPA Interim Protocol is intended to gather project-level data in a standardized manner that will both inform the MEPA review process and assist the RMAT team in evaluating the accuracy and effectiveness of the RMAT Climate Resilience Design Standards Tool. Once this testing process is completed, the MEPA Office anticipates developing a formal Climate Change Adaptation and Resiliency Policy through a public stakeholder process. Questions about the RMAT Climate Resilience Design Standards Tool can be directed to rmat@mass.gov.**

**All Proponents must complete the following section, referencing as appropriate the results of the output report generated by the RMAT Climate Resilience Design Standards Tool and attached to the ENF. In completing this section, Proponents are encouraged, but not required at this time, to utilize the recommended design standards and associated Tier 1/2/3 methodologies outlined in the RMAT Climate Resilience Design Standards Tool to analyze the project design. However, Proponents are requested to respond to a respond to a user feedback survey on the RMAT website or to provide feedback to rmat@mass.gov, which will be used by the RMAT team to further refine the tool. Proponents are also encouraged to consult general guidance and best practices as described in the RMAT Climate Resilience Design Guideline.**

### Climate Change Adaptation and Resiliency Strategies

**I. Has the project taken measures to adapt to climate change for all of the climate parameters analyzed in the RMAT Climate Resilience Design Standards Tool (sea level rise/storm surge, extreme precipitation (urban or riverine flooding), extreme heat)? _X_ Yes __ No**

*Note: Climate adaptation and resiliency strategies include actions that seek to reduce vulnerability to anticipated climate risks and improve resiliency for future climate conditions. Examples of climate adaptation and resiliency strategies include flood barriers, increased stormwater infiltration, living shoreline, elevated infrastructure, increased tree canopy, etc. Projects should address any planning priorities identified by the affected municipality through the Municipal Vulnerability Preparedness ("MVP") program or other planning efforts, and should consider a flexible adaptive pathways approach, an adaptation best practice that encourages design strategies that adapt over time to respond to changing climate conditions. General guidance and best practices for designing for climate risk are described in the* RMAT Climate Resilience Design Guideline.

**If no, explain why.**

**B. If yes, describe the measures the project will take, including identifying the planning horizon and climate data used in designing project components. If applicable, specify the return period and design storm used (e.g., 100-year, 24-hour storm).**

MECO has taken steps to promote climate change adaptation and resiliency in the design of the Project. The Project will result in a more climate-ready and resilient transmission system that can withstand more extreme weather events; address existing system capacity shortages and increased demand; and support future interconnections from renewable energy projects. In addition, MECO's preferred solution uses substantial portions of existing ROW, thereby minimizing alteration of new land resources to construct the Project.

**d. Is the project contributing to regional adaptation strategies? _X_ Yes ___ No; If yes, describe.**

Sterling and Leominster have both achieved Massachusetts Municipal Vulnerability Preparedness ("MVP") designation. Sterling's Local Hazard Mitigation & Climate Adaptation Plan and Leominster's MVP Program Community Resilience Building Workshop identified power outages as key vulnerabilities. These outages, often caused by high winds, snow and ice loads, and falling trees, result in frequent and/or prolonged disruptions. While this Project does not address the local distribution network, the planned transmission line and structure replacements aim to create a more reliable and resilient transmission system to support both Sterling and Leominster.

**I. Has the Proponent considered alternative locations for the project in light of climate change risks? ___ Yes _X_ No**

**A. If no, explain why.**

The proposed Project location, within the existing ROW, is the only location that meets the identified Project need, addresses reliability concerns and the various regulatory objectives, minimizes environmental impacts, and provides a cost-effective solution to customers. Also, the Project is located outside of areas identified as vulnerable to sea level rise and coastal flooding.

**B. If yes, describe alternatives considered.**

**II. Is the project located in Land Subject to Coastal Storm Flowage ("LSCSF") or Bordering Land Subject to Flooding (BLSF) as defined in the Wetlands Protection Act? ____Yes _X_ No**

**If yes, describe how/whether proposed changes to the site's topography (including the addition of fill) will result in changes to floodwater flow paths and/or velocities that could impact adjacent properties or the functioning of the floodplain. General guidance on providing this analysis can be found in the CZM/MassDEP Coastal Wetlands Manual, available here.**

The Project is not located within LSCSF or BLSF.

## ENVIRONMENTAL JUSTICE SECTION

### I. Identifying Characteristics of EJ Populations

**A. If an Environmental Justice (EJ) population has been identified as located in whole or in part within 5 miles of the project site, describe the characteristics of each EJ populations as identified in the EJ Maps Viewer (i.e., the census block group identification number and EJ characteristics of "Minority," "Minority and Income," etc.). Provide a breakdown of those EJ populations within 1 mile of the project site, and those within 5 miles of the site.**

Within the Designated Geographic Area ("DGA") (1-mile), MECO identified 11 Environmental Justice ("EJ") Populations across two municipalities in Leominster and Lancaster (Table 6). Of these, six meet the criteria of "Minority and Income," four meet "Minority," and one meet " Minority, Income and English Isolation" criterion. Within a 5-mile radius of the Project, MECO identified 34 EJ Populations across six municipalities spanning Worcester counties. Of these, 12 meet "Minority and Income" criteria, 20 meet "Minority" criterion, one meet "Minority, income, and English isolation" criterion, and one meet "Minority and English isolation" criterion." Refer to Table 7, below for specific census block group identification numbers and EJ characteristics, and Attachment D: Environmental Justice, for maps showing EJ block groups.

### Table 6: Environmental Justice Population Characteristics Within 1 and 5 Miles from the J136S Tap Line

| Block Group | Census Tract | Municipality | Total Minority Population (%) | Median Household Income ($) | Total English Isolation Population (%) | Environmental Justice Criteria Met |
|---|---|---|---|---|---|---|
| Within the 1-Mile Designated Geographic Area ("DGA") | | | | | | |
| 2 | 7092.01 | Leominster | 34.6 | $48,654 | 0.0 | Minority and Income |
| 3 | 7092.01 | Leominster | 41.7 | $54,180 | 3.1 | Minority and Income |
| 1 | 7092.03 | Leominster | 31.2 | $120,833 | 0.0 | Minority |
| 2 | 7092.03 | Leominster | 50.1 | $40,121 | 15.7 | Minority and Income |
| 3 | 7092.03 | Leominster | 35.4 | $46,126 | 50.1 | Minority, Income, and English Isolation |
| 1 | 7092.04 | Leominster | 43.8 | $92,567 | 14.7 | Minority |
| 2 | 7092.04 | Leominster | 49.1 | $34,291 | 7.4 | Minority and Income |
| 3 | 7092.04 | Leominster | 30.4 | $87,559 | 0.0 | Minority |
| 1 | 7094 | Leominster | 54.8 | $53,008 | 9.1 | Minority and Income |
| 3 | 7094 | Leominster | 50.7 | $18,563 | 20.1 | Minority and Income |
| 4 | 7131 | Lancaster | 36.0 | $108,676 | 0.0 | Minority |
| Within 5 Miles | | | | | | |
| 2 | 3882 | Shirley | 41.1 | $69,342 | 2.3 | Minority |
| 3 | 7091 | Leominster | 53.6 | $53,301 | 6.0 | Minority and Income |
| 2 | 7094 | Leominster | 44.4 | $53,137 | 18.0 | Minority and Income |
| 1 | 7095.02 | Leominster | 38.1 | $58,750 | 0 | Minority |

| Block Group | Census Tract | Municipality | Total Minority Population (%) | Median Household Income ($) | Total English Isolation Population (%) | Environmental Justice Criteria Met |
|---|---|---|---|---|---|---|
| 2 | 7095.02 | Leominster | 26.7 | $98,768 | 2.5 | Minority |
| 3 | 7095.02 | Leominster | 31.0 | $56,554 | 0 | Minority |
| 1 | 7096 | Leominster | 49.0 | $43,576 | 15.9 | Minority and Income |
| 2 | 7096 | Leominster | 36.9 | $61,750 | 8.8 | Minority |
| 3 | 7096 | Leominster | 61.4 | $52,135 | 9.1 | Minority and Income |
| 1 | 7097.01 | Leominster | 63.3 | $41,235 | 25.2 | Minority, Income, and English Isolation |
| 2 | 7097.01 | Leominster | 42.2 | $67,553 | 11.5 | Minority |
| 4 | 7097.01 | Leominster | 25.8 | $110,833 | 0 | Minority |
| 5 | 7097.01 | Leominster | 27.1 | $67,188 | 0 | Minority |
| 1 | 7097.02 | Leominster | 30.5 | $72,744 | 1.4 | Minority |
| 2 | 7097.02 | Leominster | 37.4 | $51,736 | 0 | Minority and Income |
| 1 | 7101 | Fitchburg | 49.3 | $64,597 | 7.2 | Minority |
| 2 | 7101 | Fitchburg | 62.9 | $41,800 | 0 | Minority and Income |
| 3 | 7101 | Fitchburg | 57.7 | $63,427 | 0 | Minority |
| 1 | 7102 | Fitchburg | 60.6 | $26,461 | 2.6 | Minority and Income |
| 2 | 7102 | Fitchburg | 33.3 | $58,295 | 3.1 | Minority |
| 3 | 7102 | Fitchburg | 36.4 | $76,591 | 39.0 | Minority and English Isolation |
| 4 | 7102 | Fitchburg | 53.7 | $40,577 | 4.2 | Minority and Income |
| 1 | 7106.02 | Fitchburg | 56.9 | $25,920 | 1.5 | Minority and Income |
| 2 | 7106.02 | Fitchburg | 60.9 | $80,230 | 15.8 | Minority |
| 3 | 7106.02 | Fitchburg | 39.8 | $80,455 | 2.0 | Minority |
| 1 | 7161.02 | Clinton | 36.8 | $46,023 | 0 | Minority and Income |
| 2 | 7161.02 | Clinton | 42.5 | $61,361 | 0 | Minority |
| 4 | 7161.02 | Clinton | 24.9 | $81,757 | 2.0 | Minority |
| 1 | 7162 | Clinton | 35.8 | $63,750 | 8.0 | Minority |
| 2 | 7162 | Clinton | 30.1 | $51,027 | 5.6 | Minority and Income |
| 1 | 7163 | Clinton | 28.1 | $94,500 | 7.1 | Minority |
| 2 | 7163 | Clinton | 27.2 | $87,240 | 1.6 | Minority |
| 3 | 7163 | Clinton | 43.0 | $50,078 | 11.4 | Minority and Income |
| 2 | 7614.02 | Harvard | 47.7 | 133,594 | 0 | Minority |

Source: Executive Office of Energy and Environmental Affairs ("EEA") Geographic Information Systems ("MassGIS"), Massachusetts 2020 Environmental Justice Populations. Updated November 12, 2022.

**B. Identify all languages identified in the "Languages Spoken in Massachusetts" tab of the EJ Maps Viewer as spoken by 5 percent or more of the EJ population who also identify as not speaking English "very well." The**

**languages should be identified for each census tract located in whole or in part within 1 mile and 5 miles of the project site, regardless of whether such census tract contains any designated EJ populations.**

There are two census tracts with languages spoken by five percent or more of the population who also identify as not speaking English "very well" or "at all" within the 1-mile DGA of the Project ROW. **Table 7** below shows languages spoken by at least five percent of the census tract population within five miles of the Project ROW.

### Table 7: Languages Spoken By At Least 5 Percent of The Census Tract Population

| Census Tract | Municipality | Language Spoken (%) |
|---|---|---|
| **1 Mile** | | |
| 7092.02 | Leominster | Spanish or Spanish Creole: 7.7 |
| 7094 | Leominster | Spanish or Spanish Creole: 11.6 |
| **5 Mile** | | |
| 3882 | Middlesex | Spanish or Spanish Creole: 6.3 |
| 7092.02 | Worcester | Spanish or Spanish Creole: 7.7 |
| 7094 | Worcester | Spanish or Spanish Creole: 11.6 |
| 7096 | Worcester | Spanish or Spanish Creole: 10.1 |
| 7097.01 | Worcester | Spanish or Spanish Creole: 6.6 |
| 7101 | Worcester | Spanish or Spanish Creole: 8.6 |
| 7106 | Worcester | Spanish or Spanish Creole: 9.2 |
| 7162 | Worcester | Spanish or Spanish Creole: 5.7 |

Source: Executive Office of Energy and Environmental Affairs ("EEA") Geographic Information Systems ("MassGIS"), Massachusetts 2020 Environmental Justice Populations. Updated November 12, 2022.

**C. If the list of languages identified under Section I.B. has been modified with approval of the EEA EJ Director, provide a list of approved languages that the project will use to provide public involvement opportunities during the course of MEPA review. If the list has been expanded by the Proponent (without input from the EEA EJ Director), provide a list of the additional languages that will be used to provide public involvement opportunities during the course of MEPA review as required by Part II of the MEPA Public Involvement Protocol for Environmental Justice Populations ("MEPA EJ Public Involvement Protocol"). If the project is exempt from Part II of the protocol, please specify.**

Not Applicable

## II. Potential Effects on EJ Populations

**A. If an EJ population has been identified using the EJ Maps Viewer within 1 mile of the project site, describe the likely effects of the project (both adverse and beneficial) on the identified EJ population(s).**

The Project will occur within the existing ROW, thereby minimizing adverse environmental impacts. Due

to the nature of the Project, outage constraints in the region, and MECO's efforts to reduce impacts to the natural and human environment. No long term impacts on soil, bedrock, vegetation, surface water, groundwater, wetland resources or air quality will occur.

The Project is anticipated to have temporary and short term impacts on the air quality, water quality, land protection and open space, noise, and traffic related to construction; however, following implementation of BMPs, there are no anticipated adverse effects on the identified EJ populations.

**B. If an EJ population has been identified using the EJ Maps Viewer within 5 miles of the project site, will the project: (i) meet or exceed MEPA review thresholds under 301 CMR 11.03(8)(a)-(b) __ Yes _X_ No; or (ii) generate 150 or more new average daily trips (adt) of diesel vehicle traffic, excluding public transit trips, over a duration of 1 year or more. ___ Yes _X_ No**

**C. If you answered "Yes" to either question in Section II.B., describe the likely effects of the project (both adverse and beneficial) on the identified EJ population(s).**

Not Applicable.

## III. Public Involvement Activities

**A. Provide a description of activities conducted prior to filing to promote public involvement by EJ populations, in accordance with Part II of the MEPA EJ Public Involvement Protocol. In particular:**

1. **If advance notification was provided under Part II.A., attach a copy of the Environmental Justice Screening Form and provide list of CBOs/tribes contacted (with dates). Copies of email correspondence can be attached in lieu of a separate list.**

Refer to Attachment D: Environmental Justice

2. **State how CBOs and tribes were informed of ways to request a community meeting, and if any meeting was requested. If public meetings were held, describe any issues of concern that were raised at such meetings, and any steps taken (including modifications to the project design) to address such concerns.**

All contacts on the EJ Reference List were provided Advanced Notification of the Project via the EJ Screening Form on 8/4/2025, which contained information on how to request a meeting or additional Project materials, both in English and Spanish. A virtual community meeting, with Spanish translation was also offered to inform the community members about the Project on 8/19/2025. The EJ Reference List and municipality administrators were also notified by email of the virtual community meeting, and the community was notified via meeting advertisements in the Sentinel and Enterprise (8/6/2025) and Worcester Telegram and Gazette newspaper (8/7/2025). A reminder email was sent on 8/18/2025 for the public to attend the virtual community meeting. A public website (https://www.nationalgridus.com/construction-projects/Community-Projects/J136S-Tap-Replacement/J136S-Tap-Line) was created, which provides details of the Project, and contact information. An email address for Joe Carroll (Joseph.Carroll1@nationalgrid.com) was provided for community members to ask any questions they may have or to request translated materials. Outreach to the public was communicated in clear, understandable language and in user-friendly format.

3. **If the project is exempt from Part II of the protocol, please specify.**

N/A

**B. Provide below (or attach) a distribution list (if different from the list in Section III.A. above) of CBOs and tribes, or other individuals or entities the Proponent intends to maintain for the notice of the MEPA Site Visit and circulation of other materials and notices during the course of MEPA review.**

Refer to Attachment B: ENF Distribution List

**C. Describe (or submit as a separate document) the Proponent's plan to maintain the same level of community engagement throughout the MEPA review process, as conducted prior to filing.**

MECO will maintain the distribution list of contacts from the EJ Reference List and any additional contacts that are identified during the virtual meetings and public engagement process. Contacts will receive notifications of the MEPA site visit; summaries of supplemental information submitted to the MEPA office and any other relevant notices or materials issued during the course of the MEPA review. MECO will continue to host a Project website. Contacts will be able to request additional information and translated Project materials by contacting Sióna Patisteas, BSC Group Inc. at (617) 896-4317 or at spatisteas@bscgroup.com and/or Joe Carroll, National Grid at (781) 635-8066 or at Joseph.Carroll1@nationalgrid.com.

## CERTIFICATIONS:

1. The Public Notice of Environmental Review has been/will be published in the following newspapers in accordance with 301 CMR 11.15(1):

   (Name)_ Sentinel and Enterprise and the Worcester Telegram and Gazette_(Date)_ September 26th, 2025_(See **Attachment G** – Legal Ad Confirmation)

2. This form has been circulated to Agencies and Persons in accordance with 301 CMR 11.16(2).

Signatures:

| | |
|---|---|
| 9/26/25 | 9/26/25 |
| Date | Signature of Responsible Officer or Proponent |
| Timothy Sullivan (Proponent) | Sióna Patisteas (Consultant) |
| Name (print or type) | Name (print or type) |
| Massachusetts Electric Company (MECO) | BSC Group, Inc (BSC) |
| Firm/Agency | Firm/Agency |
| 170 Data Drive | 1 Mercantile Street, Suite 610 |
| Street | Street |
| Waltham, MA 02451 | Worcester, MA 01608 |
| Municipality/State/Zip | Municipality/State/Zip |
| (781) 663-3106 | (617) 896-4317 |
| Phone | Phone |

Expanded Environmental Notification Form

Project Narrative

# J136S Tap Line Rebuild Project

September 2025


PREPARED FOR

**Massachusetts Electric Company**
170 Data Drive
Waltham, MA 02451

PREPARED BY

BSC GROUP
1 Mercantile St, Suite 610
Worcester, MA 01608

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# 1. PROJECT OVERVIEW

## 1.1 Introduction

Massachusetts Electric Company ("MECO") proposes to rebuild the existing J136S 115 kilovolt ("kV") overhead electric transmission tap line[1] ("J136S Tap Line" or "the Line" or "the Tap Line"). The Tap Line is located within an existing right-of-way ("ROW") corridor which begins at the Pratts Junction (#225) Substation near Pratts Junction Road in Sterling and terminates at the Litchfield Street (#207) Substation near Litchfield Street in Leominster. In total, the line runs approximately three miles, transecting the Town of Sterling and the City of Leominster. Refer to the United States Geological Survey ("USGS") Map and Massachusetts Environmental Policy Act ("MEPA") General Purpose Plans (the "Plans") in **Attachment A: Project Figures** for more information.

Rebuild activities will include structure replacements along a new alignment, reconductoring, and replacement of the shieldwire with an optical ground wire ("OPGW"). The structure replacements will offset the existing centerline by relocating the structures to the east side of the ROW from Structure 3 to Structure 38. Tree removal will be required to allow for the offset of the Tap Line. This work is referred to as the J136S Tap Line Rebuild Project (the "Project"). MECO proposes this Project primarily to replace deteriorating and damaged infrastructure and mitigate potential risks of electric failure. The replacement of the conductor will provide a higher capacity for future power demands and the replacement of the shieldwire with OPGW will improve system reliability and resilience. MECO is planning the Project with attention to minimizing impacts to natural and community resources, which has been described in the following sections.

MECO is filing this Expanded Environmental Notification Form ("EENF") in accordance with 301 CMR 11.05(8) to provide more extensive and detailed information describing and analyzing the Project and its alternatives and assessing its potential environmental and public health impacts and mitigation measures. MECO respectfully requests that MEPA allow a Single Environmental Impact Review ("SEIR") in accordance with 301 CMR 11.06(8). Specifically, the information provided in this narrative supplements the information provided above in the Environmental Notification Form ("ENF") to meet the requirements of 301 CMR 11.06(8)(a)-(c) that the EENF: describes and analyzes all aspects of the Project and all feasible alternatives, regardless of any jurisdictional or other limitation that may apply to the Scope; provides a detailed baseline in relation to which potential environmental and public health impacts and mitigation measures can be assessed; and demonstrates that the planning and design of the Project use all feasible means to avoid potential environmental impacts.

1 Tap lines are transmission lines that serve as a connection between a primary transmission line (i.e., the mainline) and a substation facility that serves a local distribution system.

## 1.2 Project Name & Proponent

**Project Name:** J136S Tap Line Rebuild Project

**Project Proponent:** Massachusetts Electric Company

## 1.3 Project Location

The J136S Tap Line is an existing 115 kV transmission line that runs south to north between the Town of Sterling and the City of Leominster. The Line is located within an existing ROW corridor, which runs for approximately three miles between the Pratts Junction Substation at 26 Pratts Junction Road in Sterling and terminates at the Litchfield Street Substation at 189 Litchfield Street in Leominster.

The existing ROW is typically 250-feet ("ft") wide in easement width and generally comprised of moderate level terrain. Most of the upland within the maintained portion of the ROW consists of a closed-scrub and open heath communities interspersed with occasional gramineous and herbaceous pioneer communities. Where undeveloped, the vegetative community occupying the edge of the ROW is best characterized as typical southern New England transitional upland forest and forested wetland.

Adjacent land uses include industrial, exempt[2], and commercial development with few residential areas. The ROW crosses few rivers, streams, ponds, and wetlands (which will be discussed in more detail in **Section 5** – *Wetlands and Waterways*). Several parcels along the ROW are owned in fee by MECO; the remaining ROW is comprised of easements.

## 1.4 Project Environmental Permitting Requirements

MECO will obtain all environmental approvals and permits required by federal, state, and local agencies for the Project. **Table 1-1** (below) summarizes the federal, state, and local permits required (or potentially required) for the Project. MECO will construct and operate the Project in full compliance with federal, state and local environmental policies. Refer to **Section 9** – *Regulatory Compliance* for more information about permitting requirements and regulatory compliance.

[2] Exempt Property qualifies for tax exemption under various provisions of the law and include public land and facilities, hospitals, schools, churches and cultural institutions, M.G.L. Ch. 59 §5. This category of land use includes federal, state, and local land (municipal and authorities); charitable (hospitals, cemeteries); and educational institutions.

## Table 1-1: Anticipated Environmental Permit/Approval/Consultation Requirements for the Project

| Agency | Permit/Review/Approval | Jurisdiction |
|---|---|---|
| **Federal** | | |
| United States Army Corps of Engineers ("USACE") | Section 404 Pre-construction Notification Permit ("PCN") and consultations under Section 106 of the National Historic Preservation Act ("NHPA") | Discharge of fill into Waters of the United States ("WOTUS") |
| United States Environmental Protection Agency ("EPA") | National Pollutant Discharge Elimination System ("NPDES") General Permit for Stormwater Discharges and Construction Dewatering Activities/Stormwater Pollution Prevention Plan ("SWPPP") | Land disturbance greater than one acre. |
| **State** | | |
| Executive Office of Energy and Environmental Affairs ("EEA") | Massachusetts Environmental Policy Act ("MEPA") Review/ Certificate of the Secretary | Alteration of one or more acres of Bordering Vegetated Wetlands ("BVW"); Provided a Permit is required, alteration of 5,000 or more square feet ("sf") of BVW; alteration of 25 or more acres of land; Project is located within a Designated Geographic Area ("DGA") around an Environmental Justice ("EJ") Population. |
| Massachusetts Department of Environmental Protection ("MassDEP") | Section 401 Individual Water Quality Certificate ("WQC") | Work in WOTUS, including wetlands, exceeding certain review thresholds for fill or dredge. |
| Massachusetts Historical Commission ("MHC") | Consultation under General laws of Massachusetts ("M.G.L.") c. 9 in accordance with 950 CMR 70-71 | Historic and Prehistoric Cultural Resources |
| **Local** | | |
| Conservation Commissions in the Town of Sterling and City of Leominster | Order of Conditions ("OOC") per the Massachusetts Wetlands Protection Act ("MA WPA")[3] and local bylaws. | Work in jurisdictional wetlands under MA WPA and local bylaws. |

3 MA WPA Orders of Conditions are local permits unless and until a superseding Order of Conditions is issued by MassDEP.

## 1.5 MEPA Jurisdiction

The Project is subject to MEPA review as it requires one or more state permits and exceeds the thresholds listed below in Table 1-2.

### Table 1-2: MEPA Thresholds Exceeded (or Potentially Exceeded) by the Project

| MEPA EIR Threshold |
|---|
| **Wetlands, Waterways and Tidelands:** Alteration of one or more acres of Bordering Vegetated Wetlands ("BVW"). (301 CMR 11.03(3)(a)(1)(a)) |
| **Environmental Justice ("EJ"):** The Secretary shall require an Environmental Impact Report ("EIR") for any Project that is located within a Designated Geographic Area ("DGA") around an EJ Population. (301 CMR 11.06(7)(b)) |
| **MEPA ENF Thresholds** |
| **Land:** Direct alteration of 25 or more acres of land, unless the Project is consistent with an approved conservation farm plan or forest cutting plan or other similar generally accepted agricultural or forestry practices. (301 CMR 11.03(1)(b)(1)) |
| **Wetlands, Waterways and Tidelands:** Provided a Permit is required, alteration of 5,000 or more square feet ("sf") of BVW. (301 CMR 11.03(3)(b)(1)(d)) |

## 1.6 Project Need and Benefits

**Project Need:** MECO is proposing to rebuild the J136S Tap Line to address deteriorating asset conditions of the structures and to reconductor the line to provide a higher capacity for future power demands. Installation of OPGW will provide a high-speed communication between the substations, further increasing system reliability. Several structures along the Line are original structures constructed in the late 1960's with other structures having been replaced in 2007. Additional past replacements include the majority of the insulators which MECO installed in 2006. The Line need replacement as the structures are at the end of their designed life and due to recent inspections detailing deteriorating conditions. Generally, the aging structures along the Line pose a threat to the reliability of the transmission system supplying the Leominster area. Additionally, the condition of the wood structures poses a risk to personnel and public safety and will incur greater costs if the aging infrastructure issues are not addressed.

**Project Benefits:** The Project will improve transmission system infrastructure and comply with comprehensive regional plans for improving electric transmission reliability in New England. Because this Project is a refurbishment of an existing transmission line, area residents and businesses will benefit directly from the upgrades through increased system reliability. Benefits of the Project include the following:

- Increased resiliency of the overall transmission line. By installing improved foundations and more robust structures this infrastructure will be better suited to withstand strong winds and storm events.
- The installation of OPGW will allow better communication between substations, resulting in improved response time during storm-related emergencies and outages, which will increase public safety.
- Designing for future needs reduces the frequency of disturbance to wetland resource areas, rare species habitats and adjacent landowners over time by reducing the likelihood of multiple repeat projects, thereby reducing environmental impacts and costs to MECO's customers.

## 1.7 Project Description

The Project includes the rebuild of the existing Tap Line in a new alignment along the Tap Line. The new alignment is offset approximately 40-ft or 12 meters ("m") east of the existing alignment. The offset is necessary so that the existing line can remain in service during construction. The rebuild will include the removal of 42 structures and replacement with 40 new steel H-frame or single pole structures, access upgrades and work pad construction, and tree removal. The refurbishment activities will include:

- Replacing the existing (mostly wooden) structures with a combination of steel single pole davit arm and steel H-frame structures (as shown in **Figure 3** - Cross Sections in **Attachment A**). Two wood structures will be removed and not replaced. Replacement suspension type structures will be supported by both caisson foundations[4] (15) and direct embed[5] (25). Refer to **Table 3-1** in **Section 3**: *Construction Procedures* for further detail on the method of installation for these structures.
- Performing tree removals along the eastern edge of the ROW to accommodate the new centerline of the Tap Line and the required conductor clearance. Tree removal will extend approximately 40-ft into the existing forested edge. Additional conversion of vegetative cover type will occur where needed for proposed workspaces. Vegetation management (mowing and trimming) along the existing managed corridor is required to provide access to the proposed structure locations, to facilitate safe vehicular and equipment passage, and to provide safe work sites for personnel.
- Performing access improvements and construction, including grading and the addition of stone to existing access. MECO is proposing access upgrades in alignment with previously utilized routes and pathways where feasible.
- Replacing the existing copper conductor with a composite conductor made of a steel core and aluminum strands, which will improve system reliability and increase capacity without increasing the voltage of the line.
- Replacement of the shieldwire with OPGW. OPGW is both a shield wire and a telecommunication line between substations.
- Installation of additional infrastructure at Litchfield Street Substation to accommodate the OPGW and upgraded conductor.

MECO proposes work within an existing ROW. Tree removal and access improvements or re-establishment and construction of new access will be required to accommodate the proposed infrastructure. The full extent of the Project is shown on the Environmental Resource Mapping in **Attachment A**. Project construction activities will be generally sequenced as follows:

- Tree removal and vegetation management;
- Installation of Best Management Practices ("BMPs"), including sediment & erosion controls (where applicable);
- Access and work envelope reestablishment/improvement;
- Installation of new structures/structure replacements and overhead work such as

4 A caisson foundation is a watertight, box-like deep foundation which is typically made up of steel or reinforced concrete that is installed by sinking into the ground.

5 A direct embed is a type of foundation technique used primarily inutility and pole construction, where the pole Is installed directly into the ground without the use of a concrete foundation like caisson.

reconductoring and installation of OPGW;

- Removal of old structures, wires, and other components;
- Restoration of the ROW (grading, mulching, seeding etc.) and removal of construction matting;
- Once the ROW is fully stabilized, removal of sediment and erosion controls.

The phasing of construction is due in part to restrictions on the availability of outages on the existing Tap Line. The Tap Line must remain in service throughout most of the rebuild of the Line.

## 1.8 Summary of Project Impacts

Table 1-3[6] (below) provides a summary of impacts associated with the Project. Project impacts are discussed in more detail in Sections 3 – 7 and proposed avoidance, minimization, and mitigation measures in Section 8 – *Avoidance, Minimization and Mitigation*. The Project is within a ROW corridor that is actively maintained.

6 Along with the wetlands listed in the table, an impact analysis was conducted for the inland bank, BLSF, isolated wetlands, and Land Under Water Bodies and Waterways ("LUWW") within the Project ROW. No impacts are proposed in these resource areas.

## Table 1-3: Summary of Project Impacts

| Resource Area | Temporary Impacts | Permanent Impacts/Conversion |
|---|---|---|
| New Land Altered | N/A | Total – approximately 36 +/- acres*<br>▪ Conversion of vegetative cover types (13.0+/- acres) associated with tree removal[2]<br>▪ New/improved access<br>▪ New/replacement structure foundations<br>▪ Cut/fill for access, and work envelopes<br>▪ Stabilization material in new/improved sections of existing access<br><br>*Approximately 33 acres post restoration[1] |
| Bordering Vegetated Wetland ("BVW") | Total – approximately 0.8 +/- acres<br>▪ Construction mats for access where BVW crossings could not be avoided<br>▪ Temporary work envelopes, including construction mats for work pads and pull pads that overlap with BVW | Total – approximately 1.2 +/- acres<br>▪ Conversion of vegetative cover types associated with tree removal[2] |
| **Other Wetland Resource Areas** | | |
| Riverfront Area ("RA") | Total – approximately 1.3 +/- acres<br>▪ Vegetation management activities<br>▪ Temporary work envelopes, including construction mats for work pads and pull pads | Total – approximately 1.1 +/- acres*<br>▪ Conversion of vegetative cover types[1]<br>▪ New/improved access<br>▪ New/replacement structure foundations<br>▪ Cut/fill for access, and work envelopes<br>▪ Stabilization material in new/improved sections of existing access<br><br>*Approximately 2.5 acres prior to restoration[1] |
| Waterways | Waterways crossings do not involve structures within the waterways, only construction mats to temporarily span waterways during construction. No adverse impacts are anticipated from waterways crossings. | |
| Rare Species Impacts | The Project ROW falls outside the Priority or Estimated Habitat; however, MECO will use existing access that passes through a Priority Habitat area in Leominster (access to Structure 7). Consultation with Natural Heritage and Endangered Species Program ("NHESP") is not required for this access since there is no impact proposed and work will take place under an existing Operations and Maintenance Plan ("OMP") with NHESP. Also, per Massachusetts Wetlands Protection Act ("MA WPA") requirements, MECO will submit the Notice of Intent ("NOI") filed with the City of Leominster Conservation Commission to NHESP. | |
| Historical/Archaeological Impacts | Historical/archaeological areas may have potential impacts where construction -related activities occur within areas of high archaeological sensitivity. Surveys are ongoing to identify areas of concern, and to identify appropriate avoidance measures for implementation, as required. | |

1. 'Restored' areas include gravel or graded areas to be loamed and seeded post-construction. As such, the pre-restoration values include all permanent project impacts, while post-restoration values exclude the restored gravel/graded areas. All new gravel access and work areas in RA will be restored.
2. This value includes the conversion of vegetated types (e.g., trees) to other vegetated types (e.g., shrubs).

## 1.9 Summary of Project Avoidance, Minimization, and Mitigation Measures

MECO follows a set of BMPs for ROW access, maintenance, and construction that are documented in an internal BMP guidance manual (**Attachment C**). By consistently implementing these procedures, MECO ensures that transmission lines are maintained and constructed by trained personnel in a manner that minimizes potential impacts to the environment, adheres to permit conditions, and meets industry standards. Throughout construction, MECO will implement appropriate BMPs to ensure that all work conforms with the conditions of permits and that environmental impacts are minimized and/or mitigated. Key compliance elements of the BMP guidance manual include pre-construction field investigations, field inspections during construction, and post-construction inspections. To minimize Project impacts, MECO has considered and incorporated various avoidance and minimization measures throughout the planning and design phases, which are described in **Section 8.**

In addition to avoidance and minimization measures, MECO is committed to developing a mitigation plan that addresses potential Project impacts to the greatest extent practicable in accordance with regulatory requirements. Project impacts are largely associated with work within wetland resources areas and include temporary and permanent impacts that may be mitigated by implementing a variety of measures that comprise a comprehensive mitigation plan, such as restoration of temporarily impacted areas. Additional mitigation measures are described in **Sections 4** through **7** and **Section 8**: *Avoidance, Minimization, and Mitigation Measures and* **Section 12:** *Section 61 Findings* of this Project Narrative.

MECO anticipates that the final mitigation plan for wetlands impacts will be developed during the federal, state, and local permitting processes, and that the plan will fully address the required permit conditions and agency concerns. MECO anticipates that proposed avoidance, minimization, and mitigation measures will demonstrate no net loss of existing wetland functions, values, and statutory interests.

## 1.10 Request for a Single EIR

This EENF meets the requirements of 301 CMR 11.06(8) and MECO respectfully requests that MEPA allow a Single EIR.

# 2. ALTERNATIVES ANALYSIS

As a rebuild Project along an existing transmission line ROW, feasible alternatives to the proposed Project are limited. MECO's overriding goal throughout the planning and design phases of the Project has been to select the alternative that best meets the identified Project need, addresses the various regulatory and permitting objectives including minimizing environmental impacts, and provides a cost-effective solution to customers. Alternatives considered included:

- No-Build Alternative;
- Partial Rebuild Alternative;
- Complete Rebuild Alternative (the "Project"); and
- Design Alternatives

## 2.1 No-Build Alternative

Under the No-Build Alternative, the Line would remain in place and MECO would not execute a capital project to address performance issues and physical issues on the Tap Line. MECO would continue to address line components that are imminent on an ad hoc basis, as it does with all its transmission assets. Accordingly, MECO would repair or replace structures on an as-needed basis to address deterioration.

The Tap Line structures are currently experiencing poor performance and are in deteriorating condition. Over 40 percent of the existing structures were identified in 2018 and 2020 surveys as requiring replacement due to deterioration and/or woodpecker damage and damage was observed to multiple insulators and conductors. Because of the extent of current required repairs, an ad hoc approach is not economically practical, or the least environmentally damaging alternative given the large initial mobilization effort required and the potential for repeated additional large construction efforts as the remaining structures deteriorate. Further, because the upgraded conductor and OPGW would not be added to the existing Line, the No-Build Alternative would not increase the resiliency of the Line or provide fiber optic capability that would add communications between substations. In short, the Line must be rebuilt to improve its performance and reliability. Because the No-Build Alternative would not meet the identified need, it is not a feasible alternative and was eliminated from further consideration.

## 2.2 Partial Rebuild Alternative

MECO considered a partial rebuild of the Tap Line that would consist of replacing almost half of the wood pole structures, reconductoring the Tap Line from Pratts Junction Substation to Litchfield Street Substation and performing other overhead maintenance. Due to outage constraints on the existing J136S Tap, the Line cannot be taken out of service for a prolonged period. Therefore, the J136S will be reconstructed adjacent to the existing alignment so service can be maintained for the duration of work. Additionally, this option would not add communication between the substations. Because the Partial Rebuild Alternative was infeasible to execute due to constructability limitations and did not meet all project needs, it was eliminated from further consideration.

## 2.3 Complete Rebuild Alternative (the Project)

The proposed Project involves a Complete Rebuild of the J136S Tap Line within MECO's existing

ROW, reconductoring with upgraded conductors, removal and replacement of the shieldwire with OPGW, and removal of the existing Line once the new Line is in service. To allow the existing Line to remain operational during construction, the rebuilt Line will be offset approximately 40-ft to the east of the current alignment.

Upgrades include replacing the existing wood structures with a new steel structure type, reconductoring the Line with a higher capacity steel and aluminum conductor, upgrading and improving existing access, and constructing new access. These improvements address cost, reliability, and environmental issues. Replacing wooden H-frame structures with steel single pole structures will reduce the overall number of foundations. Similarly, replacing aging wood poles with light duty engineered steel will result in long term cost savings by improving reliability, reducing maintenance needs, and increasing the service life compared to wood poles as the steel poles are not susceptible to woodpecker damage. Reconductoring will increase Line capacity by allowing the Line to be operated at a higher temperature, addressing future demand without increasing the voltage of the Line.

The Complete Rebuild Alternative is the only alternative that will address the need for improved performance of the Tap Line by addressing all of the issues of the deteriorated and damaged wood structures that compromise the reliability of the Line. The condition of the wood structures poses a risk to personnel and public safety and will incur greater costs associated with repeated ad-hoc repairs if the issues are not addressed. Additionally, the fiber optic cable will fulfill strategic and operational needs which will increase the reliability and capacity of the Lines and improve communication between stations. Reconductoring will provide higher capacity for future power demands. Accordingly, MECO selected the Complete Rebuild Alternative for the proposed Project.

## 2.4 Design Alternatives

Upon selection of the Complete Rebuild Alternative, MECO continued to evaluate engineering and design alternatives that would reduce Project impacts. MECO has made notable design improvements and evaluated multiple on-site design alternatives to improve system reliability while minimizing environmental impacts. The original Scope proposed rebuilding J136S Tap Line using H-frame structures similar to the existing structures. However, MECO determined that this design had both operational and environmental constraints and sought to refine the design.

MECO conducted several field visits to evaluate design alternatives that might pose less environmental impacts than the original H-frame design. Field assessments conducted in 2022 indicated that moving to a monopole-based design could decrease the required tree removal width by approximately 10-ft and would also result in a significant decrease in the total number of poles. To evaluate this significant design change, MECO paused development of the Project for a year to incorporate the engineering requirements of a primarily monopole design. Overall, the resulting design allowed MECO to significantly reduce tree removals, avoid and reduce impacts to streams and wetlands, and minimize the overall footprint associated with foundation installation. MECO estimates that approximately two acres of tree removal will be avoided through this design change. The change to a monopole design and the removal of one structure by increasing span widths between existing Structure 24 to 27 has also allowed MECO to avoid impacts to Inland Bank ("Bank") and Land Under Water Bodies and Waterways ("LUW"). Additionally, MECO modified the Scope from two OPGWs to a single OPGW to build on monopoles instead of H-frames.

This design alternative provides a feasible and environmentally superior alternative that meets the needs of the Project while minimizing long term environmental impacts.

## 2.5 Conclusion

As described above, MECO considered several alternatives, dismissing the No Action and Partial Rebuild Alternatives as infeasible and incorporating design alternatives that minimized environmental impacts into the Complete Rebuild Alternative that is the subject of this filing.

# 3. CONSTRUCTION PROCEDURES

MECO proposes to construct the Project using conventional transmission line maintenance and construction procedures and in compliance with permit conditions. This section describes these construction methods, the general construction sequence, and activities completed in each stage of construction. For all construction projects, MECO adheres to internal Environmental Policies that outline a set of environmental guidelines and procedures designed to avoid and minimize impacts to resource areas. These procedures are documented in EG-303NE (Refer to **Attachment C**), which provides detailed policies and specifications governing ROW access, maintenance, and construction. By consistently implementing these procedures, MECO ensures that transmission lines are constructed by trained personnel in a manner that minimizes potential impacts to the environment, adheres to permit conditions, and meets industry standards.

The description of construction sequence and methods presumes that all required permits and authorizations will have been issued prior to construction, and that throughout construction, crews will complete each stage of construction in a manner consistent with MECO's Environmental Policies and with the conditions of permits/authorizations and approved mitigation measures.

## 3.1 Construction Sequence

Once initiated, work will generally follow the sequence listed below. However, certain activities may occur simultaneously within one or more areas of the Project. Project activities will generally proceed in the following order:

- ROW vegetation management and tree removal;
- Install sediment and erosion controls (where applicable);
- Access re-establishment/improvement and establishment;
- Construction matting installation;
- Foundation installation (for caisson supported structures);
- Install new structures/structure replacements;
- Install new conductor and OPGW along the entire Line;
- Remove existing conductor and OPGW;
- Remove old structures;
- Remove temporary access and work areas in wetlands;
- Restore temporary access and work areas in uplands;
- Restore the ROW (grading, mulching, seeding etc.); and
- Once ROW is fully stabilized, remove sediment and erosion controls.

The following sections provide details for the transmission line construction activities.

### 3.1.1 Refreshing Resource Area Flagging

BSC Wetland Scientists have delineated wetlands and waterways in the Project area, as shown on the Plans presented in **Attachment A**: Project Figures. Prior to the start of construction, Wetland Scientists will clearly mark or "re-flag" these resource areas with high visibility flagging to indicate

resource area boundary lines to crews. Flagging will mark those areas that need to be avoided, areas where erosion controls devices need to be installed, and/or the limits of where construction matting needs to be installed for access.

### 3.1.2 ROW Vegetation Management (Mowing)

To facilitate construction equipment access along the ROW and at structure sites, forestry crews will perform vegetative maintenance (mowing and trimming) along and within identified access, work areas, and pull pad sites. Vegetation management is a necessary site preparation task that will provide access to proposed structure locations, facilitate safe equipment passage, and provide safe work sites for personnel within the ROW. Forestry crews will perform vegetation management in accordance with MECO's Massachusetts Department of Agriculture-approved Vegetation Management Plan ("VMP").

Forestry crews will perform mowing and trimming by mechanical means using a combination of specialized vehicles and equipment and hand-held tools. Crews will mow small trees and shrubs as necessary with the intent of preserving root systems to the extent practical. Where the ROW crosses streams and brooks, crews will minimize vegetation mowing along the stream bank to the extent practicable to reduce disturbance of soils and the potential for construction-related erosion. Where mowing and trimming is required in wetlands, crews will walk into these areas and use hand-held tools or will trim using machinery operating from outside of wetland boundaries.

### 3.1.3 Tree Removal

In order to re-align the J136S Tap Line, tree removal will be required along the easterly edge of the managed ROW. Tree removal and trimming is necessary to maintain required clearances between vegetation and the rebuilt transmission line structures and conductors to ensure reliable operation of the transmission facilities.

Tree removal methods will be determined based on site conditions and will be selected to minimize environmental disturbance. Methods may include manual felling (for example, in upland areas where ground conditions are conducive of foot access), or the use of feller bunchers or tree handlers (for example, in wetland areas where reaching machinery would reduce ground disturbance). Trees will be cut at stump, and root balls will be left intact to provide soil stabilization (with the exception of areas being graded for access routes or work areas). Wherever possible, understory vegetation will be left intact, and areas where trees have been removed will be allowed to naturally revegetate into transitional scrub-shrub communities. This community type is increasingly uncommon in New England, and ROWs provide important corridor systems for this habitat. If tree removals result in areas of exposed soils/bare ground, these will be stabilized and seeded with an appropriate seed mix.

Where tree removal is required within wetlands, temporary construction matting will be used to provide equipment access and prevent rutting and disturbance of wetland soils. Equipment used may include a bucket or grapple saw, chipper, and box truck. Where appropriate, snags and fallen deadwood may be left in place to provide wildlife habitat (locations to be approved by forestry and environmental teams). Large woody debris may be retained on-site for use in log piles and overwintering habitat, while the remaining material will be chipped and disposed of appropriately off-site.

### 3.1.4 Install BMPs and ROW Management

Following the ROW vegetation management activities, crews will install sediment control devices,

such as straw bales and siltation fencing, in accordance with approved plans and permit requirements (e.g., Orders of Conditions ("OOC"), and as needed based on field conditions. Crews will conduct daily inspections to determine if there is damage to controls and if they need to be replaced. An Environmental Monitor will conduct weekly inspections to evaluate potential erosion and/or sedimentation issues and will submit inspection reports with recommendations to the construction team until "final stabilization" has been achieved (i.e., 75 percent vegetative cover or at least to pre-construction conditions within the disturbed areas). Reporting will include photographic documentation of site conditions. The control devices will provide the dual function of preventing construction-related erosion and sedimentation, as well as serving as a physical boundary to delineate resource areas and to contain construction activities within approved areas.

### 3.1.5 Access Improvements

Permanently established access along the ROW allows MECO and their contractors to construct, inspect, and maintain the existing and rebuilt transmission line facilities. After careful planning and field investigations, MECO has determined that to facilitate maintenance and operation of the Line, existing and historic access along the ROW requires improvement and MECO needs to establish new access. In locations where maintenance or upgrades are required along existing access to support construction activities, crews may lightly grade and add gravel to provide a stable and level surface for construction vehicles. MECO may also re-establish access that was used historically for the installation and maintenance of the existing Lines, but which have become overgrown. To be conservative, MECO assumes that all improved or established access will be maintained following the completion of the Project, except where indicated otherwise (i.e., temporary gravel areas).

MECO crews will construct access in compliance with the conditions and approvals of federal, state, and local regulatory agencies. In general, access outside of BVW and wetlands will be approximately 12-ft wide for the travelled surface plus additional width as necessary for road shoulders and stormwater features. Refer to Plans in **Attachment A** for the locations of the proposed access improvements or new establishment.

Equipment typically used during the installation and maintenance of access will include dump trucks used to transport fill materials to work sites, bulldozers, excavators, vibratory rollers, backhoes, and graders, which will be used to place fill materials or make cuts to achieve the proper access profile. Throughout the Project, pick-up trucks will be used to transport crews and hand-held equipment to work sites. Low-bed trailers will be used to transport tracked and other off-road equipment, which cannot be operated on public roadways to the work site.

In planning for site access, MECO considered avoiding the use of access within or adjacent to environmentally sensitive areas to minimize the potential impacts associated with construction activities. Due to the extent and location of wetlands spanning portions of the ROW, access across wetland areas and streams could not be entirely avoided. Where upland access is not available, vehicles and equipment will be accommodated by the temporary placement of construction mats. Typically, construction mats consist of timbers or other suitable material bolted together, which are placed over wetland areas to distribute equipment loads and minimize disturbance to the wetland and soil substrates. Lighter weight composite matting may also be used where conditions allow. Temporary construction mats will be removed following completion of construction.

Although construction mats displace the weight load of equipment, repeated crossings may cause depressional grooves or furrows (i.e., rutting) in the wetland soil. Rutting is not the normal circumstance that results from the use of construction mats. The extent of this potential temporary impact is a direct function of many factors, including but not limited to: soil texture; moisture

content; type of construction mat; weather/climactic conditions, and time of year. If rutting occurs that is greater than approximately six inches deep, MECO will carefully re-grade or back-blade these areas to re-establish the pre-construction topography and to maintain existing wetland hydrology. MECO will work with each community's Conservation Commission or authorized representative (i.e., Agent), as well as the United States Army Corps of Engineers ("USACE"), to ensure that the area is restored and functioning in compliance with all performance standards in applicable environmental regulations and permit requirements.

### 3.1.6 Establishing Work Envelopes and Staging Areas

Construction work envelopes and pull pad envelopes are large level areas that support the equipment needed to complete the structure, maintenance and improvements. These areas are typically at structure locations and where specialized equipment is used to "pull" the new conductor and shieldwire into place across several structure spans. Work envelopes and staging areas required for the Project are entirely within the existing ROW, as shown on the Plans in Attachment A. Construction work envelopes will vary in size based on various factors, including the specific activities and equipment required at each location and topographical constraints. In general, MECO has designed work envelopes to be approximately 125-ft by 125-ft to provide adequate space for the typical construction associated with the Project Scope of work.

Grading and/or stabilization may be required within some work envelopes to provide a level work surface for construction equipment and crews in upland areas. In these instances, crews will grade work envelopes apply fresh stone or gravel to create a permanent work platform that will remain in place for future use. Where work envelopes are required at structure locations partially or wholly within Bordering Vegetated Wetland ("BVW") or other resource areas, crews will place temporary construction mats over wetland areas to distribute equipment loads and minimize disturbance to the wetland and soil substrates. No permanent work envelopes will be established in wetland resource areas. Proposed construction mat locations are shown in the Plans. Temporary construction mats will be removed following completion of construction.

### 3.1.7 Installation of Foundations and Replacement Structures

The Project design includes the installation of two structure types, a "direct embed" and "self-supporting" or structures on concrete "caisson" foundation. Suspension structures will be installed using the direct embed construction method and dead-end structures will be installed using the self-supporting construction method described in Table 3-1 (below).

### Table 3-1: Installation of Foundations and Replacement of Structures

| | |
|---|---|
| **Direct Embed:** | The installation of a direct embed structure (e.g., tangent or in-line structures) involves the excavation of a hole, the installation of a vertically placed steel culvert (corrugated pipe), placement of the new pole within the culvert, and backfill of the culvert with stone around the pole. The fill needed for these structures is the backfill required within the culvert above existing surrounding grade. The area affected by each foundation, assuming a 42-inch diameter culvert and approximately a 1-ft radius of gravel around the base of each structure, is approximately 24 square feet ("sf"). Guy wires and anchors will be installed as required by code. |
| **Self-Supporting (Caisson Foundations):** | The installation of a self-supporting structure (e.g., angle and dead-end structures) involves drilling a vertical subsurface temporary casing shaft (oversized to fit the permanent casing), followed by the installation of the permanent casing within the temporary casing, the installation of the steel reinforcing cage (tied rebar), the placement of anchor bolt clusters (to attach the structure to the foundation), pouring of concrete to form the foundation within the permanent casing (also called a caisson foundation), backfilling the void between the permanent and temporary casing as the temporary casing is removed, bolting the new structure to the foundation, and final grading around the base of the structure. Proposed structures have a 6 to 8-ft diameter concrete foundation, assuming a 1-ft radius of gravel around the base of each structure, each caisson would result in approximately 50.3 to 79 sf of impact per pole. |

In general, for both structure types, crews will excavate a hole and place excavated material next to the excavation. To support the sides of the excavation, crews will install a steel culvert casings within the excavation. Once the structure has been properly positioned and plumbed within the hole, crews will backfill the excavation with clean three-quarter inches minus gravel and tamp the gravel to provide structural integrity. Following the backfilling operation, crews will spread remaining excavation spoils over upland areas where available along the ROW or remove excess soils from the site.

Equipment typically used during the installation of foundations, and the replacement of structures includes excavating equipment such as backhoes and excavators, rock drills/augers, and concrete trucks. Handheld equipment, including shovels and vibratory tampers, will be used during the backfilling of foundations and structures. Dump trucks are used to remove excavation spoils from the work site if necessary. Cranes are used to erect structures, and bucket trucks or a crane with a basket are used to lift the linemen to the aerial work zone. Tracked equipment that cannot be operated on public roadways will be transported to the work site by means of a low-bed trailer.

Dewatering may be necessary during excavations for foundations near wetland areas. Crews will dewater excavations in compliance with EG-303NE guidelines and applicable BMPs. If there is adequate vegetation in upland areas to function as a filter medium, water generally will be discharged to the vegetated land surface. Where vegetation is absent or where slope prohibits, water will be pumped into a hay bale or silt fence settling basin located in an upland area. The pump intake will not be allowed to rest on the bottom of the excavation throughout dewatering. Crews will disassemble the dewatering basin and remove all accumulated sediment following dewatering operations.

### 3.1.8 Conductor and OPGW Installation

Following structure replacements, the existing conductor and shieldwires along the J136S Tap Line will be replaced with new conductor and OPGW. The equipment that typically will be used during conductor and shieldwire installation operation includes stringing blocks; a multi-reel rope puller; a single reel hardline puller; a bundle tensioner; conductor reel stands; bulldozers; and cranes.

The wire stringing equipment is used to pull the conductor through the stringing blocks one phase

at a time. First the insulators and stringing blocks will be installed on the structures. Next, the ropes (one per phase and shieldwire) will then be pulled from structure to structure by either equipment on the ground or with a helicopter. The rope will then be used to pull in the hard line (wire rope) from the puller to the wire reels and the puller will then pull in each shieldwire or phase conductor bundle. At no time during installation will the wire be permitted to come into contact with the ground. Once the wire is in place, it will be pulled up to final sag and permanently affixed to the new structures. This process will be repeated for each section of line. During the stringing operation, batwing guard vehicles will be placed at road and highway crossings and at crossings of existing utility lines to ensure public safety and the continued operation of other utility equipment.

To minimize disturbance to soils and vegetation, crews will use existing access to the fullest extent possible in the placement of wire stringing equipment and materials. The wire reels and other large material items will be transported to and along the ROW using large trucks and trailers. Pickup trucks will be used to transport work crews and small materials to work sites.

### 3.1.9 Restoration of the ROW

Following completion of construction, crews will complete restoration efforts within wetlands and disturbed upland areas. Crews will remove construction debris from the Project site and dispose of or recycle materials as appropriate. Crews will rake or smooth disturbed areas around structures and other graded locations and seed bare soil surfaces with an appropriate conservation seed mixture. Restored soil surfaces will be mulched or covered with straw to stabilize the soils in accordance with applicable regulations. Where indicated in Project Plans, temporary graveled access, workpads, and pull pads will be restored as detailed further in **Section 8**. Temporary sedimentation control devices will be removed following the stabilization of disturbed areas; straw bales, straw wattles, or similar may be removed or left in place after the stakes are pulled and the strings cut.

Environmental Monitors will inspect all restored areas until 75 percent vegetative cover is achieved or in accordance with applicable permit requirements.

Within wetlands, MECO will remove all construction mats and perform in situ restoration of temporarily disturbed wetlands per EG-303 NE and as described in **Section 8** and **Attachment C.**

## 3.2 Environmental Compliance and Monitoring

Project activities will be overseen by an Environmental Monitor, a qualified environmental professional designated by MECO who can capably monitor on-site construction conditions in relation to permit conditions and regulatory requirements (see **Section 9**). In addition, MECO's contractor will designate a Construction Supervisor who will be responsible for daily inspections of work areas during the construction period and will address potential environmental compliance issues (i.e., erosion and sedimentation). The Construction Supervisor will be on-site daily to perform required inspections and has "stop work" authority if required due to an observed or reported infraction of the standards and procedures.

The Environmental Monitor will send documentation identifying compliance and/or deficiencies of sediment and erosion control measures to the construction supervisor and construction team for implementation of corrective measures. As a proactive approach to ensure compliance with environmental permit requirements, the Environmental Monitor will provide Environmental Compliance training to all construction personnel prior to construction, which is a brief on the Project's environmental issues and permit obligations. Environmental Monitors are trained to recognize and respond to changing field conditions as they relate to protecting sensitive areas,

wetland resource areas, and preventing sedimentation via stormwater runoff. MECO will hold regular progress meetings with the construction team to communicate weekly schedules and to reinforce the contractor's awareness of environmental compliance issues.

## 3.3 Construction Equipment

Equipment that is likely to be required to install the new overhead transmission lines and to remove the existing structures is listed in Table 3-2 (below). Any diesel-powered non-access construction equipment with engine horsepower ratings of 50 and above to be used for 30 or more days over the course of construction will either be United States Environmental Protection Agency ("EPA") Tier 4-compliant, or will be retrofitted with EPA-verified (or equivalent) emission control devices such as oxidation catalysts or other comparable technologies (to the extent that they are commercially available) and installed on the exhaust system side of the diesel combustion engine. MECO requires the use of ultra-low sulfur diesel ("ULSD") fuel in its diesel-powered construction equipment and limits idling time to five minutes except when engine power is necessary for the delivery of materials or to operate accessories to the vehicle such as power lifts. Vehicle idling is to be minimized during construction activities, in compliance with Massachusetts Anti-idling Law, M.G.L. c. 90 § 16A, c. 111 §§ 142A – 142M, and 310 CMR 7.11.

### Table 3-2: Typical Overhead Transmission Line Construction Equipment

| Construction Phase | Typical Equipment/Materials Required |
|---|---|
| Site Preparation | ▪ Pickup and other small trucks<br>▪ Flatbed trucks, brush hogs, bulldozers, bucket trucks for tree canopy trimming, woodchippers<br>▪ Erosion and sediment control devices<br>▪ Equipment for tree trimming and/or cutting |
| General Activities | ▪ Vehicles to transport personnel<br>▪ Side booms, forklifts and cranes to handle materials<br>▪ Trucks to haul sanitary/solid wastes from construction sites<br>▪ Pick-up trucks for supplies |
| Access | ▪ Bulldozer or front-end loader<br>▪ Excavators<br>▪ Dump trucks for hauling crushed stone or gravel<br>▪ Vibratory rollers<br>▪ Pick-up or stake body trucks for culverts, tooling and personnel |
| Structure Upgrades | ▪ Trucks to haul out old hardware (roll off dumpsters)<br>▪ Cranes<br>▪ Trucks with welding equipment to cut steel supports or components<br>▪ Dump trucks to haul smaller components, gravel or spoils<br>▪ Digging equipment such as back hoes or excavators |

| | |
|---|---|
| Installation of New Structures | ▪ Bulldozer or front-end loader<br>▪ All-terrain vehicles (“ATVs”)<br>▪ Tracked carrier (marooka) or a Skidder<br>▪ Flatbed trucks and tractor trailers for hauling structure components<br>▪ Augers<br>▪ Excavators and backhoes<br>▪ Cranes<br>▪ Bucket trucks<br>▪ Conductor pulling and tensioning rigs<br>▪ Helicopters<br>▪ Large-bore foundation drill rigs for caisson foundations<br>▪ Concrete trucks<br>▪ Pick-ups and other small trucks |
| Restoration | ▪ Pick-up and other small trucks<br>▪ Excavators and backhoes<br>▪ Dump trucks |

## 3.4 Safety and Public Health Considerations

MECO will construct and maintain the facilities for the proposed Project so that the health and safety of the public are protected. This will be accomplished through adherence to all federal, state, and local regulations, and industry standards and guidelines established for protection of the public. Specifically, the proposed Project improvements will be designed, constructed, and maintained in accordance with the National Electric Standards Committee standards. The facilities will be designed in accordance with sound engineering practices using established design codes and guides published by, among others, the Institute of Electrical and Electronics Engineers (“IEEE”), the American Society of Civil Engineers (“ASCE”), the American Concrete Institute (“ACI”), and the American National Standards Institute (“ANSI”). Crews will use practices to protect the public during construction including, but not limited to, stablishing traffic control plans for construction traffic on busy streets to maintain safe driving conditions, restricting public access to potentially hazardous work areas.

Following construction, all transmission structures will be clearly marked with warning signs to alert the public of potential hazards if climbed or entered. Throughout the Project design and implementation phases, MECO will evaluate locations that may require the installation of signs, and/or other types of barriers (e.g., large stones) at access points from public roads.

# 4. LAND USE

This section provides an overview of the physical description of the Project surroundings, including land use, Open Space, and Article 97 Lands. It also discusses the potential impacts of the proposed work, including conversion of vegetative cover, construction-related ground disturbance (such as access improvements and construction, work pads, and pull pads), and outlines the proposed avoidance, minimization, and mitigation measures to reduce the environmental impacts associated with the Project.

The Plans in **Attachment A** depict areas of proposed temporary and permanent land alteration.

## 4.1 Existing Conditions

The following section summarizes and expands upon the existing land use conditions provided in the ENF form.

### 4.1.1 Land Use

The Project ROW is composed of easements and fee-owned properties and passes through the Town of Sterling and the City of Leominster. The ROW is partially cleared of trees and larger shrub vegetation. Land cover/vegetative community types within the ROW are consistent with typical management practices for overhead electrical transmission lines (i.e., routine mowing and trimming of vegetation, to maintain early successional community types). MECO has managed the ROW accordingly since its original construction in the late 1960s.

The total land area of the J136S Tap Line ROW is approximately 92.45 acres, inclusive of the maintained ROW corridor and the owned/easement areas outside of the maintained corridor (typically 250-ft wide). Land use within a 300-ft buffer of the ROW and within the ROW (combined) predominantly consist of industrial properties, followed by exempt properties[2] and residential properties, and then by transportation and commercial land uses.

**Table 4-1**[7] (below) summarizes the Massachusetts Geographic Information Systems ("MassGIS") land use information for the ROW and adjacent areas within 300-ft of the ROW edge (the study buffer).

7 MassGIS. MassGIS Data: Property Tax Parcels. Commonwealth of Massachusetts. https://www.mass.gov/info-details/massgis-data-property-tax-parcels

### Table 4-1: Land Use

| Land Use Type | Within ROW (acres) | % Within ROW | Study Buffer (acres) | % Within Study Buffer |
|---|---|---|---|---|
| Commercial | 4.89 | 5.29 | 17.61 | 7.63 |
| Exempt Property[2] | 13.48 | 14.58 | 36.54 | 15.83 |
| Industrial | 69.29 | 74.95 | 133.07 | 57.64 |
| Residential | 0.31 | 0.34 | 26.10 | 11.30 |
| Transportation | 4.48 | 4.85 | 17.57 | 7.61 |
| **Total** | **92.45** | **100.0** | **230.89** | **100.0** |

Notes: Land Use Types are defined by each parcel's Land Use code assigned by municipal property assessors consistent with codes defined by the Department of Revenue. For the purposes of this analysis, "transportation" is a combination of all "ROW" types (e.g. railroad).
The following land use types are absent within the ROW and the adjacent 300-foot area: Agricultural/Horticultural, Forest, Mixed Use, Recreation, Water, Vacant and Unknown.

### 4.1.2 Sensitive Receptors

According to MassGIS and as observed during field surveys of the ROW, the 300-ft study buffer contains two sensitive receptors, the Leominster Fire Department - South Station[8] and the Teaching Wonders Child Learning daycare center (infants through pre-k) located near existing Structure 31. Within the broader surrounding area (up to 1/2 mile from the ROW), no additional sensitive receptors are present, including: colleges, schools (pre-k through 12), community health care centers, long term care residences, acute care hospitals, non-acute care hospitals, courthouses, prisons, fire stations, police stations, and places of worship.

### 4.1.3 Public Open Space/Article 97 Lands

Public open space resources (designated as Article 97 Lands) that are adjacent to or transected by the J136S Tap Line are listed in **Table 4-2**[9] below. According to the MassGIS Protected Land and Recreational OpenSpace layer, the primary purposes of the public open space parcels intersecting the ROW are "conservation" and "water supply protection"[10]. All proposed work will be conducted within MECO existing easement rights and MECO and New England Power Company ("NEP") fee-owned parcels, and as such, there is no disposition of land or change in use that would trigger Article 97 requirements. There are no public trails or parking areas within or adjacent to the ROW and there will be no impacts on public access to Protected Land and Recreational Open Space. There are no public trails or parking areas within or adjacent to the ROW and there will be no impacts on public access to Protected Land and Recreational Open Space.

Approximately 27.26 acres of Open Space are located within the 300-ft study buffer (approximately 11.8 percent), and approximately 12.64 acres of Open Space are located within the Project ROW itself (approximately 13.67 percent). The J136S Tap Line ROW transects three Open Space parcels, all owned by the City of Leominster. Of these, two parcels are managed by the City of Leominster Water Department and one (the Nashua Valley Conservation Area) is managed by the City of Leominster Conservation Commission. Project activities are limited to the existing ROW within these parcels. All three parcels are associated with Community Groundwater Wells and associated

8 MassGIS. MassGIS Data: Infrastructure, Other Facilities and Structures. https://www.mass.gov/info-details/massgis-data-layers#infrastructure

9 MassGIS. MassGIS Data: Protected and Recreational OpenSpace. Commonwealth of Massachusetts. https://www.mass.gov/info-details/massgis-data-protected-and-recreational-openspace

10 Massachusetts Bureau of Geographic Information (MassGIS). (n.d.). MassGIS data: Protected and recreational open space. Commonwealth of Massachusetts. Retrieved July 18, 2025, from https://www.mass.gov/info-details/massgis-data-protected-and-recreational-openspace

wellhead protection area. The J136S Tap Line ROW is not within the Zone I (400 ft of the public water supply well) but is within the Zone II aquifer recharge area.

**Table 4-2: Public Open Space and Recreational Resources/Article 97 Lands**

| Open Space and Recreational Resources | | | |
|---|---|---|---|
| **Town** | **Site Name** | **Owner** | **Primary purpose** |
| City of Leominster | Nashua Valley Conservation Area | City of Leominster | Conservation |
| City of Leominster | Abutting Nashua Valley Conservation Area | City of Leominster | Water Supply Protection |
| City of Leominster | Abutting Nashua Valley Conservation Area | City of Leominster | Water Supply Protection |

### 4.1.4 Water Supply Protection Area

As noted above, two of the parcels are managed by the City of Leominster Water Department, and these parcels are associated with community groundwater wells and their corresponding wellhead protection areas. According to the Source Water Assessment and Protection ("SWAP") Report[11] for the Leominster Water Division, "Construction and corridor maintenance" and "over-application or improper handling of herbicides" within electric transmission line corridors represent a potential contaminant source with a high threat level for surface water and a low threat for groundwater. Per the Standard Recommendations for electrical utility ROWs, utility companies are to ensure that BMPs are followed for the application and handling of pesticides. Consistent with these recommendations, the Project has extensively incorporated various BMPs and will also follow MECO's VMP which incorporates standard practices including reduced spray and treatment restrictions for use of pesticides in sensitive resource areas such as Zone I and II WHPAs. As described in **Section 4.2.1**, following construction of the Project, MECO will manage vegetation within the J136S corridor in accordance with BMPs outlined in an approved VMP. Additionally, MECO will employ a suite of construction-phase BMPs to avoid and minimize impacts to wetlands and waterways. Detailed information about construction phase BMPs is provided in **Section 3.**

## 4.2 Land Use Impacts

The majority of new land alteration will occur as a result of the construction of new access and the modification of existing access as necessary to facilitate the Line rebuild and tree removals required to obtain necessary horizontal clearances from the edge of the ROW under all weather conditions. The total estimated land disturbance is approximately 36 acres of combined temporary and permanent land alterations. Refer to **Table 4-3** for a breakdown of impacts to land use.

11 Massachusetts Department of Environmental Protection, Central Region: Source Water Assessment & Protection ("SWAP") Program Reports (Mass.gov, accessed September 3, 2025), https://www.mass.gov/doc/central-region-source-water-assessment-protection-swap-program-reports-0/download.

### Table 4-3: Land Use Impacts

| Activity | Total (acres) |
|---|---|
| Access Upgrades and Installation | 3.3 |
| Gravel/Grading of Work Pads and Pads (Permanent) | 21 |
| Gravel/Grading of Work Pads and Pull Pads to be restored (Temporary) | 3.0 |
| Tree Removal/Vegetation Cover Type Conversion* | 13.0 |
| **Total**** | **36** |

*Approximately 8.7 acres of tree removal overlaps with other impact areas summarized in this table.
**Since tree removal overlaps with areas other alteration areas (e.g. workpads and/or access), the total impact area is not equal to the sum of each activity. Following restoration of RA, total land alteration will be approximately 32.9 acres.

The Project involves access improvements and construction (3.3 acres), including grading and application of gravel, and construction of proposed work areas (23.9 acres). To the extent practicable, MECO is proposing improved and new access aligned with previously utilized routes and pathways to reduce new land disturbance.

Land alteration associated with tree removal is the conversion of vegetative cover types (13.0 acres) required to meet conductor clearance requirements and as necessary to provide safe work sites for personnel. Conversion of vegetative cover types for conductor clearances will include removal of an average approximate width of 40 ft of trees on the east side of the ROW.

Project-related impacts proposed within the existing, managed ROW will not significantly alter surrounding land use conditions. Following Project construction, MECO will continue to operate and maintain electric transmission facilities within the existing ROW corridor. While access will be widened in some locations, these changes are not expected to result in significant impacts, as existing access is already in place and any expansion will affect only small, marginal areas. Similarly, structure replacement activities will not significantly alter land use conditions within the ROW. While some existing structures may be replaced with foundations that have slightly larger footprints, these changes are anticipated to result in minimal land use impacts and an overall, net decrease in foundation footprints due to a reduction in the number of poles (from 85 to 43 poles). Additionally, MECO is removing an existing structure from within a wetland resource area.

The ROW and associated access routes have been previously disturbed as part of ongoing utility operation and maintenance activities. Construction and continued operation of the transmission line will not conflict with or affect access to adjacent open space and recreational lands.

### 4.2.1 Tree Removal/Vegetative Cover Type Conversion

To meet the conductor clearance requirements, the Project will involve removal of approximately 40 ft of trees and forested vegetation cover along the east side of the ROW, resulting in approximately 13.03 acres of vegetative cover type conversion. Tree removal is required to provide access to the proposed structure locations, to facilitate safe vehicular and equipment passage, to provide safe work sites for personnel, and to meet safety standards for the clearance between the conductor and nearby vegetation[12]. Tree removal resulting in the conversion of vegetative cover types is summarized below in **Table 4-4.**

12 Safe clearance distances are dictated largely by line voltage, but also by structure height and site topography. Lines must not only be clear of falling trees and limbs, but also from the risk of "arcing" – when electric current jumps the air gap between a conductor and nearby vegetation, with associated safety and fire risks. For the J136S Tap Line, analysis has shown that an additional 40 feet of clearance is required on the east side of the ROW, in order to meet modern safety standards.

### Table 4-4: Conversion of Vegetative Cover Types Along the J136S Tap Line ROW

| Resource Area | Conversion of Vegetative Cover Types (acres)[1] |
|---|---|
| Upland | 11.87 |
| Bordering Vegetative Wetland | 1.17 |
| 100-ft Buffer Zone to Bordering Vegetative Wetland | 1.70 |
| Riverfront Area | 1.07 |
| Open Space | 3.01 |

Notes: This is the total area of proposed tree removal which overlaps with other impact areas such as proposed workpads and access.

Following tree removal, MECO will conduct routine and regular vegetation management along the newly widened ROW in accordance with MECO's approved VMP). MECO compiled this plan in compliance with 333 CMR 11.00, as well as all applicable state and federal regulations that mandate the management of utility ROWs, including, but not limited to: all applicable clauses of Chapter 85 of the Acts of 2000; the Massachusetts Endangered Species Act ("MESA") and its regulations 321 CMR 10.00; 310 CMR 10.00, and 310 CMR 22.00; applicable Federal Regulatory Commission standards including North American Electric Reliability Commission ("NERC") Standard FAC-003-1, Commissioner Order 693, and all applicable Federal Occupational Safety and Health Act, Department of Transportation and Department of Environmental Protection regulations.

As part of an Integrated Vegetation Management ("IVM") program, MECO's professional foresters oversee the uses of mechanical, natural, and chemical (herbicide application) methodologies when considering controls to use on the landscape. Trained and licensed herbicide applicators use hand-held equipment under the direct supervision of certified supervisors/foremen. Vegetation management is necessary to ensure safe, reliable delivery of electric service through the transmission and distribution lines located on MECO ROWs. Tall growing tree species must be prevented from growing into or falling onto the lines. Dense woody vegetation, vines, invasive, and poisonous vegetation is removed from around structures, access, and anywhere in which they prevent access to the ROW for inspections, maintenance, repairs and emergency access to the lines. Mitigation measures are incorporated into the VMP procedures, and no significant adverse impacts are anticipated because of VMP implementation.

## 4.2.2 Access Routes, Work Pads/Envelopes, and Pull Pads

MECO requires safe and reliable access to each transmission structure for equipment and crews to perform the proposed work such as clearing and grading the work areas, creating a stable work platform, installing structures, stringing the overhead wires, and removing the existing Line and structures. Access conditions vary considerably throughout the ROW. In some areas, existing access is in need of repair or upgrades and does not meet MECO's standard to safely support specialized equipment. Additionally, due to the proposed off-set of the Line, there is limited existing access proximate to the proposed structures. As such, some new access and work areas are required within the ROW.

### 4.2.2.1 Access Road Routes

The majority of the proposed access follows existing or historic access routes. Since historic access roads/paths require significant improvements to meet access requirements for the Project, all permanent access has been conservatively categorized together as "designed access" on the Project Plans (**Attachment A**) and is shaded in teal if it will be restored post-construction as described further in **Section 8**. Access defined on Project Plans as "proposed temporary access"

(e.g., between existing Structures 3 to 4, 13 to 14, and 24 to 26) is intended only to be used during the tree removal phase of the Project and will only be mowed and/or matted.

Crews will access the ROW through existing off-ROW roads and access. All access routes leading onto the ROW are already established (i.e., from existing public ways, parking lots, or gravel pits). Two of these routes (access leading to structures 7 and 40) are existing utility access entirely on MECO or NEP fee-owned parcels. MECO is not proposing to upgrade or improve existing off-ROW access.

A summary of proposed access route types and calculated footprints of disturbance on the Project ROW and off-ROW is provided in **Table 4-5**.

### Table 4-5: Summary of Proposed Access

| Type | On ROW | Off ROW |
|---|---|---|
| Existing Off-ROW Access* (linear feet [lf]) | 6,848 | 3,987 |
| Temporary Construction Matting** (lf) | 1,007 | 0 |
| Proposed Access Improvements and Construction (lf) | 1,477 | 0 |
| Proposed Access Improvements and Construction (square feet [sf]) | 26,001 | 0 |

*"Existing Off-ROW Access" depicted on plans are access routes that lead to the ROW, portions of which fall within the ROW. No improvements proposed for these access routes.
**Associated with access.

#### 4.2.2.2 Work Envelopes and Pull Pads

Crews will construct work envelopes at structures where work is proposed for the removal of existing structures and the installation of new or replacement structures and their appurtenant features. Similarly, crews will use pull pads to stage equipment used to install overhead wires. Construction of wire stringing and pulling sites typically will be required at angle points in the Line and at dead-end structures to provide a level workspace for equipment and personnel. Pull pad sites in sensitive resource areas, such as wetlands, will consist of construction matting placed on top of vegetation, where feasible. Refer to the Plans in **Attachment A** for locations where these work areas are proposed.

### Table 4-6: Summary of Proposed Work Areas

| Type | Uplands | Wetlands |
|---|---|---|
| Temporary Construction Matting (square feet [sf])* | 0 | 19,814 |
| Gravel/Grading of Work Pads and Pads (Permanent) (sf) | 908,256 | 0 |
| Gravel/Grading of Work Pads and Pull Pads to be restored (Temporary) (sf) | 132,024 | 0 |

*Associated with work areas.

In general, MECO has designed work envelopes to be up to approximately 125-ft by 125-ft, but each work envelope may vary in size depending on work needs and site constraints. For example, some workpads are larger to accommodate both the removal of the existing structure and the installation of the new structure or maybe larger due to extra space needed to navigate other site constraints. Examples of reduced size workpads include work areas for structure removal only locations, areas of steep or challenging terrain, or limitations on available space.

Work areas will require grading and the placement of stone (gravel) to provide a stable work

surface. Where construction matting is placed in BVW and Riverfront Area ("RA"), crews will remove the matting once construction is complete. Outside of sensitive wetland resource areas, work areas will remain in place to provide permanent work platforms for future maintenance/emergency work. At the completion of construction, MECO will restore temporary work areas such as pull pads, work pads constructed for removals only, and within RA, by revegetating these surfaces (For additional details Refer to Section 8 – *Avoidance, Minimization and Mitigation*).

# 5. WETLANDS, WATERWAYS, AND WATER RESOURCES

The Project is located within one major watershed: the Nashua watershed (446 square miles). BSC, as consultants to MECO, delineated wetland resources along the entire Project between fall 2022 and spring 2023. During the field investigations, 10 wetland areas and nine streams were identified and delineated within the J136S Tap Line ROW and along off-ROW access. Since this Project consists of the maintenance and/or replacement of existing transmission assets, wetland resource areas cannot be completely avoided. Where work or access is required within wetlands, appropriate mitigation measures will be provided.

This section presents an overview of the identified and delineated wetlands and waterways along the Project route. Field investigations, coupled by desktop analysis for wetland delineation and analysis has been used by the design team to avoid, minimize, and/or mitigate work within sensitive resource areas, as well as to evaluate Project-related impacts.

## 5.1 Existing Conditions

This section summarizes and expands upon existing condition information provided in the ENF Form.

### 5.1.1 Preliminary Data Review

- Before the start of the wetland field investigations/delineation, existing information was reviewed regarding the presence or absence of wetlands within the ROW and along proposed off-ROW access routes. These source materials included:
- USGS Topographic Maps
- USGS Color Ortho Imagery (various years)
- MassGIS U.S. Fish & Wildlife Service ("USFWS") National Wetlands Inventory ("NWI") Datalayer
- MassGIS MassDEP Wetlands 1:12,000 Datalayer
- MassGIS 2021 Natural Heritage and Endangered Species Program ("NHESP") Priority Habitats of Rare Species Datalayer
- MassGIS 2021 NHESP Estimated Habitats of Rare Wildlife Datalayer
- MassGIS NHESP Certified Vernal Pools Datalayer
- MassGIS NHESP Potential Vernal Pools Datalayer
- MassGIS Federal Emergency Management Agency ("FEMA") Q3 Flood Datalayer and FEMA Flood Insurance Rate Maps
- MassGIS Soils Datalayer

This information was used in the field to assist Wetland Scientists in the location and identification of wetland systems along the Project route.

### 5.1.2 Wetland Delineation Methodology

Wetland delineations were conducted within the existing transmission line ROW and along

proposed off-ROW access routes. Field teams used established delineation procedures, as outlined in the Massachusetts Department of Environmental Protections Handbook on Delineating Bordering Vegetated Wetlands (March 1995) ("DEP Handbook"), and the USACE Wetland Delineation Manual (Environmental Laboratory, January 1987) ("1987 Manual"), as well as the USACE Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region ("USACE Supplement") (2012).

### 5.1.3 Wetland Resource Areas

Of the ten wetland resource areas identified within the Project ROW and along off-ROW access routes, the majority are classified as palustrine scrub/shrub ("PSS"), palustrine emergent ("PEM"), or palustrine forested ("PFO") wetlands.

PFO wetlands are dominated by woody tree species that lose their leaves in the fall and become dormant until the spring. The hydrology of PFO wetlands varies significantly, and they may be inundated or saturated for different lengths of the year. Because hydrology is variable, soil and vegetation types may vary as well. Woody vegetation common in PFO wetlands delineated within the ROW included eastern white pine (*Pinus strobus*), red maple (*Acer rubrum*), red oak (*Quercus rubra*), eastern hemlock (*Tsuga canadensis*), speckled alder (*Alnus incana*), common winterberry holly (*Ilex verticillata*), and highbush blueberry (*Vaccinium corymbosum*). Herbaceous plants commonly included ferns, such as cinnamon fern (*Osmundastrum cinnamomeum*) and sensitive fern (*Onoclea sensibilis*). Signs of hydrology included water-stained leaves, high water table, saturation, inundation visible on aerial imagery, geomorphic position, and microtopographic relief. Soils were generally classified as having a Depleted Matrix F3, Redox Dark Surface F6, or Thick Dark Surface A12.

PEM wetlands are dominated by herbaceous vegetation, though there can be some trees and shrubs present. The hydrology of PEM wetlands can vary considerably from being seasonally inundated in certain situations to permanently flooded in others. Substrates in PEM wetlands vary with hydrology. Soils associated with permanently flooded areas may consist entirely of organic soils, or mineral soils enriched with organic materials. PEM wetlands that are saturated for only portions of the year are generally mineral soils.

Wetland vegetation common in PEM wetlands delineated within the ROW included: cinnamon fern, tussock sedge (*Carex stricta*), creeping dewberry (*Rubus hispidus*), swamp rose (*Rosa palustris*), sensitive fern, Canada goldenrod (*Solidago canadensis*), common soft rush (*Juncus effusus*), and arrow-leaved tearthumb (*Persicaria sagittata*). Dominant woody species included highbush blueberry, gray willow (*Salix cinerea*), common winterberry holly, speckled alder, silky dogwood (*Cornus amomum*), gray dogwood (*Cornus racemosa*), river grape (*Vitis riparia*), gray birch (*Betula populifolia*), and red maple scattered throughout or along the periphery.

Signs of hydrology in PEM wetlands along the ROW include water-stained leaves, high water table, saturation visible on aerial imagery, drainage patterns, facultative ("FAC")-neutral test, and microtopographic relief, moss trim lines, and standing water. Soils were generally classified as having a Redox Dark Surface F6, Histosol A1, and Depleted Below Dark Surface A11.

PSS wetlands are dominated by woody deciduous plants that are less than 20-ft tall. The hydrology of a PSS wetland can vary between wetlands but is generally categorized as having shallow inundation or soil saturation in early spring, followed by extended periods of dry conditions during the late spring, summer, and fall. Soils within PSS wetlands generally consist of mineral soils with minor amounts of organics.

Dominant vegetation within PSS wetlands in the ROW included cinnamon fern, creeping dewberry, winterberry, speckled alder, grey dogwood, highbush blueberry, red maple, and gray birch.

Signs of hydrology in PSS wetlands along the ROW included moss trim lines, drainage patterns, FAC-neutral test, surface water, high water table, and water-stained leaves. Wetland soil indicators included Depleted Dark surface F7 and Dark Surface.

### 5.1.4 Wetland Resource Area Classification and Evaluation

State regulated wetland resource areas found within the Project ROW (and along off-ROW access routes) included BVW BLSF, Bank, LUWW, and RA, as described below. Vernal Pool habitat is also discussed in terms of NHESP mapped potential vernal pools ("PVPs") and certified vernal pools ("CVPs"). Each type of wetland has an associated set of regulatory performance standards. The Project's approach to meeting these standards is addressed in **Section 10**.

**Bordering Vegetated Wetlands:** BVW is defined at 310 CMR 10.55(2) as freshwater wetlands (wet meadows, marshes, swamps, and bogs) which border on creeks, rivers, streams, ponds and lakes. BVWs are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants. The ground and surface water regime and the vegetation community which occur in each type of freshwater wetland are specified in the Massachusetts Wetlands Protection Act ("MA WPA") M.G.L. c. 131, § 40.

Due to ROW vegetation maintenance activities, the majority of BVW delineated along the existing ROW have dominant elements of both PEM and PSS vegetation. All dominant PEM wetlands delineated have a significant element of PSS vegetation, but not vice versa.

**Bordering Land Subject to Flooding:** BLSF is defined at 310 CMR 10.57(2)(a) as an area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds or lakes. BLSF extends from the banks of these waterways and water bodies; where a BVW occurs, BLSF extends from the BVW boundary. The boundary of BLSF is the estimated maximum lateral extent of flood water which will theoretically result from the statistical 100-year frequency storm.

**Isolated Vegetated Wetlands ("IVW") and Isolated Land Subject to Flooding ("ILSF"):** ILSF is defined at 310 CMR 10.57(2)(b) as an isolated depression or a closed basin that serves as a ponding area for run-off or high ground water which has risen above the ground surface. Isolated wetlands are not jurisdictional resource areas under the MA WPA unless they hold enough water to meet the definition of ILSF (310 CMR 10.57(2)(b)). Protection of IVW varies by town, and these areas are often afforded local protection regardless of size. During field investigations, wetlands were not delineated beyond the utility ROW or permissible off-ROW access. Off-ROW hydrologic connections were assumed for wetlands located on the border of the ROW.

**Inland Bank:** Bank is defined at 310 CMR 10.54(2) as the portion of the land surface which normally abuts and confines a water body. It occurs between a water body and a vegetated bordering wetland and adjacent floodplain, or, in the absence of these, it occurs between a water body and upland. A Bank may be partially or totally vegetated, or it may be comprised of exposed soil, gravel or stone. The physical characteristics of a Bank, as well as its location, are critical to the protection of wildlife. The upper boundary of a Bank is the first observable break in the slope or the mean annual flood level, whichever is lower. The lower boundary of a Bank is the mean annual low flow level.

**Land Under Water Bodies and Waterways:** LUW is defined at 310 CMR 10.56(2) as the land beneath any creek, river, stream, pond or lake. The boundary of LUW is the mean annual low water

level. Land under all ponds, lakes, perennial and intermittent streams, located within the Project route, is afforded protection under the MA WPA (M.G.L. c. 131, § 40) and regulations at 310 CMR 10.56.

**Riverfront Area:** RA is defined at 310 CMR 10.58(2) as the area of land between a river's mean annual high-water line and a parallel line measured horizontally. RA may include or overlap other resource areas or their buffer zones. The RA does not have a buffer zone.

**Vernal Pool Habitat:** Vernal pool ("VP") habitat is defined at 310 CMR 10.04 as confined depressions that hold water for two continuous months during spring and/or summer most years, and which are free of adult fish, including a 100-ft buffer *if that area is within a jurisdictional wetland* pursuant to the MA WPA and regulations. Field surveys were conducted in May 2024 to evaluate the Project area for VPs, including assessing NHESP-identified potential VPs. As a result of these surveys, it was confirmed that there are no VPs within the Project area.

### 5.1.5 Wildlife

This section discusses wildlife and associated habitat characteristics commonly found in the types of wetlands that are present along the Project route.

**PSS Wetlands:** A variety of birds, mammals, reptiles, amphibians and invertebrates are known to use the habitat provided by PSS wetlands. The diverse vegetation and structural features associated with forested (and scrub/shrub) wetlands provide feeding, breeding, nesting, and cover for a variety of wildlife species. Important wildlife habitat characteristics found within Project impact areas include:

- Wetland/aquatic food plants
- Upland/wetland food plants (hard mast and fruit)
- Shrub thickets/stream beds with abundant earth worms
- Thick shrub/herbaceous cover (suitable for Veery nesting)
- Standing dead tree (snag)
- Dense herbaceous cover
- Small mammal burrows
- Tree roots under water's surface
- Large woody debris on ground
- Rock piles and crevices
- Depressions that may serve as seasonal vernal pools
- Areas of ice-free open water in winter
- Emergent wetland pockets
- Intermittent streams

Wildlife commonly found in PSS wetland communities include birds such as common yellowthroat (*Geothlypis trichas*), song sparrow (*Melospiza melodia*), common grackle (*Quiscalus quiscula*), and American goldfinch (*Carduelis tristis*). Small mammals include the water shrew (*Sorex palustris*), short-tailed shrew (*Blarina bevicauda*), white-footed mouse (*Peromyscus leucopus*), star nosed mole (*Condylura cristata*), eastern chipmunks (*Tamias striatus*) and eastern cottontail (*Sylvilagus*

*floridanus*). Larger species, such as ruffed grouse (*Bonasa umbellus*), wild turkeys (*Meleagris gallopavo*), skunks (*Mephitis mephitis*), raccoons (*Procyon lotor*), Virginia opossums (*Didelphis virginiana*), and woodchucks (*Marmota monax*) may also be present.

**PEM Wetlands:** Wildlife commonly found in PEM wetland communities include: American toad (*Bufo a. americanus*), northern spring peeper (*Pseudoacris c. cinerus*), wood frog (*Rana clamitans melanota*), red winged black bird (*Agelaius phoenicecus*), swamp sparrow (*Melospiza georgiana*), and common yellowthroat.

## 5.2 Impacts on Wetlands and Wildlife

This section provides an overview of the temporary and permanent impacts to wetland resource areas, and the potential wildlife impacts of access and construction activities.

Overall, temporary and permanent impacts to wetland resource areas are anticipated due to comprehensive nature of the rebuilt of the Line (including replacement/installation of structures) and access establishment and improvements. To an extent practicable, wildlife habitats will remain intact. MECO proposes to address impacts and provide appropriate wetland mitigation to offset any permanent alteration to wetlands.

Temporary impacts to wetland resource areas are anticipated to be moderate during construction and insignificant over the long term. Temporary impacts to wetland resource areas from the Project will result from the placement of construction mats (to be removed post-construction) for access and work pads. Temporary impacts associated with construction matting, mowing, or gravel or grading that will be restored are proposed within BVW, RA, and buffer zone.

No permanent impacts will occur in BVW. Permanent impacts within RA and buffer zone will result from the installation of new structure foundations and access improvements. Within RA, all graded/graveled areas are proposed to be restored post-construction (Refer to **Section 8.2.2:** *In-Situ Riverfront Area Restoration*) resulting in no permanent impacts except structure foundations. Conversion of vegetative cover types are proposed within BVW, RA, and Buffer Zone. No permanent or temporary impacts are proposed within Bank or LUW. These impacts are summarized in **Table 5-1** (below) and wetland resource areas are shown on the Plans in **Attachment A**.

## Table 5-1: Summary of Wetland Resource Area Impacts Associated with the J136S Tap Line Rebuild Project

| Wetland Resource Area | Temporary Impacts | Permanent Impacts |
|---|---|---|
| Bordering Vegetated Wetland ("BVW") | **0.8 acres:**<br>▪ Construction mats for access where BVW crossings could not be avoided<br>▪ Temporary work envelopes, including construction mats for work pads and pull pads that overlap with BVW | **1.2 acres:**<br>▪ Conversion of vegetative cover types[1] |
| Riverfront Area ("RA") | **1.33 acres:**<br>▪ Vegetation management activities<br>▪ Temporary work envelopes, including gravel and grading for work pads and pull pads that will be restored | **1.13 acres:** (*approximately 2.46 acres of alteration prior to restoration***),<br>▪ New/improved access<br>▪ New/replacement structure foundations<br>▪ Cut/fill for access, and work envelopes<br>▪ Stabilization material in new/improved sections of existing access<br>▪ Conversion of vegetative cover types* |
| 100-ft Buffer Zone to BVW and Bank | **0.93 acres:**<br>▪ Vegetation management activities<br>▪ Temporary work envelopes, including gravel and grading for work pads and pull pads that will be restored | **2.84 acres:** *(approximately 3.77 acres of alteration prior to restoration**)*<br>▪ New/improved access<br>▪ New/replacement structure foundations<br>▪ Cut/fill for access, and work envelopes<br>▪ Stabilization material in new/improved sections of existing access<br>▪ Conversion of vegetative cover types[1] |

* This value includes the conversion of vegetated types (e.g., trees) to other vegetated types (e.g., shrubs).
** 'Restored' areas include gravel or graded areas to be loamed and seeded post-construction. As such, the pre-restoration values include all permanent project impacts, while post-restoration values exclude the restored gravel/graded areas.

Generally, the impacts from the Project are anticipated to be minimal, since work is happening within an existing, managed ROW. Although incremental changes to the existing footprint of power line structures and access might have temporary and long-term impacts on wildlife, Impacts will be localized to the immediate areas within the ROW. Wildlife habitats outside of the ROW will remain intact.

The Project ROW falls outside NHESP mapped Priority or Estimated Habitat; however, MECO will use an existing access that passes through a Priority Habitat in Leominster (access to Structure 7)

with no proposed improvements.

### 5.2.1 Temporary Impacts

#### 5.2.1.1 Bordering Vegetated Wetland

Temporary impacts to BVW are anticipated due to the placement of construction mats for access, construction work envelopes, and pull pads. Since this Project involves repairs and improvements to existing assets within an existing ROW, access within wetlands was unavoidable. A typical construction mat detail is provided in **Attachment C**. When feasible, construction mats are placed over existing vegetation (i.e., there is little or no ground disturbance, and root stock is left undisturbed). After all work is completed, construction mats will be removed, and the site will be restored to pre-construction conditions within approximately one growing season. **Table 5-2** (below) lists those wetlands which will be temporarily impacted by the placement of construction matting for access and/or work envelopes.

**Table 5-2: List of Wetlands Temporarily Impacted by the Placement of Construction Matting**

| Municipality | Temporarily Impacted Wetland IDs |
|---|---|
| Leominster | LE-W1, LE-W2, LE-W3, LE-W4 |
| Sterling | ST-W1 |

#### 5.2.1.2 Riverfront Area and 100-ft Buffer Zone to BVW and Bank

Temporary impacts to buffer zone are anticipated due to normal vegetation management activities within the existing ROW and the creation of temporary work envelopes. In some locations, work envelope/pull pad improvements are needed to create a stable work platform for the safe operation of utility equipment. These work envelopes will be created by grading and gravelling as needed. Temporary work envelopes will be restored post-construction as described further in **Section 8.2.2**. Within RA, all graded/graveled areas will be restored post construction.

#### 5.2.1.3 Temporary Impacts on Wildlife

During construction, temporary impacts to wildlife may be caused by the presence of construction equipment, construction activities, and habitat alteration/vegetation impacts resulting from construction. The duration of temporary impacts will be from the period of active construction only to the following growing season, when vegetation recovers from disturbance. Wildlife using the forested edge of the cleared ROW as well as the ROW itself may be affected. Readily mobile species such as birds and large mammals will temporarily leave the area to avoid construction activities and disturbance but may then be impacted by the displacement. Smaller and less mobile animals, such as small mammals and herpetofauna, may be directly impacted by activities within the ROW. The number of individual animals impacted during the construction phase is expected to be relatively low, compared to the total population of any given species in and around the ROW. Temporary impacts will be localized to the immediate areas of construction (which represents only a portion of the ROW) and are not anticipated to be significant to any species at the population level. Refer to **Section 6.2** for further discussion of the impacts on NHESP.

### 5.2.2 Permanent Impacts

#### 5.2.2.1 Bordering Vegetated Wetland

Permanent impacts to BVW are associated with conversion of vegetative cover type from the removal of trees. Vegetative cover type conversion for conductor clearances will typically include the removal of an approximate width of 40-ft on the east side of the ROW. Additional tree removal will occur where needed to accommodate the full limits of disturbance for proposed workspaces. Proposed conversion of vegetative cover type within BVW will result in the conversion of forested edge wetland areas to scrub/shrub habitat, which is necessary for the safe and reliable operation of the Line and is anticipated to create a benefit to successional wildlife. **Table 5-3** (below) lists those wetlands which will be impacted by vegetative cover type conversion.

One existing two-pole structure will be removed from BVW (Structure 24) and will be replaced outside of BVW resulting in a net decrease in permanent fill within wetlands.

**Table 5-3: List of Wetlands Impacted by Tree Removal**

| Municipality | Permanently Impacted Wetland IDs |
|---|---|
| Leominster | LE-W1, LE-W2, LE-W3 |
| Sterling | ST-W1 |

#### 5.2.2.2 100-ft Buffer Zone to BVW and Bank

Permanent impacts to the 100-ft buffer zone are associated with:

- Conversion of vegetative cover type for conductor clearances for an approximate 40-ft width on the east side of the ROW, and additional areas where needed for proposed work spaces;
- New and improved access (including grading and/or the addition of gravel);
- Construction work envelope grading and graveling; and
- Replacement/installation of new transmission line structures.

Historic access throughout the Project ROW is generally narrower than required for specialized utility equipment and predominantly consists of native soil/dirt. To meet the safety and equipment requirements of the Project, MECO plans to upgrade the existing access from their current width to 16-ft, which is necessary for safe access. In areas where access improvements are needed, the existing access will be regraded to provide a flat surface for utility equipment. Imported gravel will be added to access where necessary. Disturbed access shoulders will be stabilized immediately after access construction. Improved access that approaches a wetland will terminate before the delineated limits of the wetland and will transition into temporary construction matting within the wetland.

Work envelopes, pull pads, and the limit of disturbance ("LOD") associated with construction access are anticipated to impact the 100-ft buffer zone. In some locations, work envelope/pull pad improvements are needed to create a stable work platform for the safe operation of utility equipment. Permanent stone work envelope improvements are limited to regrading and gravel in the 100-ft buffer zone and upland areas.

Within buffer zone, there will be a net reduction in structures from five to four, which will result in a net decrease in structure foundation footprints.

#### 5.2.2.3 Riverfront Area

All graded/graveled areas in RA will be restored post-construction (as described further in **Section 8.2.2**); therefore, tree removals will be the only permanent impact in RA. Permanent impacts in RA

are associated with three streams and watercourses:

- Unnamed stream associated with wetland ST-W1 in Sterling
- Old Mill Brook in Leominster
- Fall Brook in Leominster

There will be a net reduction in foundation footprints within RA. Five existing structures will be removed (one in BVW) and three new structures will be installed, resulting in a net decrease in the number of structures (by two) and a reduction in total foundation footprints.

# 6. RARE SPECIES

To assess the potential for state or federally listed, endangered, threatened, and/or special concern plant and/or animal species along the Project route, MECO reviewed MassGIS 2021 Priority and Estimated Habitat data layers, solicited database information from the Massachusetts NHESP and followed the USFWS Endangered Species Consultation Procedure available on their website.

## 6.1 USFWS

The USFWS Official Species List for the Project catalogs one federally listed species and one candidate species that may be present within the Project area. One species is a threatened mammal, the Northern long-eared bat (*Myotis septentrionalis*), and one species is a candidate insect, the Monarch butterfly (*Danaus plexippus*). Review is ongoing to determine permitting and/or avoidance measures. MECO anticipates addressing avoidance and protection measures for these species in the USACE permitting.

## 6.2 NHESP

Based on NHESP data layers (including restricted data obtained directly from NHESP), the Project ROW does not contain any state-listed species. However, MECO will use existing access that passes through a Priority Habitat in Leominster (access to Structure 7). MECO is planning to employ access within rare species habitat in accordance with the MESA regulations (321 CMR 10.14(11)) that exempt Projects and activities from review that include "routine operation and maintenance that are part of an operation and maintenance plan approved by the Division of Fisheries and Wildlife." MECO crews will travel this access under the conditions and best management practices of an established Operation and Maintenance Plan ("OMP Plan") between MECO and the NHESP. Additionally, MECO will send a copy of the NOI submitted to the City of Leominster to NHESP for review.

Because MECO is not proposing any construction activities within Priority Habitat and crews will follow guidance and procedures for work in rare species habitat when using existing access, MECO does not anticipate the Project resulting in a "Take" of rare wildlife or impacts to rare species habitat.

# 7. HISTORIC, ARCHAEOLOGICAL & CULTURAL RESOURCES

The Project requires federal and state permitting and is subject to cultural resources review under Section 106 of the National Historic Preservation Act ("NHPA") of 1966, as amended (54 USC § 306108) and its implementing regulations 36 CFR 800, and Massachusetts General Law ("MGL") Chapter 9, Sections 26-27C (950 CMR 70-71).

MECO contracted Gray & Pape, Inc. ("G&P") to conduct cultural due diligence for the Project. G&P conducted background research and physical inspection of the Project study area. Background research involved a review of existing cultural resource reports, correspondence, and previously recorded historic and archaeological site files on file at Massachusetts Historical Commission ("MHC").

## 7.1 Archaeological Resources

At the request of MECO, G&P completed a due diligence and desktop archaeological sensitivity assessment for the Project in December 2022 to identify cultural resources within a Project study area defined as 1.0-kilometer ("km") (0.62 mile) radius around the Project ROW (Elquist 2022)[13]. Background research included reviewing Massachusetts Cultural Resource Information System ("MACRIS") and the National Register of Historic Places ("NRHP") database to identify previously recorded archaeological sites and above ground resources within the Project study area. Other archaeological studies, academic publications, town and county histories, and historical maps were reviewed as necessary to identify potential archaeological resources and areas of archaeological sensitivity. G&P also reviewed Light Detection and Ranging ("LiDAR") mapping, soils data, and other environmental data and studies.

No archaeological sites were identified within the Project study area around the Tap Line. The Project study area contains 21 inventoried above ground resources, none of which are within the Project ROW.

To fulfill anticipated federal cultural resource compliance obligations, G&P recommended an intensive (locational) archaeological survey that would identify archeological resources potentially eligible for listing in the NRHP.

G&P conducted intensive surveys between October 2023 and September 2024 under State Archaeologist Permit 4281, issued on June 9, 2023, amended August 9, 2023, and extended on July 29, 2024. G&P submitted a report (Elquist 2025) [14] to the MHC in April 2025 indicating that no archaeological resources were located and recommending that no further archaeological investigations are warranted for the Project. MHC responded with a concurrence letter on May 23, 2025.

## 7.2 Architectural Resources

At the request of MECO, G&P completed a supplemental architectural survey of inventoried above ground historic resources identified in the MACRIS and NRHP database. The intent of this

13 Elquist, Ora 2022 Cultural Resources Due Diligence and Archaeological Sensitivity Assessment, Line I135S/J136S Asset Condition Refurbishment (ACR) Project, Fitchburg, Leominster, and Sterling, Massachusetts. Providence Rhode Island. Prepared by Gray & Pape, Inc. for National Grid.

14 Elquist, Ora April 10, 2025. Intensive (Locational) Archaeological Survey J136S Tap to Litchfield Street Substation Project Leominster and Sterling, Massachusetts. Providence Rhode Island. Prepared by Gray & Pape, Inc. for National Grid.

architectural assessment was to determine whether NRHP-eligible or -listed and/or MHC-inventoried resources located within the Project study area were in the viewshed of the proposed structure replacements and, if so, to evaluate whether the Project would have adverse impacts on the above ground historic resources. For the purposes of this assessment, the Project study area was defined as a 0.80-km (0.5 mile) radius from the Project ROW. The assessment identified 22 areas or individual inventoried above ground resources within the Project study area, five of which have been demolished (as noted in MACRIS). Although some of these resources were partially within the viewshed of the proposed structures and some were NRHP-eligible or potentially eligible, G&P recommended that there are no adverse affects because the Project will not alter the setting or alter the physical appearance or other characteristics of significance that make the properties NRHP-eligible.

G&P submitted a report documenting findings (Mackey 2025)[15] to MHC in June 2025 and concluding that the Project will not have adverse effects on above ground historic resources. A response from MHC is pending.

## 7.3 Section 106 and Tribal Consultations

Section 106 of the National Historic Preservation Act of 1966 ("NHPA" or "Section 106") requires that federal undertakings include consultation with interested parties that might be affected by the project. The lead federal agency is obligated to identify and engage with consulting parties. This includes the State Historic Preservation Officer ("SHPO"), Native American tribes, local governments, and other individuals and organizations with a demonstrated interest in the Project study area.

On behalf of the USACE, G&P provided a Project Notification Form ("PNF"), and permit application to conduct an intensive (Locational) archaeological survey that included a technical proposal to the MHC to receive input on the archaeological approach to the Project. MHC issued State Archaeologist's Permit No. 4281 for the survey. Additionally, G&P also reached out to the Wampanoag Tribe of Gay Head (Aquinnah) ("WTGH/A"), the Mashpee Wampanoag Tribe, the Narraganset Indian Tribe, the Nipmuc Tribal Nation, the Massachusetts Commission on Indian Affairs, and local town historical commission through which the Project runs to solicit any information the Tribes or other organizations might wish to provide about the Project, to notify them of the anticipated fieldwork schedule, and to invite them to be present during fieldwork.

Draft copies of the archaeological survey report were provided to the MHC and Tribes April 28, 2025. MHC requested a second copy of the report with no revisions on May 23, 2025, and final copies were provided to the MHC and Tribes on June 24, 2025.

MECO will continue to coordinate with G&P, in consultation with MHC and the USACE, to identify historic, archaeological, or cultural resources prior to construction and to avoid, minimize, or mitigate impacts on cultural and historic resources.

15 Mackey, Linda June 2025. Architectural Assessment for Structure Height Increases. Line J136S Tap to Litchfield Street Substation Project Leominster and Sterling, Massachusetts. Providence Rhode Island. Prepared by Gray & Pape, Inc. for National Grid.

# 8. AVOIDANCE, MINIMIZATION, AND MITIGATION

MECO has incorporated extensive measures into Project design and construction planning to avoid and minimize Project impacts to the greatest practicable extent. Where impacts cannot be avoided, MECO will implement appropriate mitigation. The following sections provide details on Project avoidance and minimization measures and proposed mitigation. Avoidance and minimization measures will be implemented through all stages of the Project development through construction and restoration.

## 8.1 Avoidance and Minimization Measures

MECO considers and implements avoidance and minimization measures throughout all phases of the Project including project design, in consultations with regulatory agencies, and during and after construction. Early in the Project design, MECO evaluated project alternatives to reduce and avoid impacts while meeting the Project need, as discussed in **Section 2**. Upon selection of the Project, MECO considered design alternatives that would further avoid or reduce environmental impact. MECO engineering, construction plannings, and environmental team members evaluated field conditions to determine construction phasing and work area layouts that would reduce impacts to wetlands and waterways. Finally, MECO proposes implementing a suite of construction-phase Best Management Practices ("BMPs") to further avoid and minimize environmental impacts.

### 8.1.1 Project Design and Selection

MECO completed a detailed alternatives analysis, as described in **Section 2**, that established the proposed project as the best alternative with the fewest environmental impacts while also meeting the project need. This included alternatives to the Project and design alternatives.

To minimize impacts for the proposed Project, MECO has incorporated the following actions and considerations throughout the planning and design phases:

- MECO completed field investigations during the planning stages of the Project to assess constructability and avoid/minimize impact to wetland resources;
- MECO has relocated replacement structures outside of BVW;
- Agency consultations are in progress and are anticipated to determine additional project-specific avoidance measures;
- Crews will use existing ROW and access to avoid new land disturbance, where feasible;
- MECO will install temporary construction mats and implement BMPs such as sediment and erosion controls to minimize wetland impacts; and
- MECO has designed work areas within wetlands to be temporary only; no permanent fill within wetlands is proposed.

### 8.1.2 Design and Construction Phase Avoidance and Minimization Measures

During construction, MECO crews will follow a set of BMPs for ROW access, maintenance, and construction that are documented in an internal best practices manual (**Attachment C**). By consistently implementing these procedures, MECO ensures that transmission lines are

maintained and constructed by trained personnel in a manner that minimizes potential impacts to the environment, adheres to permit conditions, and meets industry standards. Throughout construction, MECO will implement appropriate BMPs to ensure that all work conforms with the conditions of permits/authorizations and that environmental impacts are minimized and/or mitigated. Key compliance elements of the BMP guidance manual include pre-construction field investigations, field inspections during construction, and post-construction inspections.

In addition to following internal environmental guidance, MECO will submit a Stormwater Pollution Prevention Plan ("SWPPP") for the Project in compliance with the EPA's National Pollutant Discharge Elimination System ("NPDES") program, under the Stormwater Construction General Permit. The SWPPP establishes a construction period contact list; presents a description of the proposed work; and, identifies stormwater controls, spill prevention, and inspection practices to be implemented for the management of construction-related stormwater discharges from the Project. The SWPPP clearly identifies parties responsible for monitoring and reporting any activities out of compliance with the SWPPP (or other environmental permits or approvals), and for handling extraordinary situations. The SWPPP also defines monitoring to occur until all disturbed areas on the site have been stabilized using standard BMPs. In this manner, the potential impacts associated with land disturbance (e.g., erosion and sedimentation) will be proactively managed so that impacts can be avoided.

### 8.1.3 Construction-Phase BMPs

Throughout construction activities, MECO crews will implement BMPs to minimize disturbed areas; use upland/existing access and work envelopes where possible; utilize erosion and sedimentation controls; and involve supervision and inspection of construction activities within resource areas by an Environmental Monitor.

General mitigation measures discussed below will reduce overall impacts and impacts to wetland resource areas during construction. Many of these measures are standard proven procedures that MECO incorporates in all transmission line construction projects. Others are site-specific measures designed to meet the needs of the Project.

**Structures:** During structure installation, erosion and sedimentation controls will be installed along the perimeter of the excavation area to avoid sedimentation of the adjacent wetlands. Following excavation, spoil piles will be contained by controls in appropriate upland locations.

**Access:** As part of the wetland delineations and constructability reviews, existing and previously used access (including access that were established during the construction and/or maintenance of the existing line that are now overgrown), were documented to determine feasible routes that would avoid and minimize impact to wetland resource areas. Where possible, access locations have been chosen to avoid BVW completely; to minimize impacts by crossing BVW using existing paths (previously impacted areas); or to traverse the BVW at its narrowest point. Impacts on small streams are minimal and limited to equipment crossings during the construction phase only by temporarily spanning streams. A detailed erosion and sediment control plan will be designed and implemented (see below).

Following construction, temporary construction mat access will be removed from BVW and associated streams. Impacted resource areas will then be restored to pre-construction configurations and contours to the extent practicable.

**Work Envelopes:** Structure improvements in or near BVW will result in short-term effects associated with the creation of temporary construction work envelopes. Proposed BVW work envelopes will

include temporary construction mats placed on top of existing vegetation to the extent feasible. If necessary, vegetation will be cut and stumps and roots left in place. Following construction, all mats will be removed from BVW and the impacted resource areas will then be restored to their pre-construction configurations and contours to the extent practicable.

Erosion and Sedimentation Control: In general, erosion and sediment controls may include straw wattles, silt fence, and straw bales. In addition to those described above, erosion and sediment control devices will be installed along the perimeter of identified wetland resource areas prior to the onset of soil disturbance activities to ensure that spoil piles and other disturbed soil areas are confined and do not result in downslope sedimentation of wetland resources. Low growing tree species, shrubs, and grasses will be mowed only along access and at work envelopes, in accordance with MECO's Vegetation Management Plan (VMP). To avoid disturbing the root mat, tree stumps will be left in place except at work pads, structure locations and within access.

Dewatering may be necessary during excavations for structures adjacent to wetland areas. If there is adequate vegetation in upland areas to function as a filter medium, the water generally will be discharged to the vegetated land surface. Where vegetation is absent or where slope prohibits, water will be pumped into a dewatering basin consisting of a filter bag with haybale or silt fence perimeter controls which will be located in approved areas outside wetland resource areas. The pump intake hose will not be allowed to set on the bottom of the excavation throughout dewatering. The basin and all accumulated sediment will be removed following dewatering operations, and the area will be seeded and mulched.

Concrete Wash Outs: Concrete wash outs will be used to manage concrete waste associated with the installation of caisson foundations. Concrete and concrete washout water will not be discharged directly on the ground, in wetlands or waterbodies, or in catch basins or other drainage structures. Where possible, concrete washouts will be located away from wetlands or other sensitive areas. Concrete washout areas will be regularly inspected by an Environmental Monitor.

Dust Suppression: Dust suppression measures, including water trucks, will be used as required to minimize fugitive dust from construction vehicle travel along the ROW. Crushed stone aprons/tracking pads will be used at access entrances to public roadways as needed to minimize the migration of soils off-site from construction equipment.

Environmental Field Issue Document: Per MECO policy, Environmental Field Issue ("EFI") guidelines are developed for all construction and maintenance projects. At a minimum, the EFI will include the location of sensitive areas to be avoided, a summary of all permit requirements, detailed erosion and sediment control plans, and training requirements/documentation. All contractors and Environmental Monitors will be required to participate in EFI training before beginning work on site. In accordance with a schedule specified in the EFI, regular construction progress meetings will provide the opportunity to reinforce the contractor's awareness of these matters.

Supervision and Monitoring: Throughout the entire construction process, MECO will retain the services of an Environmental Monitor. The primary responsibility of the Environmental Monitor will be to oversee construction activities, including the installation and maintenance of erosion and sedimentation controls, on a routine basis to ensure compliance with all applicable permitting requirements. The Environmental Monitor will be a qualified environmental scientist responsible for supervising construction activities relative to environmental compliance. The Environmental Monitor will be experienced in erosion and sediment control techniques described in this narrative and will have an understanding of wetland resources to be protected.

The Environmental Monitor will perform inspections at a frequency in compliance with the EPA's

Construction General Permit ("CGP") and Project SWPPP. In addition to retaining the services of an Environmental Monitor, MECO will require the contractor to designate an individual to be responsible for the daily inspection and upkeep of environmental controls. This person will also be responsible for providing direction to the other members of the construction crew regarding matters of wetland access and appropriate work methods.

### 8.1.4 Post-Construction Restoration

Following completion of construction, the following measures will be implemented. Specific restoration measures to mitigate for unavoidable impacts to resource areas, and compensatory mitigation are discussed further in Section 8.2.

As construction mats are removed, wetlands will be inspected for sediment deposited from work and access areas. If rutting or soil compaction is observed following construction mat removal, the area shall be returned to pre-existing conditions / conditions consistent with the surrounding area, by light hand raking or by back-blading with machinery. Deep ruts (greater than 12 inches) will be graded using available, loose soil from the work area. Depending on vegetation conditions, disturbed wetland areas will either be allowed to revegetate naturally or will be seeded with an appropriate wetland conservation seed mix.

After the new Line has been constructed and placed into service, the existing structures, wires, and other equipment will be removed. The majority of the existing poles are wood pole structures and will be removed in their entirety. The resulting hole will be backfilled and thoroughly tamped to minimize settling, then capped with native topsoil, or gravel if within a permanent workpad, and allowed to revegetate. MECO will transport used wood poles to the nearest ROW street crossing that is accessible by truck for pick up. Treated wood poles will be transported for disposal at a licensed landfill or incinerator, as appropriate. Cross-arms, braces, and other hardware shall be removed from the site and disposed of properly. Steel structures, conductors, and insulators will be salvaged and any other equipment or debris that cannot be recycled will be transported to an appropriate off-site disposal facility. Handling of such materials will be performed in compliance with applicable laws and regulations and in accordance with MECO policies.

Restoration efforts, including the removal of construction debris, final grading, and stabilization of disturbed soils will be completed following construction. Disturbed areas around structure work pads and other graded locations will either be stabilized gravel surface or vegetated. Straw, erosion control blankets, or similar erosion controls, may be used to stabilize the soils in accordance with applicable regulations. Restored areas will be monitored until at least 75 percent revegetation cover of native species is achieved.

Temporary sediment control BMPs will be removed following the stabilization of disturbed areas. Where authorized by property owners, permanent gates and access route blocks may be installed at key locations to restrict access onto the ROW by unauthorized vehicles. Regulated environmental resource areas temporarily or permanently disturbed by construction will be restored in accordance with applicable permit conditions.

## 8.2 Mitigation

The Project is subject to environmental permits and authorizations that may require compensatory mitigation for "impacts" to jurisdictional/regulated areas that cannot be avoided or minimized. The definition and categorization of "impact" varies between these regulatory programs. Under most environmental regulatory programs, compensatory mitigation is required for unavoidable and/or permanent impacts that result in the loss of a resource area. The Proposed Project will not result

in any permanent fill within or loss of wetlands or waterways. The construction and improvement of access and work envelopes and the replacement of utility structures will result in permanent alteration of upland resource areas regulated under the WPA.

MECO proposes in situ restoration as the primary means of providing one-to-one restoration of impacts associated with temporary construction matting and work areas involving soil disturbance, such as around the base of structure installation and/removal sites. As there is no permanent loss of wetlands resulting from Project construction, MECO does not anticipate providing compensatory wetland mitigation beyond in-situ restoration.

Proposed mitigation measures will be reviewed by the Conservation Commission in each town, MassDEP, MHC, and the USACE, and ultimately will be incorporated into the permits and OOCs issued for the Project. The Draft Section 61 Findings in **Section 12** include proposed mitigation measures.

### 8.2.1 In-Situ Wetland Restoration

MECO anticipates in-situ restoration will be the primary means of mitigation for temporary impacts associated with construction matting within wetlands under both Section 404 and WPA. These measures include minor grading of ruts, seeding exposed soil surfaces with an appropriate seed mix and mulching bare soil surfaces. As crews remove construction mats, environmental monitors will inspect the underlying wetlands for sediment deposited from work and access areas. If monitors observe rutting or soil compaction following construction mat removal, crews will lightly hand rake or back blade the affected area to meet pre-construction conditions or conditions consistent with the surrounding area. Crews will grade deep ruts (greater than 12 inches) using available, loose soil from the work area. Depending on vegetation and site conditions, disturbed wetland areas will either be allowed to revegetate naturally or will be seeded with an appropriate wetland conservation seed mix.

Environmental Monitors will continue to inspect restored areas until at least 75 percent revegetation cover of native species is achieved. Environmental monitors will also recommend corrective action, if needed, to ensure that restoration is successful and the ROW is stabilized. Once sufficient vegetation is present and/or the site is stable, crews will remove the remaining sediment and erosion controls. Siltation fencing, strings and stakes will be removed and disposed of as ordinary waste.

Any additional site-specific restoration actions will be determined during future permitting, in coordination with the local Conservation Commissions and MassDEP.

### 8.2.2 In-Situ Riverfront Area Restoration

Where new work envelopes are required within RFA, MECO proposes to restore the work site to a vegetated condition. As applicable, based on site conditions, topography, and permitting requirements, MECO will either loam and seed over the stone work envelope with an appropriate conservation seed mix once construction is complete or will remove all or portions of the graveled area. Following work envelope restoration, crews will apply additional in-situ restoration measures, as appropriate, including monitoring the site for stabilization and the vegetation.

Where MECO is proposing improved or new access within RFA, crews will loam and seed these locations but will not remove the travel surface of the access. Access is an essential component of a utility line corridor to ensure that crews can perform necessary operations, maintenance, and emergency activities at any given location along the ROW. A restored access surface will both

provide a vegetated buffer to the associated river and allow vehicular travel on a stable surface.

### 8.2.3 Structure Removals in Wetlands and Uplands

One two-pole structure (existing Structure 24) is the only existing structure located within wetlands and will be replaced in the adjacent uplands. The resulting hole from the removal of the structure will be backfilled with gravel or native soil and thoroughly tamped to minimize settling, then capped with native topsoil. A native wetland seed mix will be applied and the area stabilized with straw or similar measures and will continue to be monitored for revegetation.

In uplands, structures will be removed to the extent feasible or left in place by cutting flush to the ground surface. When poles in uplands are fully removed, the ground surface will be restored to an even grade and will be topped with native soil, or gravel if within a permanent workpad, and allowed to revegetate.

### 8.2.4 Compensatory Mitigation under Section 404

In addition to in-situ restoration, the USACE will require mitigation for "secondary" wetland impacts resulting from permanent wetland conversion. Per the USACE stated preference for compensatory mitigation, MECO proposes to use the In-Lieu Fee program to mitigate for secondary impacts related to permanent wetland vegetation conversion. MECO's proposed mitigation for secondary impacts will comply with the USACE's New England District Compensatory Mitigation Guidance (the "USACE Guidance")[16].

## 8.3 Tree Removal Avoidance, Minimization, and Mitigation

Within wetlands, tree removal, while defined as an "alteration" or a "secondary impact" under state and federal regulation, does not constitute a loss of BVW or a discharge of fill material into Waters of the United States ("WOTUS"). There is no requirement in the WPA or the 401 WQC regulations to compensate for conversion of wetlands from one vegetation cover type to another, as no BVW or WOTUS within the Commonwealth is "lost" following vegetation removal. While tree removal will not result in permanent loss of BVW, this activity is considered permanent wetland alteration and will result in a change in community type from forested wetland to scrub-shrub or emergent (herbaceous) wetland.

Accordingly, MECO does not anticipate providing compensatory BVW mitigation under the WPA or 401 WQC regulatory programs for the selective removal of trees within wetlands along the existing ROW edge.

16 U.S. Army Corps of Engineers, New England District, *2016 New England Compensatory Mitigation Guidance*, published September 7, 2016 (pdf), accessed September 3, 2025, https://www.nae.usace.army.mil/portals/74/docs/regulatory/Mitigation/2016_New_England_Compensatory_Mitigation_Guidance.pdf.

### 8.3.1 Tree Removal Avoidance and Minimization Measures

While tree removal has been limited to the extent practicable, removal is required to construct the Project and to provide adequate clearances between the transmission lines and the edge of the ROW. To minimize environmental impacts from conversion of vegetative cover types, MECO has incorporated a number of minimization and mitigation measures into the Project:

- Soil disturbance during conversion of vegetative cover type activities will be minimized as much as possible. Construction matting will be used within wetlands and other areas of soft ground, and specialist forestry equipment (such as a feller buncher) will be used to reach and remove trees along the ROW, without causing ground disturbance outside of the ROW. Minimizing soil disturbance and compaction will help to maintain infiltration rates and minimize run-off and soil erosion during high rainfall events.
- Where possible, understory scrub/shrub and groundcover will be retained during conversion of vegetative cover type activities. This will help to reduce run-off and soil erosion by protecting the soil surface during rainfall. While the type of vegetative communities found within converted areas will change over time (as a result of the removal of the forest canopy), this transition will be gradual, and retaining the existing ground and understory cover will help to protect soils in the interim.
- Where bare soils are exposed by conversion of vegetative cover type activities, MECO will use appropriate BMPs (such as straw mulch and seeding) to stabilize these areas and promote the rapid development of a new vegetative community.
- Large woody debris will be left on-site and used to create wood piles and overwintering habitat within the ROW (both on the forested and cleared side). Fallen deadwood provides important habitat for a wide range of fungi, bryophytes, insects, amphibians, reptiles, birds, and small mammals.
- Affected areas will be allowed to naturally revegetate into early successional scrub/shrub communities (an uncommon habitat type throughout Massachusetts), and will be managed as such into the future, for compatibility with the overhead transmission lines.

# 9. REGULATORY COMPLIANCE

MECO will design, build, and maintain the Project in accordance with federal, state, and local regulations, including Section 401 of the Clean Water Act ("CWA"), the MA WPA, Chapter 91, and local bylaws. This section provides a general overview of the Project's approach to complying with the jurisdictional regulations of state regulatory review agencies. Specific impact areas were presented previously in Sections 4 through 7, and mitigation measures are addressed in Section 8.

## 9.1 State Regulations

### 9.1.1 Section 401 Water Quality Certification, MassDEP

The wetlands along the ROW are subject to the jurisdiction of Sections 401 and 404 of the federal CWA, 33 U.S.C. § 1251 et seq. The CWA establishes the basic federal structure for regulating discharges of pollutants into WOTUS and regulating quality standards for surface waters.

This Project requires an Individual Section 401 WQC because Project-related alterations, including both temporary fill and permanent alterations cumulatively will exceed 5,000 sf. In conjunction with the Section 404 Massachusetts General Permit filing, MECO will file an application with MassDEP for review under 314 CMR 9.00.

The statutory standards and requirements for projects requiring a 401 WQC application are listed in 314 C.M.R 9.06. The seven criteria for evaluation and a brief description of how the Project will meet these criteria are included below.

1) *No discharges will be permitted if there is a practicable alternative (314 C.M.R 9.06(1))*

MECO performed an alternatives analysis that included evaluations of environmental impacts, engineering feasibility, and constructability analysis of Project alternatives. Upon selection of the Project, MECO considered design alternatives that would further reduce environmental impacts. As a result of this approach, MECO has demonstrated that there is no practicable alternative that would have less adverse impact on the aquatic ecosystem.

2) *No discharges will be permitted unless appropriate and practicable steps have been taken which will avoid and minimize potential adverse impacts to resource areas*

   a. *For discharges to bordering or isolated vegetated wetlands, such steps shall include a minimum of 1:1 restoration or replication.*

Project discharges are associated predominantly with construction matting placed within wetlands. Construction mats are a temporary construction-phase discharge and BMPs for work within wetland resource areas. MECO anticipates impacts to wetlands resulting from the use of construction matting will be minimal and restored in situ. Because matting is not a permanent discharge of fill material and impacts resulting from construction matting will be restored in situ, MECO will meet the 1:1 restoration standard.

3) *No discharges to Outstanding Resource Waters;*

4) *No discharges into wetlands or waters within 400 feet of the high-water mark of a Class A surface water (exclusive of tributaries);*

5) *No discharge is permitted for the impoundment or detention of stormwater for purposes of controlling sedimentation or other pollutant attenuation*

Not applicable, as the Project is not within an Outstanding Resource Water ("ORW") or within 400-ft of the high-water mark of a Class A surface water, and the Project is not intended to impound or detain stormwater.

6) *Stormwater discharges shall be provided with best management practices*

The Project will comply with the applicable Massachusetts Stormwater Management Standards (the "Stormwater Standards") and will be subject to the standards and conditions of the NPDES CGP. MECO adheres to strict environmental standards as documented in its Environmental Guidance document EG-303NE (Refer to **Attachment C**).

7) *No discharges shall be permitted in the rare circumstances where the activity meets the criteria for evaluation but will result in substantial adverse impacts to the physical, chemical, or biological integrity of surface Waters of the Commonwealth.*

The Project consists of the replacement of an existing electric transmission line using standard construction practices for overhead utilities. MECO will employ BMPs to prevent adverse impacts to wetland resource areas during construction of the Project and will restore impacts resulting from construction in situ. While construction will involve tree removal and the conversion of wetland vegetation from forested to scrub/shrub, the integrity of the underlying wetlands will not be impacted.

### 9.1.2 Massachusetts Wetlands Protection Act, MassDEP and Conservation Commissions

The Project will require approvals under the MA WPA and the implementing regulations at 310 CMR 10.00 for access improvements, grading, and conversion of vegetative cover types within state-regulated wetland resource areas that include BVW, RA, and BLSF. Project-related impacts to these resource areas require an official finding of approval by the appropriate jurisdictional authority in the form of an OOC.

The MA WPA and its regulations are administered by municipal Conservation Commissions and MassDEP. Conservation Commissions are empowered under state law to issue OOCs. MassDEP has the authority to intervene in a project and to act on appeals of the OOCs. Permit applications (NOIs) will be filed with Conservation Commissions in Leominster and Sterling, detailing the proposed asset improvements, the short term and long-term impacts, and the proposed mitigation for those impacts. The wetlands review process is focused on how the Project and the proposed mitigation conform to the performance standards for each affected MA WPA resource area.

The sections below summarize the Project's compliance with the WPA's general performance standards.

#### 9.1.2.1 Consistency of the Project with the MA WPA – Limited Project (310 CMR 10.53(3)(d))

As outlined in 310 CMR 10.53(3)(d), the construction, reconstruction, operation and maintenance of underground and overhead public utilities is considered a "Limited Project," a Project that may, under certain circumstances, be permitted without meeting resource area performance standards. In accordance with the Limited Project provisions of the MA WPA, a Project may be permitted in accordance with the following conditions as well as any additional conditions deemed necessary by the issuing authority:

- the issuing authority may require a reasonable alternative route with fewer adverse effects for a local distribution or connecting line not reviewed by the Energy Facilities Siting Board ("EFSB");
- best available measures shall be used to minimize adverse effects during construction;
- the surface vegetation and contours of the area shall be substantially restored; and
- All sewer lines shall be constructed to minimize inflow and leakage.

The Project is eligible for "Limited Project" status, as defined in 310 CMR 10.53(3)(d) because it involves the "*construction, reconstruction, operation and maintenance of underground and overhead public utilities.*" Proposed Project rebuild activities include the removal and replacement of existing electrical utility structures and overhead lines, and the reconstruction or new construction of existing access and work areas. Maintaining ROW corridors with functional access and work areas is an integral part of the public overhead electrical utility facility – access and work areas are essential for the safe and reliable operation of the lines, performance of inspection and maintenance work, and performance of emergency repairs. As such, all components of the proposed Project meet the definition of "*operation, maintenance, and construction of public utilities*," because the ROW corridor, access, work areas, and structures are all integral to the overall public utility.

MECO completed an alternatives analysis, as described in Section 2 of this Project Narrative. MECO is confident that the proposed Project offers the most reasonable and balanced alternative to addressing the system's needs. In terms of minimizing adverse effects during construction, Sections 3 and 9 discusses the construction practices utilized to minimize impacts to wetland resource areas as well as to ensure that areas temporarily impacted by construction are substantially restored. In addition, MECO is committed to working with federal, state, and local regulatory agencies and providing appropriate mitigation, including wetland and RA restoration (Refer to Section 11).

In addition to meeting the General Performance Standards to the extent practicable for a Limited Project, MECO has designed the Project to conform with the wider performance standards of the MA WPA, wherever possible. The Project's consistency with the specific resource area performance standards is presented in the sections below.

#### 9.1.2.2 Bordering Vegetated Wetland (310 CMR 10.55)

Per 310 CMR 10.55(4)(a), proposed work in a BVW shall not destroy or otherwise impair any portion of said area. The Project includes tree removal in wetlands, which will result in conversion of wetland vegetation to herbaceous / shrubby cover in tree removal areas. The species composition, plant density, and community structure within the wetland will differ from pre-construction conditions. Wetlands hydrology will remain unchanged, as there is no grading or earthworks proposed in wetlands. Accordingly, tree removal and the resulting vegetation cover type conversion will not reduce the amount of wetland present or impair the integrity of the wetland or ability of the wetland to provide for the statutory interests of the MA WPA, specifically including the ability to remove or detain sediments, recycle nutrients (such as nitrogen and phosphorous) and sequester toxic substances (such as heavy metal compounds) that occur in run-off and flood waters. Wetlands along the Project ROW will also still retain the ability to provide habitat to wildlife consistent with the requirements in 310 CMR 10.60.

Per 310 CMR 10.55(4)(b), an issuing authority may issue an OOC permitting work which results in the loss of up to 5,000 sf of BVW when said area is replaced. MECO designed the Project to avoid or minimize adverse impacts to the extent practicable. However, since the Project involves existing

facilities in an existing alignment, temporary alteration to BVW is unavoidable. Unavoidable temporary impacts to BVW will occur in work areas and along access routes during construction. These impacts are associated with the use of construction mats which minimize impacts while allowing necessary work within resource areas to occur. MECO is unable to meet the General Performance Standard allowing for up to 5,000 sf of BVW loss, as temporary construction matting will exceed this threshold. However, MECO will replace the temporary loss of BVW through in situ restoration, as discussed in Section 9.

Per 310 CMR 10.55(4)(d), no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59. The Project ROW is not within Estimated or Priority Habitat as designated by the Massachusetts NHESP. While access to the ROW is within Priority Habitat, MECO is proposing only to travel along an existing, established access route and is proposing no work along the access. As such, this standard will be met.

Per 310 CMR 10.55(4)(e), proposed work shall not destroy or otherwise impair any portion of a BVW that is within an Area of Critical Environmental Concern ("ACEC"). As described above, the Project will not destroy or impair BVW. In addition, the Project is not within ACEC, and as such, this standard will be met.

#### 9.1.2.3 Bordering Land Subject to Flooding (310 CMR 10.57)

Per 310 CMR 10.57(4)(a), a project should meet the following performance standards for work within BLSF and ILSF:

- Compensatory flood storage must be provided for all flood storage volume that will be lost;
- Work in the floodplain shall not restrict flows so as to cause an increase in flood stage or velocity; and
- Work in those portions of bordering land subject to flooding found to be significant to the protection of wildlife habitat shall not impair its capacity to provide important wildlife habitat functions.

MECO is not proposing to replace any structures or to place fill within BLSF. Where new access or work envelopes are proposed, these areas will be over-excavated to ensure that there is no loss in flood storage volume. Activities within BLSF are in line with the existing land use within the ROW, which is actively managed for electric transmission, and will not significantly alter wildlife habitat functions. While tree removals and/or tree trimming will result in alteration of vegetative community type, this will be limited to the ROW edge and access routes and will result in only a slight expansion of the early successional type communities already present within the ROW.

#### 9.1.2.4 Riverfront Area (310 CMR 10.58)

As noted in Section 5, six perennial streams are located within the Project area. Each of these perennial streams has a jurisdictional 200-ft RA.

Per 310 CMR 10.58(4)(a), the work in RA must meet all other performance standards. To the extent practicable, the Project meets the performance standards for Bank (no impact), BLSF (no net loss of flood storage capacity), and BVW (restoration and mitigation proposed for temporary and permanent impacts, respectively).

Per 310 CMR 10.58(4)(b), no Project in the RA may have adverse impacts on habitats of rare species. There are no Priority or Estimated Habitats within RA within the ROW or along off-ROW

access.

The MA WPA General Performance Standards for RA require that the applicant prove by a preponderance of the evidence that there are no practicable and substantially equivalent economic alternatives to the proposed Project with less adverse effects on the interests identified in the WPA (310 CMR 10.58(4)(c). Section 2 discusses the alternatives evaluated to minimize impacts to wetland resource areas.

To meet the "no significant adverse impact criteria" of *CMR 10.58(4)(d)*, MECO has minimized impacts within RA as described in this Narrative, including through the loaming and seeding of disturbed areas, use of temporary matted access and work pads where suitable, and minimization of tree removals. Where necessary for installation of linear site-related utilities, temporary impacts are allowed within the RA, provided the impacted area is restored to its natural conditions (310 CMR 10.58 (4)(d)(1)(a). Temporary RA impacts resulting from the proposed Project consist primarily of construction-phase land disturbance associated with work envelopes and access. MECO is proposing only temporary work envelopes and access within RA; crews will restore these areas to meet existing ROW conditions, most of which has been historically affected by the safe operation of the transmission facilities.

Unavoidable permanent impacts include proposed replacement structures, and the conversion of vegetative cover type associated with tree removals. All activities within RA will occur within the existing ROW and the forested edges of the maintained corridor. Although utility ROWs do not meet the regulatory requirements of a "previously developed" RA, the RA on the Project is a regularly "disturbed" corridor subject to periodic operation of equipment or ground disturbance during operation and maintenance activities. Project activities within RA are consistent with the current use of the land as a maintained ROW, and will not impede the ability of the RA to "*protect the private or public water supply; to protect the groundwater; to provide flood control; to prevent storm damage; to prevent pollution; to protect land containing shellfish; to protect wildlife habitat; and to protect fisheries*" as currently provided. The conversion of tree cover to herbaceous and scrub shrub communities, while changing the species composition will maintain a natural buffer of vegetation.

### 9.1.3 Massachusetts Stormwater Standards

MassDEP applies the Massachusetts Stormwater Management Standards pursuant to the wetlands regulations (310 CMR 10.00) and the water quality regulations (314 CMR 9.00) relating to stormwater. The Stormwater Standards define 10 performance management standards for development and redevelopment Projects. The Project is not anticipated to have a significant impact to hydrology along the ROW. Rather, by controlling the run-on to and run-off from the constructed access and work pads and allowing it to recharge into the ROW ground surface in a controlled manner, the Project is meeting the intent of the Massachusetts Stormwater Handbook and the provisions of 310 CMR 10.05(6)(k) through (q).

The extent to which the Stormwater Standards apply to the Project will be addressed as part of the MA WPA and 401 Water Quality permitting process. Additionally, MECO will submit an NOI and prepare a SWPPP for the Project in compliance with the EPA's NPDES CGP.

MECO will employ stormwater BMPs for construction-phase stormwater management including sediment and erosion controls. During the construction of the Project, MECO additionally will construct permanent stormwater management features such as swales, water bars, plunge pools, and/or check dams to promote stability of the constructed access improvements, reducing

potential for erosion and/or washout, and protecting resource areas.

### 9.1.4 Waterways Permitting

The Tap Line crosses several rivers and streams that are subject to waterways licensing jurisdiction by MassDEP under Massachusetts General Law c. 91 and the implementing regulations, 310 CMR 9.00. However, as described below, all of the jurisdictional Project-related crossings are exempt from licensing.

#### 9.1.4.1 Chapter 91 Jurisdictional and Exempt Crossings

MassDEP requires a Chapter 91 license for electric transmission crossings over rivers and streams, even where there is no physical structure in the stream or river.

**Perennial Streams:** Based on field reviews, six perennial streams were identified within or immediately adjacent to the Project ROW. All perennial stream crossings that intersect with the J136S Tap Line ROW were assumed, for purposes of determining Chapter 91 jurisdiction, to be "normally navigable" by canoe, kayak, raft or rowboat.

**Intermittent Streams:** Three intermittent streams were identified within or immediately adjacent to the Project ROW. All other streams delineated within or immediately adjacent to the ROW are either not shown on the most recent USGS topographic maps as intermittent or are depicted as intermittent waterways. According to the field reviews conducted in 2022 and 2023, bank heights and widths are variable.

To determine whether intermittent streams were "normally navigable" under §9.04(1)(e), bank height, width and water depth were all considered. In particular, intermittent streams were determined to be navigable if all of the following criteria were met:

- Discernable channel/bank
- Bank width of three ft or greater
- Water depth of twelve inches or greater

Based on field reviews to date, many of the intermittent streams within the Project ROW meet these criteria. Of these streams, two intersect with the proposed Project activities. Activities within jurisdictional non-tidal rivers or streams will be limited to the replacement of existing overhead electric lines and construction matting. No structure fill is proposed within any rivers or streams. Final OOCs will be required from all towns before the Project can commence.

MECO anticipates that all of the jurisdictional overhead wire crossings will be exempt from Chapter 91 licensing because the work will require an OOC from the applicable local Conservation Commission and fulfill the requirements of 310 CMR 9.03(3)(g). Moreover, the Project crossings will be *"overhead wires … constructed and maintained in accordance with the National Electrical Safety Code,"* as all electrical transmission lines are required to be constructed and maintained in accordance with all applicable legal standards, including the NESC and 220 CMR 125.00 Installation and Maintenance of Electric Transmission Lines. Finally, due to the increase in the height of the replacement structures, there will be an increase in the crossing height above the waterway surface and thus the Project will not *"reduce the space available for navigation"* or cause any obstruction in the waterway. Given the nature of the Project, 310 CMR 9.03(3)(g)(3) and (4) are not applicable to the Project.

### 9.1.5 Massachusetts Endangered Species Act

Only a small portion of off-ROW access intersects with NHESP Estimated or Priority Habitat. MECO is not proposing improvements, upgrades, or other ground-disturbing work along the existing and well-established access. Crews will travel this existing access to gain entry to the ROW. When using this access, crews will follow applicable guidelines within MECO's established OMP with NHESP. In accordance with the MESA regulations at 321 CMR 10.14(11) Projects and activities that include "routine operation and maintenance that are part of an operation and maintenance plan approved by the Division of Fisheries and Wildlife" are exempt from review.

Although the Project is exempt from review, MECO will coordinate with NHESP in the course of MA WPA permitting per 310 CMR 10.59 and provide a copy of NOIs submitted for the Project to NHESP.

# 10. CLIMATE CHANGE ADAPTATION & RESILIENCY

MECO has promoted climate change adaptation and resiliency in the design of the J136S Tap Line Rebuild Project and MECO considers climate change and long-term infrastructure resiliency an important goal in its long-term planning. The Project will result in a more reliable, climate-ready, and resilient transmission system, capable of withstanding more extreme weather events. The purpose of the Project is to address existing asset conditions along the J136S Tap Line that pose a threat to electrical reliability. In addition, MECO's preferred solution minimized the alteration of new land resources by minimizing the off-set distance of the replacement line and by replacing most poles with one pole instead of two which allows the wires to be distributed vertically rather than horizontally and therefore requires a narrower clearing width.

While the need for the J136S Tap Line Rebuild Project principally addresses the damaged and aging infrastructure, the Project also incorporates various upgrades to infrastructure along the Line. The proposed upgrades are intended to help ensure the longevity and reliability of the region's electrical infrastructure in the face of growing demand and the changing climate. The upgrades to the J136S Tap Line will improve the resilience of this infrastructure and provide high-speed communication between substations, which will improve outage response times and help protect communities from service interruptions during severe weather events.

The J136S Tap Line has been designed in alignment with MECO's reliability goals and strategies in the following ways:

- Incorporates new design standards and the latest materials;
- Provides needed upgrades to existing electric transmission infrastructure;
- Minimizes impacts to natural and social environments; and
- Provides a stronger electrical transmission system, vital to public safety, security, and economic prosperity.

## 10.1 Greenhouse Gas Protocol

As part of the MEPA Greenhouse Gas ("GHG") Protocol, the EOEEA requires a review of a Project's potential for emission of greenhouse gases. The GHG Policy is included in the MEPA review process to fulfill the statutory obligation to take all feasible measures to avoid, minimize, or mitigate damage to the environment by the Project.

The Project does not have any emissions sources that require analysis under the GHG emission Quantification Protocol. However, the protocol provides the Secretary with discretion to require GHG analysis of certain types of other project impacts on a case-by-case basis, including projects that will result in alteration of land greater than 50 acres. Since the proposed alteration is below this threshold, no such analysis is expected. If an analysis is deemed necessary, the protocol specifies that the Secretary will inform the Project proponent of this requirement in the Certificate issued for the ENF or EENF. MECO welcomes any guidance or advice from MEPA on this matter.

As noted previously, the rebuilt Tap Line will be offset from the existing Line to accommodate construction and outage constraints. The offset will require MECO to remove trees along the

eastern forested edge of the ROW corridor. MECO acknowledges the interest in mitigation for tree removals and is currently exploring different options. We anticipate developing mitigation options further in consultation with regulatory agencies who are issuing permits for the Project and in consultation with EOEEA through the MEPA process.

## 10.2 Resilient Massachusetts Action Team Design Standards Tool ("RMAT Tool")

MECO has incorporated measures into the Project that seek to reduce potential vulnerability to anticipated climate risks and improve resiliency for future climate conditions. In accordance with the MEPA Interim Protocol on Climate Change Adaptation and Resiliency, MECO consulted the RMAT Climate Resilience Design Standards Tool (the "RMAT Tool") for the Project. The RMAT Tool provided a preliminary assessment of whether the overall project site and subsequent assets are exposed to impacts of natural hazard events such as climate projections, including coastal vulnerability, sea level rise and coastal flooding from the National Oceanic and Atmospheric Administration ("NOAA") and temperature rise. A copy of the output report generated by the RMAT Tool ("RMAT Report") is provided in **Attachment D**.

### 10.2.1 RMAT Tool High Risk Rating Parameters

MECO assessed the Project's potential temporary and permanent climate change impacts using the RMAT Tool. The RMAT is tasked with monitoring and tracking the SHMCAP implementation process, making recommendations to and supporting agencies on plan updates, and facilitating coordination across state government and with stakeholders, including cities, towns, and businesses. The guidelines provided by the RMAT Tool are structured around three categories - site suitability ("SS"), regional coordination ("RC"), and flexible adaptation pathways ("AP"). These categories assess the adverse climate change impacts of the Project assets on the local and regional level, while also projecting future capacity and design for uncertainty and vulnerabilities to the climate from the Project. Additionally, the RMAT tool runs the Project asset impacts and generates an overarching climate risks analysis based on three variables: sea level rise and storm surge, extreme precipitation including urban flooding and riverine flooding, and extreme heat. According to the preliminary analysis, the Project was found to be at high risk for 3 (parameters): Extreme Precipitation - Stormwater Flooding, Extreme Precipitation - Riverine Flooding, and Extreme Heat. A review of these high-risk parameters related to Environmental Justice ("EJ") Populations can be found in **Section 11**.

The Project asset risk related to extreme heat is high (Tier 3), due to 30 days increase in days over 90 Degrees Fahrenheit ("$^{o}$F") within the Project's useful life, and the fact that between 10 percent and 40 percent of the existing Project site has canopy cover (due to its use as a transmission Line ROW). The ROW will be maintained as a vegetated corridor with no new impervious development capacity beyond the Project Scope, thereby mitigating any additional risk of extreme heat and heat islanding. Notwithstanding the Project location and canopy reduction requirements, the improvements to the conductor capacity proposed among the Project objectives establish a more resilient and qualified energy delivery service during times of high usage (such as extreme heat events), which are anticipated to increase in frequency due to climate change.

Similarly, the Project asset risk related to 'extreme precipitation - riverine flooding' is high. The high exposure to extreme precipitation - riverine flooding is due to the Project location's history of riverine flooding, and location within 200-ft of a waterbody and less than 30-ft above the waterbody. Parts of the Project ROW also fall within FEMA floodplain; however, no structures are proposed within the 100-year Floodplain and access through floodplains will be temporary through the use of temporary construction matting.

## 10.3 Consideration of Alternative Locations and Design Strategies in Light of Climate Change

For the reasons described in Section 2, MECO concluded that the proposed Project location best meets the identified Project need and reliability while addressing the various regulatory objectives, minimizing environmental impacts, and providing a cost-effective solution to customers. Also, the Project is located outside of areas identified as vulnerable to sea level rise and coastal flooding.

The Project is designed to account for more frequent extreme weather events and extreme heat. The Project's engineering design used structure loading criteria required by the National Electric Safety Code ("NESC") and National Grid's Design Loads for Overhead Transmission Structures. The NESC load criteria require consideration of combined ice and wind district loading, extreme wind conditions, and extreme ice with concurrent wind conditions. MECO's standards also include consideration and contingency for heavy load imbalances and heavy ice conditions. All of these considerations result in a design that is better equipped to withstand extreme weather. The design incorporates materials (including steel structures and state of the art conductors) that have long useful lives and respond well to corrosive environments (such as riverine flooding). The Project is also equipped to respond to increases in temperature. The proposed transmission line conductors are designed to operate at higher maximum operating temperatures at a higher carrying capacity and under fluctuations in air temperature. Further, the Project also contributes to regional climate resilient adaptation strategies for the municipalities that the Project passes through as detailed in the ENF Form (Refer to Section 4: *Land Use*). Design standards subject to floodplain will be followed during construction and the Project will meet the performance standards set forth by the state to ensure there are no impacts to climate change. The Project will result in a stronger electrical transmission system that is vital to the area's safety, security, and economic prosperity.

# 11. ENVIRONMENTAL JUSTICE

This section provides a summary of regulatory context (**Section 11.1**), characteristics of EJ populations within the 1-mile Designated Geographic Area ("DGA") (**Section 11.2**), an assessment of existing unfair or inequitable environmental burden and related health consequences within the DGA for both EJ and non-EJ populations (**Section 11.3**), and an analysis of impacts on EJ populations to establish a disproportionate adverse effect finding (**Section 11.4**). Previous and planned public involvement activities are described in **Section 11.5**.

## 11.1 Regulatory Context

Existing and future inequitable environmental harm and related health consequences are addressed through the Environmental Justice Policy of the Executive Office of Energy and Environmental Affairs, the MEPA Interim Protocol for Analysis of Project Impacts on Environmental Justice Populations, and the MEPA Public Involvement Protocol for Environmental Justice Populations (the "EJ Policy and Protocols"). The EJ Policy and Protocols are applicable to any project subject to MEPA that also has at least one census block group within 1 mile (or 5 miles if a specific MEPA air quality threshold is exceeded) that meets one or more of the MEPA EJ criteria, defined as:

- Income: The annual median household income is not more than 65 percent of the statewide annual median household income.
- Minority: Minorities comprise 40 percent or more of the population.
- English Isolation: 25 percent or more of households lack English language proficiency.
- Minority and Income: Minorities comprise 25 percent or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150 percent of the statewide annual median household income.

The EJ Policy and Protocols establish analysis and public involvement requirements for projects subject to MEPA. EEA's publicly available data tool, referred to as the EJ Maps Viewer, is available for proponents, stakeholders, and the public to view what MEPA EJ criteria and language access requirements may apply to a project undergoing MEPA review. Additionally, MEPA prescribes the publicly available Massachusetts Department of Public Health ("DPH") EJ Tool to assess existing environmental and health burdens of communities. While data is important toward understanding EJ, the EEA emphasizes the importance of community experiences through public involvement as well. The intent of the EJ Policy and Protocols is to use quantitative and qualitative data to identify and then avoid, minimize, or otherwise mitigate any disproportionate adverse effects caused by projects. This Section discusses the Project's compliance with the EJ Policy and Protocols.

## 11.2 Existing Environmental Justice Populations

There are two EJ block groups within the Project ROW, a total of 11 EJ block groups within the Project's 1-mile DGA, and a total of 45 EJ block groups within five miles of the Project. Refer to **Table 11-1**[17] for the EJ population characteristics, and **Attachment E:** *EJ Locus Map* for a visual representation of EJ block groups within 1 and 5 miles of the Project.

17 Massachusetts Executive Office of Energy and Environmental Affairs (EEA) GIS, 2020 Environmental Justice Populations. https://www.mass.gov/info-details/massgis-data-2020-environmental-justice-populations

## Table 11-1: Environmental Justice Communities Within 1 and 5 Miles of the Project

| Block Group | Census Tract | Municipality | Total Minority Population (%) | Median Household Income ($) | Total English Isolation Population (%) | Environmental Justice Criteria Met |
|---|---|---|---|---|---|---|
| **Within the 1-Mile Designated Geographic Area ("DGA")** | | | | | | |
| 2 | 7092.01 | Leominster | 34.6 | $48,654 | 0.0 | Minority and Income |
| 3 | 7092.01 | Leominster | 41.7 | $54,180 | 3.1 | Minority and Income |
| 1 | 7092.03 | Leominster | 31.2 | $120,833 | 0.0 | Minority |
| 2 | 7092.03 | Leominster | 50.1 | $40,121 | 15.7 | Minority and Income |
| 3 | 7092.03 | Leominster | 35.4 | $46,126 | 50.1 | Minority, Income, and English Isolation |
| 1 | 7092.04 | Leominster | 43.8 | $92,567 | 14.7 | Minority |
| 2 | 7092.04 | Leominster | 49.1 | $34,291 | 7.4 | Minority and Income |
| 3 | 7092.04 | Leominster | 30.4 | $87,559 | 0.0 | Minority |
| 1 | 7094 | Leominster | 54.8 | $53,008 | 9.1 | Minority and Income |
| 3 | 7094 | Leominster | 50.7 | $18,563 | 20.1 | Minority and Income |
| 4 | 7131 | Lancaster | 36.0 | $108,676 | 0.0 | Minority |
| **Within the 5 Mile DGA** | | | | | | |
| 2 | 3882 | Shirley | 41.1 | $69,342 | 2.3 | Minority |
| 3 | 7091 | Leominster | 53.6 | $53,301 | 6.0 | Minority and Income |
| 2 | 7094 | Leominster | 44.4 | $53,137 | 18.0 | Minority and Income |
| 1 | 7095.02 | Leominster | 38.1 | $58,750 | 0 | Minority |
| 2 | 7095.02 | Leominster | 26.7 | $98,768 | 2.5 | Minority |
| 3 | 7095.02 | Leominster | 31.0 | $56,554 | 0 | Minority |
| 1 | 7096 | Leominster | 49.0 | $43,576 | 15.9 | Minority and Income |
| 2 | 7096 | Leominster | 36.9 | $61,750 | 8.8 | Minority |
| 3 | 7096 | Leominster | 61.4 | $52,135 | 9.1 | Minority and Income |
| 1 | 7097.01 | Leominster | 63.3 | $41,235 | 25.2 | Minority, Income, and English Isolation |
| 2 | 7097.01 | Leominster | 42.2 | $67,553 | 11.5 | Minority |
| 4 | 7097.01 | Leominster | 25.8 | $110,833 | 0 | Minority |
| 5 | 7097.01 | Leominster | 27.1 | $67,188 | 0 | Minority |
| 1 | 7097.02 | Leominster | 30.5 | $72,744 | 1.4 | Minority |
| 2 | 7097.02 | Leominster | 37.4 | $51,736 | 0 | Minority and Income |
| 1 | 7101 | Fitchburg | 49.3 | $64,597 | 7.2 | Minority |
| 2 | 7101 | Fitchburg | 62.9 | $41,800 | 0 | Minority and Income |
| 3 | 7101 | Fitchburg | 57.7 | $63,427 | 0 | Minority |
| 1 | 7102 | Fitchburg | 60.6% | $26,461 | 2.6% | Minority and Income |

| Block Group | Census Tract | Municipality | Total Minority Population (%) | Median Household Income ($) | Total English Isolation Population (%) | Environmental Justice Criteria Met |
|---|---|---|---|---|---|---|
| 2 | 7102 | Fitchburg | 33.3% | $58,295 | 3.1% | Minority |
| 3 | 7102 | Fitchburg | 36.4% | $76,591 | 39.0% | Minority and English Isolation |
| 4 | 7102 | Fitchburg | 53.7% | $40,577 | 4.2% | Minority and Income |
| 1 | 7106.02 | Fitchburg | 56.9% | $25,920 | 1.5% | Minority and Income |
| 2 | 7106.02 | Fitchburg | 60.9% | $80,230 | 15.8% | Minority |
| 3 | 7106.02 | Fitchburg | 39.8% | $80,455 | 2.0% | Minority |
| 1 | 7161.02 | Clinton | 36.8% | $46,023 | 0% | Minority and Income |
| 2 | 7161.02 | Clinton | 42.5% | $61,361 | 0% | Minority |
| 4 | 7161.02 | Clinton | 24.9% | $81,757 | 2.0% | Minority |
| 1 | 7162 | Clinton | 35.8% | $63,750 | 8.0% | Minority |
| 2 | 7162 | Clinton | 30.1% | $51,027 | 5.6% | Minority and Income |
| 1 | 7163 | Clinton | 28.1% | $94,500 | 7.1% | Minority |
| 2 | 7163 | Clinton | 27.2% | $87,240 | 1.6% | Minority |
| 3 | 7163 | Clinton | 43.0% | $50,078 | 11.4% | Minority and Income |
| 2 | 7614.02 | Harvard | 47.7% | $133,594 | 0% | Minority |

Spanish is spoken by five percent or more of three census tracts' population who also identify as not speaking English "very well" within the 1-mile DGA. Within five miles of the Project, there are a total of seven census tracts with languages spoken by five percent or more of a census tract's population who also identify as not speaking English "very well," which are listed below:

### Within the 1-Mile DGA

- Census Tract 7092.02 – 7.7% Spanish/Spanish Creole
- Census Tract 7094 – 11.6% Spanish/Spanish Creole
- Census Tract 7096 – 10.1% Spanish/Spanish Creole

### Within the 5-Mile DGA

- Census Tract 3882 – 6.3% Spanish/Spanish Creole
- Census Tract 7097.01 – 6.6% Spanish/Spanish Creole
- Census Tract 7101 – 8.6% Spanish/Spanish Creole
- Census Tract 7106 – 9.2% Spanish/Spanish Creole

## 11.3 Assessment of Existing Unfair or Inequitable Environmental Burden and Related Health Consequences

MECO reviewed the DPH EJ Tool data layers. This section provides an initial assessment of existing unfair or inequitable environmental burdens by evaluating "vulnerable health EJ criteria" and potential sources of pollution data layers.

### 11.3.1 Massachusetts Department of Public Health Vulnerable Health Criteria

The DPH EJ Tool includes vulnerable health EJ criteria both at the municipality-level and at the census tract-level. The four vulnerable health EJ criteria available at the municipality-level include heart attack, elevated blood lead, low birth weight, and pediatric asthma. The low birth weight and elevated blood lead vulnerable health EJ criteria are also available at the census tract-level. Census tract-level data provides a more accurate depiction of local health burdens as compared to the municipality-level data.

The City of Leominster and the Town of Lancaster meet the Heart Attack Vulnerable Health EJ Criterion definition, as shown in **Table 11-2**[18]. The Town of Sterling does not meet a community-level vulnerable health EJ criteria definition.

One census tract in Sterling meets the low-birth-weight Vulnerable Health EJ Criterion definition, as shown in **Table 11-3**[19]. No other census tracts in the DGA meet a Vulnerable Health EJ Criterion definition.

**Table 11-2: Vulnerable Health Environmental Justice Criteria by Community within the Designated Geographic Area**

| Municipality | Vulnerable Health Criteria Met (Yes/No) | | | |
|---|---|---|---|---|
| | Heart Attack | Elevated Blood Lead | Low Birth Weight | Childhood Asthma |
| Lancaster | Yes | No | No | No |
| Leominster | Yes | No | No | No |
| Sterling | No | No | No | No |

**Table 11-3: Vulnerable Health Environmental Justice Criteria by Census Tract within the Designated Geographic Area**

| Census Tract | Municipality | Environmental Justice Block Group Present (Yes/No) | Elevated Blood Lead | | Low Birth Weight | |
|---|---|---|---|---|---|---|
| | | | Rate Prevalence | Criteria Met (Yes/No) | Rate Prevalence | Criteria Met (Yes/No) |
| 7092.01 | Leominster | Yes | 7.2 | No | N/A | N/A |
| 7094 | Leominster | Yes | 16.3 | No | 171.2 | No |
| 7131 | Lancaster | Yes | 8.2 | No | N/A | N/A |
| 7191 | Sterling | No | 9 | No | 240.4 | Yes |

Notes: The criteria are met if the prevalence rate exceeds 110 percent of the statewide value, which is 17.8 for elevated blood lead and 238.5 for low birth weight.

### 11.3.2 Massachusetts Department of Public Health Potential Sources of Pollution

MEPA requires proponents to review the DPH EJ Tool, which includes 14 potential sources of pollution data layers to supplement the vulnerable health EJ criteria for potential environmental burdens that may result in public health consequences. **Table 11-4**[20] provides facility and

18 MA Department of Public Health (DPH) Environmental Justice (EJ) Tool, 2017-2021 Heart Attack data; 2019-2023 Elevated Blood Lead data; 2011-2015 Low Birth Weight data; 2017-2021 Childhood Asthma data. https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html#MyPopup

19 MA Department of Public Health Environmental Justice Tool, *2015-2019 Elevated Blood Lead data;* 2011-2015 Low Birth Weight data. https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html#MyPopup

20 Massachusetts Department of Public Health ("DPH") Environmental Justice ("EJ") Tool.

infrastructure counts for each of the 14 potential sources of pollution within the Project's DGA, and a summary of site uses that describe the facilities and infrastructure.

**Table 11-4: Potential Sources of Pollution within the Designated Geographic Area**

| Potential Source of Pollution | Facility and Infrastructure Count | Site Use Summary |
|---|---|---|
| Massachusetts Department of Environmental Protection ("MassDEP") Major Air and Waste Facilities | 9 | Automobile Services, Energy and Fuel Distribution, Manufacturing, Refinery Operations |
| Chapter 21E Sites | 5 | Residential, Manufacturing, Refinery Operations |
| "Tier II" Toxics Use Reporting Facilities | 19 | Consumer Goods and Services, Energy and Fuel Distribution, Manufacturing, Refinery Operations |
| MassDEP Sites with Activity and Use Limitations ("AULs") | 7 | Energy and Fuel Distribution, Manufacturing |
| MassDEP Groundwater Discharge Permits | 0 | N/A |
| Wastewater Treatment Plants | 1 | Wastewater Treatment |
| MassDEP Public Water Suppliers | 0 | N/A |
| Underground Storage Tanks ("USTs") | 7 | Automobile Services, Energy and Fuel Distribution, Municipal Services |
| United States Environmental Protection Agency ("EPA") Facilities | 4 | Energy and Fuel Distribution, Manufacturing, |
| Road Infrastructure | 6 | Transportation (Interstate, State Routes) |
| MBTA Bus and Rapid Transit | 0 | N/A |
| Other Transportation Infrastructure | 6 | Transportation (Railroad Infrastructure) |
| Regional Transit Agencies ("RTA") | 32 | Montachusett RTA Stops (7) and Routes (25) |
| Energy Generation and Supply | 14 | Energy and Fuel Distribution (Transmission Lines, Solar Field, and Petroleum Plant) |

### 11.3.3 Statement of Existing Unfair or Inequitable Environmental Burden and Related Health Consequences

The MEPA Interim Protocol for Analysis of Project Impacts on Environmental Justice Populations states that "the Proponent should conclude that any identified EJ population that is located in a municipality or census tract demonstrating 'vulnerable health EJ criteria,' or an EJ population immediately surrounding a project location that has a 'High' risk rating in the RMAT tool for sea level rise/storm surge or extreme precipitation (urban or riverine flooding), is highly likely to be impacted by an unfair or inequitable environmental burden, such that the Proponent should move to" the impacts phase of the analysis. Based on the data above, MECO will move to the impacts

phase of the analysis,

## 11.4 Project Impacts on Environmental Justice Populations

The Project generally minimizes impacts on all populations by replacing the Line within an existing transmission line corridor. Thus, the Project does not result in any substantial long term environmental or public health impacts for any population, including EJ populations. Temporary and permanent alterations from pre- and post-construction will be mitigated through BMPs. Therefore, construction period activities shall not result in any public health impacts to any population. This section reaffirms that short-term environmental impacts of the Project, as identified in their respective sections and summarized in this section, will be mitigated. Following the implementation of avoidance, minimization, and mitigation measures discussed in Section 9, no disproportionate adverse effects are anticipated. The potential impacts (both short-term and long-term) related to EJ populations are summarized in this section. Other impacts not listed in this section do not directly affect any population or affect any populations disproportionately.

### 11.4.1 Land Use and Alteration

There will be no change in land use or in the overall maintenance and management of the Project ROW. Permanent land alteration will primarily occur within the existing J136S Tap Line ROW, including conversion of vegetative cover due to tree removal, installation of permanent work and pull pad areas, and construction of new and improved access. Temporary land alteration will occur within the existing ROW in the form of temporary construction matting and temporary work and pull pad areas.

Adverse impacts from land alteration will not impact any population because alteration is proposed all within the existing ROW; thus, no disproportionate adverse effects to EJ populations are anticipated. Refer to Section 3 and Section 8 for greater details on land use and alteration impacts and mitigation measures, respectively.

### 11.4.2 Water Resources

No permanent impacts to water resources or water quality are anticipated and impacts are anticipated to be minimal during construction and insignificant in the long-term following post-construction restoration. New gravel access and work pads will result in some alteration of within-ROW vegetation and drainage characteristics; however, these impacts will be minimized through the restoration and revegetation of a portion of gravel surfaces once construction is complete (restoration and revegetation is proposed for all new gravel surfaces within RA, both within and outside of EJ populations).

Temporary impacts to water resources or water quality are anticipated to be minimal through the implementation of avoidance and minimization measures, which include proper handling of materials, the implementation of stormwater BMPs, and appropriate dewatering methods. Conversion of vegetative cover due to tree removal is anticipated to have minimal impacts during construction through the use of BMPs and will be mitigated by stabilizing and revegetating these areas.

Approximately 0.8 miles of the Project ROW overlaps with a Zone II Wellhead Protection Area ("WHPA") associated with groundwater supply wells owned by the City of Leominster Water Division (existing Structures 1 to 12). The July 2002 Source Water Assessment Protection Report ("SWAP

Report")[21] *Attachment A* ("Standard Recommendations") identifies Transmission Line ROWs as a potential contaminant source due to "*corridor maintenance pesticides: overapplication or improper handling… [and] construction*" and generally recommends that utility companies ensure that BMPs are followed for the application and handling of pesticides. Consistent with these recommendations, the Project has extensively incorporated various BMPs and will also follow MECO's VMP which incorporates standard practices including reduced spray and treatment restrictions for use of pesticides in sensitive resource areas such as Zone I and II WHPAs.

No adverse impacts to water resources and water quality are anticipated; thus, no disproportionate adverse effects to EJ populations are anticipated. Refer to **Section 8** for greater details on mitigation measures.

### 11.4.3 Climate Change and Resiliency

The Project received a high-risk rating for both extreme precipitation and extreme heat.

The Project will not worsen flood conditions for residential areas, since grading will primarily be conducted within the Project ROW, no new impervious area is proposed, and construction-phase stormwater BMPs will be installed as part of the Project. Proposed tree removal improves storm resilience by reducing outage risk by trees or limbs that may fall due to prolonged periods of flooding, heavy snow and ice, or strong winds. Improvements in access routes further support resiliency by reducing storm restoration response time. By installing improved foundations, more robust structures with improved lightning protection, and higher strength conductor and OPGW, the proposed infrastructure will be better suited to withstand strong winds and storm events and thus will better serve communities during these events.

Project activities will not exacerbate existing climate conditions; thus, no disproportionate adverse effects to EJ populations are anticipated. Refer to **Section 10** for greater details on climate change impacts.

### 11.4.4 Transportation

No permanent impacts to transportation infrastructure or traffic conditions are anticipated. Temporary impacts to traffic conditions may occur during construction associated with the use of public roadway crossings to access the ROW and during stringing operations over public roadways. MECO will minimize traffic impacts through coordination with each town to ensure minimal disruption, time restrictions, detours, anti-idling measures, and implementation of strict safety measures to ensure protection of the public during work.

Adverse impacts from traffic conditions will be temporary, minimal, and shared between EJ and non-EJ populations; thus, no disproportionate adverse effects to EJ populations are anticipated.

### 11.4.5 Air Quality

With the implementation of BMPs, no permanent impacts to air quality are anticipated. Temporary impacts to air quality are anticipated to be *de minimus* as MECO crews will follow avoidance and minimization measures, including construction BMPs to limit dust and emissions, and anti-idling measures.

No adverse impacts to air quality are anticipated; thus, no disproportionate adverse effects to EJ

21 Massachusetts Department of Environmental Protection, *Central Region: Source Water Assessment & Protection (SWAP) Program Reports* (Mass.gov, accessed September 3, 2025), https://www.mass.gov/doc/central-region-source-water-assessment-protection-swap-program-reports-0/download.

populations are anticipated. Refer to Section 3.3 and Section 8 for greater details on air quality mitigation measures.

### 11.4.6 Noise and Vibration

No permanent impacts from noise and vibration are anticipated. Temporary impacts from noise may occur during construction, and will be minimized through construction BMPs, adhering to town ordinances, and advanced notice of work to abutters with a point of contact to address concerns. Construction-related noise levels will comply with applicable local and state regulations, and every reasonable effort will be made to minimize noise impacts from construction activities. Blasting is not expected to be required, but if needed, will comply with federal, state, and local regulations,

Adverse impacts from noise and vibration will be temporary, minimal, and shared between EJ and non-EJ populations; thus, no disproportionate adverse effects to EJ populations are anticipated.

### 11.4.7 Project Benefits

Reliability benefits of the Project will be fairly shared by all residents served by MECO, including both EJ and non-EJ populations. The Project will improve storm resilience by reducing outage risk by trees or limbs that may fall during flooding, heavy snow and ice, and strong wind events, as well as improving access to structures if an outage does occur and thus reducing storm restoration response time. More resilient infrastructure will be better suited to withstand and be restored from storm events, which will better serve both EJ and non-EJ communities during these events.

### 11.4.8 Disproportionate Adverse Effect Finding

Project activities will not exacerbate existing environmental burdens or health consequences experienced within the DGA. The Project will not result in any disproportionate adverse effects on EJ populations. The Project will provide all residents with numerous benefits, including more reliable and safe electricity transmission.

## 11.5 Public and Environmental Justice Outreach

Public involvement is an essential part of the MEPA review process. MECO continues the public involvement process with this EENF filing by providing detailed information for review and comment, and ongoing engagement opportunities.

### 11.5.1 Environmental Justice Reference List

An EJ Reference List was obtained from MEPA on July 16, 2025, which included 31 contacts that included Federal Tribes, Indigenous organizations, statewide community-based organizations (“CBOs”), and local CBOs. MECO expanded upon the MEPA EJ Reference List by adding 20 supplemental contacts (henceforth referred to in full as the EJ Reference List). These contacts include places of worship and local CBOs that focus on community, culture, and uplifting diverse voices. One Indigenous organization requested to be removed from the EJ Reference List during Advance Notification process. The EJ Reference List contacts are detailed in the Distribution List, in Attachment B.

### 11.5.2 Public Involvement Prior to Filing the EENF

MECO has undertaken additional public involvement measures during the MEPA process. These strategies were determined based upon existing MECO stakeholder outreach methods and engagement strategies identified in the *MEPA Public Involvement Protocol for Environmental*

*Justice Populations*.

A summary of the public involvement activities conducted for the ENF are as follows:

- Advance Notification of the Project was sent via electronic mail on August 4, 2025, to the contacts on the EJ Reference List (provided by the MEPA Office on July 16, 2025).
  - The EJ Screening Form was translated into Spanish for distribution.
  - The EJ Screening Form contained information on how to request a meeting or additional Project materials.
  - Efforts were made to ensure that the language used in the EJ Screening Form was understandable to the reader (i.e., "technical" language was replaced with plain language, and legal jargon was omitted to the extent feasible).
- MECO hosted a virtual community meeting on August 19, 2025.
  - Information pertaining to the meeting was advertised in the Worcester Telegram & Gazette and the Sentinel & Enterprise in English and Spanish and was also provided to the EJ Reference List via electronic mail. Two reminder emails were also sent to the EJ Reference List.
- A publicly accessible website was created, which provides details of the Project, Project documents, and contact information. The website address (https://www.nationalgridus.com/construction-projects/Community-Projects/J136S-Tap-Replacement/J136S-Tap-Line) was provided on the EJ Screening Form. A Project fact sheet and contact information will be available on the website.
- MECO maintained a Distribution List of contacts from the EJ Reference List and any additional contacts that were identified during the virtual meetings and the public engagement process.
  - Contacts received notifications of the virtual community meeting, and other relevant notices and materials issued during MEPA review.

### 11.5.3 Planned Public Involvement Strategies

MECO is committed to continuing the same level of meaningful engagement throughout the MEPA review process and beyond. The following strategies will be implemented following the filing of the EENF:

- Regularly updating the Project website;
- Offering additional community meetings upon request; and
- Continuing to advertise and host abutter meetings.

# 12. Draft Section 61 Findings

MEPA requires state agencies to make findings on environmental damage and mitigation measures before issuing a state permit for a project requiring an Environmental Impact Report ("EIR") (301 CMR 11.07 (so-called Section 61 Findings). The MEPA regulations at 301 CMR 11.07(6)(k) require that the EIR contain the proposed Section 61 Findings.

While MECO will continue to consult with certain agencies concerning mitigation, this EENF contains the most up-to-date information on the Project's mitigation measures, including those to which MECO has committed to and those under discussion with agencies. Each Section 61 Finding is essentially a stand-alone document, so it does not incorporate previously defined acronyms.

## Proposed Section 61 Findings for Massachusetts Department of Environmental Protection ("MassDEP")

## DRAFT FINDINGS PURSUANT TO G.L. CHAPTER 30, SECTION 61

**Project Name:** J136S Tap Line Rebuild Project

**Project Location:** Leominster and Sterling.

**Project Proponent:** Massachusetts Electric Company ("MECO")

**EOEA Number:** To Be Determined

**Agency Actions:** Massachusetts Department of Environmental Protection Section 401 Individual Water Quality Certification ("WQC")

**Intent of These Section 61 Findings:** MEPA regulations 301 CMR 11.12(5) stipulate that in "accordance with G.L. c.30, §61, any Agency that takes Agency Action on a Project for which the Secretary required an EIR shall determine whether the Project is likely, directly or indirectly, to cause any damage to the environment and make a finding describing the damage to the environment and confirming that all feasible measures have been taken to avoid or minimize the damage to the environment." The Section 61 Findings are incorporated into the conditions or restrictions to the relevant permit or authorization. The following proposed Section 61 Findings have been prepared by the Project Proponent and are intended to assist the state permit-issuing agency in fulfilling its obligations in accordance with G.L. c. 30, §61. These Findings are limited to the subject matter jurisdiction of the Section 401 Water Quality Certification sought from the Massachusetts Department of Environmental Protection.

**Project Description:** The Project includes the rebuild of the existing Tap Line in a new alignment along the Tap Line. The new alignment is offset approximately 40 feet east of the existing alignment. The offset is necessary so that the existing line can remain in service during construction. The rebuild will include the removal of 42 structures and replacement with 40 new steel H-frame or single pole structures, access upgrades and work pad construction, and tree removal. The refurbishment activities will include:

- Replacing the existing (mostly wooden) structures with a combination of steel single pole davit arm and steel H-frame structures (as shown in **Figure 3** - Cross Sections in **Attachment A**). Two wood structures will be removed and not replaced. Replacement suspension type structures will be supported by both caisson foundations[22] (15) and direct embed[23] (25). Refer to Table 3-1 in Section 3: Construction Procedures for further detail on the method of installation for these structures.
- Performing tree removals along the eastern edge of the ROW to accommodate the new centerline of the Tap Line and the required conductor clearance. Tree removal will extend approximately 40 feet into the existing forested edge. Additional conversion of vegetative cover type will occur where needed for proposed workspaces. Vegetation management (mowing and trimming) along the existing managed corridor is required to provide access to the proposed structure locations, to facilitate safe vehicular and equipment passage, and to provide safe work sites for personnel.

22 A caisson foundation is a watertight, box-like deep foundation which is typically made up of steel or reinforced concrete that is installed by sinking into the ground.

23 A direct embed is a type of foundation technique used primarily inutility and pole construction, where the pole Is installed directly into the ground without the use of a concrete foundation like caisson.

- Performing access improvements and construction, including grading and the addition of stone to existing access. MECO is proposing access upgrades in alignment with previously utilized routes and pathways where feasible.
- Replacing the existing copper conductor with a composite conductor made of a steel core and aluminum strands, which will improve system reliability and increase capacity without increasing the voltage of the line.
- Replacement of the shieldwire with optical ground wire ("OPGW"). OPGW is both a shield wire and a telecommunication line between substations.
- Installation of additional infrastructure at Litchfield Street Substation to accommodate the OPGW and upgraded conductor.

This Project requires an Individual Section 401 Water Quality Certification ("WQC"), primarily due to the discharge of fill material in Waters of the United States ("WOTUS") within the Commonwealth. Applications will be filed with MassDEP for review under 314 CMR 9.00. MassDEP evaluation criteria for applications are the incorporation of all appropriate and practicable measures for avoiding and minimizing impacts to wetland resource areas. The Project's design avoids, minimizes, and mitigates adverse impacts, as described in this section.

**MEPA History:** Pursuant to G.L. c. 30, §61- §62A-H, of the Massachusetts Environmental Policy Act ("MEPA") and its implementing regulations at 301 CMR 11.00, the Proponent ("MECO") has prepared and submitted this Expanded Environmental Notification Form ("ENF") to the MEPA office. The Expanded ENF is the first MEPA filing associated with this Project. The Project is subject to MEPA review as it requires one or more state permits and exceeds the following thresholds requiring the filing of an:

- EIR for Wetlands, Waterways and Tidelands: Alteration of one or more acres of Bordering Vegetated Wetlands (BVW). (301 CMR 11.03(3)(a)(1)(a))
- EIR for Environmental Justice Populations as the Project is located within a Designated Geographic Area around an Environmental Justice Population (301 CMR 11.06(7)(b).
- ENF for direct alteration of 25 or more acres of land, unless the Project is consistent with an approved conservation farm plan or forest cutting plan or other similar generally accepted agricultural or forestry practices. (301 CMR 11.03(1)(b)(1))
- ENF for alteration of 5,000 or more square feet (sf) of BVW. (301 CMR 11.03(3)(b)(1)(d))

**Project Impacts:** The Project will result in minimal and/or temporary environmental impacts because the Project will take place primarily within an existing utility ROW corridor. There is no proposed permanent discharge of fill material or loss of wetlands. Wetland impacts from the Project that are subject to Section 401 jurisdiction include:

- Temporary disturbance of wetland resource areas, including wetlands and waterways, associated with the placement of construction mats for construction equipment access and work envelopes (local, state and federal)

Impact calculations relative to the Section 401 WQC include the placement of approximately 35,948 sf of temporary fill material in wetlands consisting of construction mats.

**Project Mitigation:** MECO considered avoidance, minimization and mitigation measures as a matter of course during the planning and design process as an overall approach to avoiding impacts whenever possible. MECO completed field investigations and a constructability review along the

Project route to determine access routes and construction techniques to be implemented during construction of the Project to provide an accurate impact assessment and to design work to avoid and minimize impacts within wetlands and other sensitive resources (e.g., cultural resources) to the greatest extent practicable. In terms of avoidance and minimization during construction, MECO has established BMPs that are to be followed by MECO employees and its contractors for accessing sites and performing construction activities on transmission ROWs. These BMPs ensure that this Project will be completed in accordance with applicable environmental laws and regulations, as well as with MECO policies and compliance objectives. The below listed commitments are to be carried out by MECO to ensure that proposed wetlands and waterways mitigation strategies will be implemented as the Project proceeds.

### Table 12-1: Wetlands and Waterways Mitigation Strategies for the Project

| Wetland Resource Area | Impact | Mitigation Measures | Responsible Party/ Implementation |
|---|---|---|---|
| Bordering Vegetated Wetlands ("BVW") | Temporary alterations during construction from construction matting. | Use construction mats for access through wetlands, across streams and other sensitive areas to minimize compression of soils, rutting, and disturbance of vegetation; in situ restoration | Contractor/Construction |
| | | Implement SWPPP. | Contractor/Construction |

**Findings:** After the draft findings herein have been reviewed by MassDEP and revised by the Proponent, as appropriate, MassDEP will make a finding that the foregoing information adequately describes the environmental impacts associated with the Project, and that with the implementation of the mitigation measures described above, practicable means will have been taken to avoid or minimize adverse environmental impacts subject to MassDEP authority. Implementation of avoidance, minimization, and mitigation measures will occur in accordance with the terms and conditions set forth in the 401 WQC.

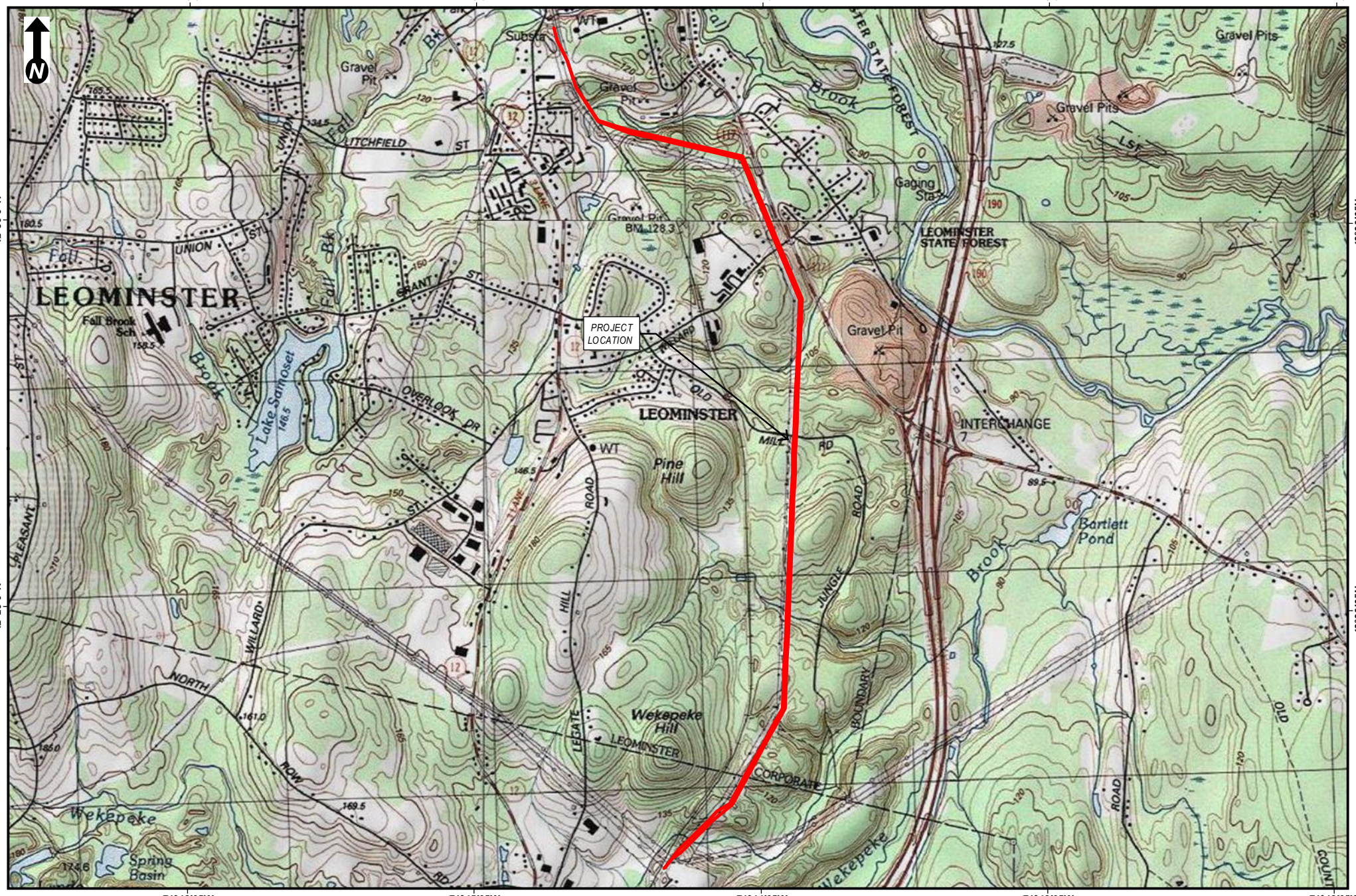
# Attachment A: Project Figures

Expanded Environmental Notification Form (EENF)
J136S Tap Line Rebuild Project

Figure 1 - USGS Locus Map
Figure 2 - Environmental Resource Maps
Figure 3 - Cross Sections

# Figure 1 - USGS Locus Map

File Location: G:\GISPrj\10128000\Output\Maps\MXD\ReportMaps\USGSLocus\J136_TapLine_USGSLocus_20250213.mxd
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Scale: 1:24,000
1 inch = 2,000 feet
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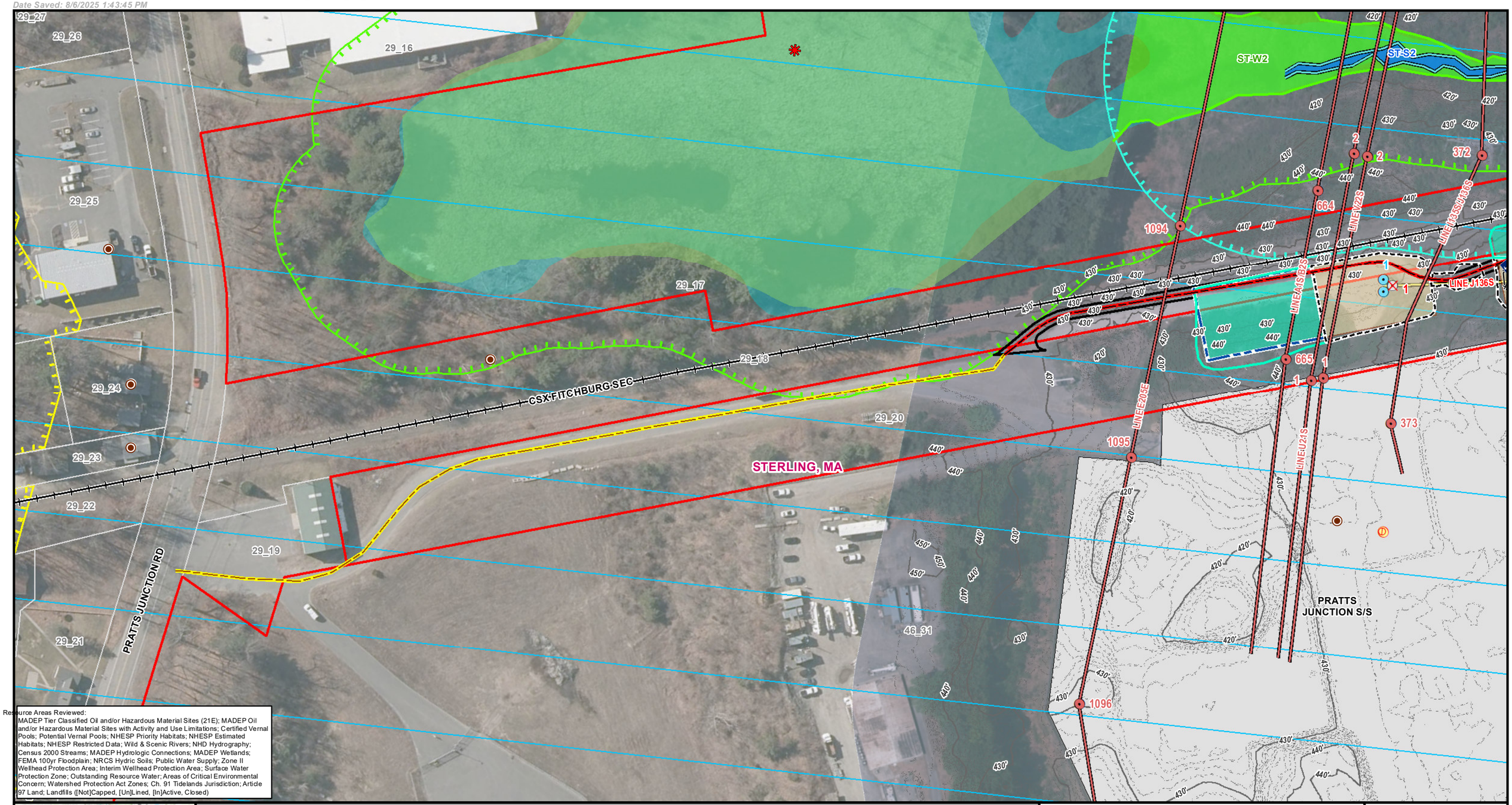
**J136 TAPLINE REBUILD PROJECT**
**USGS Site Location Map**
**Leominster & Sterling, MA**

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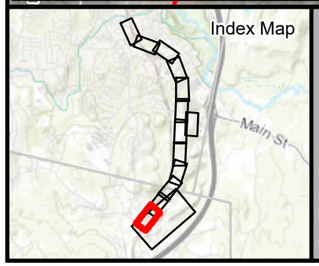
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# Figure 2 - Environmental Resource Maps




Resource Areas Reviewed:
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- Install Structure (2 Concrete Caissons)
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- 1ft Contour

1 inch = 100 feet
0 40 80
Feet

*Indicates Layers Set to Transparency

# J136 TAP LINE REBUILD PROJECT

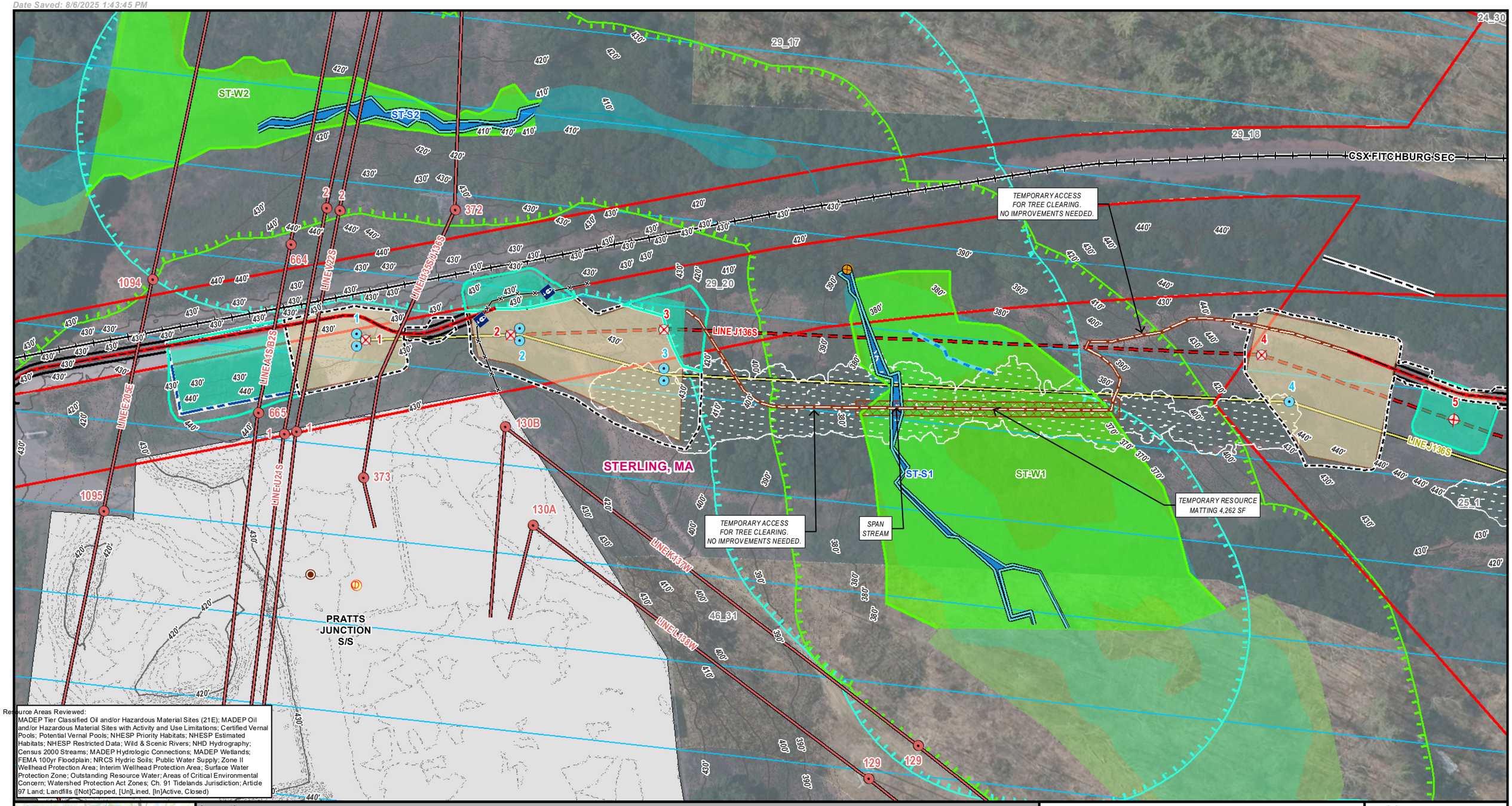
## Environmental Resources Map

Sterling, MA

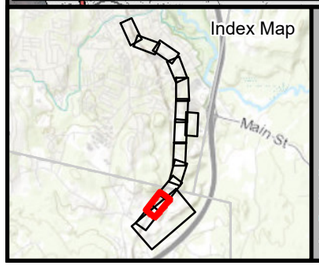

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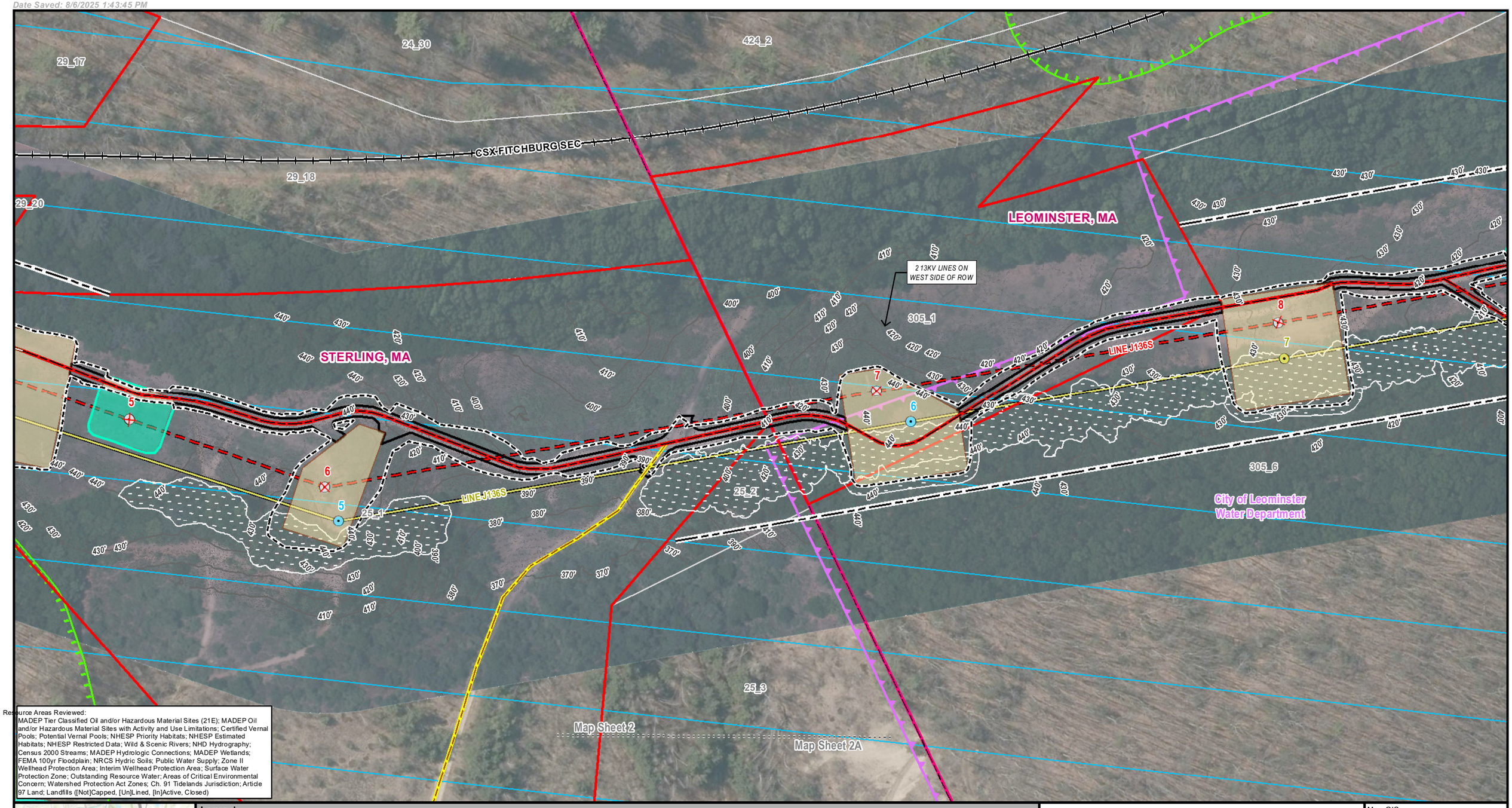
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Sterling, MA

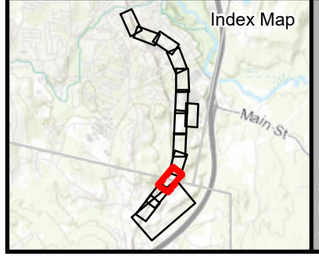

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# J136 TAP LINE REBUILD PROJECT

## Environmental Resources Map

Leominster & Sterling, MA
Page 2 of 11

MassGIS
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TEMPORARY ACCESS FOR TREE CLEARING. NO IMPROVEMENTS NEEDED.

TEMPORARY RESOURCE MATTING 4,262 SF

SPAN STREAM

PRATTS JUNCTION S/S

STERLING, MA

Map Sheet 2
Map Sheet 2A

CSX FITCHBURG SEC

PRATTS JUNCTION RD

SPRATT TECHNOLOGY DR

FLANAGAN HILL RD

LINE:E203S
LINE:E142N
LINE:L142N
LINE:L138W
LINE:K137W
LINE:314
LINE:343
LINE:O141N/P142N
LINE:340
LINE:L22S
LINE:B2S
LINE:L2S

ST-W1
ST-S1
ST-W2

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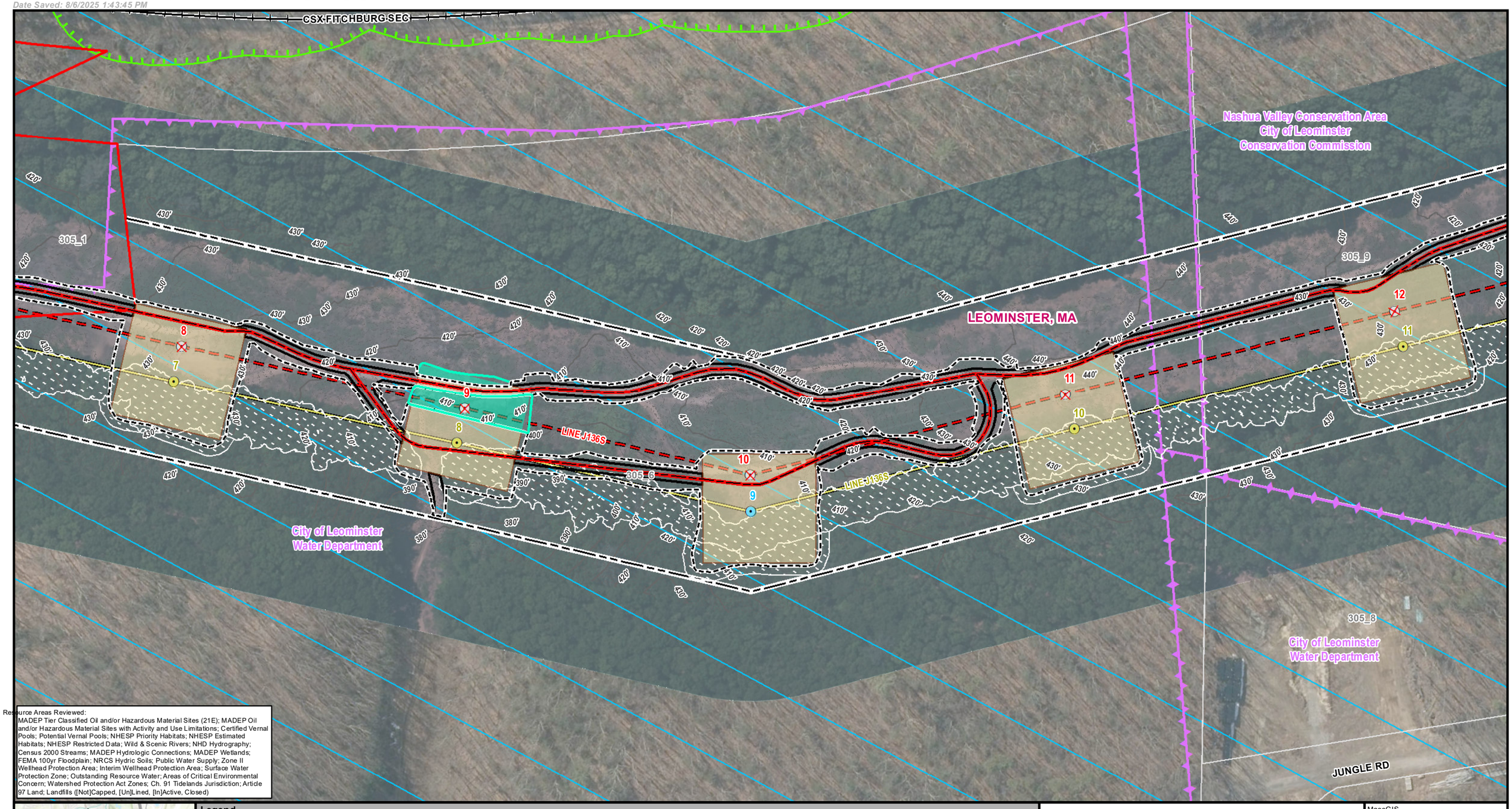
## Environmental Resources Map

Sterling, MA
Page 2A of 11

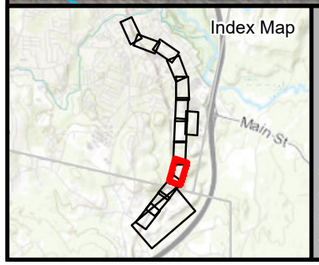
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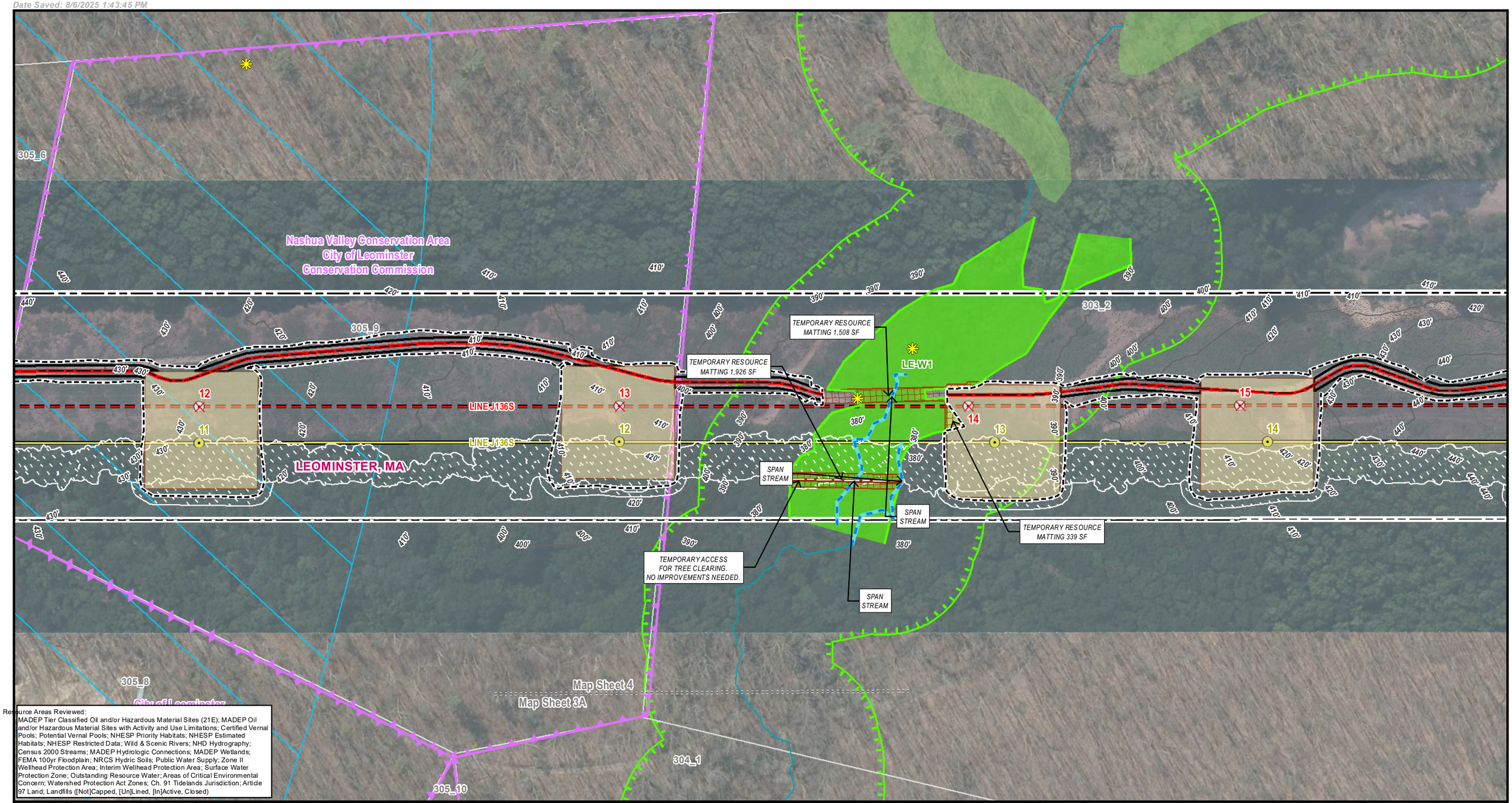
## Environmental Resources Map

Leominster, MA
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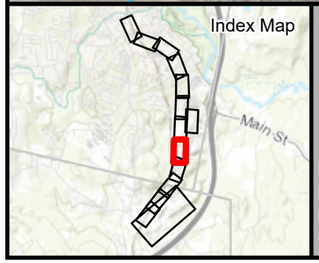
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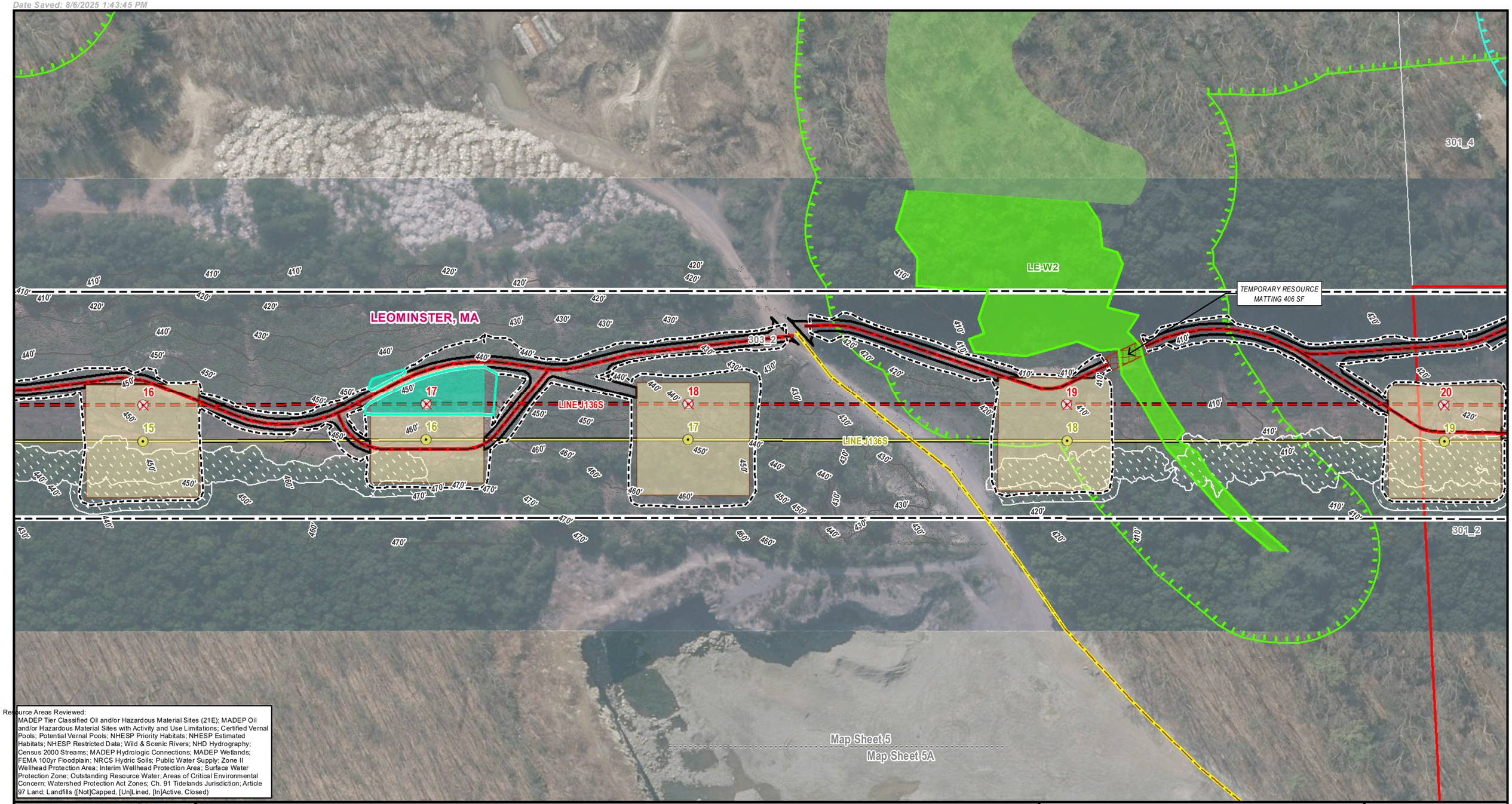
## Environmental Resources Map

Leominster, MA
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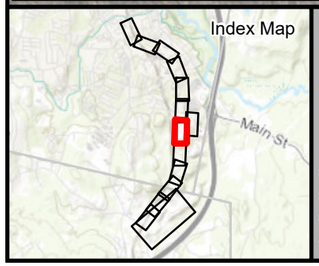
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Map Sheet 5
Map Sheet 5A

303_2
304_2
304_5
LEOMINSTER, MA
JUNGLE RD
301_2
301_1
300_13
OLD MILL RD
301_8
301_9
302_1_A
302_1_B

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0 40 80
Feet

# J136 TAP LINE REBUILD PROJECT

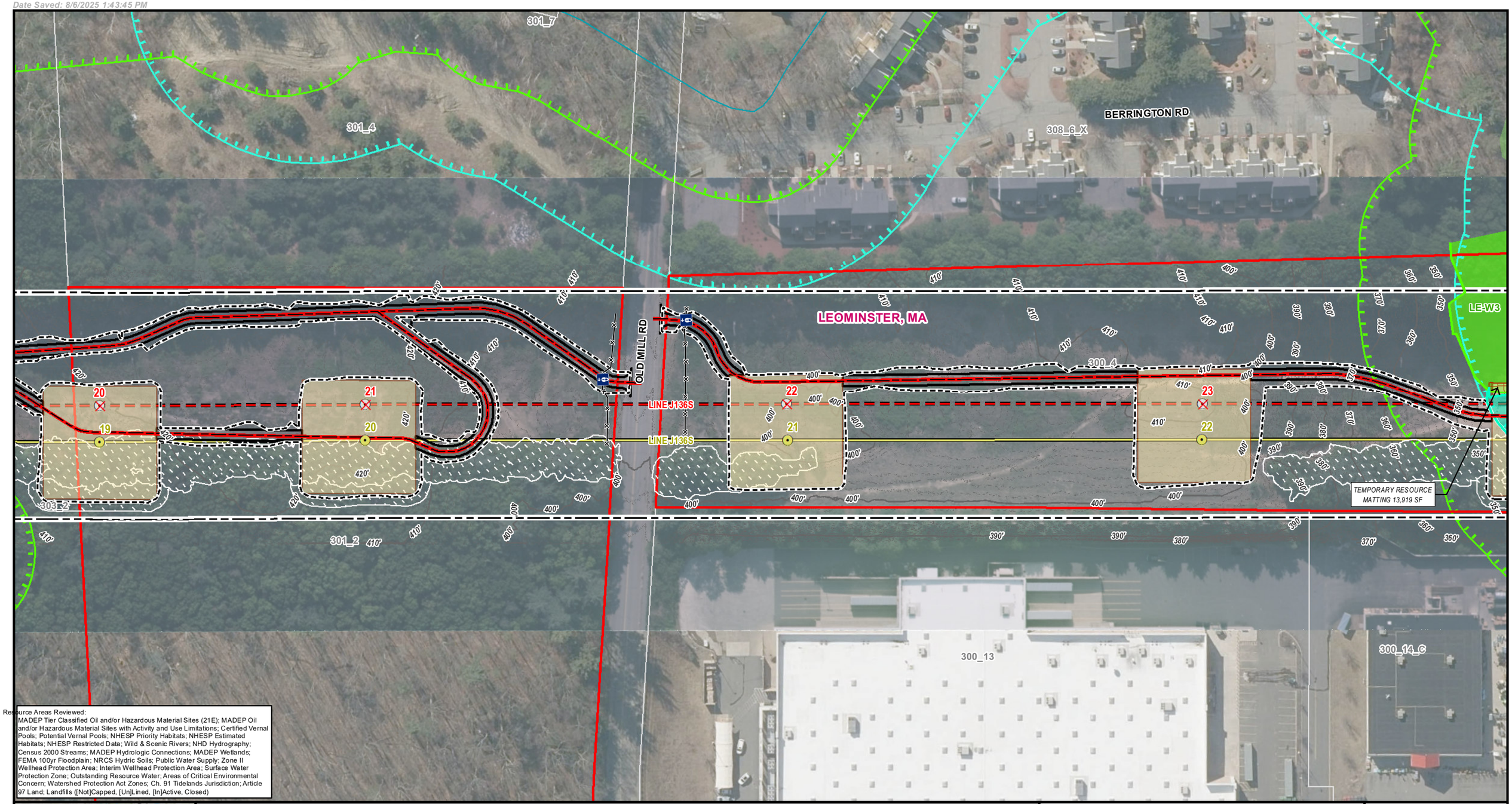
## Environmental Resources Map

Leominster, MA

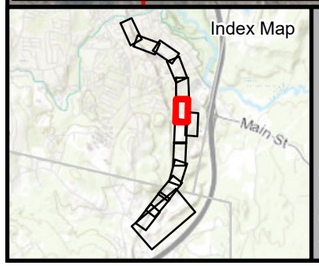

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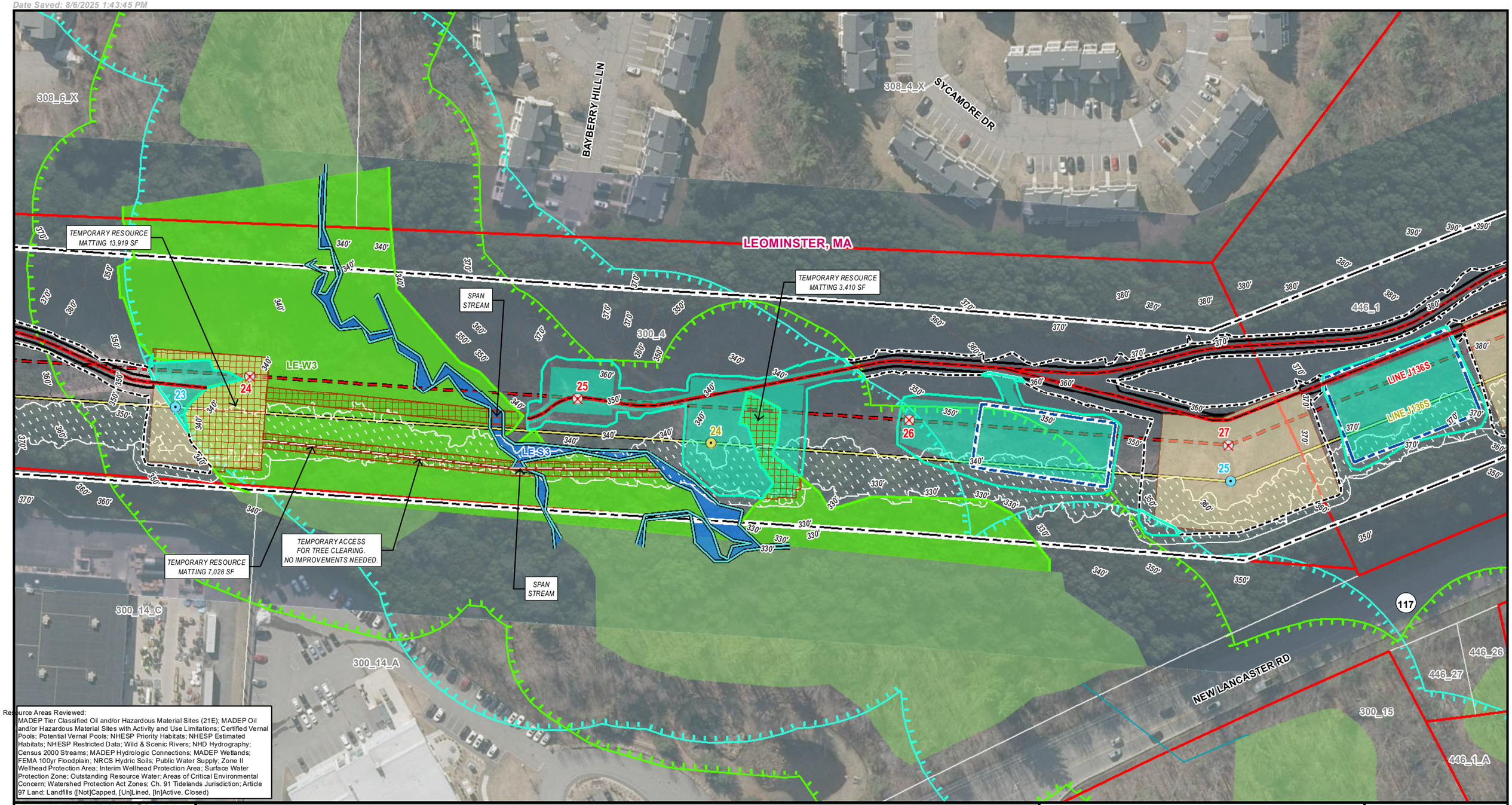
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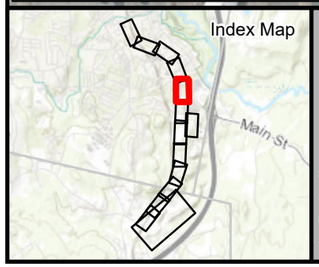

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***Indicates Layers Set to Transparency***

# J136 TAP LINE REBUILD PROJECT

## Environmental Resources Map

Leominster, MA


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RELOCATE GATE FARTHER SOUTH SUCH THAT EQUIPMENT CAN PULL OFF ROAD

WILLARD ST

LEOMINSTER, MA

LINE J136S

NEW LANCASTER RD

TUCKER DR

SHIRE ST

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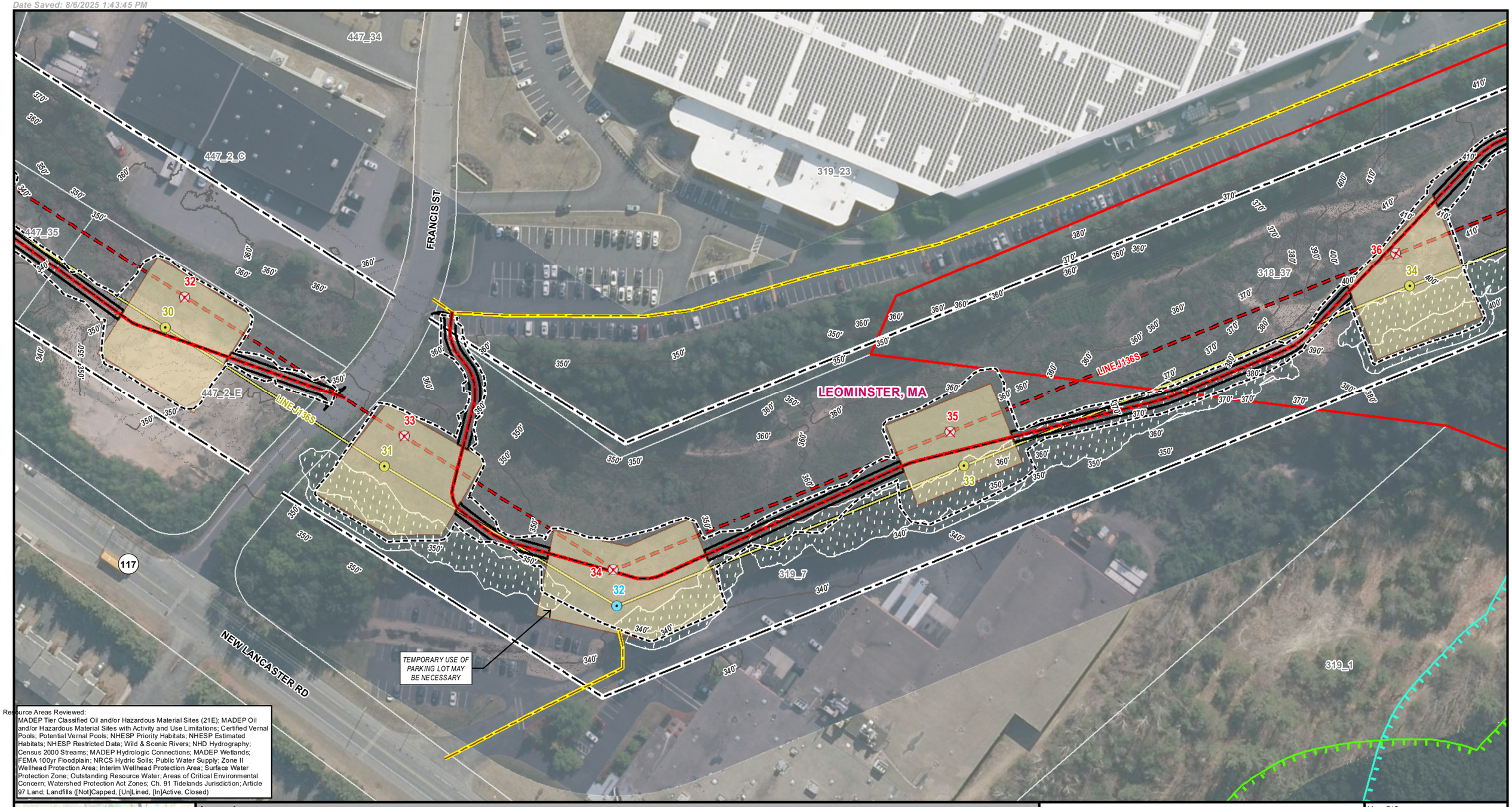
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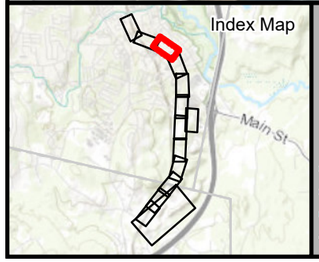

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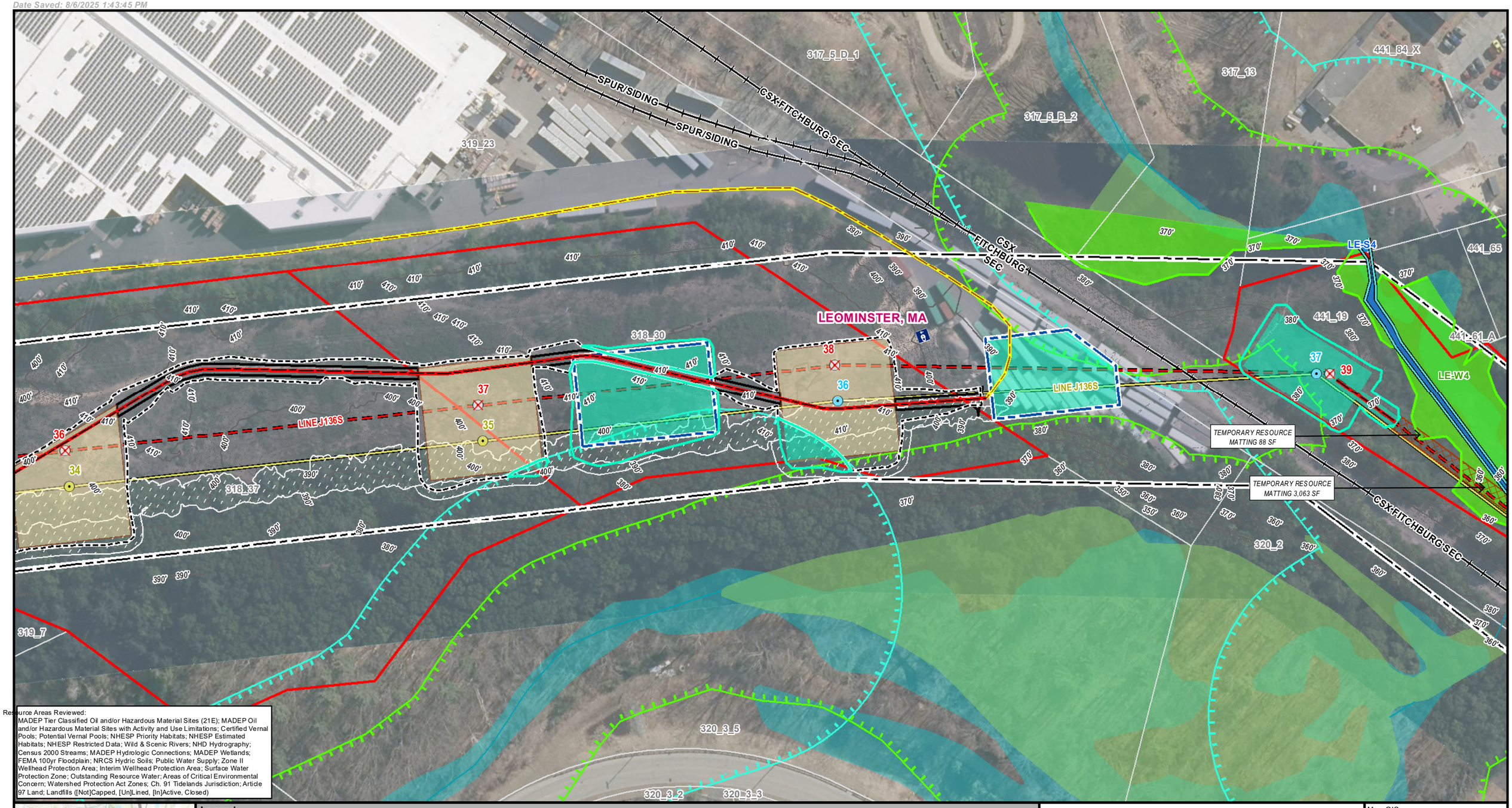
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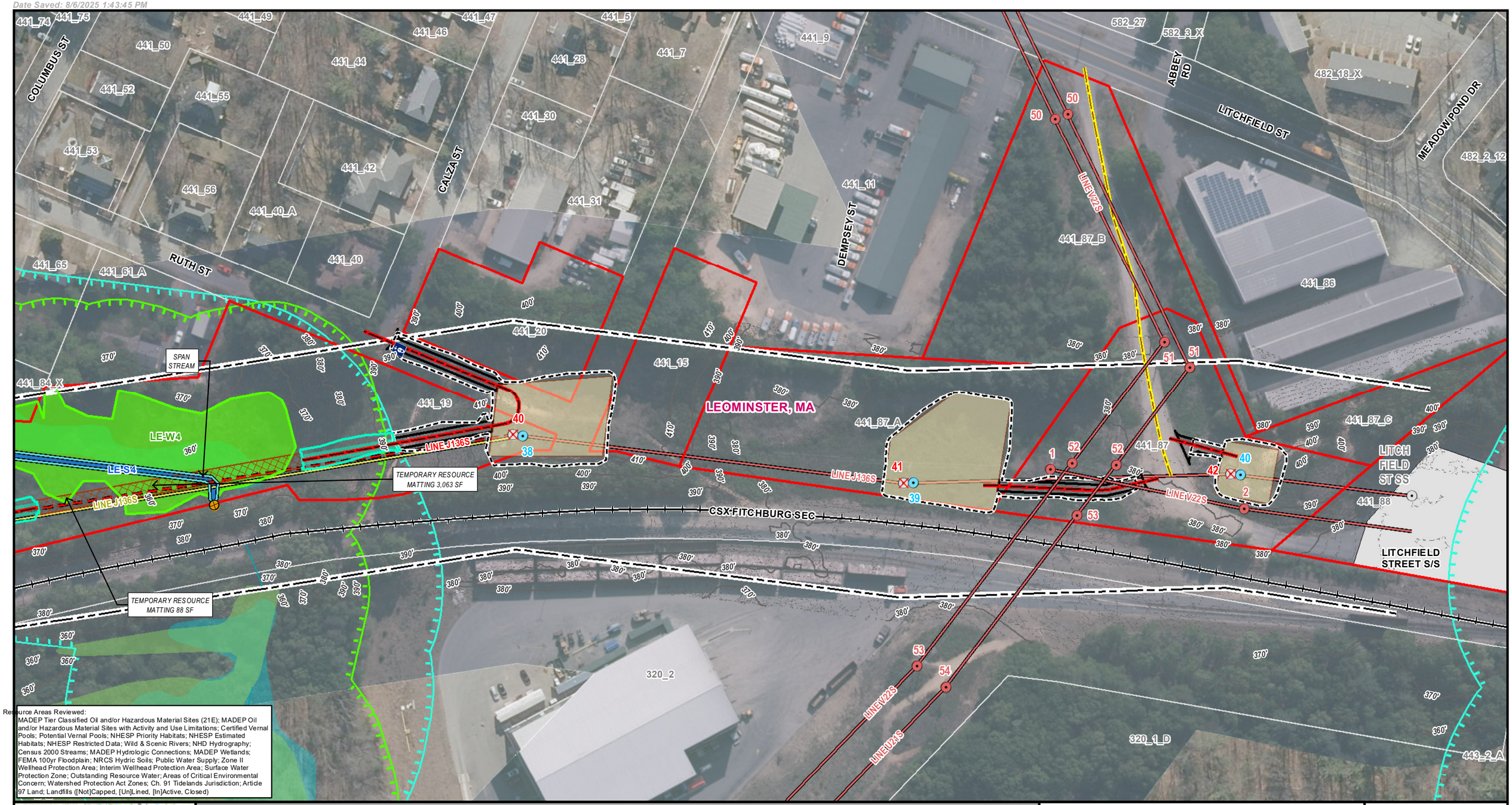
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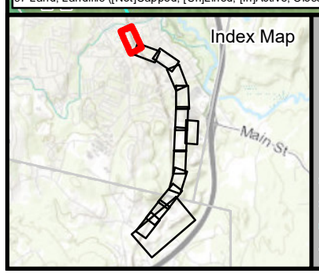

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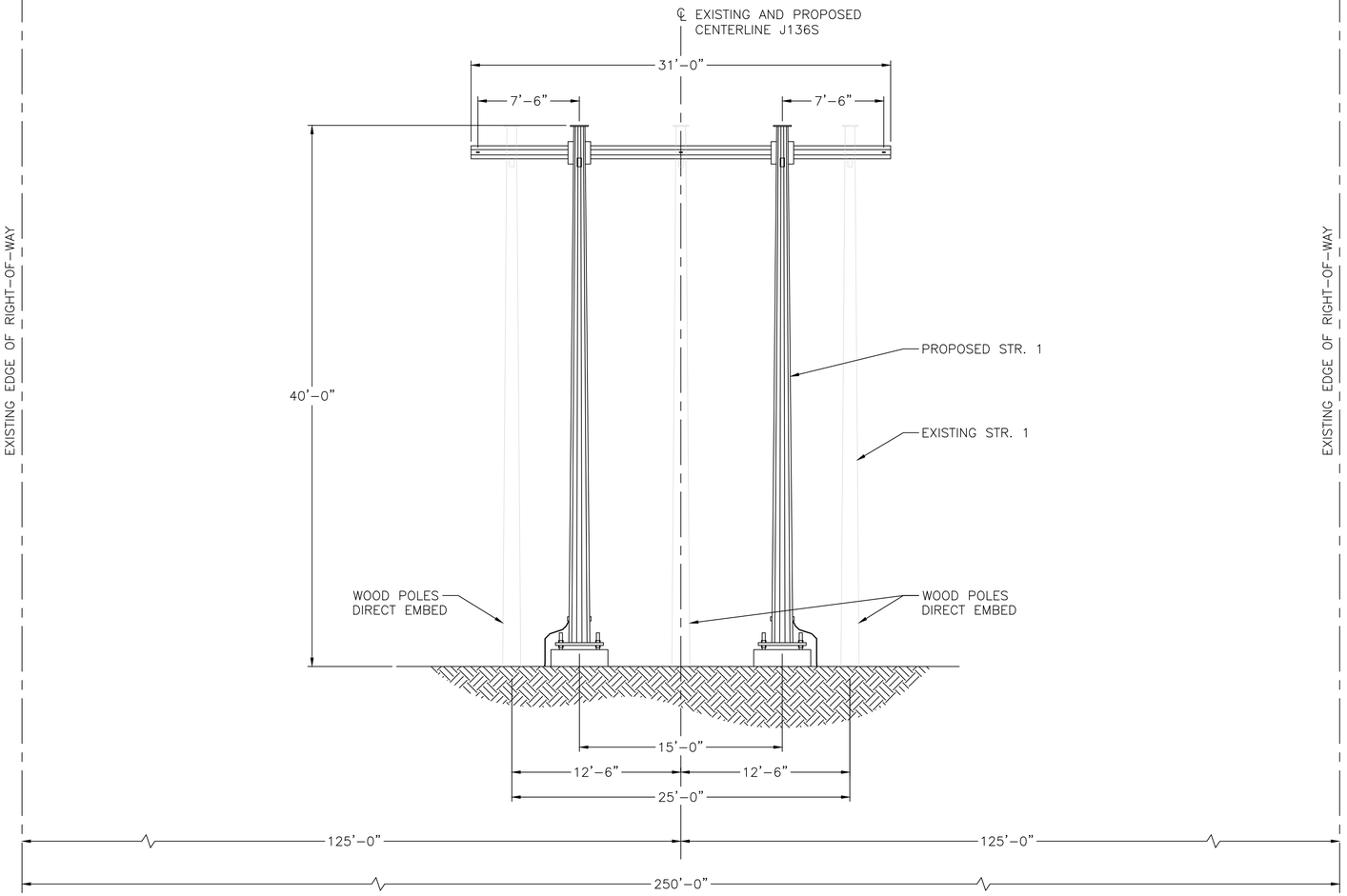
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# Figure 3 - Cross Sections

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PROPOSED X-SECTION OVERLAY




OVERLAID CROSS SECTION
LOOKING TOWARDS LITCHFIELD STREET SUBSTATION
PRATTS JUNCTION – LEOMINSTER
RIGHT OF WAY
EXISTING 250' WIDE CORRIDOR
LEOMINSTER, MASSACHUSETTS
WORCESTER COUNTY
MILE 0 TO MILE 0

| VER | DATE | VERSION DESCRIPTION | PREPARED | REVIEWED | APPROVED | VERSION |
|---|---|---|---|---|---|---|
| 0 | | INITIAL RELEASE | KWL | ZK | GEB | 0 |
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|---|---|
| PREPARED BY | KWL |
| REVIEWED BY | ZK |
| APPROVED BY | GEB |
| SCALE | NTS |
| SHEET | 1 OF 4 |
| INDEX | 400852 |

J136S TAP LINE STR. 1 TO LITCHFIELD ST. SS

115KV TRANSMISSION LINE
CROSS SECTION OVERLAY
MILE 0 TO MILE 0

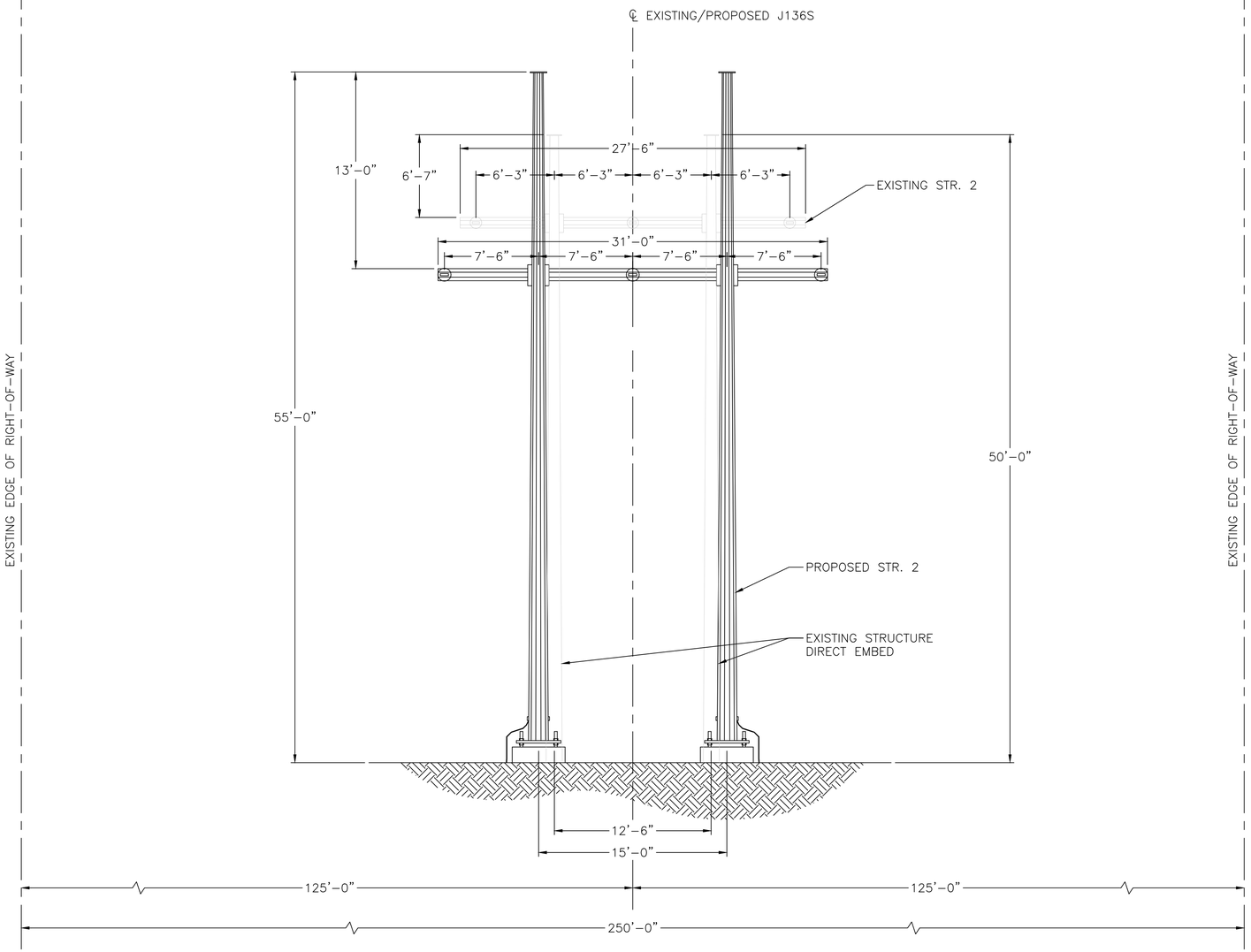
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INCHES ON ORIGINAL

PROPOSED X-SECTION OVERLAY

PROPOSED X-SECTION OVERLAY




OVERLAID CROSS SECTION
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VERSION 0

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| | |
|---|---|
| PREPARED BY | KWL |
| REVIEWED BY | ZK |
| APPROVED BY | GEB |
| SCALE | NTS |
| SHEET | 2 OF 4 |
| INDEX | 400852 |

J136S TAP LINE STR. 1 TO LITCHFIELD ST. SS

115KV TRANSMISSION LINE
CROSS SECTION OVERLAY
MILE 0 TO MILE 0.03

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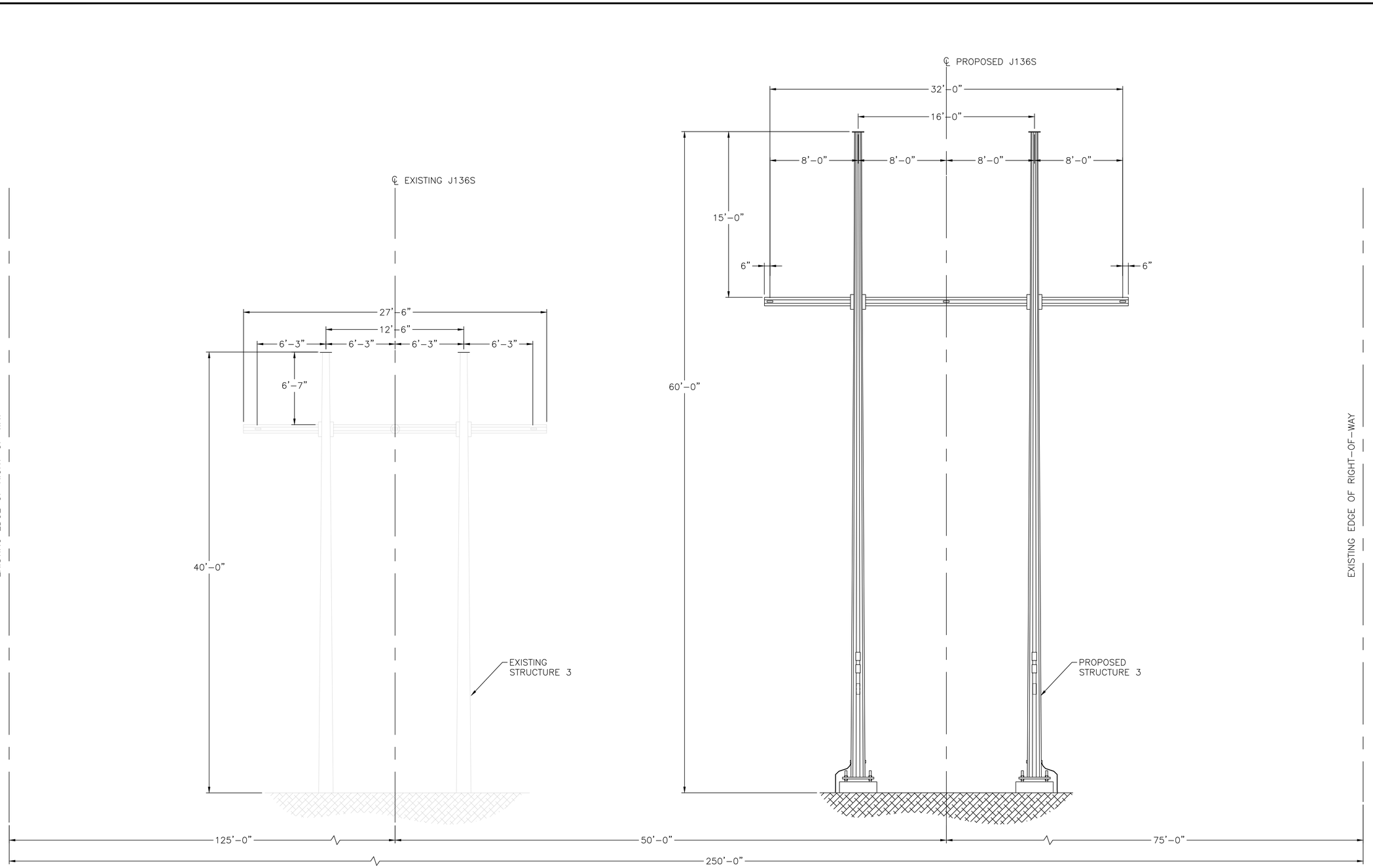
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VERSION 0

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| PREPARED BY | JJA | 04–14–25 |
| REVIEWED BY | ZK | 04–14–25 |
| APPROVED BY | GEB | 04–14–25 |
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| SHEET | 3 OF 4 | |
| INDEX | 400852 | |

J136S TAP LINE STR. 1 TO LITCHFIELD ST. SS

115KV TRANSMISSION LINE
CROSS SECTION OVERLAY
MILE 0.03 TO MILE 0.07

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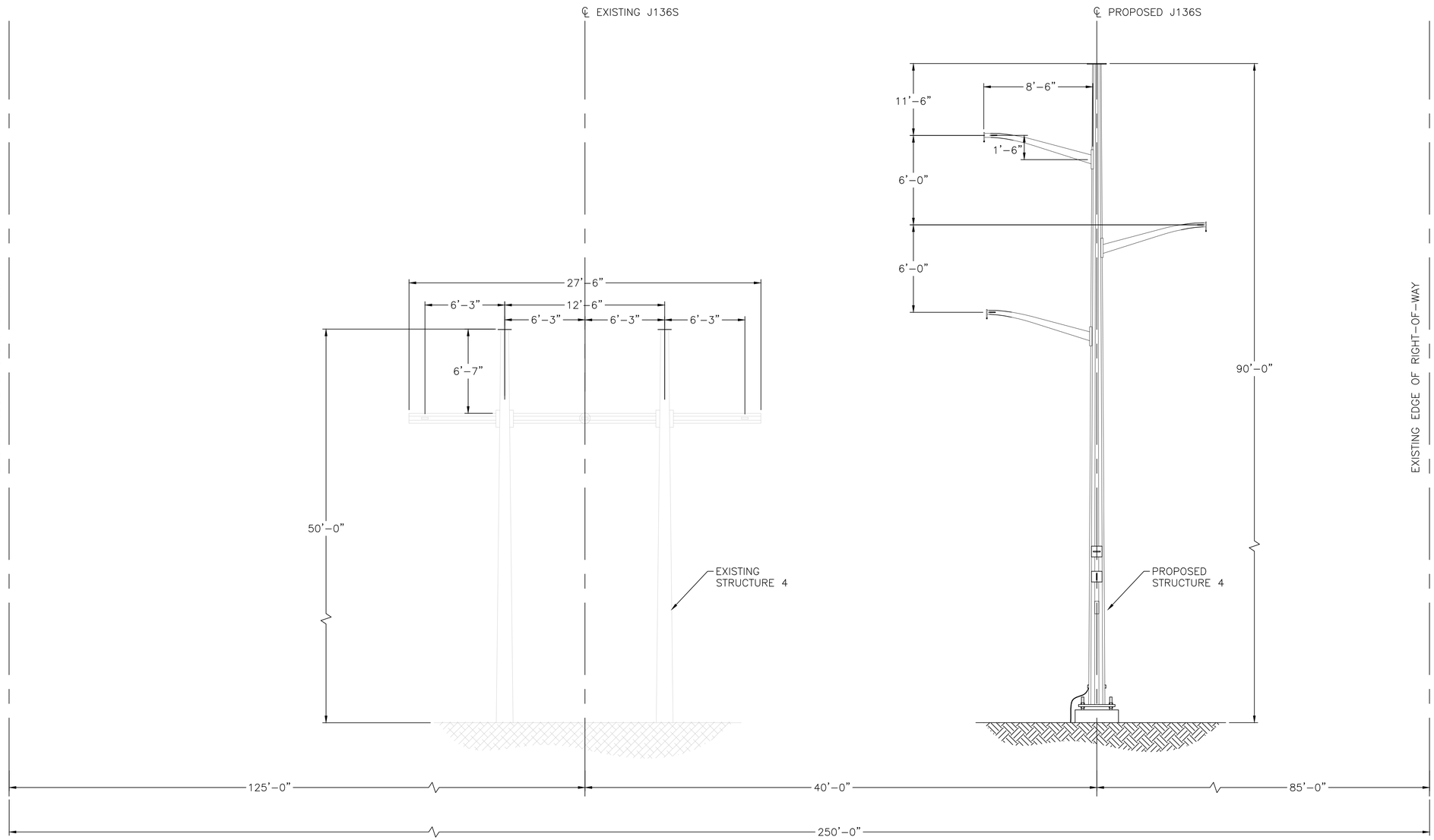
PRINTED COPIES ARE NOT DOCUMENT CONTROLLED. FOR THE LATEST AUTHORIZED VERSION PLEASE REFER TO THE ENGINEERING DEPARTMENT DOCUMENTS CABINET IN DOCUMENTUM

INCHES ON ORIGINAL

PROPOSED X–SECTION OVERLAY

**CONFIDENTIALITY STATEMENT:** THIS DOCUMENT CONTAINS CONFIDENTIAL AND PROPRIETARY INFORMATION OF NATIONAL GRID SOLELY IN CONNECTION WITH THE SPECIFIC PROJECT FOR WHICH IT HAS BEEN TRANSMITTED. ANY OTHER USE, ITS TRANSMITTAL TO THIRD PARTIES, OR ITS REPRODUCTION WITHOUT PRIOR EXPRESS WRITTEN AUTHORIZATION OF NATIONAL GRID IS STRICTLY PROHIBITED.

POPOSED X-SECTION OVERLAY




OVERLAID CROSS SECTION
LOOKING TOWARDS LITCHFIELD STREET SUBSTATION
PRATTS JUNCTION – LEOMINSTER
RIGHT OF WAY
EXISTING 250' WIDE CORRIDOR
LEOMINSTER, MASSACHUSETTS
WORCESTER COUNTY
MILE 0.07 TO MILE 2.6

INCHES ON ORIGINAL

PROPOSED X-SECTION OVERLAY

| VER | DATE | VERSION DESCRIPTION | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|
| 0 | 08-14-25 | INITIAL RELEASE | JJA | ZK | GEB |
| 1 | | | | | |
| 2 | | | | | |
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| 6 | | | | | |

VERSION 0

nationalgrid

| | | |
|---|---|---|
| PREPARED BY | JJA | 04-14-25 |
| REVIEWED BY | ZK | 04-14-25 |
| APPROVED BY | GEB | 04-14-25 |
| SCALE | NTS | |
| SHEET | 4 OF 4 | |
| INDEX | 400852 | |

J136S TAP LINE STR. 1 TO LITCHFIELD ST. SS

115KV TRANSMISSION LINE
CROSS SECTION OVERLAY
MILE 0.07 TO MILE 2.6

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# Attachment B: EENF Distribution List

Expanded Environmental Notification Form (EENF)
J136S Tap Line Rebuild Project

# Massachusetts Environmental Policy Act (MEPA) Distribution List

| Agency | Email Address | Address |
|---|---|---|
| **Massachusetts Environmental Policy Act (MEPA) Office** | MEPA@mass.gov | **MEPA Office**<br>100 Cambridge Street, Suite 900<br>Boston, MA 02114 |
| **Department of Environmental Protection, Boston Office** | helena.boccadoro@mass.gov | **Commissioner's Office**<br>One Winter Street<br>Boston, MA 02108 |
| **Department of Environmental Protection, Appropriate Regional Office and to each program from which a permit will be sought** | andrea.briggs@mass.gov | **DEP/Central Regional Office**<br>Attn: MEPA Coordinator<br>8 New Bond Street<br>Worcester, MA 01606 |
| **Massachusetts Department of Transportation - Boston** | MassDOTPPDU@dot.state.ma.us | **Public/Private Development Unit**<br>10 Park Plaza, Suite #4150<br>Boston, MA 02116 |
| **Massachusetts Department of Transportation – District Office** | Kevin.R.Robenhymer@dot.state.ma.us<br>Eric.Nascimento@dot.state.ma.us | **District #3**<br>Attn: MEPA Coordinator<br>499 Plantation Parkway<br>Worcester, MA 01605 |
| **Massachusetts Historical Commission** | Mail one hard copy of the filing to MHC | **The MA Archives Building**<br>220 Morrissey Boulevard<br>Boston, MA 02125 |
| **Applicable Regional Planning Agency** | mrpc@mrpc.org | **Montachusett Regional Planning Commission (MRPC)** |
| **If the Project is located within five miles of an Environmental Justice Population** | MEPA-EJ@mass.gov | **MEPA Office**<br>Attn: EEA Environmental Justice Director<br>100 Cambridge Street, Suite 900<br>Boston, MA 02144 |
| **If the Project site is within or contains designated significant or estimated habitat, or priority sites of endangered or threatened species or species of special concern in accordance with the Massachusetts Endangered Species Act** | melany.cheeseman@mass.gov<br>emily.holt@mass.gov | **Natural Heritage and Endangered Species Program**<br>Division of Fisheries & Wildlife<br>1 Rabbit Hill Road<br>Westborough, MA 01581 |

## Municipality Contacts

| Municipality | Email Address | Address |
|---|---|---|
| **Leominster** | The City Council<br>*pangelini@leominster-ma.gov* | 25 West Street<br>Leominster, MA 01453 |
| | Board of Health<br>*sciccolini@leominster-ma.gov* | |
| | Planning and development<br>*ewood@leominster-ma.gov* | |
| | Conservation Commission<br>*mpiermarini@dpw.leominster-ma.gov* | |
| | Leominster Public Library<br>*leomref@leominster-ma.gov* | 30 West Street<br>Leominster, MA 01453 |
| **Sterling** | Select Board<br>kjayne@sterling-ma.gov | 1 Park Street<br>Sterling, MA 01564 |
| | Board of Health<br>*knickerson@sterling-ma.gov* | |
| | Conservation Commission<br>*Email not Provided* | |
| | Planning Board<br>*Swallace@sterling-ma.gov* | |
| | Sterling Public Library<br>*agrebinar@cwmars.org* | 4 Meetinghouse Hill Rd,<br>Sterling, MA 01564 |
| *NEP will make an attempt to provide a copy of the ENF Form through online portals when applicable.* | | |

# Environmental Justice (EJ) Reference List

| First Name | Last Name | Title | Phone | Email | Affiliation | Contact Type |
|---|---|---|---|---|---|---|
| Claire | B.W. Muller | Movement Building Director | (508) 308-9261 | claire@uumassaction.org | Unitarian Universalist Mass Action Network | Statewide CBO |
| Julia | Blatt | Executive Director | (617) 714-4272 | juliablatt@massriversalliance.org | Mass Rivers Alliance | Statewide CBO |
| Jodi | Valenta | Massachusetts State Director | (617) 367-6200 | Jodi.Valenta@tpl.org | The Trust for Public Land | Statewide CBO |
| Kerry | Bowie | Board President | Not Provided | kerry@msaadapartners.com | Browning the GreenSpace | Statewide CBO |
| Sylvia | Broude | Executive Director | (617) 292-4821 | sylvia@communityactionworks.org | Community Action Works | Statewide CBOLocal CBO |
| Brittney | Jenkins | Vice President | Not Provided | Bjenkins@clf.org | Conservation Law Foundation | Statewide CBO |
| Alex | St. Pierre | Director of Communities & Toxics | Not Provided | aestpierre@clf.org | Conservation Law Foundation | Statewide CBO |
| Paulina | Muratore | Director of Transportation Justice and Infrastructure | Not Provided | pmuratore@clf.org | Conservation Law Foundation | Statewide CBO |
| Breanne | Frank | Associate Attorney | Not Provided | bfrank@clf.org | Conservation Law Foundation | Statewide CBO |
| Amy | Boyd Rabin | Vice President of Policy | (617) 221-8258 | aboydrabin@environmentalleague.org | Environmental League of Massachusetts | Statewide CBO |
| Ben | Hellerstein | MA State Director | (617) 747-4368 | ben@environmentmassachusetts.org | Environment Massachusetts | Statewide CBO |
| Robb | Johnson | Executive Director | (978) 443-2233 | robb@massland.org | Mass Land Trust Coalition | Statewide CBO |
| Cindy | Luppi | New England Director | (617) 338-8131 x208 | cluppi@cleanwater.org | Clean Water Action | Statewide CBO |
| Dálida | Rocha | Executive Director | Not Provided | dalida@n2nma.org | Neighbor to Neighbor Mass. | Statewide CBOLocal CBO |

| | | | | | | |
|---|---|---|---|---|---|---|
| Lena Miles | Entin Gresham | Director of Individual Giving Campaign Director | Not Provided | Lena@N2NMa.org Miles@N2NMa.org | Neighbor to Neighbor Mass. | Statewide CBOLocal CBO |
| Rob | Moir | Executive Director | Not Provided | rob@oceanriver.org | Ocean River Institute | Statewide CBO |
| Vickash | Mohanka | Director, MA Chapter | Not Provided | vick.mohanka@sierraclub.org | Sierra Club MA | Statewide CBO |
| Heidi | Ricci | Director of Policy | Not Provided | hricci@massaudubon.org | Mass Audubon | Statewide CBO |
| Bettina | Washington | Tribal Historic Preservation Officer | (508) 560-9014 | thpo@wampanoagtribe-nsn.gov | Wampanoag Tribe of Gay Head (Aquinnah) | Federal Tribe |
| Brian | Weeden | Chair | (774) 413-0520 | Brian.Weeden@mwtribe-nsn.gov | Mashpee Wampanoag Tribe | Federal Tribe |
| Nakia | Hendricks Jr. | Office Manager | Not Provided | 106Review@mwtribe-nsn.gov | Mashpee Wampanoag Tribe | Federal Tribe |
| David | Weeden | THPO/Director | (774) 327.0068 | David.Weeden@mwtribe-nsn.gov | Mashpee Wampanoag Tribe | Federal Tribe |
| Alma | Gordon | President | Not Provided | tribalcouncil@chappaquiddickwampanoag.org | Chappaquiddick Tribe of the Wampanoag Nation | Indigenous Org |
| Cheryll | Toney Holley | Chair | (774) 317-9138 | crwritings@aol.com | Nipmuc Nation (Hassanamisco Nipmucs) | Indigenous Org |
| John | Peters, Jr. | Executive Director | (617) 573-1292 | john.peters@mass.gov | Massachusetts Commission on Indian Affairs (MCIA) | Indigenous Org |
| Melissa | Ferretti | Chair | (508) 304-5023 | melissa@herringpondtribe.org | Herring Pond Wampanoag Tribe | Indigenous Org |
| Raquel | Halsey | Executive Director | (617) 232-0343 | rhalsey@naicob.org | North American Indian Center of Boston | Indigenous Org |
| Cora | Pierce | Not Provided | Not Provided | Coradot@yahoo.com | Pocassett Wampanoag Tribe | Indigenous Org |
| Elizabe | Solomon | Not | Not Provided | Solomon.Elizabeth | Massachusetts Tribe at | Indigenous Org |

| | | | | | | |
|---|---|---|---|---|---|---|
| th | | Provided | | @gmail.com | Ponkapoag | |
| Neddy | Latimer | Not Provided | (978) 534-3145 | info@spanishamericancenter.org | Spanish American Center | Local CBO |
| Colleen | Abrams | President | (508) 829-3954 | colleen.abrams@verizon.net | Wachusett Greenways | Supplemental Contact |
| Not Provided | Not Provided | President | (508) 886-2341 | sterlinggrange53@gmail.com | Sterling Grange #53 | Supplemental Contact |
| Paul | MacKinnon | President | (978) 345-7040 | info@mocinc.org | Making Opportunity Count | Supplemental Contact |
| Liz | Leonard | Director | 508-370-4946 | liz.leonard@uwotc.org | WHEAT Community Connections | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 508-885-3111 Ext.113 | maryqueen@mqrparish.org | Mary Queen of the Rosary Parish | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | (508) 885-2149 | office@spencerchurch.net | First Congregational Church of Spencer, United Church of Christ | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-534-6121 | office@agudat-achim.org | Congregation Agudat Achim | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | (978) 537-0837 | hello@churchofchristatleominster.org | The Congregational Church of Christ | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-534-5164 | pilgrimchurch1743@comcast.net | Pilgrim Congregational Church | Supplemental Contact |
| Stephanie | Trudel | Lay Minister | Not Provided | stephanietrudel2@yahoo.com | First Church UU of Leominster | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-537-3560 | admin@stmarksleominster.org | St. Mark's Episcopal Church | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-537-1356 | info@leominsterumc.org | Leominster United Methodist Church | Supplemental Contact |
| Martin | Kang | Appointed Clergy | Not Provided | myungsukkang169@gmail.com | Antioch Korean United Methodist | Supplemental Contact |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | Church | |
| Not Provided | Not Provided | Not Provided | (978) 537-6541 | office@stceciliachurch.net | St. Cecilia Parish | Supplemental Contact |
| Fr. Carlos | Ruiz | Pastor | Not Provided | fathercarlosruizgmail.com | St. Anna Parish | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-537-3016 | churchonhill@aol.com | Holy Family of Nazareth Parish | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-537-7257 | stleoparish@verizon.net | St. Leo Parish | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | (978) 342-2978 | Information@ourladylake.org | Our Lady of the Lake | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | (978) 365-6582 | iconception@comcast.net | Immaculate Conception Parish | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-365-2427 | Office@FirstChurchLancasterMA.org | First Church of Lancaster, Unitarian Universalist | Supplemental Contact |

# Attachment C: National Grid Environmental Guidance Document (EG-303NE)

Expanded Environmental Notification Form (EENF)
J136S Tap Line Rebuild Project

| SUBJECT | REFERENCE |
|---|---|
| ROW Access, Maintenance and Construction Best Management Practices for New England | EP-3; Natural Resource Protection |

**PURPOSE/OBJECTIVE:**

This document provides National Grid personnel, consultants and contractors with Best Management Practices (BMPs) for conducting work on electric and natural gas transmission and distribution rights-of-ways (ROWs) and substations in New England.

**WHO:**

These BMPs are to be followed by all personnel conducting work on Company electric and gas ROWs and substations in New England. These BMPs do not apply to Company employees and contractors performing routine vegetation management activities that are not a part of construction or re-construction projects. Employees and contractors maintaining vegetation on Company ROWs and substations must follow the National Grid ROW Vegetation and Substation Vegetation Management Plans.

**DEFINITIONS:**

Refer to **Glossary** in **Appendix 1** and **Acronyms** in **Appendix 2**.

**WHAT TO DO:**

## 1.0 Project Planning

Prior to the start of any project (proposed new facilities or maintenance of existing facilities), the Project Engineer or other project planner shall determine whether any environmental permits or approvals are required, per the state-specific EG-301 environmental checklists. Any questions regarding which activities may be conducted in regulated areas or within environmentally sensitive areas shall be referred to the National Grid Environmental Scientist or Project Environmental Consultant.

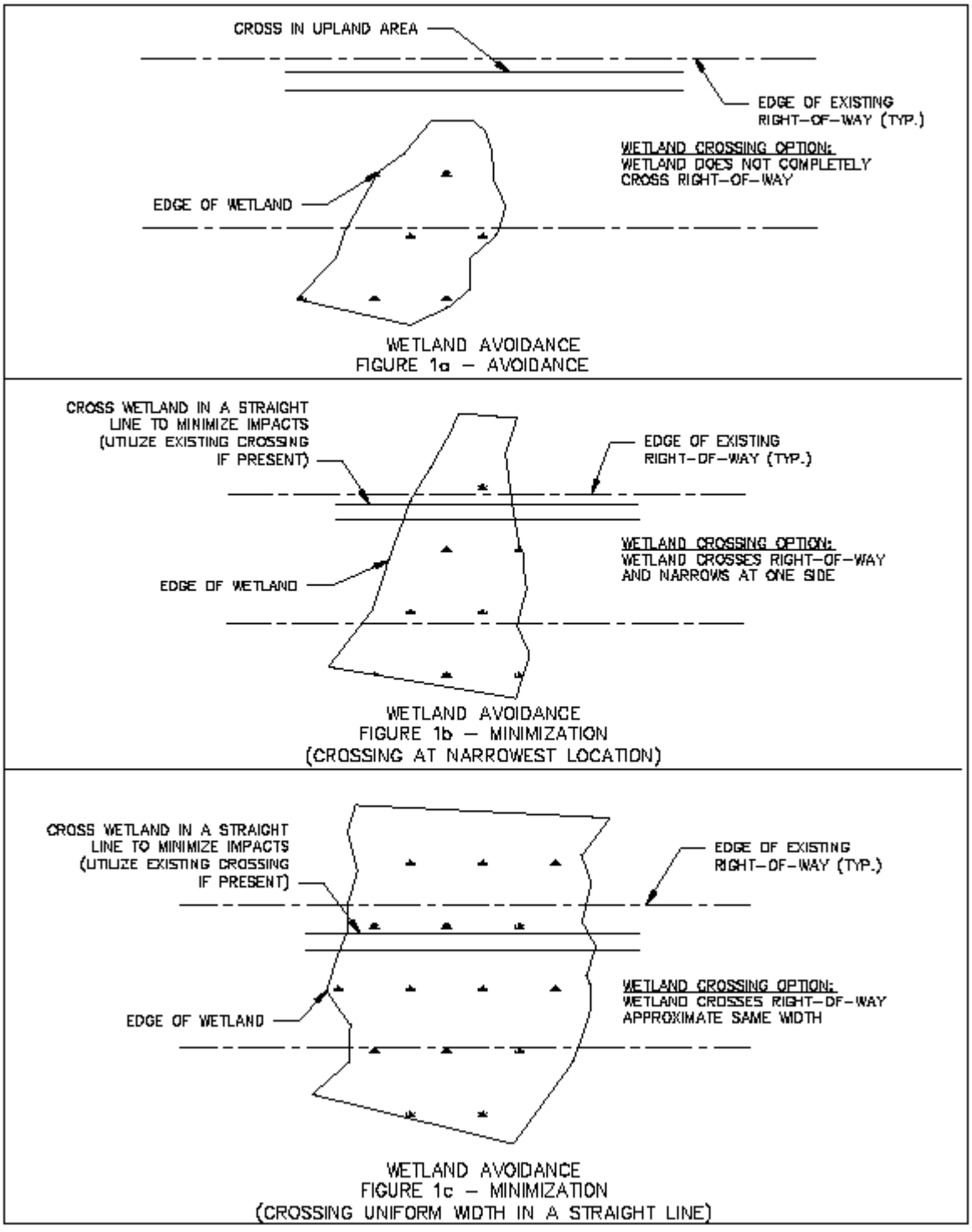
All new construction and maintenance projects shall follow clear and enforceable environmental performance standards, which is the purpose for which these BMPs have been compiled.

### 1.1 Avoidance and Minimization

Measures shall always be taken to avoid impacts to wetlands, waterways, rare species habitats, known below and above ground historical/archeological resources and other environmentally sensitive areas. If avoidance is not possible, then measures shall be taken to minimize the extent of impacts. Alternate access routes or staging areas shall always be considered. Below is a list of methods that shall be considered where impacts are unavoidable:

- Use existing ROW access where available. Keep to approved routes and roads without deviating from them or making them wider.
- Off-ROW access shall never be assumed and shall be coordinated through National Grid Real Estate before being implemented.
- Where no existing ROW access is present, avoid wetlands and if a wetland crossing is necessary, cross wetlands at the most narrow point possible or at the location of a previously used crossing (if evident). Figure 1 below illustrates this minimization technique.

- Avoid and minimize stream crossings.
- Minimize the width of typical access roads through wetlands to a maximum width of 16 feet.
- Conduct work manually (without using motorized equipment) in wetlands, wherever possible.
- Use construction mats in wetlands to minimize soil disturbance and rutting when crossing or working within wetlands. When not using mats for access, standard vehicles shall not be allowed to drive across wetlands without the prior approval of the National Grid Environmental Scientist. Use of a low ground pressure (LGP) vehicle may be a feasible alternative to mats provided that such LGP vehicle use has been reviewed and approved by the National Grid Environmental Scientist. See Section 7.0.
- Coordinate the timing of work to cause the least impacts during the regulatory low-flow period under normal conditions, when water/ground is frozen, after the spring songbird nesting season, and, outside of the anticipated amphibian migration window (mid-February to mid-June). Refer to the United States Army Corps of Engineers (USACE) state-specific General Permit for the definition of the low-flow period in each state at: http://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/. A summary table is provided in Section 7.0.
- Seek alternative routes or work methods to minimize impact.


CROSS IN UPLAND AREA
EDGE OF EXISTING RIGHT-OF-WAY (TYP.)
WETLAND CROSSING OPTION:
WETLAND DOES NOT COMPLETELY CROSS RIGHT-OF-WAY
EDGE OF WETLAND
WETLAND AVOIDANCE
FIGURE 1a – AVOIDANCE
CROSS WETLAND IN A STRAIGHT LINE TO MINIMIZE IMPACTS (UTILIZE EXISTING CROSSING IF PRESENT)
EDGE OF EXISTING RIGHT-OF-WAY (TYP.)
WETLAND CROSSING OPTION:
WETLAND CROSSES RIGHT-OF-WAY AND NARROWS AT ONE SIDE
EDGE OF WETLAND
WETLAND AVOIDANCE
FIGURE 1b – MINIMIZATION
(CROSSING AT NARROWEST LOCATION)
CROSS WETLAND IN A STRAIGHT LINE TO MINIMIZE IMPACTS (UTILIZE EXISTING CROSSING IF PRESENT)
EDGE OF EXISTING RIGHT-OF-WAY (TYP.)
WETLAND CROSSING OPTION:
WETLAND CROSSES RIGHT-OF-WAY APPROXIMATE SAME WIDTH
EDGE OF WETLAND
WETLAND AVOIDANCE
FIGURE 1c – MINIMIZATION
(CROSSING UNIFORM WIDTH IN A STRAIGHT LINE)

**Appı**

### 1.2 Historically Significant Areas

Areas that have been identified as historically and/or culturally significant shall be avoided in accordance with site-specific avoidance plans, as applicable. Refer to the project-specific Environmental Field Issue (EFI) for any applicable avoidance plans or consult with the National Grid Environmental Scientist. Demarcation of these areas to be avoided shall use staked orange snow fencing or an equivalent physical barrier (not just ribbon flagging) and signage. Refer to Section 14.0 for signage guidance.

### 1.3 Rare Species Habitat

Work within areas that have been identified as mapped rare species habitat shall follow site-specific requirements, as applicable. In Massachusetts, maintenance activities within mapped habitat (known as Priority Habitat of Rare Species) shall follow the BMPs outlined in the Natural Heritage Endangered Species Program (NHESP)-approved National Grid Operation and Maintenance Plan. Work in mapped rare species habitat may require, at a minimum, turtle training for crews and sweeps of work areas for turtles, botanist identification of rare plant locations and avoidance of these locations, and protection of vernal pools, all prior to the start of work. Demarcation of these areas to be avoided (e.g., rare plant populations, overwintering turtles, nests) shall use staked orange snow fencing or an equivalent physical barrier (not just ribbon flagging) and signage. Refer to Section 14.0 for signage guidance.

Where new substations are being constructed or existing substations are undergoing a rebuild or expansion, and the substations are located in mapped rare turtle habitat, project team members should consider fenceline improvements or measures needed to prevent/eliminate turtle entrance into the substation or allow multiple points for easy egress such that turtles are not trapped within the substation fenceline.

Other requirements may apply in NH, VT and RI. Refer to the project-specific EFI for any applicable measures or consult with the National Grid Environmental Scientist.

### 1.4 Meetings

Pre-permitting meetings shall take place early in the project development process to determine what permits are triggered by the proposed work and the timeline required for permitting. During these meetings, the team shall develop access plans and BMPs to be used during construction of the project.

Field / Constructability review meetings shall take place on-site to evaluate construction site access and job site set-up, to ensure that the project can proceed as permitted. It is at this point in time where work areas, pulling locations, laydown areas, parking areas, and equipment storage areas are evaluated and located. Off-ROW areas under consideration should be included in this discussion.

Prior to submitting permit plans to regulatory authorities, the construction group (contractor or National Grid) shall review the plans for final sign off.

Pre-construction meetings are typically held prior to the commencement of all work to appoint responsible parties, discuss timing of work, and further consider options to avoid and/or minimize impacts to sensitive areas. These meetings can occur on- or off-site and shall include all the willing and available stakeholders (i.e., utility employees, contractors, consultants, inspectors, and/or monitors, and regulatory personnel). Training of crews and supervisors of the EFI, Stormwater Pollution Prevention Plan (SWPPP), rare species, and other permit requirements shall be conducted at a pre-construction meeting.

Pre-job briefings shall be conducted daily or otherwise routinely scheduled meetings shall be conducted on-site with the work crew throughout the duration of the work. These meetings are a way of keeping everyone up to date, confirming there is consensus on work methods and responsibilities, and ensuring that tasks are being fulfilled with as little impact to the environment as possible.

The Project Environmental Scientist/Monitor and Construction Project Manager shall communicate regularly (e.g. weekly or bi-weekly meetings or phone conversations) to discuss the work completed since last communication (i.e. work locations, wetland impacts, equipment used, and unexpected delays or work conditions). These meetings or calls shall include the expected schedule of construction for the upcoming week, the long term construction plans, and planned methods for working near/in wetlands. Both the Project Environmental Scientist/Monitor and Construction Project Manager shall work together so the Project complies with all environmental permits and regulations. When changes to the Project scope or agreed work plan are proposed they shall be done so with the final approval of the National Grid Environmental Scientist.

### 1.5 Communication of Project Specific Environmental Requirements

Project specific environmental concerns, to include sensitive resources, permits, approved access and time-of-year or other restrictions, shall be communicated to the project team and be included as part of the Pre-Bid and Pre-Construction Meetings. Project specific requirements shall be communicated to the project manager/construction manager/engineering group using the following guidelines:

Environmental Field Issue – The EFI will be a full document consisting of narrative, project permits, access and matting plans. A table summarizing pertinent (but not all) permit conditions and the responsible party for those conditions shall be included in the EFI. Copies of all permits should be included as attachments. This will be prepared for most projects with multiple permits or large, complex projects (siting board, Section 404, 401 WQC, SWPPP). There shall be EFI training at the pre-construction meeting. The National Grid EFI template is located in **EI-303NE**.

Simplified Environmental Field Issue – The Simplified EFI is a memorandum containing environmental resources present, project permit(s), access and matting plans and a table summarizing relevant permit conditions and responsible party for those conditions. Copies of all permits should be included as attachments. The Simplified EFI will be prepared for most projects with 1 or 2 permits (Order of Conditions, S404 Cat 1). The Simplified EFI should also be provided for projects that have environmental resources present, but the scope of the project does not trigger environmental permitting (e.g., the scope of work qualifies for maintenance exemption(s)). The resources present

shall be discussed at the Pre-Bid and Pre-Construction meetings and any changes in scope will require additional review by the National Grid project team.

E-mail delivery of Permit and any Sediment/Erosion control or BMP plan – For those projects with only one permit (eg., MA Order of Conditions, RI DEM permit, RI CRMC permit, NH Utility Notification) or projects with a sediment & erosion control plan (local town requirement or for exempt maintenance work), a copy of the permit and any applicable plan will be emailed to the Project Manager (and the project team where deemed necessary) to be incorporated into the Construction Field Issue.

STORMS work management system input – For STORMS work, no EFI is prepared unless multiple permits are required for the project (see guidance above). If only a MA Order of Conditions, MA Determination of Applicability, RI DEM permit, RI CRMC permit, RI SESC Approval, or NH Utility Notification is required, then the permit is attached in the Documents tab and conditions noted in Remarks/Comments section. Standard STORMS boilerplate language is located in **EI-303NE**.

### 1.6 Timing of Work

Regulatory authorities may place seasonal or time-of-year restrictions on project construction elements. These time-of-year restrictions may be state or permit-specific, and shall be adhered to.

Work during frozen conditions. Activities conducted once wetland areas are frozen sufficient to minimize rutting and other impacts to the surrounding environment may be authorized by the National Grid Environmental Scientist. Work during this time also generally reduces disturbance of aquatic and terrestrial wildlife movement by avoiding sensitive breeding and nesting seasons. When not using mats for access, vehicles shall not be allowed to drive across wetlands without the prior approval of the National Grid Environmental Scientist.

Work during the regulatory low-flow period. Conducting work during the low-flow period can reduce impacts to surface water and generally avoids spawning and breeding seasons of aquatic organisms. If the water is above normal seasonal levels, adjustments to work activities and methods are required.

### 1.7 Alternate Access

#### 1.7.1 Manual Access

In some cases such as for smaller projects, work areas can be accessed manually. This includes access on foot through upland and shallow wetland areas, access by boat through open water or ponded areas, and climbing of structures where possible. Smaller projects, such as repair of individual structures, or parts of structures, that do not categorically require the use of heavy machinery, shall be accessed manually to the greatest extent practicable.

#### 1.7.2 Use of Overhead/Aerial Access

Using helicopters can be expensive and is not always feasible, but it may be appropriate in some situations in order to get workers and equipment to a site that otherwise may be very difficult to access. The use of overhead and/or aerial equipment may be beneficial for work in areas where larger water bodies, deep crevices, or mountainous areas hinder ground access. The landing area for

helicopters shall be reviewed for environmentally sensitive resources. Use of helicopters requires Project Manager and Senior Management approval.

## 2.0 Inspection, Monitoring and Maintenance

All construction practices and controls shall be inspected on a regular basis and in accordance with all applicable permits and local, state, and federal regulations to avoid and correct ANY damage to sensitive areas.

The construction crews shall be responsible for completing daily inspections, and IMMEDIATELY bring any **damage or observed erosion, or failed erosion controls** to the attention of the Person-In-Charge and the National Grid Environmental Scientist. Where applicable and/or as directed by environmental permits issued for the project, the Project Environmental Consultant shall conduct weekly (at a minimum) inspections of the project work areas and shall document their inspection using the Stormwater, Wetlands & Priority Habitat Environmental Compliance Site Inspection / Monitoring Report form found in **Appendix 3** and issue the report within 24 hours. The Person-in-Charge shall work with the National Grid Environmental Scientist and the Project Environmental Consultant to determine when and how the repairs shall be made.

Project-specific Action Logs and Long-Term Restoration Logs are prepared as needed by the National Grid Environmental Scientist or the Project Environmental Consultant to track issues and/or repairs and assign responsible parties.

## 3.0 Best Management Practices

The BMP sections presented in this EG address access, construction, snow and ice management, structures in wetlands, access road maintenance and repair, clean-up and restoration standards, ROW gates, field refueling and maintenance operations, management of spills/releases, and a summary of key construction BMPs.

Note that BMPs shown on any permit drawings for a specific project may need to be revised and or supplemented during the execution of a project based on unforeseen or unexpected factors such as extreme weather or unknown subsurface conditions. It is the responsibility of the Contractor to work with the National Grid Environmental Scientist and/or the Project Environmental Consultant to identify necessary changes and to ensure that construction-related impacts to wetlands, water bodies and other environmentally sensitive areas are avoided.

**Any deviation from the approved BMPs shown in the EFI and/or SWPPP plans shall be communicated immediately to the National Grid Environmental Scientist as it may require additional permitting or could result in a permit violation.**

### 3.1 Wetland Boundary Demarcation

Prior to the start of any activity conducted under an environmental permit, wetland boundaries shall be reviewed. Flagging for wetland boundaries, stream banks and other resource areas shall be

refreshed as needed. This may become particularly important when the original flagging was placed in previous seasons and now may have become obscured.

### 3.2 Sedimentation and Erosion Controls

Appropriate sedimentation and erosion control devices shall be installed at work sites, in accordance with permit conditions and/or regulatory approvals, and as needed to prevent adverse impacts to water resources and adjacent properties.

The overall purpose of such controls is to prevent and control the movement of disturbed soil and sediment from work sites to adjacent, undisturbed areas, and particularly to water resources, public roads and adjacent properties. All proprietary controls shall be installed per manufacturer's recommendations and specifications.

Appropriate sedimentation and erosion control devices include but are not limited to: silt fencing, straw bales, wood chip bags, straw wattles, compost socks, erosion control blankets, mulch, slope interruption practices, flocculent powder/blocks and storm drain/catch basin inlet protection. Such controls shall be installed between the work area and environmentally sensitive areas such as wetlands, streams, drainage courses, roads and adjacent property when work activities shall disturb soils and result in a potential for causing sedimentation and erosion.

In Massachusetts, use of monofilament-encased wattles shall be avoided in mapped Priority Habitat for snakes and amphibians. For projects with work within mapped Priority Habitat for snakes and amphibians, wattles that are encased in a sock, hemp, fiber, or movable jute netting are required to prevent entrapment. Also, "wildlife gaps" should occur every 50 feet, if possible, given wetland permit conditions. This spacing of the wattles allows snakes and amphibians to move across the ROW. Refer to the Amphibian and Reptile BMPs in **Appendix 4**.

Staked straw bales often serve as the demarcation of the limits of work and/or sensitive areas to be avoided. Work shall never be conducted outside the limit of erosion controls without prior approval from the National Grid Environmental Scientist.

Project plans depict proposed erosion controls, however field conditions may warrant additional practices be implemented (e.g., wet conditions, frozen conditions, poorly drained soils, steep slopes, materials used for work pads, transition areas to construction mats, number of trips across work areas, etc.).

**Any deviation from the approved erosion controls shown in the EFI and/or SWPPP plans needs to be communicated immediately to the National Grid Environmental Scientist as it may require additional permitting or result in a permit violation.**

**Appendix 4** provides typical sketches of common sedimentation and erosion controls. If a SWPPP is required for the project, maintenance and inspection of erosion controls shall follow the SWPPP requirements. Sedimentation and erosion controls shall be properly maintained and inspected on a

periodic basis, until work sites are properly stabilized and restored. Inspections shall be documented using the Inspection Form "Storm Water, Wetlands & Priority Habitat Environmental Compliance Site Inspection/Monitoring Report" (**Appendix 3**).

The sequence and timing of the installation of sedimentation and erosion control measures is critical to their success. Sedimentation and erosion controls shall be installed prior to commencing construction activities that may result in any soil disturbance or cause otherwise polluted site runoff. Inspection of these devices may be required by the National Grid Environmental Scientist or by regulators prior to the start of work. The installation of water bars and other erosion control measures shall be installed shortly thereafter.

### 3.3 Concrete Wash Outs

Concrete wash outs shall be used for management of concrete waste. Concrete and concrete washout water shall not be deposited or discharged directly on the ground, in wetlands or waterbodies, or in catch basins or other drainage structures. Where possible, concrete washouts shall be located away from wetlands or other sensitive areas. Consult the National Grid Environmental Scientist on proposed concrete wash out locations prior to their use. Following the completion of concrete pouring operations, the wash outs shall be disposed of off-site with other construction debris. Refer to BMPs in **Appendix 4**.

### 3.4 Construction Activities in Standing Water

The use of silt curtains or turbidity barriers may be required when working in or adjacent to standing water such as ponds, reservoirs, low flowing rivers/streams, or coastal areas. Silt curtains and turbidity barriers prevent sediment from migrating beyond the immediate work area into the resource areas.

Coffer dams constructed using sheet piling or large sandbags (Trade names such as "the Big Bag" or "DamItDams") may be used to temporarily isolate and contain a work area in standing water.

When working in standing water, an oil absorbent boom, in addition to a silt curtain or other temporary barrier, shall be placed around the work area for spill prevention.

Work in drinking water reservoirs or other waters may require extensive regulatory agency review, even for maintenance work, which could result in additional time required for permitting, review and material procurement prior to the start of work.

### 3.5 Dewatering

Where excavations require the need for dewatering of groundwater or accumulated stormwater, the water shall be treated before discharge. Appropriate controls include dewatering basins, flocculent blocks, filter bags, filter socks, or weir tanks. Schematics of these BMPs are included in **Appendix 4**. Water trucks or fractionation tanks may be utilized if watertight containers are desired for controlled on-site discharge or for off-site discharge into an approved dewatering area when site restrictions make it difficult to utilize other dewatering methods on-site. Dewatering discharge water shall never be directed into wetlands, streams/rivers, other sensitive resource areas, catch basins, other

stormwater devices, or substation Trenwa trenches. Dewatering flow shall be controlled so that it does not cause scouring or erosion through the use of a dewatering basin, filter sock, or equivalent. If it is determined that the chosen controls are not appropriately filtering the fine sediment from the dewatering pumpate then the National Grid Environmental Scientist shall be notified immediately and the controls shall be revised or supplemented.

When establishing a dewatering basin, consideration should be given to the anticipated volume of water and rate of pumping in determining the size of the dewatering basin. Dewatering basins shall be constructed on level ground. Once pumping commences, the basin shall be monitored frequently to assure that the rate of water delivery to the structure is low enough to prevent water from flowing, unfiltered, over the top of the basin walls. The basin shall be monitored throughout the dewatering process because the rate of filtration shall decrease as sediment clogs the filter fabric. If the basin is not appropriately filtering the fine sediment from the dewatering pumpate then the basin may need to be supplemented with a flocculent block. Field conditions shall dictate how often the basin should be inspected.

Distance to sensitive areas, direction of flow (toward or away from protected, or sensitive areas, such as wetlands, ponds, or streams), amount of vegetative ground cover between the basin and nearby sensitive areas, ground conditions (ledge, frozen, etc.), volume of water being pumped, and pump-rate, are some of the factors to be considered when determining an inspection frequency. Clogged filter fabric shall be replaced and accumulated sediment shall be removed as necessary from the basins to maintain efficacy.

Any new dewatering location (not previously reviewed and approved by the National Grid Environmental Scientist during project planning or permitting) shall be reviewed and the discharge location approved by the National Grid Environmental Scientist before use.

Complex projects that require large scale dewatering shall require individual review by the National Grid Environmental Scientist and may trigger additional permitting.

Dewatering in areas of known chemical contamination may require a separate NPDES permit, or other approval, and treatment or containment system. Consult with the National Grid Environmental Scientist.

#### 3.5.1 Overnight Dewatering

Some projects may necessitate 24-hour dewatering for on-site construction activities. Overnight dewatering will be evaluated on a case-by-case basis by the National Grid Environmental Department.

If it is necessary to conduct overnight dewatering on a project, a dewatering plan must be submitted to the Environmental Department for review and approval **5 business days prior to beginning dewatering activities**. Sufficient knowledge of flow, discharge, and re-infiltration rate of water must be obtained and submitted for review. The Environmental Department

may require monitored dewatering for a period of time in order to provide this data in support of a request for 24-hour dewatering. The dewatering plan must include at a minimum:

1. Location of dewatering system, system components (basin, frac tank, etc), and materials.
2. Location of discharge and distance from closest wetland.
3. Location of erosion controls. A secondary perimeter of erosion controls will be required around the dewatering system for overnight dewatering.
4. Peak flow, discharge rate and re-infiltration rates.
5. Visual monitoring plan for discharge. Expected duration of dewatering.
6. Emergency provisions if overnight, unattended dewatering is proposed.

### 3.5.2 Dewatering Clean Up/Restoration

Basins shall be cleaned and removed as soon as dewatering is complete. Sediment removed from the dewatering basin shall be allowed to dry before being disposed of by evenly spreading it over unvegetated upland areas where erosion is not a concern if clean or removing it from the site for proper disposal. Off-site trucking of wet soils is prohibited. The sediment disposal area shall be approved by the National Grid Environmental Scientist or the Project Environmental Consultant prior to use. Stabilization measures shall also need to implemented and approved by the National Grid Environmental Scientist or the Project Environmental Consultant. Soils/sediments shall be dewatered and dried to the point practicable for either on-Site reuse or off-Site transport.

## 3.6 Check Dams

Check dams are a porous physical barrier installed perpendicular to concentrated storm water flow. They are used to reduce erosion in a swale by reducing runoff energy (velocity), while filtering storm water, thereby aiding in the removal of suspended solids.

Check dams should only be used in small drainage swales that shall not be overtopped by flow once the dams are constructed. These dams should not be placed in streams. Check dams are typically installed in ROWs or on other construction sites prior to the start of soil disturbing work. Per the Rhode Island Soil Erosion and Sediment Control Handbook, no formal design is required for a check dam if the contributing drainage area is 2 acres or less and its intended use is shorter than 6 months; however, the following criteria should be adhered to when specifying check dams.

- The drainage area of the ditch or swale being protected should not exceed 10 acres.
- The maximum height of the check dam should be 2 feet.
- The center of the check dam must be at least 6 inches lower than the outer edges.
- The maximum spacing between the dams should be such that the toe at the upstream dam is at the same elevation as the top of the downstream dam.

Per the NHDES stormwater manual, the use of check dams should be limited to swales with longitudinal slopes that range between 2 to 5 percent that convey drainage from an area less than 1 acre. Existing conditions that exceed these limitations should be assessed in the field and discussed

with the National Grid Environmental Scientist to determine the viability of this BMP for the specific application. Check dams are often comprised of stone, straw bales, sand bags, or compost/silt socks. Use of check dams should be coordinated with the National Grid Environmental Scientist to ensure that the material selection, spacing and construction method are appropriate for the site. Check dams composed of biodegradable materials (e.g. straw bales or wattles, wood chip bags) may require periodic replacement for continued proper functioning[1]. Refer to BMPs in **Appendix 4**.

### 3.7 Water Bars

Water bars should be used on sloping ROWs to divert storm water runoff from unstabilized or active access roads when needed to prevent erosion. Surface disturbance and tire compaction promote gully formation by increasing the concentration and velocity of runoff. Water bars are constructed by forming a ridge or ridge and channel diagonally across the sloping ROW. Each outlet should be stable. The height and side slopes of the ridge and channel are designed to divert water and to allow vehicles to cross. When siting water bars, consideration shall be given to the sensitivity of the area receiving the diverted runoff. For example, runoff should not be directed into a wetland, waterbody, other environmentally sensitive areas, or to private property or public roadways. Refer to BMPs in **Appendix 4**.

### 3.8 Retaining Walls

In some situations, retaining walls comprised of concrete blocks, gabions, boulders or other comparable materials may be required to stabilize the shoulder of existing access roads and/or supplement required erosion controls. Installation of such measures shall not be allowed as a maintenance activity. Should these controls be considered for a project, it shall be reviewed by the National Grid Environmental Scientist, as design and additional permitting may be required.

### 3.9 Slope Stabilization

Temporary slope stabilization practices help to keep exposed, erodible soils stabilized while vegetation is becoming established. Acceptable temporary slope stabilization practices may include the use of erosion control blankets, or hydraulic erosion control. Erosion control blankets, often comprised of natural fibers (e.g., jute, straw, coconut, or other degradable materials) are a useful slope stabilization, erosion control and vegetation establishment practice for ditches or steep slopes. Blankets are typically installed after final grading and seeding for temporary or permanent seeding applications. Hydraulic erosion control practices, including Bonded Fiber Matrix or hydroseed with a soil stabilizer (e.g., tackifier and/or mulch) may be an acceptable or desirable alternative form of temporary slope stabilization. For all practices, manufacturer's specifications should be followed for installation depending on slope and other field conditions. Consult the National Grid Environmental Scientist prior to selecting and installing any slope stabilization practices. Refer to BMPs in **Appendix 4**.

### 3.10 Maintenance of Sedimentation and Erosion Controls

[1] Grass growth on a biodegradable type check dam is evidence that the material is decomposing. While this doesn't mean it is no longer functioning, it means it may be in a weakened condition and could potentially fail under high flow velocity. It is acceptable for grass to be growing on a stone check dam.

Sedimentation and erosion controls shall be maintained in good operational condition during the course of the work. This includes, but is not limited to, replacing straw bales that are no longer in good condition, re-staking straw bales, replacing or re-staking silt fence, and removing accumulated sediment. Remove sediment before it has accumulated to one half the height of any exposed silt fence fabric, straw bales, other filter berm, check dams or water bars. Accumulated sediment shall be removed from sedimentation basins to maintain their efficacy. Manage the removed sediment by evenly spreading it over unvegetated upland areas where erosion is not a concern, by stockpiling and stabilizing, or by disposing of off-site. Stabilization measures shall also need to be implemented and approved by the National Grid Environmental Scientist or the Project Environmental Consultant. Where a SWPPP has been prepared for a specific site, the guidelines documented therein shall govern the management of sediment.

## 4.0 Right-of-Way (ROW) Access

Whenever possible, access shall be gained along existing access routes or roads within the ROW. However, in some cases there is no existing access. In many cases, temporary access can be utilized. The following practices provide general guidance on accessing a ROW. Check with a National Grid Environmental Scientist to determine if any environmental permitting is required before utilizing a temporary access.

Note that the building of new roads or enlargement of existing roads is **prohibited** unless this activity is allowed by a project-specific permit, and the new roads appear on the Site Plans that were authorized in the regulatory approvals.

### 4.1 Off-ROW Access

Off-ROW access shall be evaluated for wetlands, rare species, cultural resources and other potential sensitive receptors, as applicable. National Grid Real Estate and Stakeholder Relations shall also be contacted as soon as possible once off-ROW access is determined to be needed.

### 4.2 Stabilized Construction Entrance/Exit for Access to ROWs from Public or Private Roads

A suitable (minimum 15-foot wide by 50-foot long) construction entrance/exit shall be installed at the intersection of the ROW access road/route with public/private paved roads, or other such locations where equipment could track mud or soil onto paved roads. The construction entrance/exit should be comprised of clean stone installed over a geotextile fabric. Geotextile fabric may be omitted for permanent construction entrances/exits on a case-by-case basis with the approval of the National Grid Environmental Scientist. Refer to BMPs in **Appendix 4**.

Construction entrance areas shall be monitored and maintained to ensure that stone or other material is not deposited onto the roadway, causing a safety concern. Where track-out of sediment has occurred onto a roadway, it shall be swept off the road by the end of that same work day.

If a construction entrance/exit is clogged with sediment and no longer functions, the sediment and stone may require removal and replacement with additional clean stone (clean stone refreshment) to

ensure this tracking pad is performing its intended function adequately. Heavier traffic use may require this clean stone refreshment multiple times throughout a project. Reinforcement of these stabilized construction entrance/exits with asphalt binder or asphalt millings is not likely to be considered "maintenance" and may trigger additional permitting requirements[2]. In some cases, heavily used construction entrances/exits may benefit from the installation of a 5-15 foot strip of asphalt binder or asphalt millings closest to the paved roadway to capture any stone that is tracked from the stone apron. Such cases shall be evaluated on an individual basis with the National Grid Environmental Scientist.

Once work is complete, the construction entrance/exit shall either be removed or retained, depending upon future maintenance-related access needs, property ownership, and/or project-specific approvals. If removed, the area shall be graded, seeded (if adequate root and seed stock are absent) and mulched. Proper approvals for leaving access roads in place shall be obtained; contact the National Grid Environmental Scientist and Property Legal.

### 4.3 Maintenance of Existing Access Roads

In many cases, the existing access road may need to be maintained to allow passage of the heavy equipment required for scheduled maintenance work. Access roads cannot deviate from the approved and permitted access plans. Maintenance of these roads may include adding clean gravel or clean crushed stone to fill depressions and eroded areas. This activity shall be conducted only within the width of the existing access road footprint and does not include widening existing access roads

If gravel begins to migrate onto the existing vegetated road shoulder, this gravel shall be removed during the project and/or after the completion of use of the road to ensure the road fill is not spreading into adjacent resource areas, or resulting in the road becoming much wider than its pre-existing or permitted condition. In some areas of mapped rare species habitat or other sensitive areas where project-specific permit conditions require the prevention of the migration of sediments into adjacent resources, an engineered stabilization system (e.g., GeoWeb or similar) may be suitable to prevent sedimentation while allowing for unrestricted wildlife migration.

In Massachusetts, any proposed widening of access roads in turtle Priority Habitat would require individual consultation with NHESP and, depending on the level of impact proposed, may require a Project Review filing. The limited filling of ruts or potholes is compatible with the National Grid Operation and Maintenance Plan approved by NHESP under the Massachusetts Endangered Species Act, however, severely rutted access roads in turtle Priority Habitat that require extensive linear feet of stone for safe passage will require individual consultation with NHESP.

Major reconstruction projects may require multiple permits. In all cases, the fill to be used for existing access roads shall be clean and free of construction debris, trash or woody debris. Use of processed

[2] Depending on the road, use of an asphalt binder or asphalt millings as a construction entrance/exit may trigger state or local permit requirements.

gravel may be approved by the Person-In-Charge and the National Grid Environmental Scientist, on a case-by-case basis. If clean stone is used then addition of more erosion controls may not be necessary.

### 4.5 Maintenance of Existing Culverts

Damaged culverts may not be repaired or replaced without consulting with the National Grid Environmental Scientist to determine if a permit is required. For functioning culverts, care shall be taken to protect adjacent wetlands and watercourses by installing appropriate sedimentation and erosion controls around the downstream end of the culvert. Culverts shall be repaired/replaced in kind and shall not be changed in size unless approval has been obtained from the National Grid Environmental Scientist. In-kind replacement is replacement using the same material, functional inverts, diameter and length as the existing culvert. Changes to any of these characteristics shall require permitting. Installation of any **new** culvert is not allowed without obtaining all necessary permits first. Refer to BMPs in **Appendix 4**.

If, at the time of anticipated replacement, there is heavy flow through the culvert, the Person-In-Charge shall consult with the National Grid Environmental Scientist, to verify whether the culvert shall be replaced at that time. Water may need to be temporarily diverted during culvert repair/replacement. There typically are seasonal restrictions limiting both the replacement of existing culverts as well as installation of new culverts to the low-flow period. The low-flow period can vary from state to state. If any unexpected conditions are encountered during culvert replacement, the National Grid Environmental Scientist shall be contacted immediately prior to the work being completed for additional consultation.

### 4.6 Temporary Construction Access over Drainage Ditch or Swale

In some situations, construction access from paved roads onto ROWs may require the crossing of drainage ditches or swales along the road shoulder. In these situations, the installation of construction mats, mat bridges or temporary culverts may facilitate construction access over the ditches or swales. These culverts shall be temporary only, sized for peak flow, and shall be removed after construction is complete. Consult with the National Grid Environmental Scientist prior to installation. In addition, if access over existing culverts may require extending the culvert, consult with the National Grid Environmental Scientist. Refer to BMPs in **Appendix 4**.

### 4.7 Construction Material along ROW

After preparing a site by clearing and/or installing any necessary erosion and sediment controls and prior to the start of construction, material such as poles, cross-arms, cable, insulators, stone and other engineered backfill materials may be placed along the ROW, as part of the project. The stockpiling of stone and other unconsolidated material on construction mats shall be avoided, if determined necessary due to access and work pad constraints, the material must be placed on a geotextile fabric and be properly contained with a sedimentation barrier such as straw wattle. No construction material shall be placed in wetlands or other sensitive resource areas unless authorized by the National Grid Environmental Scientist or Project Environmental Consultant.

## 5.0 Winter Conditions

### 5.1 Snow Management

Refer to **Appendix 6** for the current Snow Disposal Guidelines.

### 5.2 De-Icing

Where allowed, calcium chloride is preferred as a de-icing agent when applied according to manufacturer's guidelines in upland areas. Sand shall be used on construction mats through wetland areas.

Consult with the National Grid Environmental Scientist on de-icing agents when working in a facility or substation close to resource areas. Many municipalities have specific requirements for de-icing agents allowed within 100 feet of wetland resources and other sensitive areas.

### 5.3 Snow and Ice Management on Construction Mats

Proper snow removal on construction mats shall avoid the formation of ice. To avoid the formation of ice, snow shall be removed from construction mats before applying sand. Prior to their removal from wetlands, sand shall be collected from the construction mats and disposed of in an upland area. A round street sweeping brush mounted on the front of a truck may be an effective way to remove snow from construction mats. Propane heaters may also be suitable solutions for snow removal and/or de-icing of construction mats.

Once construction mats are removed, wetlands shall be inspected for build up of sand that may have fallen through construction mats. Care shall be taken to inspect wetland crossings as each mat is removed to ensure sand is properly removed and disposed of off-site.

## 6.0 Construction Mats

The use of construction mats allows for heavy equipment access within wetland areas. The use of construction mats minimizes the need to remove vegetation beneath the access way and helps to reduce the degree of soil disturbance and rutting in soft wetland soils. Construction mats most often used by National Grid are wooden timbers bolted together typically into 4-ft by 16-ft sections, wooden lattice mats, or composite mats. In some cases, construction mats or other mats are used for staging or access in upland areas based on site conditions (e.g., agricultural field access). Refer to BMPs in **Appendix 4**.

Typically construction mats may be installed on top of the existing vegetation, however in some instances cutting large woody vegetation may be required. Check with National Grid Environmental Scientist prior to cutting or clearing vegetation for construction mat placement.

Where an extended period of time has lapsed since wetland delineation and start of construction, and new vegetative growth has concealed wetland flagging or flagging is simply no longer obviously visible, wetland boundaries should be re-flagged where necessary prior to the installation of matting.

Follow the approved plans in the EFI for construction mat installation and do not deviate from the plans. **Any deviation from the approved plans needs to be communicated immediately to the National Grid Environmental Scientist as it may require additional permitting, require stopping the project or result in a permit violation or revocation.**

### 6.1 Construction Mats and Mowing

Close coordination with the mowing contractor shall be required to ensure that access plans are followed, and construction mats are utilized when necessary. Sometimes mowing contractors may have to work off the leading edge of a construction mat to mow in order to lay the next construction mat and continue further into the wetland. Under no circumstances shall trees or shrubs be allowed to be pulled out of the wetland by the root ball. The root ball of trees and shrubs shall remain intact. Chipping debris and excessive amounts of slash shall not be placed in wetlands or other resource areas. In some instances, it may be beneficial to pile a reasonable amount of slash within a nearby upland area to create habitat for wildlife. This activity shall be approved by the National Grid Environmental Scientist.

### 6.2 Stream Crossings and Stream Bank Stabilization

Stream crossings shall be bridged with construction mats or other temporary minimally-intrusive measures unless fording is acceptable for the site and is authorized by the National Grid Environmental Scientist. Care shall be taken when installing a construction mat bridge to insure that the stream bed and banks are not damaged during installation and removal and that stream flow is not unduly restricted. Where stream width allows, construction mats shall be installed to span the watercourse in its entirety without stringer placement in the water or any restriction of stream flow. Environmental permits may be required to cross or disturb protected waters, depending upon state-specific regulatory requirements. Refer to BMPs in **Appendix 4**. Immediately following construction mat removal, all stream banks shall be stabilized and restored to prevent sedimentation and erosion.

### 6.3 Cleaning of Construction Mats

Mats shall be certified clean by the vendor prior to installation. The vendor shall use the certification form provided as **Appendix 5** to document compliance. Clean is defined as being free of plant matter (stems, flowers, roots, etc), soil, or other deleterious materials prior to being brought to the project site. Any equipment or timber mats that have been placed or used within areas containing invasive species within the project site shall be cleaned of plant matter (stems, flowers, roots, etc), soil, or other deleterious materials at the site of the invasive species prior to being moved to other areas on the project site to prevent the spread of invasive species from one area to another[3]. **Mats shall be cleaned prior to being removed at the completion of the project: exceptions to this requirement may be made on a case-by-case basis.** Consult with the National Grid Environmental Scientist prior to discharging or disposing of any waste water or waste material from the cleaning of construction mats.

[3] On ROW projects where multiple wetlands may be dominated by the same invasive species, cleaning may not be required for movement along the ROW. Check with the National Grid Environmental scientist for guidance.

### 6.4 Stone Removal for Construction Mat Placement

For situations where the matting contractor determines that stones or boulders must be removed or relocated within wetland areas in order to install safe and level structure work pads or access roads the boulders shall be moved in a manner which does not result in significant soil disturbance (i.e., pushing with a bull dozer is not allowed). The boulders shall not be placed on any existing vegetated areas within wetlands or within vernal pools. When numerous boulders shall be removed from a wetland area, they shall be deposited in an upland area outside of the flagged wetland limits, outside of any cultural resource areas and outside of any RTE species populations. Any boulders that shall be placed within buffers (In MA, the 100-foot buffer zone, and in RI, the 50-foot Perimeter Wetland, 100-foot or 200-foot Riverbank Wetlands) shall be placed to avoid causing soil disturbance and they shall be within an approved limit of work. When there is a significant number of boulders that need to be removed, the National Grid Environmental Scientist shall be consulted for guidance.

### 6.5 Transition onto Mats

Erosion controls and stone or wood chip ramps shall be installed to promote a smooth transition to and minimize sediment tracking onto construction mats. Geotextile may be added beneath stone or wood chip transitions to facilitate removal, as necessitated by site or permit conditions. Mat transitions shall be removed once construction mats have been removed and during restoration. Refer to BMPs in **Appendix 4**.

### 6.6 Construction Material on Mats

The stockpiling of stone, drill spoils and other unconsolidated material on construction mats shall be avoided unless determined necessary due to access and work pad constraints. Additional controls, such as watertight mud boxes and geotextile/filter fabric over or between construction mats shall be considered for stockpile management. If material is placed on construction mats and falls through into wetlands, the material must be removed by hand. Saturated soils shall be allowed to dewater prior to off-site transport for sufficient time to ensure that water/sediment is not deposited onto construction mats or public roads during transport.

### 6.7 Mat Anchoring

The National Grid Environmental Scientist and Project environmental consultant shall indicate to the project team when mat anchoring may or shall be necessary. The matting contractor will propose the method of mat anchoring, which will be approved by the National Grid Environmental Scientist and the National Grid Construction Supervisor. The need for anchoring should be noted in the project EFI, on the project access and matting plans, and in the scope of the bid document (if externally sourced).

Anchoring of construction mats should be considered when any of the following conditions are presented at a project work location:

| Location | Considerations |
|---|---|
| Stream crossings<br>Shorelines of Ponds/Lakes<br>Wetlands<br>Floodplains | When located in a mapped flood area (A).<br>When mapped 100-year flood elevations (AE) are greater than 2 ft above existing grades.<br>Where past flash flood events have occurred.<br>Where steep terrain is present or surrounds the project location<br>When mats will be in place during hurricane season for greater than 2 weeks. |
| Tidal areas | When located in a Velocity (V or VE) Zone.<br>When mats will be in place during a moon tide cycle.<br>When mats will be in place during hurricane season for greater than 2 weeks. |

Examples of mat anchoring are provided below, but the implementation methods for anchoring mats are not limited to these examples. Where anchoring is determined to be necessary, the matting contractor should propose a method suitable based on field conditions and that takes crew safety, slip/trip/fall hazards, size of matting footprint, and other project and site-specific factors into consideration. Refer to BMPs in **Appendix 4**.

**Limited sets of mats**

- Cable or rope in chain pockets and run linearly, or
- Linear ropes anchored using helical screws, manta ray anchors, or posts.

**Larger sets of mats or those without chain pockets**

- Chain link fence posts or other posts driven in along mat edge every 3-4 feet and ropes then laced across mats between opposing posts before storm event, or
- Anchor bolts added to mats, then cable is laced between bolts and tied to helical or manta ray anchor.

### 6.8 Corduroy Roads

Corduroy roads are a wetland crossing method where logs are cut from the immediate area and used as a road bed to prevent rutting from equipment crossing. This technique is designed to be used in areas of wetland crossings where there is no defined channel or stream flow and should never be used in streams. Corduroy logs shall be placed in the narrowest area practicable for crossing with the logs placed perpendicular to the direction of travel across wet area. The use of corduroy logs shall only be in emergencies when approved by the National Grid Environmental Scientist or when they have been specifically permitted as part of a project. Refer to BMPs in **Appendix 4**.

### 6.9 Construction Mat Removal

Once construction mats are removed, wetlands shall be inspected for build up of sand or other materials that may have fallen through construction mats. Care shall be taken to inspect wetland

crossings as each mat is removed to ensure any materials are properly removed and disposed of off-site.

### 6.10 Utility Air Bridging

In ROWs where other utility facilities (including but not limited to gas, oil, fiber optic, electric, water, and sewer) are co-located within the transmission ROW, bridging may be required to cross those facilities. The project team shall coordinate with the respective utility company prior to determining if bridging or permanent crossings are required.

## 7.0 LGP Equipment Use

Only when approved by the National Grid Environmental Scientist on a case-by-case basis shall equipment with a LGP **psi that meets the state-specific USACE General Permit requirement when loaded** be allowed to access through wetlands. Refer to the state-specific General Permit for the definition of LGP in each state at: http://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/, or to the summary table provided below. The National Grid Environmental Scientist's approval of the use of LGP equipment through wetlands depends on several criteria including:

- Time of year. LGP equipment use may be allowed if weather and field conditions at the time of construction are suitable to eliminate/minimize the concern of rutting or other impacts. Frozen, frozen snow pack, low flow, drought conditions, or unsaturated surface soil conditions are typically acceptable conditions. Spring and fall construction, due to the typical higher precipitation, are not suitable times of year for LGP equipment use.
- Number of trips. Multiple trips through a wetland have shown to increase the potential for damage and require matting. LGP equipment use shall likely only be approved if trips are limited to one trip in and one trip out.
- Type of wetland system. Some wetlands have harder soils/substrate, and may be passable without causing significant damage. Some of the wetlands along National Grid ROWs have existing hard bottom roads that have been vegetated over time and may be traversed with LGP equipment without construction mats.
- Emergencies. LGP equipment use may be allowed during emergency or storm conditions for outage restoration.
- State-specific USACE General Permit Performance Standards. The standard is for no impact to the wetland, which may be obtained by using LGP equipment **when loaded**). "*Where construction requires heavy equipment operation in wetlands, the equipment shall either have low ground pressure (as specified in the USACE GP), or shall not be located directly on wetland soils and vegetation; it shall be placed on construction mats that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation*."
- Local bylaws. Municipal wetland bylaws, where applicable, shall be reviewed for prohibitive conditions or applicable performance standards.

LGP equipment is prohibited in the following resources areas:

- Stream crossings
- State listed-species habitat
- Outstanding Resource Waters (ORWs)
- Vernal pools
- Archaeological sensitive areas

Where LGP equipment use is desired in lieu of construction mats, the construction supervisor should identify these areas on marked-up access plans. A site visit with the Project Environmental Monitor should be scheduled to assess if the proposed locations are potential candidates. The Project Environmental Monitor will document potentially suitable locations and dismiss others as unsuitable.

**ACOE New England District General Permit Requirements**

| State | Restrictions | Maximum PSI (when loaded) for Use without Mats | Reference |
|---|---|---|---|
| MA | *One of the following must apply:*<br>Equipment operated within wetlands shall:<br>a) Have low ground pressure;<br>b) Be placed on timber mats that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation; or<br>c) Equipment must be operated on adequately dry or frozen conditions such that shear pressure does not cause subsidence of the wetlands immediately beneath equipment and upheaval of adjacent wetlands. | 3 psi | MA General Permit, General Condition 13 |
| NH | *One of the following must apply:*<br>Equipment operated within wetlands shall:<br>a) Have low ground pressure;<br>b) Be placed on timber mats that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation; or<br>c) Be operated on frozen wetlands. | 4 psi | NH General Permit, General Condition 17 |
| VT | *One of the following must apply:*<br>Equipment operated within wetlands shall:<br>a) Have low ground pressure;<br>b) Be placed on timber mats that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation; or<br>c) Be operated on frozen wetlands such that shear pressure does not cause subsidence of the wetlands immediately beneath equipment and upheaval of adjacent wetlands.<br>Note: Written authorization from the Corps required to waive the use of mats during frozen or dry conditions. | 3 psi | Vermont General Permit, General Condition 14 |
| RI | *One of the following must apply:*<br>Equipment operated within wetlands shall:<br>a) Have low ground pressure;<br>b) Be placed on timber mats that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation; or<br>c) Be operated on frozen wetlands such that shear pressure does not cause subsidence of the wetlands immediately beneath | 6 psi | Rhode Island General Permit, General Condition 15 |

| State | Restrictions | Maximum PSI (when loaded) for Use without Mats | Reference |
|---|---|---|---|
| | equipment and upheaval of adjacent wetlands.<br>Note: Written authorization from the Corps required to waive the use of mats during frozen or dry conditions. | | |

Due to the fact that ground conditions may change between the time of the evaluation and construction, LGP equipment approval is required **at the time of construction for each wetland crossing** and shall be dependent upon the above conditions. In addition, LGP equipment use and approval shall be assessed by the National Grid Environmental Scientist or Project Environmental Monitor during construction on a continuing basis

Once a location is approved for the use of LGP equipment:

- The Construction Supervisor must check-in with the Project Environmental Monitor at least two weeks before construction begins to ensure conditions remain suitable for LGP equipment use, and weather conditions are favorable.
- The Project Environmental Monitor must observe the equipment when in use.
- LGP equipment use shall cease immediately if field conditions are found to be unsuitable (i.e. soil rutting greater than six inches or the destruction of vegetation root systems beyond the capacity of natural revegetation).
- **If wetlands damage occurs, the use of the LGP equipment shall be suspended, and the wetlands be restored.**
- Any LGP equipment used within areas containing invasive species within the project site shall be cleaned of plant matter (stems, flowers, roots, etc), soil, or other deleterious materials at the site of the invasive species prior to being moved to other areas on the project site to prevent the spread of invasive species from one area to another.

## 8.0 Soil Disturbing Activities

### 8.1 Dust Control

Cutting activities shall be conducted to minimize the impacts of dust on the surrounding areas. Dust suppression is an important consideration. Water or application of calcium chloride or other National Grid approved equivalent in accordance with the manufacturer's guidelines may be used for dust control along ROWs in upland areas. During application of water for dust control, care shall be taken to ensure that water does not create run-off or erosion issues. Refer to BMPs in **Appendix 4.**

### 8.2 Clearing

Clearing is not allowed without specific permission as it constitutes soil disturbance under several regulatory programs and may trigger permitting by increasing the project's footprint of disturbance. If

clearing is required for a project, the limit of clearing shall be established with flagging or construction fencing and/or erosion controls. Clearing shall be done in accordance with project specific permits. Following the completion of clearing, the limits of work shall be re-established. Refer to BMPs in **Appendix 4**.

### 8.3 Grubbing

Grubbing is not allowed without specific permission as it constitutes soil disturbance under several regulatory programs and likely triggers permitting by increasing the project's footprint of disturbance. If grubbing is required for a project, the limit of grubbing shall be re-established after clearing has been completed. The area of grubbing shall be identified with flagging or construction fencing and/or erosion controls. Grubbing shall be conducted in accordance with project-specific permits.

### 8.4 Blasting, Noise and Vibration Control

If blasting is anticipated, the project team, including the National Grid Environmental Scientist, shall be consulted. If possible, plan work in residential areas to avoid noisy activities at night, weekends or during evenings. Emergency work in residential areas should be carried out in such a way as to keep noise to a minimum at night and weekends. Equipment should be maintained as per the manufacturer's guidance to minimize noise and vibration.

Work plans must consider local noise ordinances and provide specific controls to ensure noise levels are maintained within specified limitations.

### 8.5 Site Grading

The work site shall not be graded other than in accordance with project permits. Any proposed grading shall be reviewed by the National Grid Environmental Scientist for wetlands, rare species habitat, areas of cultural and historical significance, and other environmentally sensitive areas prior to start of work. In some cases, additional testing for cultural or historical resources may be triggered by proposed grading; alternatives to grading may be sought due to protracted time frame of obtaining the permit associated with testing and performing the testing. Grading outside of a regulated area shall be kept to the minimum extent necessary for safe and efficient operations and shall comply with the project permit plans.

Grading shall be performed in a manner which does not increase the erosion potential at the Site (e.g., terraces or slope interruptions shall be utilized). Graded sites shall be promptly stabilized by applying a National Grid approved seed mix (if adequate root and seed stock are absent), and mulching with hay, straw or cellulose (use straw or cellulose hydromulch where the potential introduction of invasive plant species is of concern) to reduce erosion and visual impact, as soon as possible following completion of work at the site. Grading within a regulated area shall be subject to the review and approval of the National Grid Environmental Scientist.

In some municipalities, site grading activities require the prior approval of the Town Engineer, Building and Zoning Official, or Public Works Director. Local ordinances or bylaws should be reviewed for applicable restrictions and permitting thresholds

### 8.6 Grounding Wells

The installation of grounding wells shall require erosion controls and proper soil management. Due to the typical depth required for grounding wells (typically 50 to 200 feet or more), erosion controls shall be installed around the proposed well location when working in buffer zone, in proximity to sensitive resources or near slopes. Also, dewatering basins may be required for the proper management of groundwater. The National Grid Environmental Scientist shall be consulted for the disposal of any excess soil.

### 8.7 Counterpoise and Cathodic Protection

The installation of counterpoise or cathodic protection shall require erosion controls and proper soil management. The National Grid Environmental Scientist shall be consulted for the disposal of any excess soil.

### 8.8 Work Pads

When work pads are being constructed, only clean material shall be used in their construction. Work pads shall only be constructed in areas approved by the National Grid Environmental Scientist and shown on the approved permit access plans.

### 8.9 Site Staging and Parking

During the project planning and permitting process, locations shall be identified for designated crew parking areas, material storage, and staging areas. Where possible, these areas should be located outside of buffer zones, watershed protection areas, and other environmentally sensitive areas. Any proposed locations shall be evaluated for all sensitive receptors and for new projects requiring permitting, shall be incorporated onto permitting and access plans.

### 8.10 Soil Stockpiling

Soil stockpiles shall be located in upland areas and, if in close proximity to wetlands and wetland buffers, shall be enclosed by staked straw bales or another erosion control barrier. The stockpiling of stone, drill spoils and other unconsolidated material on construction mats shall be avoided unless determined necessary due to access and work pad constraints. Additional controls, such as watertight mud boxes and geotextile/filter fabric over or between construction mats shall be considered for stockpile management. If material is placed on construction mats and falls through into wetlands, the material must be removed by hand. Saturated soils shall be allowed to dewater prior to off-site transport for sufficient time to ensure that water/sediment is not deposited onto construction mats or public roads during transport.

### 8.11 Top Soil/High Organic Content Soil

When the work site requires excavation and grading, the top soil shall be stockpiled separately from the material excavated. This top soil shall be spread as a top dressing over the disturbed area during restoration of the site.

In some instances where work is occurring within wetlands, high organic content soil may be displaced. Such high organic content soil shall be segregated from other excavated materials and stockpiled for use in wetland restoration areas. Care shall be taken to minimize the handling of high organic content soil. Preferably, the soil shall be stockpiled in one location until it is moved to the restoration area.

## 9.0 Stone Wall Dismantling and Re-building

Removal or alteration of stonewalls shall be avoided, whenever possible. As appropriate, some stonewalls removed or breached by construction activities shall be repaired or rebuilt. Rebuilt stone walls shall be placed on the same alignment that existed prior to temporary removal, to the extent that it shall not interfere with operations. The removal and rebuilding of stone walls requires approval from the National Grid Environmental Scientist and Property Legal, and may require several weeks lead time for coordination. Note that not all states allow this technique and that dismantling may not be allowed at all due to quality or significance of the wall. Once a stone wall has been identified as requiring dismantling, the following procedures shall be followed:

- Identify stone wall that is required to be temporarily dismantled and notify project team that a site visit is warranted to review the stone wall.
- The National Grid Environmental Scientist, with support from Property Legal and/or cultural/historical consultant, shall determine if permitting or additional permissions are required prior to dismantling stone wall.
- Once permit or permissions have been received, full documentation of wall dimensions (measurements and photographs) shall be submitted to the National Grid Environmental Scientist. Documentation of the wall dimensions shall be marked onto a copy of the applicable EFI access plan (or equivalent plan) with a useful reference for future locating such as GPS coordinates and/or measurement from a permanent reference point (closest structure location or closest cross street, etc.). The wall shall be photographed from all sides with a written description of the photograph (i.e. southern side of wall looking north). In addition, documentation of the length of wall to be dismantled shall be recorded. Take special care to note if granite property bounds (or other marker) are located within the wall so additional survey can be accomplished prior to dismantling in cases where the stone wall represents a property boundary. Site visits by project team (which shall include the National Grid Environmental Scientist) are a mandatory requirement prior to dismantling.
- No dismantling shall take place until documentation has been submitted to the National Grid Environmental Scientist and approved as sufficient documentation.
- Stones from the wall shall be removed from the work area and temporarily stored in nearby location, away from wetlands; buffer zones; rare species habitat and other historical/archeological concerns.
- Avoid dismantling via the “bulldozer” method when possible as this method makes it nearly impossible to rebuild the wall in the same alignment due to its uncontrolled nature. Dismantling shall be conducted either by hand, with stones stacked as they are removed, or on

less "sensitive" walls to use an excavator with a thumb to grab each stone and build a stockpile. Significant ground disturbance below the wall shall be avoided.

- Once construction and access in the area has been completed, the wall shall be rebuilt to pre-dismantled conditions or better. If rebuilding a stone wall can not be placed on the same alignment that existed prior to temporary removal, approval from the National Grid Environmental Scientist and Property Legal is required. **Note that if the wall represents a legal property boundary or is historically or culturally significant (or was previously determined to be in a very high quality condition), a professional stone masonry company may be required to document wall alignment, and conduct the dismantling and rebuilding.**

## 10.0 Avian Nest Removal

Avian nest removal shall be done in accordance with EG-304. Consult the National Grid Environmental Scientist prior to removing any nests. There are seasonal restrictions of the removal of avian nests and federal or state permits may be necessary prior to removal.

## 11.0 Drilling Fluids and Additives

When installing subsurface structures, Contractors shall take all necessary steps to prevent potential adverse effects on drinking water aquifers and groundwater quality. Efforts should be made to utilize natural bentonite clay type slurries, in place of polymer based slurries. If polymer based slurries are deemed required by the Contractor, the Contractor shall provide all the necessary information regarding the proposed product to be used to National Grid as part of their *initial* bid package.

Polymer based slurries and additives may only be used when approved by the Environmental Department and the applicable state environmental regulating authorities governing the state in which the work will be completed. Contractors are responsible for securing a written determination for use from all applicable environmental regulatory agencies prior to utilizing a polymer based slurry and/or additive. Documented proof of the regulatory approval/determination for each project must be provided to the National Grid Environmental Department upon its approval and prior to its use. Approvals may vary by state.

If a polymer based slurry is approved for use, Contractor will designate a qualified individual who will confirm/verify and document the specific use of polymer and/or additives at each location, including add-mix ratios, surface area treated, volume of water within excavation, volumes/weight of additives used, and any other measurements specified by the manufacturer. No mixing will be allowed in the drilled shaft excavation. The Contractor is solely responsible for neutralizing all slurries and additives in accordance with the manufacturer's specifications. This shall be performed following removal from the excavation and while held in holding tanks. A qualified person shall be designated by the Contractor who will confirm/verify and document the appropriate neutralization of additives at each location, as necessary.

The Contractor is solely responsible for properly treating, containerizing, testing, transporting and disposing of any/all slurries and additive-containing fluids and solids generated during their activities. Relevant documentation shall be maintained by the Contractor, and shall include volume of material treated and disposed and the location/facility at which it was disposed.

The activities detailed above shall be documented by the contractor and the information provided to National Grid project manager for document retention. Soils that may have come into contact with polymers and associated additive wastes will not be disposed of on National Grid properties, discharged to the ground surface or subsurface, or placed on 3rd party properties. National Grid will not be identified as the disposal generator for any polymer based slurry waste or additives generated by Contractor activities. All wastes must be disposed of in accordance with federal and state regulations.

The Contractor assumes full responsibility for the safe storage of all polymers and additives during use and also assumes full responsibility for improper use and application of said polymers and additives that are deemed to have contravened aquifer and/or groundwater quality. Contractor assumes responsibility to ensure that all polymer and additive use is completed in strict adherence with the management, storage, mixing, transporting, disposing and any other requirements of state and federal regulatory approvals and permits, as applicable.

National Grid reserves the right to refuse and terminate the use of a specific polymer based slurry or additive at any time.

## 12.0 Water Withdrawal for Geotechnical Investigations

The use of water during geotechnical drilling operations may be required, and is most common during the “drive and wash” drilling technique, where 4- or 6-inch diameter casing is driven into the ground, and the soil inside the casing is washed out using a pump and hollow rods. Soil samples are generally collected at periodic intervals using a split spoon sampler (e.g., every 5 vertical feet).

The National Grid Environmental Scientist and/or Project Environmental Monitor may approve withdrawals from wetlands and waterways on a case-by-case basis should the geotechnical team advise no other options are available. Generally, the amount of water required for withdrawal is between 100 and 200 gallons, and the water is then recycled continuously in the drilling process. Certain scenarios may require additional water usage if water is lost down the boring (e.g., lost due to bedrock fractures during rock coring). The following general guidance should be adhered to when determining whether water withdrawals may be allowed during geotechnical investigations on the ROW. Approval from the National Grid Environmental Scientist and/or Project Environmental Monitor is required prior to initiating water withdrawals during geotechnical investigations.

- Withdrawals from perennial streams, ponds, lakes and large wetlands systems are preferred over small isolated wetlands to ensure the water level, water table, and hydroperiod are not affected.

Prior to start of work, the Contractor shall identify which water source they prefer to withdraw from. The National Grid Environmental Scientist and/or the Project Environmental Monitor will confirm whether these sources are appropriate.

- Care should be taken to avoid alteration of wetlands or the beds and banks of surface waters. Examples of alterations include, but are not limited to, the following:

  (a) the changing of pre-existing drainage characteristics, flushing characteristics, salinity distribution, sedimentation patterns, flow patterns and flood retention areas;

  (b) the lowering of the water level or water table;

  (c) the destruction of vegetation; and

  (d) the changing of water temperature, biochemical oxygen demand (BOD), and other physical, biological or chemical characteristics of receiving waters.

- Wetlands and waterways providing habitat for rare species should be avoided unless all other options are exhausted. Under no circumstances should water be withdrawn from a Vernal Pool.
- Withdrawal pipes or stingers should be elevated off the bottom of wetlands and streams during the duration of pumping. Additionally, fabric or screening should be covering the withdrawal pipes to eliminate inadvertent harm to wildlife.
- Withdrawals should be performed in a manner that does not damage vegetation, disturb sediment, or result in the release of temporary or permanent fill material (e.g., sediment, spoils, or turbid water) into the wetland/waterway. Additional detail from geotechnical experts may be required to solidify BMP recommendations.
- Any water used for geotechnical drilling operations (including water withdrawn from surface water, brought on-site, or from other sources) shall be discharged into the open borehole or to an upland area such that the water infiltrates to the ground and is not discharged to a wetland or surface water resource area. Consultation with the National Grid Environmental Scientist and/or the Project Environmental Monitor is required if this is not feasible. At no time should water withdrawals result in a temporary or permanent fill/discharge of material (e.g. sediment, spoils, or turbid water) into the wetland or waterway.
- If water sourcing options is not determined prior to mobilization, necessary water shall be brought in by tank truck. Should withdrawal from surface water sources become necessary during soil boring work, the National Grid Environmental Scientist and/or the Project Environmental Monitor shall be notified prior to beginning withdrawal. If initial withdrawal from surface water is approved by the National Grid Environmental Scientist and/or the Project Environmental Monitor, the driller may withdraw from the surface water, as long as the above criteria are met.
- If excessive water withdrawal is necessary, the National Grid Environmental Scientist and/or the Project Environmental Monitor shall be consulted to determine whether the water source is appropriate for withdrawal.
- In New Hampshire, withdrawals made from state-owned property require written permission from the agency with primary responsibility for monitoring and/or maintaining the site.

## 13.0 Gates

When not in use, gates shall be locked with a company-approved lock or double locked with the property owner's lock. New gates may be installed during a project, however, installation of a gate requires permission from the property owner, and may require environmental permitting. Consult with National Grid Real Estate and the National Grid Environmental Scientist prior to installing a new gate, as well as with the appropriate engineering department for the current company gate specifications. Refer to BMPs in **Appendix 4**. Installation of ROW access restrictions (e.g., stone, bollards, other) at road crossings also require consultation with the National Grid Environmental Scientist and Property Legal.

## 14.0 Signage

Specific signage may be required by permits or be specified in the EFI to limit access in certain sensitive areas. Signs shall be used to clarify allowed access and sensitive areas, such as:

- "No snow stockpiling beyond this point";
- "Approved access (to structures A-F)";
- "Do not cross this area until construction mats are in place";
- "No vehicle crossing";
- "Areas to avoid"; and
- "Environmentally Sensitive Area – Keep Out."

Signs shall be used in conjunction with snow fencing or other physical barriers as demarcation for sensitive areas (e.g., rare species areas, sensitive archeological locations, etc.) that need to be protected and avoided by construction activities. In addition, permit signs required by the regulatory agencies shall be present (i.e. MADEP, RIDEM, EPA (SWPPP), ACOE, etc) at construction sites and/or ROW access points. Construction signage shall be installed and maintained by the contractor performing the work during the project. Absence of signage does not eliminate the need to comply with access plans, permit conditions, and other regulatory requirements. Refer to BMPs in **Appendix 4**.

## 15.0 Refueling and Maintenance Operations

### 15.1 Spill Prevention and Response Plan

Spill controls shall be provided on every field vehicle. Bulk storage of fuels (55 gallons or greater) shall be approved by the National Grid Environmental Scientist prior to being brought on site. The need for a field spill plan shall be evaluated specific to the project for regulatory requirements under SPCC regulations or local ordinances. A field spill plan would include information on fuels and oils being used, approximate amounts in each container or type of equipment, location, fueling location, secondary containment, response and notification procedures, including contact phone numbers, etc. All personnel shall be briefed on spill prevention and response prior to the commencement of construction. The state-specific EG-501 and EG-502 shall be followed in the event of a spill.

Typical construction activities do not require the use or storage of large quantities of oil or hazardous materials (i.e., greater than 55 gallons). However, oil and/or hazardous materials (OHM) may be required in limited quantities to support construction or vehicle operations. Best practices shall be followed in the use and storage of OHM which include but are not limited to: storage and refueling greater than 100 feet from resource areas; maintenance of spill response equipment at work locations sufficient to handle incidental releases from operating equipment; general training for on-site personnel for spill clean up response for incidental releases of OHM; and contracting with an on-call spill response contractor that is capable of managing incidental and significant releases of OHM. There may situations that additional precautions shall be required for the storage or use of OHM (i.e., within wellhead protection areas, GA/GAA areas, Zone IIs). Storage of OHM shall be done in accordance with any applicable regulatory requirements.

### 15.2 Field Refueling

Small equipment such as pumps and generators shall be placed in small swimming pools or on absorbent blankets/pads, to contain any accidental fuel spills. Small swimming pools with absorbent blankets/pads, and/or other secondary containment, shall be used for refueling of fixed equipment in wetlands and should be maintained to prevent accumulation of precipitation.

### 15.3 Grease, Oil, and Filter Changes

Routine vehicle maintenance shall not be conducted on project sites.

### 15.4 Other Field Maintenance Operations

When other vehicle or equipment maintenance operations (such as emergency repairs) occur, company personnel or contractors at field locations shall bring vehicles or equipment to an access location a minimum of 100 feet away from environmentally sensitive areas (e.g., wetlands or drinking water sources). A paved area, such as a parking lot or roadway, is a preferred field maintenance location to minimize the possibility of spills or releases to the environment.

Crews shall take all usual and reasonable environmental precautions during repair or maintenance operations. Occasionally, it is infeasible to move the affected vehicle or equipment from an environmentally sensitive area to a suitable access area. When this situation occurs, precautions shall be taken to prevent oil or hazardous material release to the environment. These precautions include (but are not limited to) deployment of portable basins or similar secondary containment devices, use of ground covers, such as plastic tarpaulins, and precautionary placement of floating booms on nearby surface water bodies.

### 15.5 Tools and Equipment

Cleaning of tools and equipment shall be conducted away from environmentally sensitive areas (such as wetlands, buffer zones or drinking water sources) to the maximum extent possible. A paved area such as a parking lot or roadway is preferred, to minimize the possibility of spill or release to the environment. Crews shall wipe up all minor drips or spills of grease and oil at field locations.

## 16.0 Stabilization Deadlines for Projects Subject to EPA Construction General Permit

### 16.1 Deadlines to Initiate Stabilization Activities (Permanent and Temporary)

Soil stabilization measures shall be implemented immediately whenever earth-disturbing activities have permanently or temporarily ceased on any portion of the project. The following are some examples of activities that constitute initiation of stabilization:

- Preparing the soil for vegetative or non-vegetative stabilization;
- Applying mulch or other non-vegetative product to the exposed area;
- Seeding or planting the exposed area;
- Finalizing the arrangements to have stabilization product fully installed in compliance with the deadlines to complete stabilization in Section 15.2 below.

### 16.2 Deadlines to Complete Stabilization Activities (Permanent and Temporary)

As soon as practicable, but no later than 14 calendar days or 7 calendar days (for areas discharging to a sensitive water) after the initiation of soil stabilization measures commence the following should be completed:

- For vegetative stabilization, all activities necessary to initially seed or plant the area to be stabilized; and
- For non-vegetative stabilization, the installation or application of all such non-vegetative measures.

### 16.3 Vegetative Stabilization (all except for arid, semi-arid, or on agricultural lands)

- Provide established uniform vegetation (e.g., evenly distributed without large bare areas), which provides 70% or more of the density of coverage that was provided by vegetation prior to commencing earth-disturbing activities. Avoid the use of invasive species as cover.
- For final stabilization, vegetative cover must be perennial; and
- Immediately after seeding or planting a disturbed area to be vegetatively stabilized, a non-vegetative erosion control must be implemented to the area while the vegetation is becoming established. Examples include; mulch and rolled erosion control products.

### 16.4 Vegetative Stabilization (Agricultural Lands)

- Disturbed areas on land used for agricultural purposes that are restored to their pre-construction agricultural use are not subject to vegetative stabilization standards.

### 16.5 Non-Vegetative Stabilization

If using non-vegetative controls to stabilize exposed portions of your site, or if you are using such controls to temporarily protect areas that are being vegetatively stabilized, you must provide effective non-vegetative cover to stabilize any such exposed portions of the site. Examples of non-vegetative stabilization techniques include, but are not limited to, rip-rap, gabions, and geotextiles.

## 17.0 Clean-up and Restoration Standards

The following steps shall be taken once construction has been completed at each location along the ROW or within the project site. The following are minimum guidelines for clean-up and stabilization standards. Please refer to permit conditions for project-specific related standards. Refer to the EFI for applicable permit requirements and to determine if the site needs to be reviewed and approved by the permitting authorities prior to removal of erosion controls.

**17.1 Removal of Sedimentation and Erosion Controls**

After all work has been satisfactorily completed and vegetation has been re-established to a minimum of 75% cover, and upon approval by the National Grid Environmental Scientist, all non-biodegradable materials (e.g., siltation fencing, straw bale strings, stakes, straw wattle mesh casing, etc.) shall be disposed of properly off-site.

Dependent on permit requirements, sedimentation and erosion controls may not be allowed to be removed until after inspection and approval by one or more permitting authority. In most cases, removed straw bales may be used to mulch disturbed areas. Remaining straw bales that do not block the flow of water may be left in place unless they are required to be removed pursuant to permit conditions. Straw bales that block the flow of water shall be removed.

Prior to project construction being completed, the project team will develop post-construction inspection intervals to ensure timely removal of temporary BMPs. BMPs will be removed when the area is stabilized, which typically occurs when the area has either naturally stabilized (75% cover), or seed and mulch that was installed has achieved 75% cover.

**17.2 In-Situ Restoration**

Unless otherwise specified in permits or prescribed by the National Grid Environmental Scientist or the Project Environmental Consultant, all disturbed areas, including stream banks, wetlands and access routes, shall be restored following the completion of work. When the work is completed and construction mats have been removed, the National Grid Environmental Scientist or Project Environmental Consultant shall conduct an inspection. Wetlands shall be inspected for build up of sand or other materials that may have fallen through construction mats. Care shall be taken to inspect wetland crossings carefully after construction mat removal to ensure any materials are properly removed and disposed of off-site.

Restoration of Soil Compaction. If rutting or soil compaction following construction mat removal is observed, the area shall be returned to pre-existing conditions, and comparable to the surrounding area, by light hand raking or by back-blading with machinery. Restoration shall be overseen by the Project Environmental Consultant or National Grid Environmental Scientist. Deep ruts (>12”) shall be filled in using available, loose soil from the work area.

Seeding and Mulching. If adequate root and seed stock are absent and have been stripped from the area, graded sites shall be promptly stabilized by applying an approved seed mix and mulching with straw to reduce erosion and visual impact. Seeding and mulching shall be completed as soon as possible following completion of work at the site. For some wetland areas, natural re-vegetation may be more appropriate than seeding disturbed sites. Wetland areas where adequate root and seed stock are absent will be

seeded using an approved wetland native seed mix. For some wetland areas, natural re-vegetation may be more appropriate than seeding disturbed sites. Refer to BMPs in **Appendix 4** for seed mix tables and mulch ratio tables.

If needed, the import of quality topsoil onto the ROW will be required. Topsoil should be tested, and approved by the Project Environmental Consultant or National Grid Environmental Scientist to determine its suitability for site conditions. Fertilizers will be approved on a case-by-case basis.

For upland areas, the disturbed vegetation and soil shall be restored and stabilized[4] by regrading the area to pre-existing conditions, if needed, seeding (if adequate root and seed stock are absent) and mulching the exposed soil, and removing strings and stakes from straw bales and using broken up straw bales for the mulch. Siltation fencing, strings and stakes shall be removed for disposal as ordinary waste. Refer to BMPs in **Appendix 4** for seed mix tables and mulch ratio tables.

For sites with excess boulders, additional boulders could be used at proposed and existing gate locations to use on either side of the gates as a deterrent for unauthorized vehicle access or be placed along the edges of work pads where steep slopes are present for safety purposes. The final placement of boulders should be reviewed prior to installation with Real Estate and the National Grid Environmental Scientist or Project Environmental Consultant.

Unless otherwise specified in Project-specific permit conditions, the National Grid Environmental Scientist or Project Environmental Consultant shall develop an inspection frequency to monitor restored areas for stabilization, germination and successful revegetation.

**17.3 Invasive Species**

All equipment shall be certified clean[5] utilizing the attached form (**Appendix 5**) or equivalent as approved by the vendor prior to mobilization to the work site. The vendor shall use the certification from provided as **Appendix 5** to document compliance with invasive species management BMPs. Clean is defined as being free of plant matter (stems, flowers, roots, etc), soil, or other deleterious materials prior to being brought to the project site. Any equipment that has been placed or used within areas containing invasive species within the project site shall be cleaned of plant matter (stems, flowers, roots, etc), soil, or other deleterious materials at the site of the invasive species prior to being moved to other areas on the project site to prevent the spread of invasive species from one area to another[6]. **Equipment shall be cleaned prior to being removed at the completion of the project: exceptions to this requirement shall be determined on a case-by-case basis.** Consult with the National Grid Environmental Scientist prior to discharging or disposing of any waste water or waste material from the cleaning of equipment.

[4] For projects subject to the 2012 CGP, stabilization is required within 14 days, or within 7 days for sensitive areas.

[5] The **Appendix 5** certification form (or equivalent as approved by National Grid Environmental Scientist) shall be used to document the clean certification

[6] On ROW projects where multiple wetlands may be dominated by the same invasive species, cleaning may not be required for movement along the ROW. Check with the National Grid Environmental Scientist for guidance.

**17.4 Cleaning of Equipment**

At the completion of the project, equipment shall be cleaned prior to being de-mobilized to prevent tracking of material onto roads and causing safety issues. Consult with the National Grid Environmental Scientist prior to discharging or disposing of any waste water or waste material from the cleaning of equipment.

**17.5 Access Roads**

Constructed gravel roads shall be left in place following project completion unless permit conditions require their removal. Refer to the specific permit conditions for these provisions. If the road is to be removed, the crushed stone and geotextile fabric shall be removed from the work site. Seeding and/or mulching of gravel roads is generally not required, unless necessary to prevent erosion. Pre-existing sandy soils within mapped rare turtle habitat shall not be seeded unless directed by the National Grid Environmental Scientist so as to not alter nesting habitat.

**17.6 Stone Work Pads**

Unless permit conditions or property owner's require the removal of constructed stone work pads following project completion, constructed work pads shall be left in place. Refer to the specific permit conditions for these provisions.

**17.7 Construction Materials on ROWs**

As soon as the structure work has been completed, all used parts and trash are to be picked up and removed from the project site. Retired poles shall be removed in accordance with National Grid Engineering Standard SP.06.01.301. In some cases, the used material from structure work may be temporarily stored at the work area by placing it out of the wetlands or other sensitive resource area until work in the adjacent areas has been completed. However, treated wood poles shall never be stored in standing water or in wetlands. If the project is cancelled, all material shall be removed from the project site. Excess material brought to the project site shall be removed upon project completion. Consult with the National Grid Environmental Scientist on whether the work site shall be restored in addition to the measures outlined above

**17.8 Improved Areas**

Yards, lawns, agricultural areas, and other improved areas shall be returned to a condition at least equal to that which existed at the start of the project. Off-ROW access shall never be assumed and shall be coordinated through Real Estate before being implemented. Depending on the access point, construction matting or other BMPs may be required to prevent ruts, lawn damage, or other property damage. Restoration following the completion of work and any use of improved areas shall be conducted in accordance with the measures outlined above.

**17.9 Property Damage**

All damage to property occurring as a result of a project shall be immediately repaired or replaced. In some locations, it may be desirable to document pre-existing damage prior to work commencing in that area in order to demonstrate afterwards that the damage did not result from the project. Work crews, the

Project Environmental Consultant or the National Grid Environmental Scientist shall document repairs that were performed in response to damage from unauthorized vehicle use.

**17.10 Overall Work Site**

Upon satisfactory completion of work, the construction personnel shall remove all work-related trailers, buildings, rubbish, waste soil, temporary structures, and unused materials belonging to them or used under their direction during construction, or waste materials from previous construction and maintenance operations. All areas shall be left clean, without any litter or equipment (wire, pole butts, anchors, insulators, cross-arms, cardboard, coffee cups, water bottles, etc.) and restored to a stable condition and as near as possible to its original condition, where feasible. Debris and spent equipment shall be returned to the operating facility or contractor staging area for disposal or recycling (cardboard) as appropriate in accordance with EI-111.

**17.11 Material Storage/Staging and Parking Areas**

Upon completion of all work, all material storage yards, staging areas, and parking areas shall be completely cleared of all waste and debris. Unless otherwise directed or unless other arrangements have been made with an off ROW or off-property owner, material storage yards and staging areas shall be returned to the condition that existed prior to the installation of the material storage yard or staging area. Regardless of arrangements made with a landowner, all areas shall be restored to their pre-construction condition or better. Also any temporary structures erected by the construction personnel, including fences, shall be removed by the construction personnel and the area restored as near as possible to its original condition, including seeding and mulching as needed.

## 18.0 Notification of Emergency Work

Because it is sometimes difficult to identify wetlands and other sensitive environmental areas, the National Grid Environmental Scientist shall be notified within 24 hours or by the next working day whenever emergency off-road repair work takes place. Although the routine maintenance and emergency repair work is generally allowed, due to site conditions or the scope of the project, notification to the regulating agencies may be required.

## 19.0 Appendices

| | |
|---|---|
| APPENDIX 1: | Glossary |
| APPENDIX 2: | Acronyms |
| APPENDIX 3: | Storm Water, Wetlands & Priority Habitat Environmental Compliance Site Inspection / Monitoring Report Form |
| APPENDIX 4: | BMP Drawings and Guidelines |
| APPENDIX 5: | Certification Sheet for Invasive Species Control |
| APPENDIX 6: | Snow Disposal Guidelines |

## Appendix 1 – Glossary

Access Road – An existing, periodically maintained road often consisting of gravel and/or exposed soils or vegetated with grasses but devoid of woody vegetation, that is visible on aerial photography and shown on ROW T-sheets. May include newly permitted permanent roads (i.e., roads to be constructed in accordance with a project-specific permit).

Access Route - A pathway previously used or proposed to be used by crews for access along the ROW. Routes may be shown on ROW T-sheets or previous project access plans but are not improved as maintained gravel/exposed soil roads. Access routes may be mown and can consist of trails utilized by recreational vehicles.

Action Logs – Project-specific log used to document action items required for permit compliance. The log identifies timeframes for completion and responsible parties. The log is typically updated by the Project Environmental Consultant or the National Grid Environment Scientist and circulated to the project team on a weekly, or more frequent, basis.

Bank – The transitional slope immediately adjacent to the edge of a surface water body, the upper limit of which is usually defined by a break in slope, or, for a wetland, where a line delineated in accordance with applicable state and federal regulations that indicates a change from wetland to upland.

BMP – Best Management Practice. Individual engineered constructions or operating procedures intended to minimize and mitigate soil disturbance, erosion, sedimentation, turbid discharges, and/or impacts to sensitive receptors.

Clean - Free of plant matter (stems, flowers, roots, etc), soil, or other deleterious materials prior to being brought to the project site.

Clean Gravel – Gravel is a type of coarse-grained soil that consists of small stones and other mineral particles. Clean Gravel shall meet the requirements in accordance with National Grid Standard Construction Specification for Electric Stations (Engineering Standard SP.08.00.001) Clean Gravel will not have fine materials that could lead to a turbid discharge.

Clean Stone (Crushed Stone) – Clean Stone (Crushed Stone) shall meet the requirements in accordance with National Grid Standard Construction Specification for Electric Stations (Engineering Standard SP.08.00.001). Clean Stone will not have fine materials that could lead to a turbid discharge.

Clearing – The cutting of trees and large bushes by hand and/or mechanical means.

Compost Socks – Tubular devices comprised of non-degradable, photodegradable, or biodegradable mesh tubing containing organic compost matrix. Compost socks are effective for intercepting site runoff, trapping

sediment, and treating for soluble pollutants by filtering stormwater runoff. . Compost socks are a useful sedimentation control device along construction site perimeters, as check dams in drainage channels, as a slope interruption practice on long and/or steep slopes, and around drain or street curb inlets.

Construction Mats - **C**onstruction, swamp, and timber mats ("construction mats") are generic terms used to describe structures that distribute equipment weight to minimize disturbance to wetland soil and vegetation while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes.

Corduroy Road – Corduroy roads are cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another.

Dewatering Basin – An established containment area for saturated materials and pumped discharges. This measure is used for the purpose of de-watering soils prior to transport off site or for use in another location on site, and for allowing suspended sediment to settle out of pumped discharges.

Detention/Retention Basin – A detention/retention basin is designed for the purpose of detaining or retaining water. A dewatering basin is a form of detention basin

Dewatering – Use of a system of pumps, pipes and temporary holding dams to drain or divert waterways or wetlands, or lower the groundwater table before and during excavation activities.

Drainage Ditch or Swale – A clearly noticeable channel that is typically dry, except after precipitation events. Intermittent and perennial streams and rivers are not included in this definition.

Dredge – To dig, excavate, or otherwise disturb the contour or integrity of sediments in the bank or bed of a wetland, a surface water body, or other area within the regulating bodies' jurisdiction.

Dredge Spoils – Material removed as the result of dredging.

Embankment – A protective bank constructed of mounded earth or fill materials located between a roadway (or rail bed) and a seasonal stream or other wetland.

Environmental Field Issue – Document that contains copies of all project-specific environmental permits and summarizes all environmental permit conditions. The EFI is prepared by the Project Environmental Consultant or the National Grid Environment Scientist and copies are provided to the Project Manager, Construction Supervisor(s), and other team members as appropriate.

Environmental Monitoring Records – Examples of checklists and/or monitoring reports suggested for use by the Company Environmental Engineer to document conformance of the project with this Environmental Guidance and or project specific permit/license conditions.

Environmental Scientist – Formerly Environmental Engineer. The National Grid Environmental Department representative for the project or the territory where the work is located. For a map of Environmental Department staff territories, refer to the Environmental page of the National Grid infonet.

Environmentally Sensitive Areas – Examples of environmentally sensitive areas that may be found on National Grid properties are rivers, streams, ponds, lakes, wetlands, bogs, swamps, salt marshes, rare species habitat, wellhead protection areas, cultural sites, parks, preserves, schools and as otherwise defined by Federal, State or local regulations. Refer to EG-301.

Erosion Controls – The utilization of methods to prevent soil detachment and minimize displacement or washing down slopes by rainfall or run-off. Common practices include, but are not limited to:

(a) Temporary and Permanent Seeding.

(b) Mulching, Soil Binders, Tackifiers.

(c) Erosion Control Blankets.

(d) Hydraulic Erosion Control.

Excavate/Excavation – To dig, remove, or form a cavity or a hole in an area within the department's jurisdiction.

Fill (n.) – Any rock, soil, gravel, sand or other such material that has been deposited or caused to be deposited by human activity.

Fill (v.) – To place or deposit materials in or on a wetland, surface water body, bank or otherwise in or on an area within the jurisdiction of the department.

Flats – Relatively level landforms composed of unconsolidated mineral and organic sediments usually mud or sand, that are alternately flooded and exposed by the tides and that usually are continuous with the shore.

Frozen Condition – Field conditions when the upper portion of the ground surface freezes or when areas of standing water freeze solid such that vehicle passage over these areas is supported without any resulting soil disturbance. The frozen conditions must have been affected by severe cold (maximum daily temperatures less than 32 degrees F) for a continuous 2-week period.

GAA – Rhode Island groundwater classification, groundwater resources that are known, or presumed to be suitable for drinking water use without treatment, and are located in one of the three areas described below.

a) The state's major stratified drift aquifers that are capable of serving as a significant source for a public water supply ("groundwater reservoirs") and the critical portion of their recharge area as delineated by DEM;

b) The wellhead protection area for each public water system community water supply well. Community water supply wells are those that serve resident populations and have at least 15 service

connections or serve at least 25 individuals, e. g. municipal wells and wells serving nursing homes, condominiums, mobile home parks, etc.; and

c) Groundwater dependent areas that are physically isolated from reasonable alternative water supplies and where existing groundwater warrants the highest level of protection. At present only Block Island has been designated as meeting this criterion.

GA – Rhode Island groundwater classification, groundwater resources that are known, or presumed to be suitable for drinking water use without treatment. However, groundwater classified by GA does not fall within any of the three priority areas described under the GAA classification.

Grade/Grading – The movement of soil and fill material to change the elevation of the land. The term refers to the combined actions of excavating and filling to change elevation or shape.

Grubbing – The removal of stumps/roots by mechanical means during site preparation activities.

Immediately - As soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

In-kind Replacement - Replacement using the same material, functional inverts, diameter and length as the existing item. In-kind replacement includes the substitution of a structure with a similar structure in approximately the same location as is practicable, and is approximately the same in design. The design may be altered to meet applicable utility standards, and may include alternate materials designed to prolong the life of that service.

Intermittent Stream – A stream that flows for sufficient time to develop and maintain a defined channel, but which might not flow during dry portions of the year.

In the Dry – Work done either during periods of low water or behind temporary diversions, such as Earth Dike / Drainage Swale and Lined Ditches designed and installed in accordance with best management practices.

Limit of Work/Disturbance – The approved project limits within regulated areas. All project related activities in regulated areas must be conducted within the approved limit of work/disturbance. The limit of work/disturbance shall be depicted on the approved permit site plans and in the EFI plans. Where it is warranted National Grid may require that these limits be identified in the field by flagging, construction fencing, and/or perimeter erosion controls.

Long-Term Restoration Logs - Project-specific log used to document restoration required following the completion of construction or as areas of the project have been completed (i.e., segments of ROW for a multi-mile project). The log is typically updated by the Project Environmental Consultant or the National Grid Environment Scientist and circulated to the project team on a weekly basis.

Low Flow Conditions – Low water flow that generally occurs during the summer, as a result of decreased precipitation and the removal of water by increased evaporation and evapotranspiration by vegetation. Work done under low-flow conditions minimizes the potential for environmental damage. The USACE defines the calendar dates for low flow conditions in its New England state-specific Programmatic General Permits.

Low Ground Pressure – Equipment that meets the USACE GP state-specific defined Pounds per Square Inch (PSI) ground pressure when loaded. Use of LGP equipment ***requires approval*** from the National Grid Environmental Scientist.

Marsh – A wetland:

a) That is distinguished by the absence of trees and shrubs;

b) Dominated by soft-stemmed herbaceous plants such as grasses, reeds, and sedges; and

c) Where the water table is at or above the surface throughout the year, but can fluctuate seasonally.

Methods – Are the construction practices and procedures that take place through choosing the proper equipment, trucks and labor to execute the earth moving activities based on the existing conditions and implementing creative and sensitive scheduling for the daily activities.

NHESP - Natural Heritage Endangered Species Program; a department within the Massachusetts Division of Fisheries and Wildlife that is responsible for protecting the 176 species of vertebrate and invertebrate animals and 259 species of native plants that are officially listed as Endangered, Threatened or of Special Concern in Massachusetts.

Perennial – A stream that contains water at all times except during extreme drought.

Permanently Ceased – Is applicable to earth disturbance activities when clearing and excavation within any area of the Project that will not include permanent structures has been completed.

Person-in-Charge – A National Grid Project Engineer, Manager, Supervisor, Field Construction Coordinator or equivalent Contractor personnel assigned to oversee and coordinate work activities.

Processed Gravel – Processed Gravel shall meet the requirements in accordance with National Grid Standard Construction Specification for Electric Stations (Engineering Standard SP.08.00.001). Processed Gravel will not have fine materials that could lead to a turbid discharge. Gravel consisting of inert material that is hard, durable stone and is free from loam and clay, surface coatings and deleterious materials.

Regulating Body – Federal, State, or local authority that has jurisdiction over resource areas that may be impacted by company operations

Regulated Wetland Area – Those areas that are subject to federal, state or local wetland regulation, including certain buffer or adjacent areas.

Repair – The restoring of an existing legal structure by partial replacement of work, or broken, or unsound parts (Env-Wt 101.73).

Replacement – The substitution of a new structure for an existing legal structure with no change in size, dimensions, location, configuration, construction, or which conforms in all material aspects to the original structure

Right-of-Way – A corridor of land where National Grid has legal rights (either fee ownership, lease or easement) to construct, operate, and maintain an electric power line and/or natural gas pipeline and may include work on customer owned properties.

River – A watercourse that is larger than a perennial stream and flows all year long.

Routine Utility Rights-of-Way Maintenance Activity – Includes but is not limited to vegetation management and repair or replacement of existing utility structures.

Sedimentation Controls – Silt fences, straw bales, compost socks/berms and other barrier devices strategically placed to intercept and treat sediment-laden site runoff.

Sensitive Water - Includes any sediment or nutrient impaired water or a water that is identified by the state, tribe or EPA as Tier 2, 2.5 or Tier 3 for antidegradation purposes.

Siltation Curtain – An impervious barrier erected to prevent silt and sand and/or fines from being washed into a wetland, surface water body or other area of concern.

Surface Water Body or Surface Waters – Those portions of waters which have standing or flowing water at or on the surface of the ground.

Spill Prevention, Control and Countermeasure Plans – Required for site operations that involve the storage of 1,320 gallons or greater of fuel and oils, both in storage containers and stored in equipment. Response actions to spills and releases are specified in these plans.

Stormwater Pollution Prevention Plan – A site-specific, written document that, among other things: (1) identifies potential sources of stormwater pollution at a construction site; (2) describes stormwater control measures to reduce or eliminate pollutants in stormwater discharge from a construction site; and (3) identifies procedures the operator will implement to comply with the terms and conditions of EPA NPDES Construction General Permit (CGP). SWPPPs must be prepared, maintained on-site, and amended as necessary in order to obtain NPDES permit coverage for specific construction site stormwater discharges under the EPA NPDES CGP.

Temporarily Ceased - Is applicable when there are earth disturbance activities such as clearing, grading, and/or excavation that are not complete, but will be idle in one area for a period of up to 14 or more calendar days, and which will resume in the future. The 14 calendar day timeframe begins as soon as you now that construction work on a portion of the Project will be left incomplete and idle. In circumstances where there are unanticipated delays and you do not know at first how long the work stoppage will continue, the requirement to immediately initiate stabilization is triggered as soon as you know with reasonable certainty that work will be stopped for 14 or more additional calendar days.

Tidal Wetlands – A wetland whose vegetation, hydrology or soils are influenced by periodic inundation or tidal waters.

Topsoil – The uppermost part of the soil, ordinarily moved in tillage, or its equivalent in uncultivated soils and ranging in depth from 2 to 10 inches.

Turbidity – The condition in which solid particles suspended in water make the water cloudy or even opaque in extreme cases.

United States Geological Survey Topographic Map – A map that uses contour lines to represent the three-dimensional features of a landscape on a two-dimensional surface. These maps use a line and symbol representation of natural and artificially created features in an area.

Wetland – An area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation (more than 50 percent) typically adapted for life in saturated soil conditions (hydric soils). Wetlands include but are not limited to swamps, marshes, bogs, and similar areas.

Work Site – An area where work is performed.

Worker – Company employee, contractor, consultant working on site.

Zone II - Massachusetts - That area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at safe yield, with no recharge from precipitation). It is bounded by the groundwater divides which result from pumping the well and by the contact of the aquifer with less permeable materials such as till or bedrock. In some cases, streams or lakes may act as recharge boundaries. In all cases, Zone IIs shall extend up gradient to its point of intersection with prevailing hydrogeologic boundaries (a groundwater flow divide, a contact with till or bedrock , or a recharge boundary).

## Appendix 2 – Acronyms

| | |
|---|---|
| ASTM | American Society for Testing and Materials |
| BMP | Best Management Practices |
| EFI | Environmental Field Issue |
| EG | Environmental Guidance |
| EPA | Environmental Protection Agency |
| GA/GAA | Rhode Island Groundwater Classifications – see glossary |
| LGP | Low Ground Pressure |
| MA | Massachusetts |
| MA DEP | Massachusetts Department of Environmental Protection |
| MassDOT | Massachusetts Department of Transportation |
| NE | New England |
| NH | New Hampshire |
| NH DES | New Hampshire Department of Environmental Services |
| NHESP | Natural Heritage Endangered Species Program |
| NPDES | National Pollutant Discharge Elimination System |
| OHM | Oil and/or Hazardous Materials |
| PSI | Pounds per square inch |
| RI | Rhode Island |
| RI DEM | Rhode Island Department of Environmental Management |
| RI CRMC | Rhode Island Coastal Resources Management Council |
| RI SESC | Rhode Island soil erosion and sediment control |
| ROW | Right-of-Way |
| RTE | Rare, Threatened or Endangered |
| SPCC | Spill Prevention, Control and Countermeasure |
| SWPPP | Storm Water Pollution Prevention Plan |
| TOY | Time-of-Year |
| USACE | United States Army Corps of Engineers |
| USGS | United States Geological Survey |
| VT | Vermont |

| | |
|---|---|
| VT DEC | Vermont Department of Environmental Conservation |
| Zone II | Massachusetts Groundwater Protection district – see glossary |

**Appendix 3**

**See EG303NE_Appendix3_Reporting Form published separately**

**National Grid**
**Storm Water, Wetlands & Priority Habitat Environmental Compliance**
**Site Inspection / Monitoring Report**

| | | | |
|---|---|---|---|
| **Project Name:** | | **Date:** | |
| **City / Town:** | | **Time:** | |
| **WO / WR #** | | | |

**IHC or Contractor? (Company Name):**

**Current Weather Conditions:**

**Precipitation Since Last Inspection (Date, Est. Duration and Est. Amount from Each Storm):**

**Activities / Structures / Locations Inspected:**

**Identify Locations / Activities / Structures within Designated Priority Habitat (Identify Rare species Observations, if any) and Mitigation / Restoration Measures Implemented:**

**Any Significant Discharges of Sediment to Water Bodies or Wetlands? (If "yes", state locations):**

**National Grid**
**Storm Water, Wetlands & Priority Habitat Environmental Compliance**
**Site Inspection / Monitoring Report**

**Compliance with SWPPP Storm Water Controls, O&M Plan, Order of Conditions or Other Applicable Environmental Requirements? (Explain if "no" for any feature inspected):**

**Additional BMPs or Other Corrective Action Needed and, if so, Where?**

**Compliance with Previous Observations?**

**National Grid**
**Storm Water, Wetlands & Priority Habitat Environmental Compliance**
**Site Inspection / Monitoring Report**

| | | |
|---|---|---|
| **Are Spill Control Supplies Available** | **Yes** | **No** |
| **Are Oil and / or Hazardous Materials Stored On Site?** | **Yes** | **No** |
| **If So, Are they Properly Labeled and Managed?** | **Yes** | **No** |
| **Are Wastes Stored On Site?** | **Yes** | **No** |
| **If So, Are they Properly Managed?** | **Yes** | **No** |

**Miscellaneous (e.g., dumping?):**

**Comments:**

**Inspection Completed by (Name, Title, Company):**

**Inspector's Signature for Certification:**

**National Grid Environmental Dept. Representative - Signature for Certification:**

**Date:**

## Appendix 4 – BMPs

**See EG303NE_Form1 for a list of BMPS**

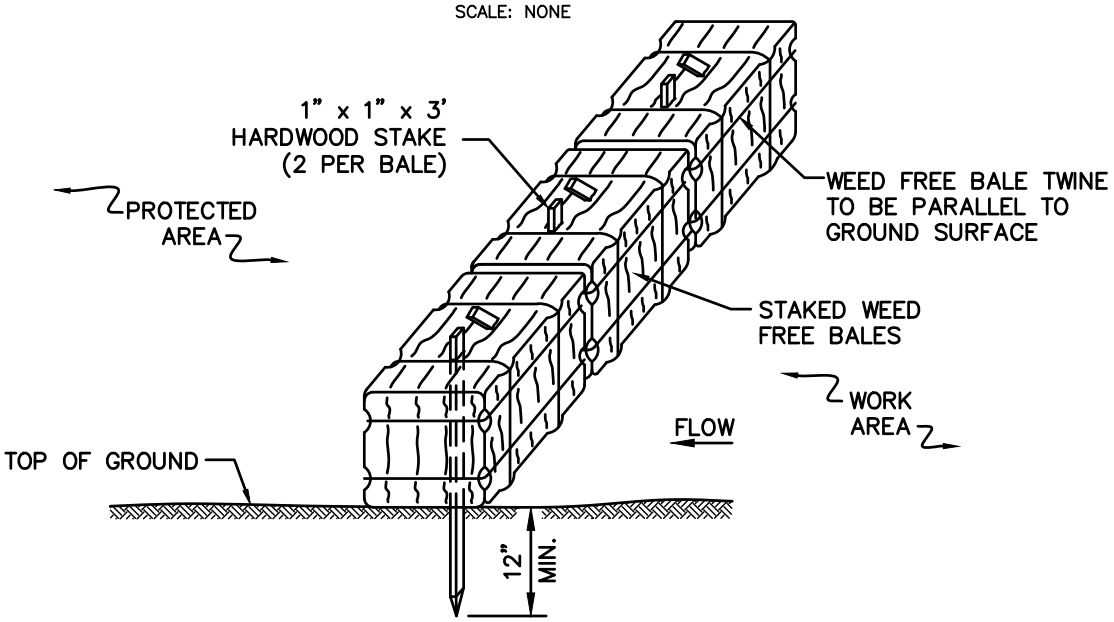
**See EG303NE_Form2 for BMP details**

| | BMP # | Measure |
|---|---|---|
| Sediment & Erosion Controls | SEC-1 | Weed free bale barrier |
| | SEC-2 | Sediment control fence |
| | SEC-3 | Silt fence / weed free barrier |
| | SEC-4 | Silt Soxx |
| | SEC-5 | Straw Wattle |
| | SEC-6 | Erosion Control Blanket - Ditch |
| | SEC-7 | Erosion Control Blanket - Slope |
| | SEC-8 | Hydroseeding with Tackifier (slope stabilization) |
| | SEC-9 | Mulch materials, rates and uses (from NY) |
| | SEC-10 | Seeding options - Upland Seed Mixes |
| | SEC-11 | Seeding options - Wetland Seed Mix |
| | SEC-12 | Distribution Pole Erosion Control |
| Crossing Measures | CM-1 | Prefabricated mats |
| | CM-2 | Construction mat bridge |
| | CM-3 | Construction mat layout (with transition) |
| | CM-4 | Construction mat layout (with transition & BMPs) |
| | CM-5 | Construction mat - Air Bridge |
| | CM-6 | Corduroy road |
| | CM-7 | Rock Ford |
| | CM-8 | Temporary construction entrance / exit |
| | CM-9 | Temporary construction culvert |
| | CM-10 | Access way stabilization |
| | CM-11 | Construction signage |
| | CM-12 | Construction Mat Anchoring |
| Advanced Applications | AA-1 | Reinforced silt fence |
| | AA-2 | Sediment filter |
| | AA-3 | Stone check dams |
| | AA-4 | Straw / haybale check dam |
| | AA-5 | Waterbar |
| | AA-6 | Sandbag check dam |
| | AA-7 | Earth dike |
| | AA-8 | Drainage swale and lined ditch |
| | AA-9 | Sedimentation basin |
| | AA-10 | Dewatering basin - Small scale |
| | AA-11 | Dewatering basin - Large scale |
| | AA-12 | Dirtbag |
| | AA-13 | Concrete waste sump |

| | | |
|---|---|---|
| | AA-14 | Outpak concrete washout |
| Advanced Applications | AA-15 | Barrier fence (construction fence) |
| | AA-16 | ROW gates / fences |
| | AA-17 | Bollard |
| | AA-18 | Dust control |
| | AA-19 | Catch Basin Inlet Protection |
| | AA-20 | Silt Sack |
| | AA-21 | Turbidity Curtain |
| | AA-22 | Siltsoxx Amphibian & Reptile Crossing #1 |
| | AA-23 | Siltsoxx Amphibian & Reptile Crossing #2 |
| | AA-24 | Siltsoxx Amphibian & Reptile Crossing #3 |
| | AA-25 | Cultural Avoidance |

# BMP DETAIL

SCALE: NONE




NOTES:

1. THE GROUND SHALL BE PREPARED TO PROVIDE COMPLETE CONTACT WITH THE BALES.

# BMP PICTURE



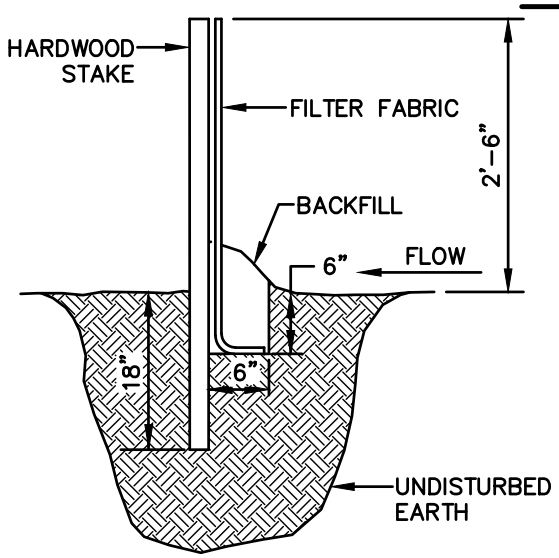
**APPROVED BY: VICE PRESIDENT, ENVIRONMENTAL SERVICES**
PRINTED COPIES ARE NOT DOCUMENT CONTROLLED. FOR LATEST AUTHORIZED VERSION PLEASE REFER TO THE NATIONAL GRID ENVIRONMENTAL INFONET SITE.

SEC-1
WEED FREE BALE BARRIER

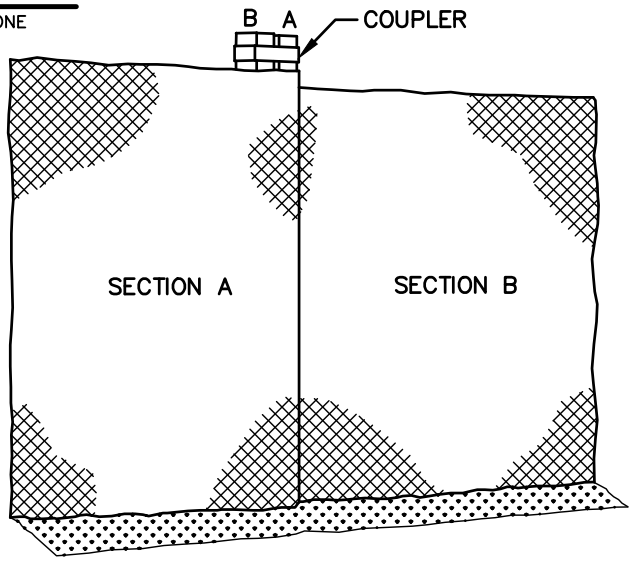
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# BMP DETAIL

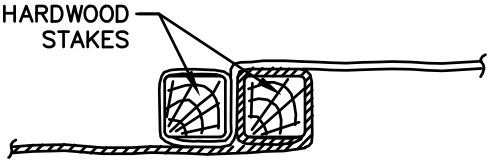
SCALE: NONE




PROFILE




SECTION




PLAN

# BMP PICTURE



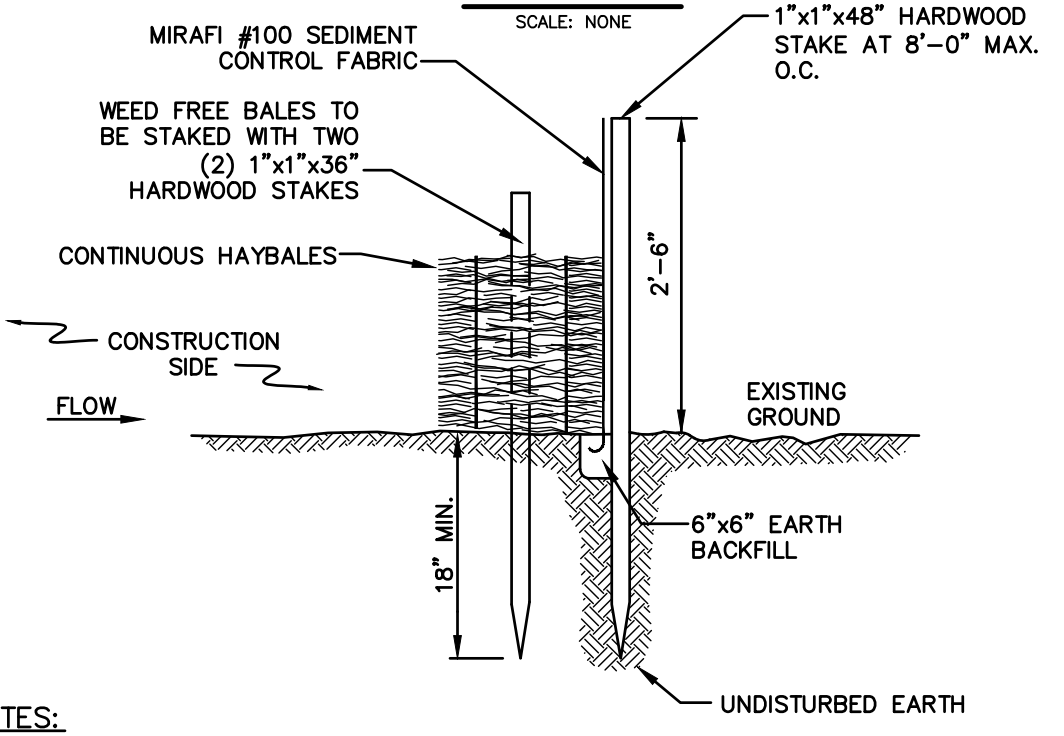


SEC-2
SEDIMENT CONTROL FENCE

File: Sediment_Fence.dwg

# BMP DETAIL

SCALE: NONE




## NOTES:

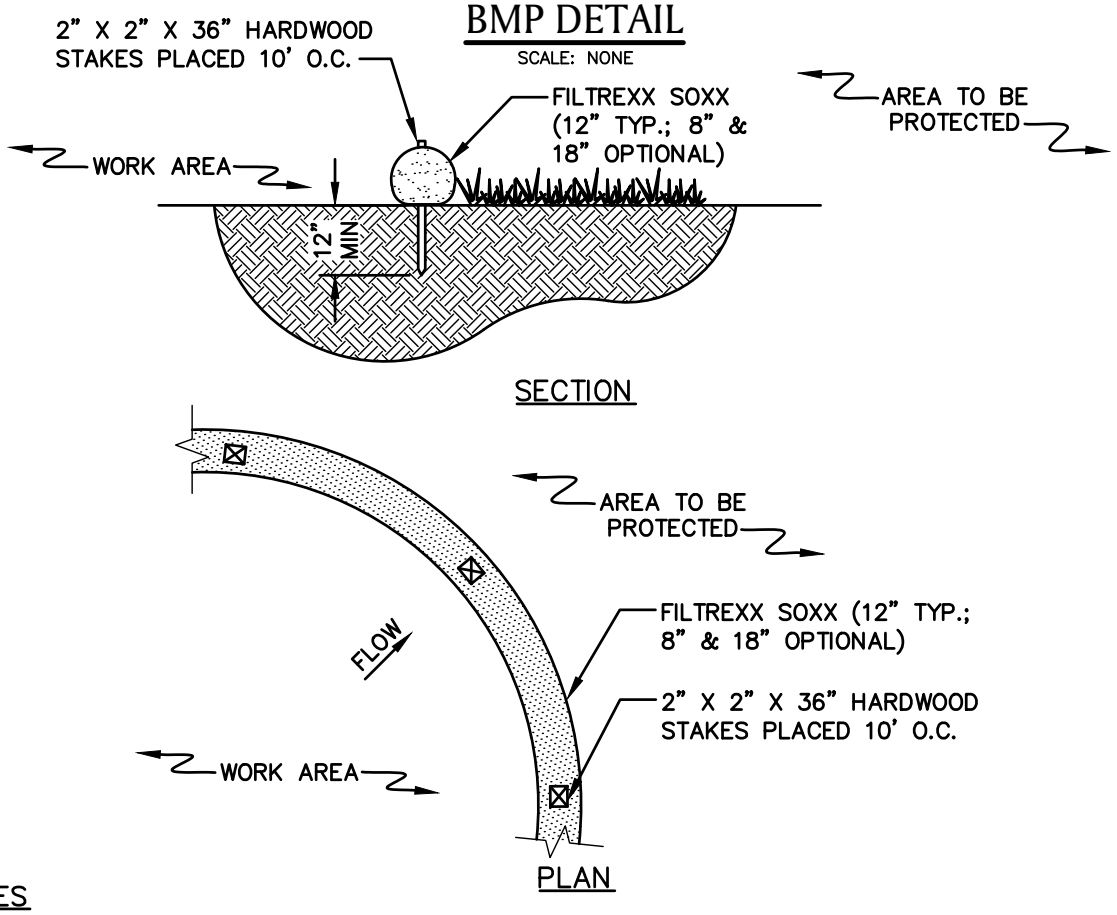
1. BALES SHALL BE PLACED IN A ROW WITH THE ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. BALES SHALL BE SECURELY ANCHORED IN PLACE BY TWO (2) 1"X1"X36" HARDWOOD STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
3. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
4. BALES SHALL BE REMOVED AND REPLACED WHEN THEY BECOME FILLED WITH SEDIMENT AND BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
5. BALES SHALL BE REMOVED WHEN THE EMBANKMENTS STABILIZE.
6. BALES TO BE TWINE BOUND.

# BMP PICTURE



# BMP DETAIL

SCALE: NONE




## NOTES

1. PRODUCT TO BE FILTREXX SILT SOXX OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
3. FILTER MEDIA FILL TO MEET APPLICATION REQUIREMENTS.
4. MESH CONTAINMENT MATERIAL SHOULD BE KNITTED PHOTODEGRADABLE OR BIODEGRADABLE MATERIAL, WITH OPENING SIZES BETWEEN 1/8" – 3/8".
5. COMPOST MEDIA SHOULD HAVE PARTICLE SIZE WHERE 99% < 2", 50% > 1/2".
6. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.

# BMP PICTURE



*** PICTURE AND DETAIL PROVIDED BY FILTREXX LAND IMPROVEMENT SYSTEMS**

**APPROVED BY: VICE PRESIDENT, ENVIRONMENTAL SERVICES**

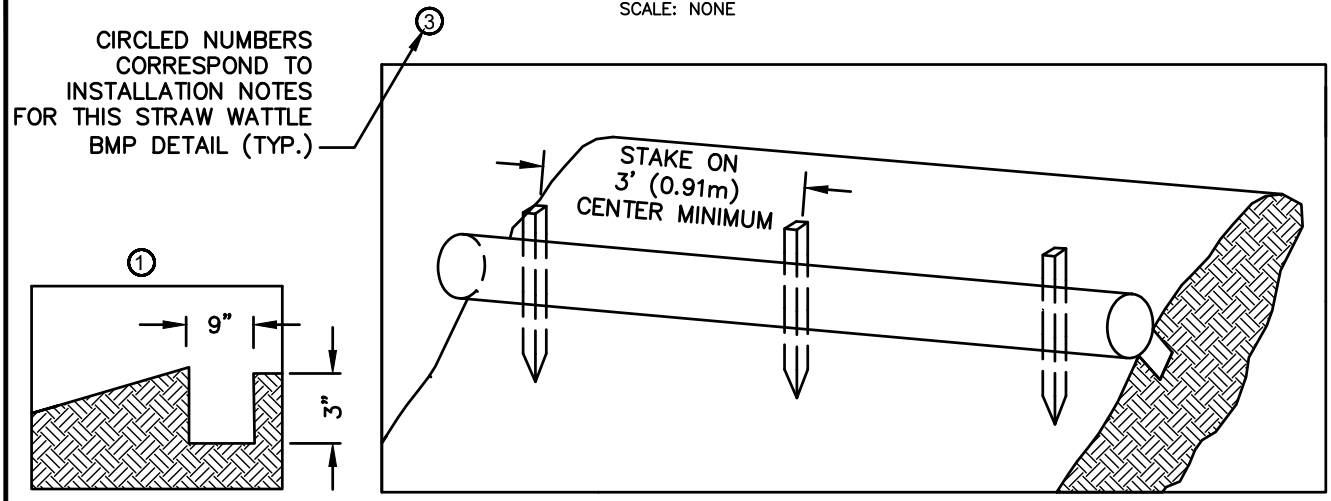
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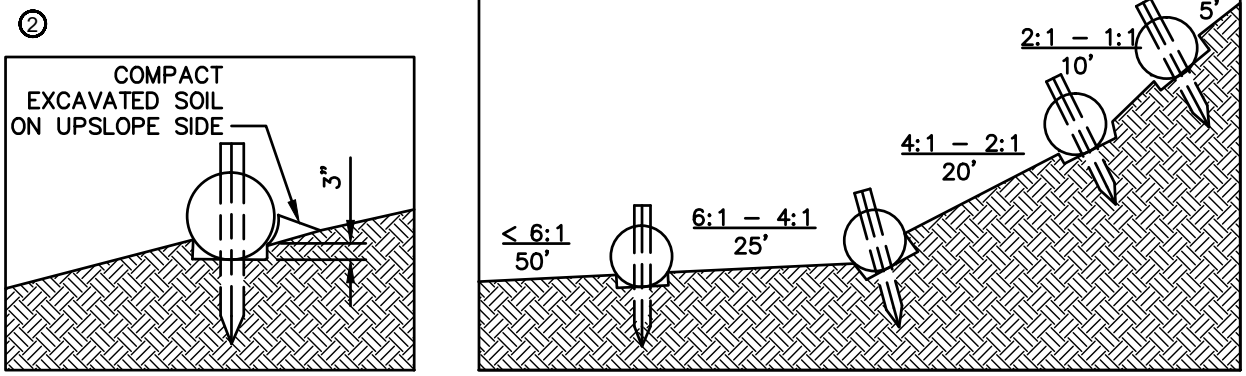
SEC-4
SILT SOXX *

File: SiltSOXX.dwg

# BMP DETAIL

SCALE: NONE




TYPICAL WATTLE SPACING DETAIL

## NOTES:

1. PRODUCT TO BE TENSAR NORTH AMERICAN GREEN STRAW WATTLE OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. TYPICAL WATTLE SPACING BASED ON SLOPE GRADIENT. COORDINATE SPACING AND LOCATION WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.
3. MINIMUM 12" DIAMETER WATTLES SHOULD BE USED FOR HIGHLY DISTURBED AREAS (I.E., HEAVILY USED ACCESS ROAD WITH ADJACENT WETLAND) AND MINIMUM 9–10" WATTLES SHOULD BE USED FOR LESS DISTURBED SOILS.

## INSTALLATION NOTES:

1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2–3" DEEP X 9" WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UPSLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 18–24" HARDWOOD STAKES EVERY 3–4' AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2–3" OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO THE SLOPE FACE.

*** DETAIL AND PICTURE PROVIDED BY TENSAR NORTH AMERICAN GREEN**

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SEC-5

STRAW WATTLE * (1 OF 2)

File: Straw_Wattle.dwg

# BMP PICTURE



STRAW WATTLE – SHALLOW SLOPE (≤4:1)
(ALTERNATE STAKING)

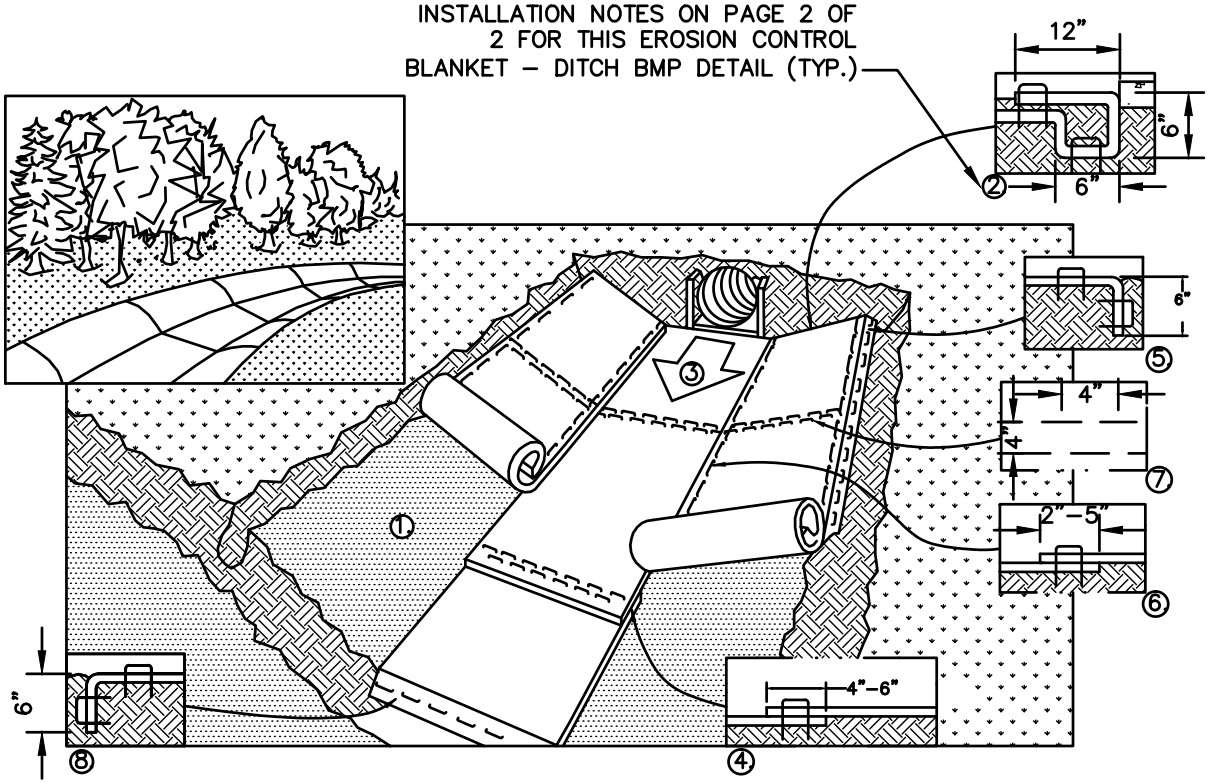
## ALTERNATE STAKING INSTALLATION NOTES:

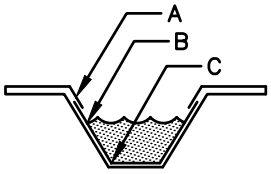
1. ON SHALLOW SLOPES (≤4:1), STRAW WATTLE MAY BE SECURED WITH 18–24" HARDWOOD STAKES DRIVEN AGAINST THE SIDES OF THE WATTLE INSTEAD OF THROUGH. STAKES SHALL ALTERNATE SIDES, AND BE SPACED 3–4' MAX.
2. TWINE SHALL BE TIED FROM STAKE TO STAKE, CRISS–CROSSING THE STRAW WATTLE. TIE TWINE TO STAKES BELOW THE HEIGHT OF THE WATTLE.

# BMP DETAIL

SCALE: NONE

CIRCLED NUMBERS CORRESPOND TO INSTALLATION NOTES ON PAGE 2 OF 2 FOR THIS EROSION CONTROL BLANKET – DITCH BMP DETAIL (TYP.)




CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTES:

1. PRODUCT TO BE NORTH AMERICAN GREEN EROSION CONTROL BLANKET OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
3. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE ROLLED EROSION CONTROL PRODUCTS (RECP's).

# BMP DETAIL

## INSTALLATION NOTES:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMAPCT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. ™ WHEN USING THE DOT SYSTEM , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4" – 6" (10 CM –15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (5 CM –12.5 CM) (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M – 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

# BMP PICTURE



*** PICTURE AND DETAIL PROVIDED BY TENSAR NORTH AMERICAN GREEN**
**APPROVED BY: VICE PRESIDENT, ENVIRONMENTAL SERVICES**

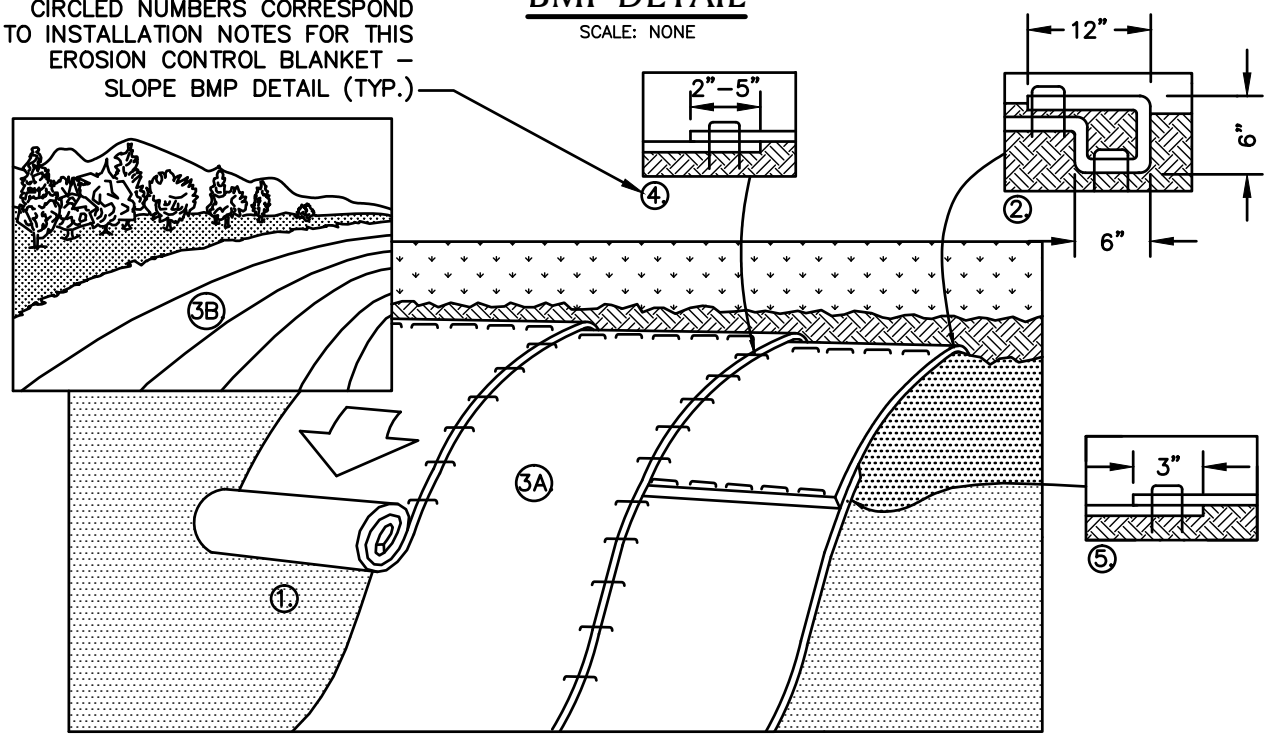
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SEC-6
EROSION CONTROL BLANKET - DITCH * (2 OF 2)

File: Erosion_Blanket_Ditch.dwg

# BMP DETAIL

SCALE: NONE




## NOTES:

1. PRODUCT TO BE NORTH AMERICAN GREEN EROSION CONTROL BLANKET OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLES OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

## INSTALLATION NOTES:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.

*** PICTURE AND DETAIL PROVIDED BY TENSAR NORTH AMERICAN GREEN**



SEC-7
EROSION CONTROL BLANKET - SLOPE * (1 OF 2)

File: Erosion_Blanket_Slope.dwg

# BMP PICTURE



File: Erosion_Blanket_Slope.dwg

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SEC-7
EROSION CONTROL BLANKET - SLOPE * (2 OF 2)

# BMP PICTURE



## NOTES:

1. COORDINATE MIXTURE TYPE AND APPLICATION AREAS WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST PRIOR TO CONSTRUCTION.
2. A MINIMUM OF 1500 LBS. PER ACRE OF A PAPER/CORN FIBER OR EQUIVALENT WITH NATURAL TACKIFIERS WILL BE USED ON SLOPES LESS THAN 3:1.
3. A BFM (BONDED FIBER MATRIX) WILL BE USED ON SLOPES GREATER THAN 2:1.
4. A FGM (FLEXIBLE GROWTH MATRIX) OR ESM (EXTREME SLOPE MATRIX) WILL BE USED ON SLOPES GREATER THAN 1:1.
5. REFER TO BMP #10 FOR SEED MIXTURE OPTIONS.

*** PICTURE PROVIDED BY TENSAR NORTH AMERICAN GREEN**
*** TACKIFIER INFORMATION PROVIDED BY FILTREXX LAND IMPROVEMENT SYSTEMS AND TENSAR NORTH AMERICAN GREEN**

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SEC-8
HYDROSEEDING WITH TACKIFIER
(SLOPE STABILIZATION) *

File: Hydroseeding.dwg

# BMP

## Definition

Applying coarse plant residue or chips, or other suitable materials, to cover the soil surface.

## Purpose

The primary purpose is to provide initial erosion control while a seeding or shrub planting is establishing. Mulch will conserve moisture and modify the surface soil temperature and reduce fluctuation of both. Mulch will prevent soil surface crusting and aid in weed control. Mulch is also used alone for temporary stabilization in non-growing months.

## Conditions Where Practice Applies

On soils subject to erosion and on new seedings and shrub plantings. Mulch is useful on soils with low infiltration rates by retarding runoff.

## Criteria

Site preparation prior to mulching requires the installation of necessary erosion control or water management practices and drainage systems.

Slope, grade and smooth the site to fit needs of selected mulch products.

Remove all undesirable stones and other debris to meet the needs of the anticipated land use and maintenance required.

Apply mulch after soil amendments and planting is accomplished or simultaneously if hydroseeding is used.

Select appropriate mulch material and application rate or material needs. Determine local availability.

Select appropriate mulch anchoring material.

NOTE: The best combination for grass/legume establishment is straw (cereal grain) mulch applied at 2 ton/acre (90 lbs./1000sq.ft.) and anchored with wood fiber mulch (hydromulch) at 500 – 750 lbs./acre (11 – 17 lbs./1000 sq. ft.). The wood fiber mulch must be applied through a hydroseeder immediately after mulching.



NOTE:

1. PICTURE DEPICTS STRAW MULCH APPLICATION (FROM MULCH SPREADER) ON STEEP SLOPE WITH AN IMPROVED DRAINAGE SWALE.
2. COORDINATE MULCH MATERIALS AND RATES WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.

* BMP INFORMATION FROM "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (AUGUST, 2005)." INFORMATION OBTAINED VIA WEBSITE: http://www.dec.ny.gov/chemical/29066.html



SEC-9
MULCH MATERIALS, RATES AND USES (FROM NY) *

File: Mulch_Materials.dwg

## UPLAND ROW RESTORATION MIX – GENERAL

Species Composition Options:

- Andropogon gerardii; Niagra Big Bluestem
- Schizachyrium scoparium; Little Bluestem
- Elymus Canadensis; Canada Wild Rye
- Elymus virginicus; Virginia Wildrye
- Lolium multiflorum; Annual Ryegrass
- Sorghastrum nutans; Indiangrass
- Chamaecrista fasciculate; Partridge Pea
- Desmodium canadense; Showy Tick Trefoil
- Helioposis helianthoides; Ox–Eye Sunflower
- Panicum virgatum; Switchgrass
- Rudbeckia hirta; Black Eyed Susan
- Poa palustris; Fowl Bluegrass
- Agrostis perennans; Upland Bentgrass
- Agrostis alba; Redtop
- Festuca rubra; Red Fescue
- Lotus corniculatus; Birds–Foot Trefoil
- Chrysanthemum leucanthem; Ox–Eye Daisy
- Aster novae–angliae; New England Aster

Example Seed Mixes:

1. Native Upland wildlife forage and Cover Meadow Mix – Ernst Conservation Seeds (ERNMX–123)
2. Eastern Ecotype Native Grass Mix– Ernst Conservation Seeds (ERNMX–177)
3. New England Native Warm Season Grass Mix – New England Wetland Plants, Inc.
4. New England Logging Road Mix – New England Wetland Plants, Inc.
5. Northeast Upland Wildflower/Restoration Erosion Mix – Southern Tier Consulting (STCMX–2)

## UPLAND ROW RESTORATION MIX – DRY/ROCKY SITES

Species Composition Options:

- Festuca rubra; Red Fescue
- Schizachyrium scoparium; Little Bluestem
- Elymus Canadensis; Canada Wild Rye
- Bouteloua gracillis; Blue Grama
- Lolium multiflorum; Annual Ryegrass
- Lolium perenne; Perennial Ryegrass
- Agrostics scabra; Rough Bentgrass
- Agrostis perennans; Upland Bentgrass
- Sorghastrum nutans; Indiangrass

Example Seed Mixes:

1. New England Erosion Control/ Restoration Mix for Dry Sites – New England Wetland Plants, Inc.
2. Ernst Conservation Seeds and similar companies can create a custom seed mix matching the composition above (with site specific additions if necessary).

## WETLAND ROW RESTORATION MIX

Species Composition Options:

- Agrostis stolonifera; Creeping Bentgrass
- Poa trivialis; Rough Bluegrass
- Alopecurus arundinaceus; Creeping Meadow Foxtail
- Lolium multiflorum; Annual Ryegrass
- Festuca rubra; Creeping Red Fescue
- Elymus virginicus; Virginia Wildrye
- Schizachyrium scoparium; Little Bluestem
- Andropogon gerardii; Niagra Big Bluestem
- Carex vulpinoidea; Fox sedge
- Panicum virgatum; Switchgrass
- Agrostis scabra; Rough Bentgrass
- Aster novae–angliae; New England Aster
- Eupatorium perfoliatum; Boneset
- Euthamia graminifolia; Grass Leaved Goldenrod
- Scirpus atrovirens; Green Bulrush
- Verbene hastate; Blue Vervain
- Juncus effusus; Soft Rush
- Scirpus cyperinus; Wool Grass
- Panicum clandestinum; Deertongue

Example Seed Mixes

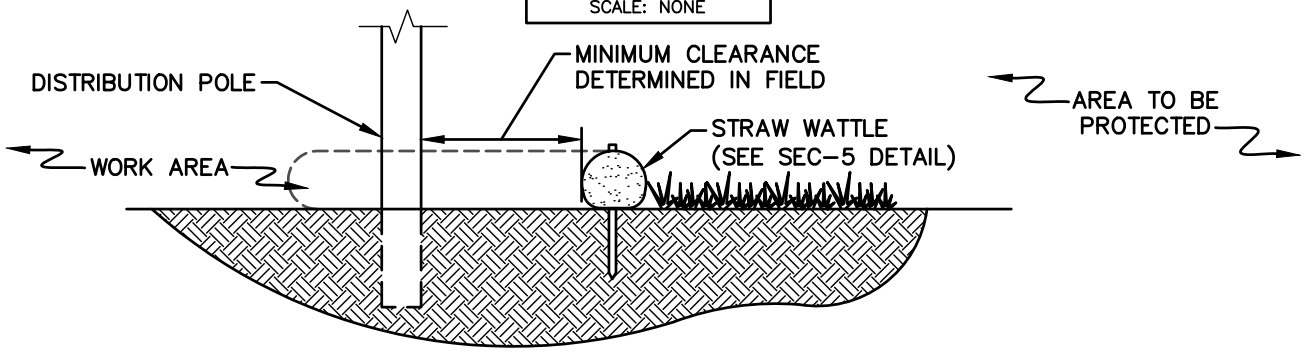
1. New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites – New England Wetland Plants, Inc.
2. Northeast Wetland Grass Seed Mix – Southern Tier Consulting (STCMX–7)
3. Ernst Conservation Seeds and similar companies can create a custom seed mix matching the composition above (with site specific additions if necessary).

## GERNERAL NOTES:

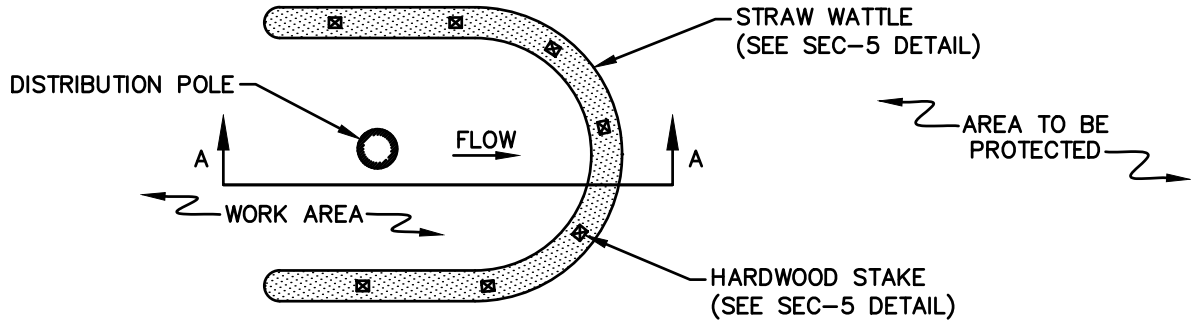
1. Seed mixes described herein are intended to cover a variety of typical new england landscapes. However, site specific seed mixes will need to be evaluated in coastal or mountainous regions.
2. Seed mixes described herein are intended for general ROW restoration. Site specific wetland seed mixes may be required by local, state and/or federal regulators for certain impacts to wetlands.
3. All seed mixes are to be approved by National Grid Environmental Scientist prior to construction and must conform with all project permits.
4. Seedbed preparation and maintenance as well as temporary erosion and sediment controls are crucial to the establishment of newly seeded areas. Coordinate with National Grid Environmental Scientist on seed bed preparation and maintenance as well as temporary erosion and sediment controls prior to construction.

# BMP DETAIL

SCALE: NONE




SECTION A–A




PLAN

NOTES

1. PRODUCT TO BE STRAW WATTLE OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST (SEE SEC–5 BMP DETAIL).
2. STRAW BALE BARRIER PER SEC–1 BMP DETAIL TO BE AN AVAILABLE ALTERNATE DEPENDING ON SITE CONDITIONS AT THE DIRECTION OF NATIONAL GRID ENVIRONMENTAL SCIENTIST (SEE FIGURE 2).
3. MINIMUM CLEARANCE BETWEEN POLE AND EROSION CONTROL TO BE DETERMINED BY CONDITIONS OF POLE INSTALLATION/REPLACEMENT WORK AND ASSOCIATED DISTURBANCE.

# BMP PICTURE



FIGURE 1: TYP. STRAW WATTLE APPLICATION



FIGURE 2: ALT. STRAW BALE APPLICATION

# BMP PICTURE

SCALE: NONE

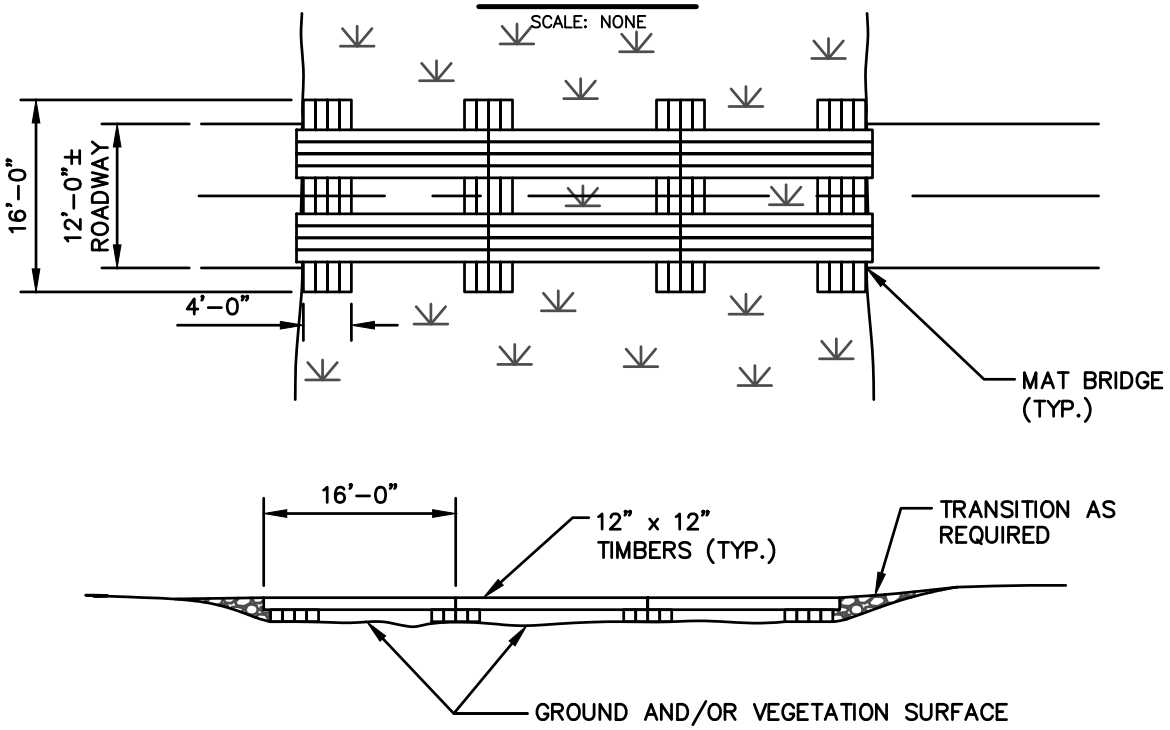



NOTES:

1. PRODUCT TO BE ALTURNAMATS' PREFABRICATED MATS OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. PRODUCT AVAILABLE IN 4X8' UNITS.
3. IF MATS ARE INSTALLED IN A WETLAND AREA, INSTALL EROSION CONTROLS TO CONTAIN MATERIAL UTILIZED IN THE MAT TRANSITIONS.

# BMP DETAIL

SCALE: NONE




NOTES:

1. IF MATS ARE INSTALLED IN A WETLAND AREA, INSTALL EROSION CONTROLS TO CONTAIN MATERIAL UTILIZED IN THE MAT TRANSITIONS.

# BMP PICTURE



CM-2
CONSTRUCTION MAT BRIDGE
(1 OF 2)

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File: Mat_Bridge.dwg

# BMP PICTURE - SINGLE SPAN

SCALE: NONE






## NOTES:

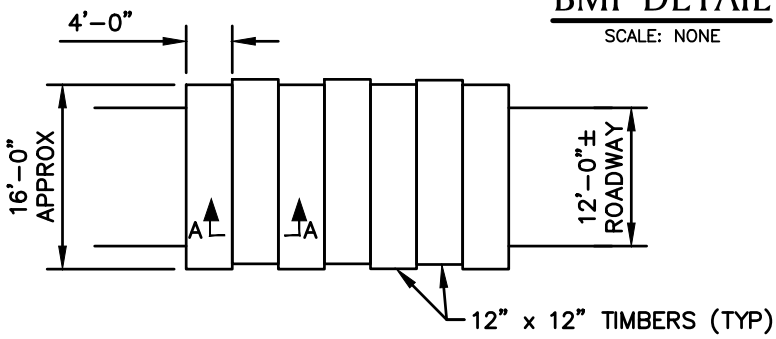
1. WHERE STREAM WIDTH ALLOWS, INSTALL CONSTRUCTION MATS TO SPAN THE WATERCOURSE IN ITS ENTIRETY WITHOUT STRINGER PLACEMENT IN THE WATER OR ANY RESTRICTION OF STREAM FLOW.

2. INSTALLATION OF THE CONSTRUCTION MAT BRIDGE SHALL NOT DAMAGE THE STREAM BED AND BANKS. WHERE POSSIBLE, FOOTERS SHALL BE PLACED PARALLEL TO THE TOP OF THE STREAM BANKS, WITH ACCESS MATTING PLACED ACROSS THE TOP OF THE STRINGERS DISTRIBUTING THE WEIGHT OF THE CONSTRUCTION EQUIPMENT.

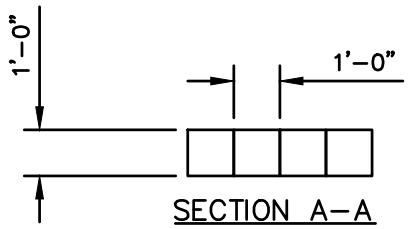
3. AT STREAM CROSSINGS THAT CANNOT BE SPANNED BY A SINGLE SECTION OF CONSTRUCTION MATTING, AND WHERE PERMITS ALLOW, STRINGERS SHALL BE PLACED ATOP THE STREAM BED PARALLEL TO THE FLOW OF WATER.

# BMP DETAIL

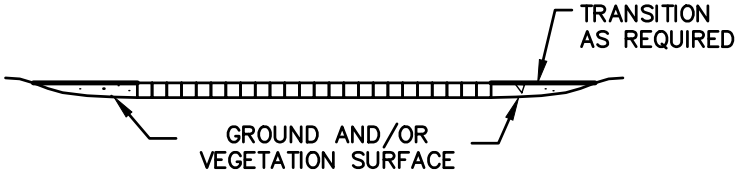
SCALE: NONE




TYPICAL PLAN VIEW




SECTION A–A
TYPICAL MAT SECTION
BOLTED TOGETHER




TYPICAL SECTION VIEW

NOTES:

1. TO BE INSTALLED IF NECESSARY TO PREVENT RUTTING, TO ACCESS STRUCTURES.
2. THIS DETAIL SHOWS TYPICAL DIMENSIONS. SOME CONTRACTOR'S CONSTRUCTION MATS ARE DIMENSIONALLY DIFFERENT FROM WHAT IS SHOWN HERE.
3. DEPENDENT ON SITE CONDITIONS, MULTIPLE LAYERS OF CONSTRUCTION MATS MAY BE INSTALLED.

# BMP PICTURE



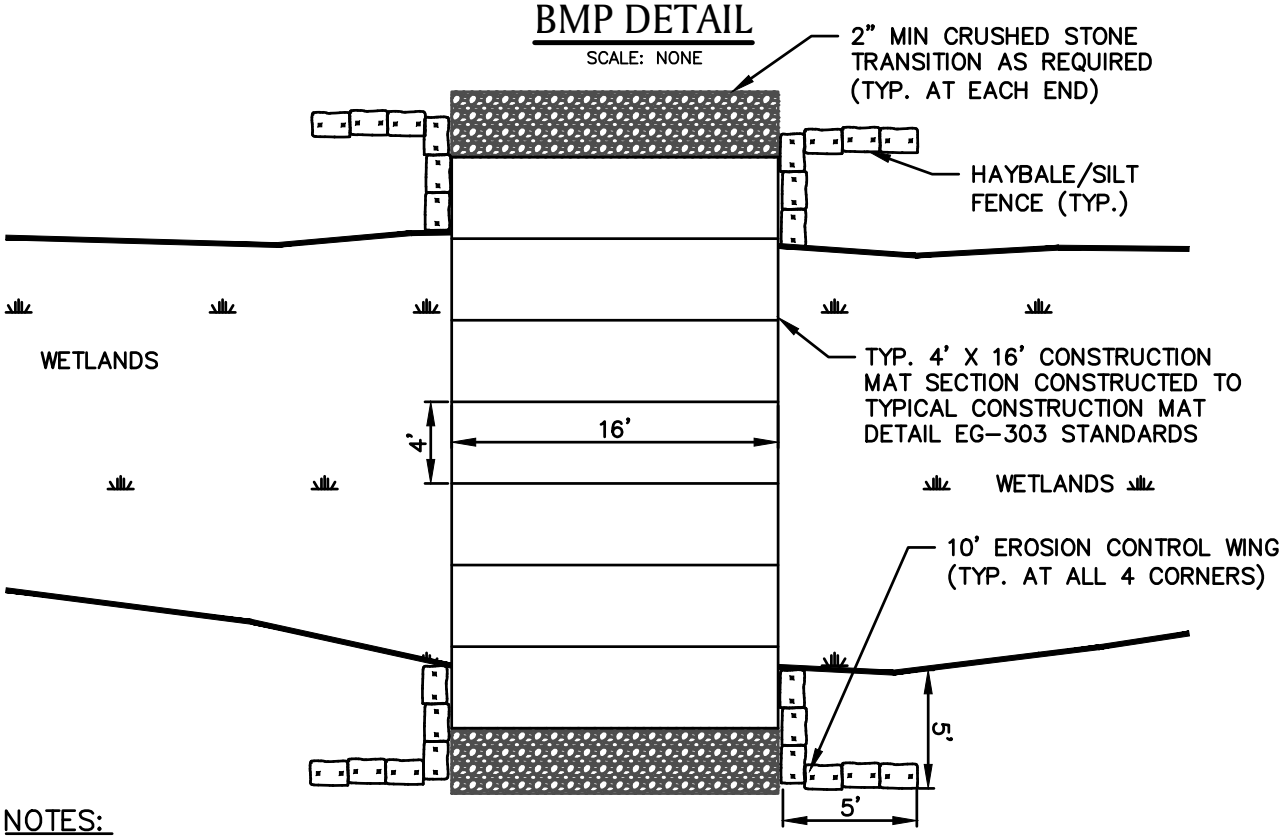
CM-3
CONSTRUCTION MAT LAYOUT
(WITH TRANSITION)

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File: Swamp_Mat_Layout.dwg

## BMP DETAIL

SCALE: NONE




NOTES:

1. ADD FILTER FABRIC AS NEEDED UNDER STONE TRANSITION RAMPS.
2. ALL MEASUREMENTS AND LOCATIONS ARE APPROXIMATE.

## BMP PICTURE



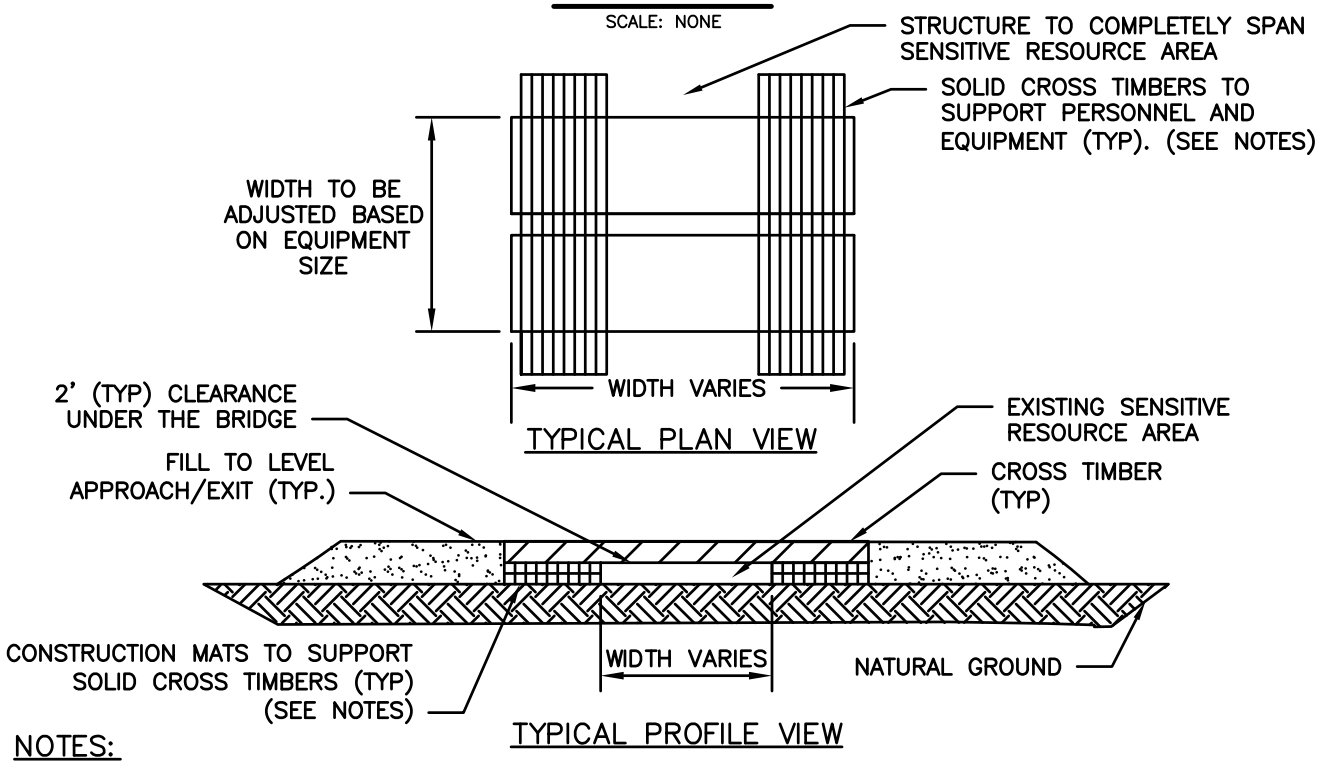
**CM-4**
CONSTRUCTION MAT LAYOUT
(WITH TRANSITION AND BMPs)

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File: Swamp_Mat_Transition and BMPs.dwg

# BMP DETAIL

SCALE: NONE




NOTES:

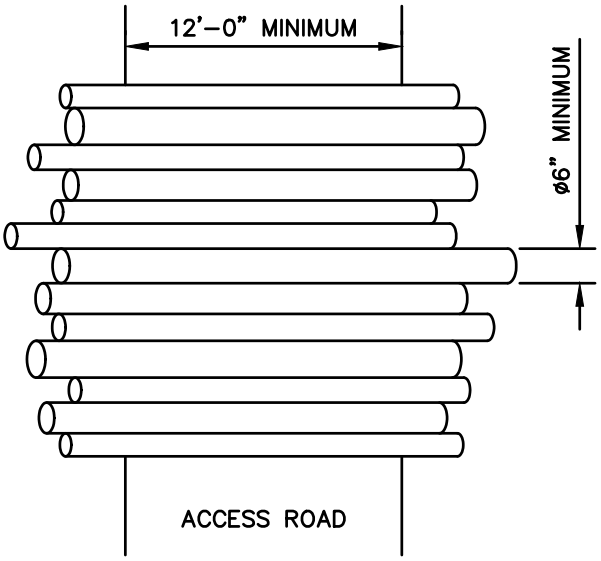
1. THE DETAIL SHOWN IS CONCEPTUAL. CONSTRUCTION MATS AND CROSS TIMBERS SHALL BE SIZED AND SELECTED BASED ON SPAN WIDTH, CROSSING EQUIPMENT AND FIELD CONDITIONS.
2. THE NUMBER OF CONSTRUCTION MATS MAY VARY DEPENDING ON THE CLEARANCE HEIGHT.
3. EQUIPMENT AND PERSONNEL LOAD SHALL BE DISTRIBUTED ON ALL TIMBERS.
4. EACH EQUIPMENT OPERATOR AND USER OF THE FIELD BRIDGE SHALL BE FAMILIAR WITH THE DESIGN AND THE MAXIMUM EQUIPMENT AND PERSONNEL LOADS.
5. THIS DETAIL MAY NOT BE APPLICABLE IN ALL FIELD CONDITIONS.
6. INSTALL EROSION CONTROLS ADJACENT TO THE CULVERT ENDS TO PROTECT THE WATERWAY FROM ROADWAY DEBRIS.

# BMP PICTURE



# BMP DETAIL

SCALE: NONE




RANDOM LENGTH AND DIAMETER LOGS PLACED ACROSS AN ACCESS ROAD

NOTE:

1. A SIMILAR BRUSH MAT INSTALLATION CONSISTING OF SMALLER DIAMETER STEMS AND LOGS CAN BE USED.
2. CORDUROY ROADS SHALL ONLY BE USED IN EMERGENCIES OR AFTER APPROVAL FROM THE PROJECT ENVIRONMENTAL CONSULTANT OR NATIONAL GRID ENVIRONMENTAL SCIENTIST.

# BMP PICTURE



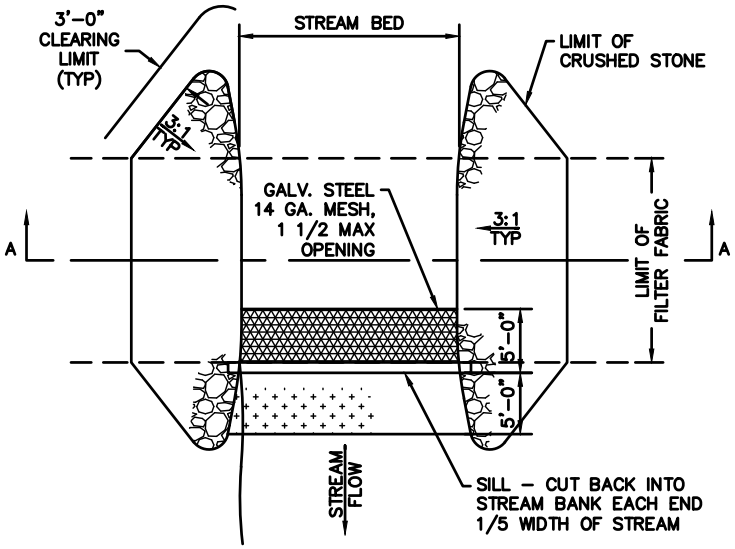


CM-6
CORDUROY ROAD

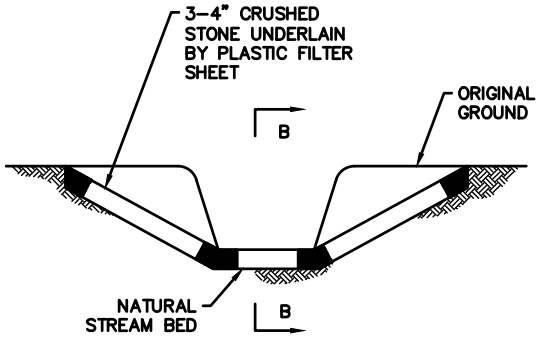
File: Corduroy_Road.dwg

# BMP DETAIL

SCALE: NONE




PLAN VIEW




SECTION 'A-A'

# BMP PICTURE





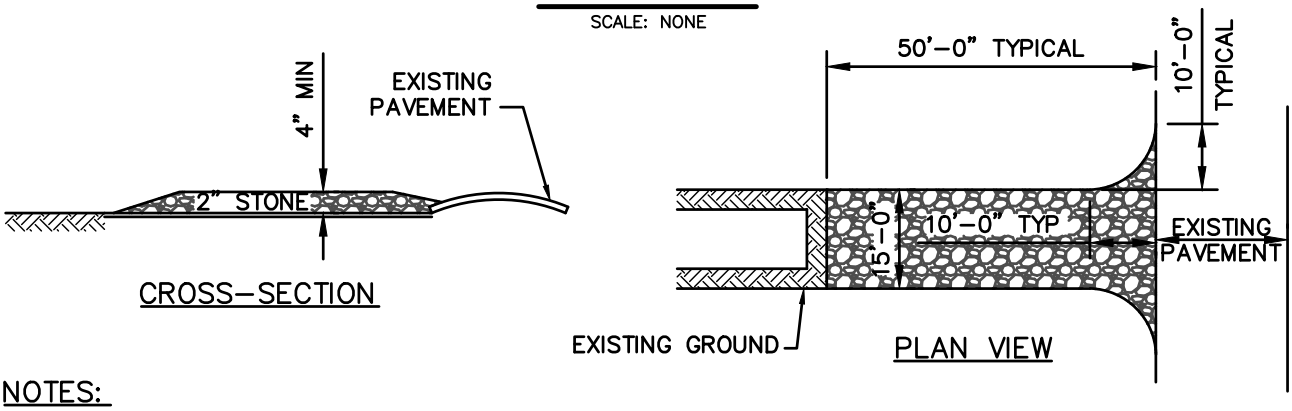
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CM-7
ROCK FORD

File: Rock_Ford.dwg

# BMP DETAIL

SCALE: NONE




## NOTES:

1. STONE SIZE – USE 2" STONE (MINIMUM) TO 6" STONE (MAXIMUM)
2. LENGTH – GREATER THAN OR EQUAL TO 50 FEET
3. THICKNESS – 4"
4. WIDTH – FIFTEEN (15) FOOT TYP., BUT NOT LESS THAN FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS ENTRANCE. IF PIPING IS IMPRACTICAL, MOUNTABLE BERM SHALL BE PERMITTED.
6. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
7. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED.
8. THE CLEAN STONE SHOULD BE INSTALLED OVER A GEOTEXTILE FABRIC. GEOTEXTILE FABRIC MAY BE OMITTED FOR PERMANENT CONSTRUCTION ENTRANCES/EXITS ON A CASE–BY–CASE BASIS WITH THE APPROVAL OF THE NATIONAL GRID ENVIRONMENTAL SCIENTIST.
9. FOLLOWING CONSTRUCTION, THE CONSTRUCTION ENTRANCE/EXIT SHALL BE REMOVED AND THE AREA GRADED, SEEDED, AND MULCHED AS NEEDED. ENTRANCE/EXITS MAY REMAIN DEPENDING UPON FUTURE ACCESS NEEDS AND/OR PROJECT–SPECIFIC APPROVALS BUT REQUIRES APPROVALS FROM THE NATIONAL GRID ENVIRONMENTAL SCIENTIST AND PROPERTY LEGAL.

# BMP PICTURE



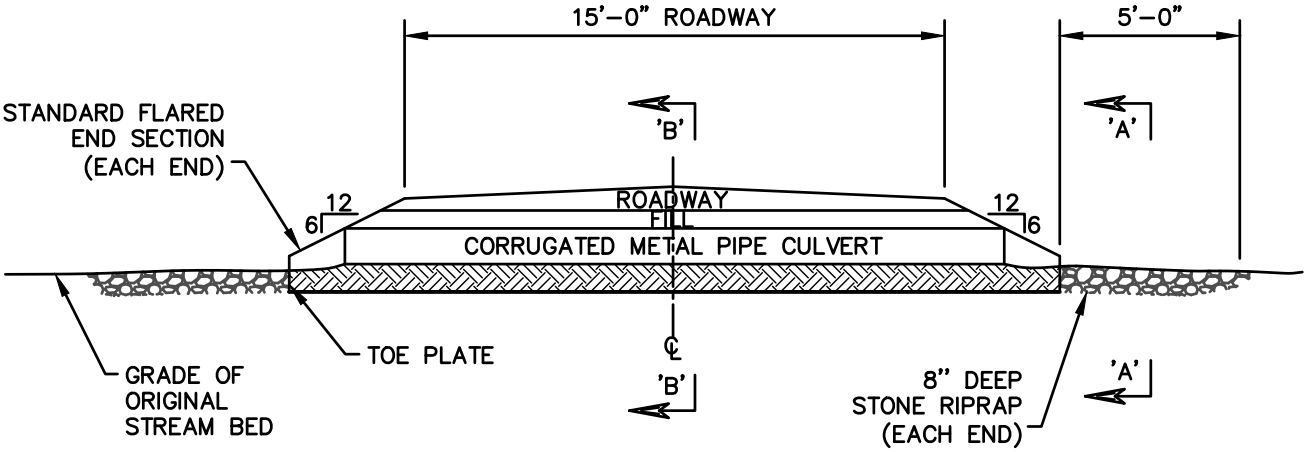


CM-8
TEMPORARY CONSTRUCTION ENTRANCE/ EXIT

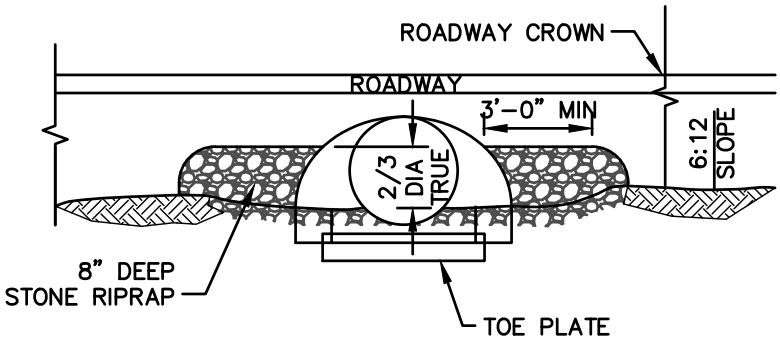
File: Temp_Construction_Ent.dwg

# BMP DETAIL

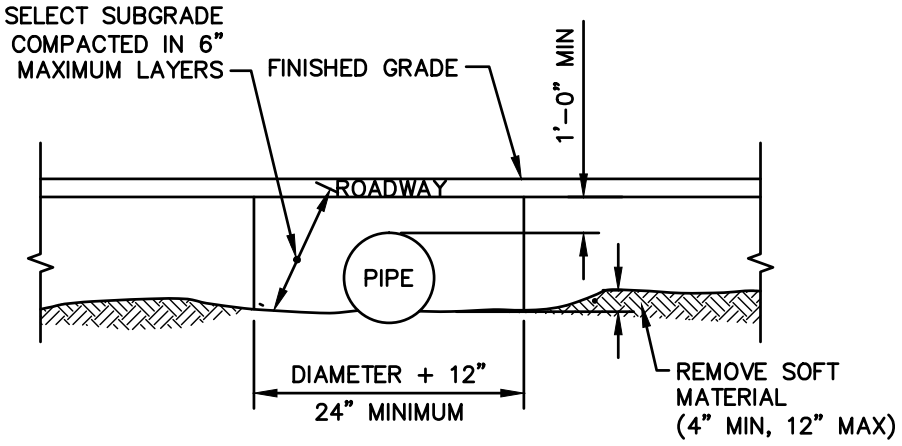
SCALE: NONE




## CROSS SECTION




## SECTION 'A–A'
(SAME BOTH ENDS)




## SECTION 'B–B'



CM-9
TEMPORARY CONSTRUCTION
CULVERT (1 OF 2)

File: Temp_Constr_Culvert.dwg

# BMP DETAIL

SCALE: NONE

NOTES:

1. CULVERT DESIGN AND LAYOUT SHALL BE COORDINATED WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST (NGES).
2. CROWN ROADWAY 1/2 INCH PER FOOT.
3. LAY THE CULVERT STRAIGHT AND AS NEARLY AS POSSIBLE ALONG THE EXISTING STREAM BED AND WITH THE INVERTS AT OR SLIGHTLY BELOW BED ELEVATION.
4. CORRUGATED METAL PIPE IS TO BE GALVANIZED STEEL, OR ALUMINIZED STEEL (TYPE 2), WITH BOLTED CONNECTORS.
5. DIAMETERS SHALL BE AS PER THE PROJECT DRAWINGS AND THE SPECIFICATION. THE PIPE GAGE SHALL BE AS FOLLOWS:

| DIAMETER (INCHES) | GAGE |
|---|---|
| 12" – 15" | .004" |
| 18" – 24" | .079" |
| 30" – 36" | .109" |

6. INSTALLATION OF CULVERTS LARGER THAN 36 INCH DIAMETER SHALL REQUIRE SPECIAL ENGINEERING DESIGN.
7. SELECT SUBGRADE SHALL BE A GRANULAR MATERIAL AS DESCRIBED IN NYSDOT SPECIFICATION ITEM 203–2.02C, OR AS APPROVED BY A NGES.
8. STONE RIPRAP SHALL BE AS DESCRIBED IN NYSDOT SPECIFICATION ITEM 203–2.02D, WITH 8 INCH MAXIMUM SIZE, OR AS APPROVED BY A NGES. EXCEPT WHERE PROTECTED BY STONE, ALL EMBANKMENT SLOPES ARE TO BE STABILIZED, MULCHED AND SEEDED AS PER PROJECT SPECIFICATIONS.
9. OUTLET SHOULD BE CONFIGURED NOT TO CREATE HYDRAULIC JUMP OR PLUNGE POOL.
10. INSTALL EROSION CONTROLS ADJACENT TO THE CULVERT ENDS TO PROTECT THE WATERWAY FROM ROADWAY DEBRIS.

# BMP PICTURE



# BMP PICTURE



NOTE:

1. PICTURE SHOWS VIEW OF ACCESS WAY STABILIZATION ADJACENT TO A WETLAND.
2. COORDINATE STABILIZATION DESIGN AND PRODUCT WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.

# BMP PICTURE




NO ACCESS – WETLAND/STREAM CROSSING MATS REQUIRED







NO ACCESS – A.) PROJECT LIMITS E.G. ROW LIMITS
B.) HISTORICAL/CULTURAL
C.) ENVIRONMENTALLY SENSITIVE E.G. THREATENED & ENDANGERED
D.) OTHER

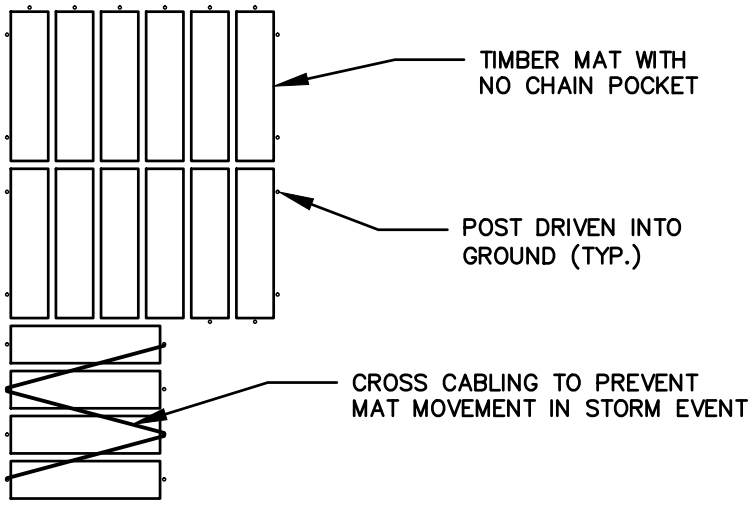





APPROVED ACCESS

# BMP DETAIL 1

SCALE: NONE




TYPICAL PLAN VIEW

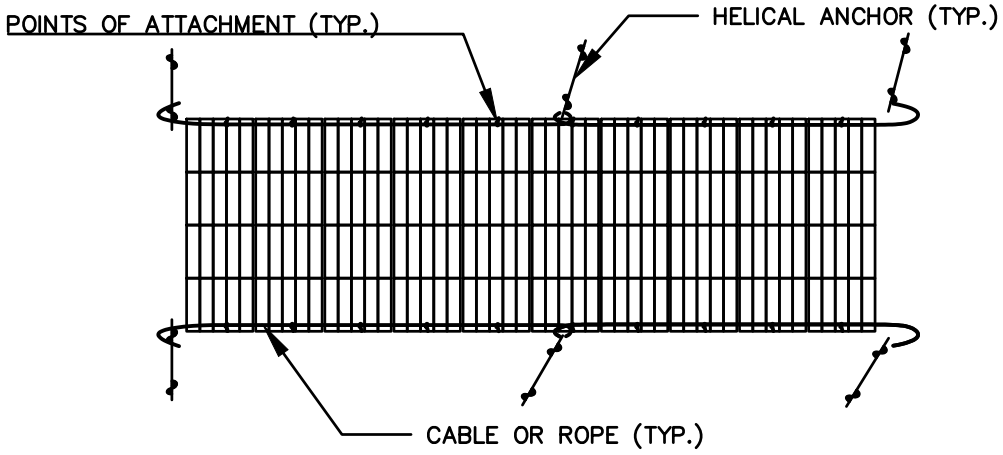
NOTES:

1. EXAMPLES OF ANCHORING ONLY. MATTING CONTRACTOR SHALL PROPOSE THE METHOD OF ANCHORING BASED ON FIELD CONDITIONS.
2. ANCHORING METHOD TO BE APPROVED BY THE NATIONAL GRID ENVIRONMENTAL SCIENTIST AND TRANSMISSION LINE CONSTRUCTION SUPERVISOR.

# BMP DETAIL 2

NOTES:

1. TYPICAL HELICAL ANCHOR AND CABLE CONFIGURATION FOR MAT CONTAINMENT IN FLOODPLAINS/LAND SUBJECT TO FLOODING.
2. TYPICAL POINTS OF ATTACHMENT HEAVY STAPLES, EYE BOLTS OR OTHER SUITABLE HARDWARE TO SECURE ATTACHMENT OF MAT TO LINEAR CABLE. IF CHAIN POCKETS ARE PRESENT IN THE MATS CABLE OR ROPE CAN BE LOOPED THROUGH RODS.



## BMP PICTURE 1



## BMP PICTURE 2





CM-12
EXAMPLE OF CONSTRUCTION MAT ANCHORING (2 OF 2)

File: Const_Mat_Anchoring.dwg

## BMP DETAIL

SCALE: NONE

# WIRE BACKED SILT FENCE



MUTUAL INDUSTRIES WIRE BACKED SILT FENCE
PART # 1776-14-24
36" X 100'
36" MISF 1776 FABRIC
24" 14GA WIRE MESH
OPENING OF MESH 2" X 4"
FABRIC HOG RINGED EVERY 12"-18" ALONG THE TOP OF THE FENCE

ROLL WEIGHT 40 LBS

32 ROLLS PER PALLET

NOTES:

1. PRODUCT TO BE MUTUAL INDUSTRIES' WIRE BACKED SILT FENCE OR APPROVED EQUAL BY NATIONAL ENVIRONMENTAL SCIENTIST.
2. COORDINATE INSTALLATION METHOD AND LOCATION WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.

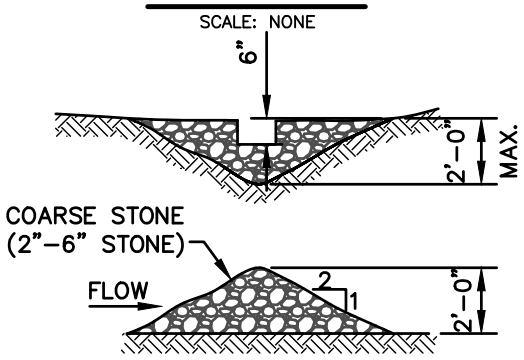
# BMP PICTURE



NOTE:

1. PICTURE SHOWS SEDIMENT FILTER WITHIN A WETLAND.

# BMP DETAIL




## STONE CHECK DAM

NOTES:

1. USE CHECK DAMS TO SLOW WATER FLOWS AND AS SMALL SEDIMENT TRAPS IN DITCHES ALONG ACCESS ROADS.
2. CLEAN SEDIMENT AND REPLACE DAMS AS NECESSARY.
3. THE CENTER OF THE CHECK DAM MUST BE AT LEAST 6" LOWER THAN THE OUTER EDGES.
4. COORDINATE SPACING WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.
5. MAX. SPACING: TOE OF THE UPSTREAM DAM IS SAME ELEVATION AS TOP OF DOWNSTREAM DAM.
6. STONE SHALL BE FREE OF FINE PARTICLES TO PREVENT TURBID DISCHARGES.

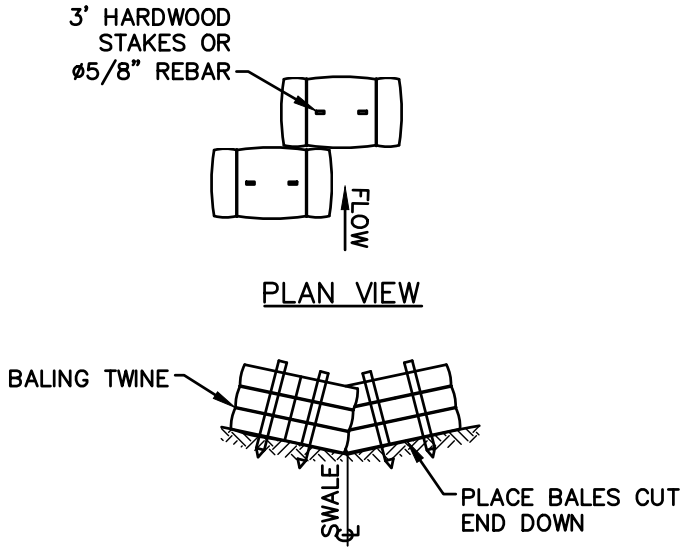
# BMP PICTURE




NOTE: A SMALLER STONE SIZE IS SHOWN IN THIS PICTURE.

# BMP DETAIL

SCALE: NONE




NOTES:

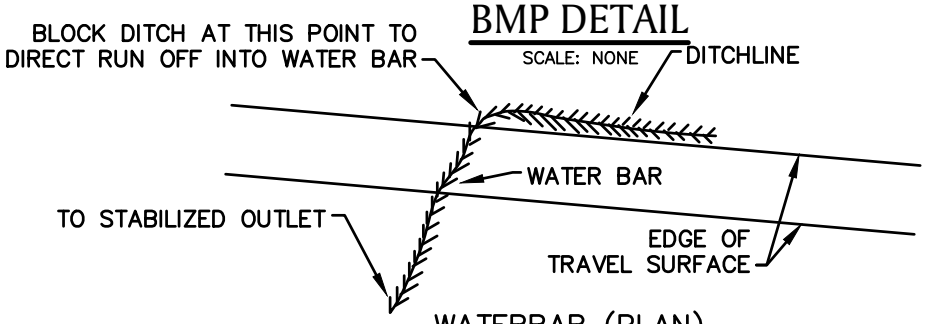
1. USE CHECK DAMS TO SLOW WATER FLOWS AND AS SMALL SEDIMENT TRAPS IN DITCHES ALONG ACCESS ROADS.
2. CLEAN SEDIMENT AND REPLACE DAMS AS NECESSARY.
3. COORDINATE SPACING WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.

# BMP PICTURE

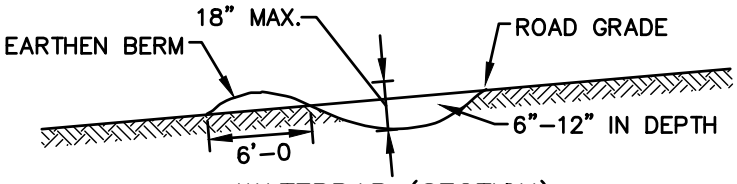


# BMP DETAIL

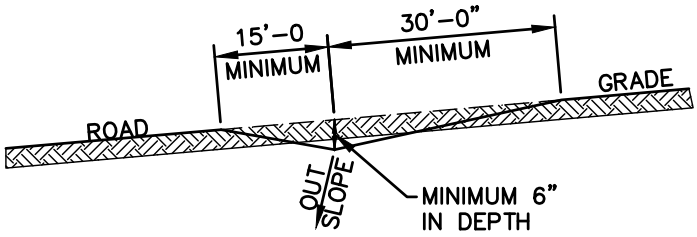
SCALE: NONE




WATERBAR (PLAN)




WATERBAR (SECTION)




DISCHARGE (SECTION)

NOTE:

1. LINE WITH 2"–6" STONE UNDERLAIN BY GEOTEXTILE FILTER FABRIC, KEYED INTO ROAD SURFACE AT LEAST 10 FEET EACH SIDE OF WATERBAR.
2. COORDINATE SPACING WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.

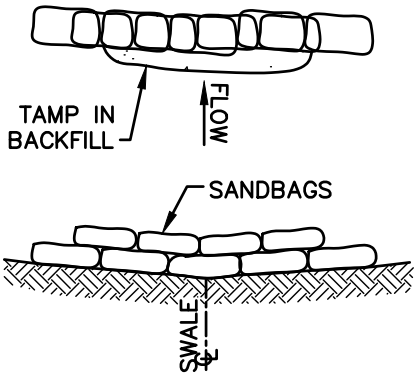
# BMP PICTURE






# BMP DETAIL

SCALE: NONE




SANDBAG
CHECK DAM

NOTES:

1. USE CHECK DAMS TO SLOW WATER FLOWS AND AS SMALL SEDIMENT TRAPS IN DITCHES ALONG ACCESS ROADS.
2. CLEAN SEDIMENT AND REPLACE DAMS AS NECESSARY.
3. COORDINATE SPACING WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.

# BMP PICTURE




NOTE:

1. PICTURE DOES NOT DEPICT "TAMP IN BACKFILL"

# BMP PICTURE

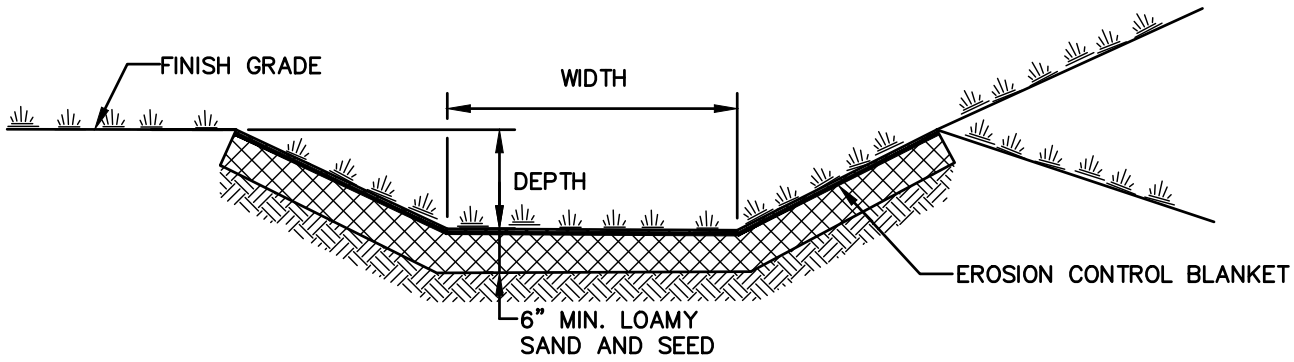


NOTE:

1. EXACT SIZE, LOCATION AND DESIGN IS DEPENDANT ON SITE CONDITIONS, AND LOCAL AND STATE REGULATIONS. COORDINATE THIS BMP WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST PRIOR TO CONSTRUCTION.

# BMP DETAIL

SCALE: NONE




## NOTES:

1. WIDTH AND DEPTH OF SWALE, AND EROSION CONTROL BLANKET TYPE TO BE COORDINATED WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. REFER TO DETAILS SEC–10 AND SEC–11 FOR SEED MIXTURE OPTIONS.

# BMP PICTURE



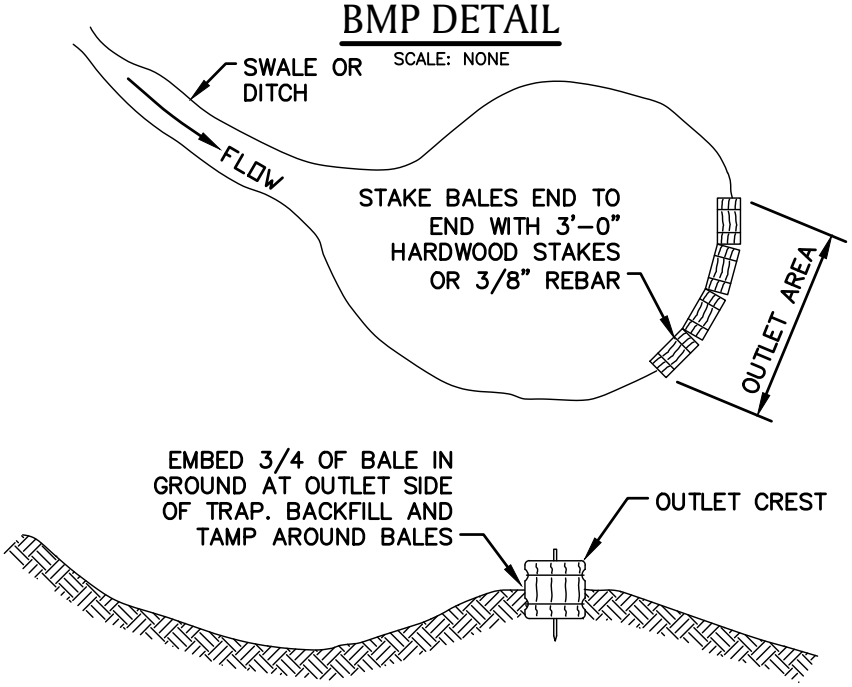


AA-8
DRAINAGE SWALE AND
LINED DITCH

File: Lined_Drainage_Swale.dwg

# BMP DETAIL

SCALE: NONE




## TYPICAL PROFILE

## NOTES

1. SIZE, SHAPE AND PROFILE OF SEDIMENT WILL VARY ACCORDING TO ANTICIPATED FLOW VOLUME AND SURROUNDING TERRAIN AND SHALL BE COORDIANTED WITH THE NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. THE BASIN SHALL BE CUT BELOW THE GROUNDLINE. FILL SHALL NOT BE USED TO HOLD WATER UNLESS ROLLED AND COMPACTED.
3. OUTLET AREA IS TO REMAIN FREE OF EXCAVATION SPOILS.
4. OUTLET CREST ELEVATION SHALL BE LOWER THAN INLET ELEVATION AND AT LEAST 1'–0" BELOW THE TOP OF THE BASIN.ARMOUR SLOPES >8% IN OUTLET AREA WITH STONE OF APPROPRIATE SIZE TO PREVENT SCOUR.
5. ARMOUR SLOPES >8% IN OUTLET AREA WITH STONE OF APPROPRIATE SIZE TO PREVENT SCOUR.

# BMP PICTURE



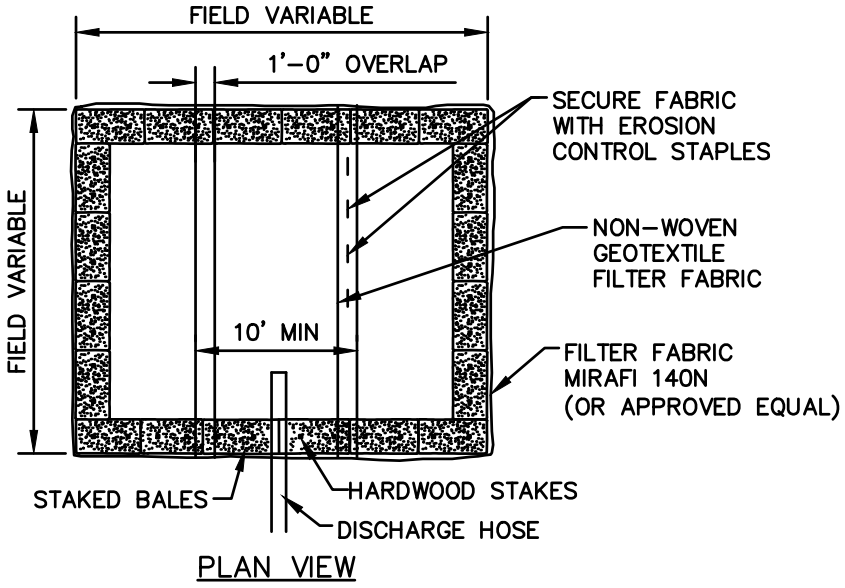


AA-9
SEDIMENTATION BASIN

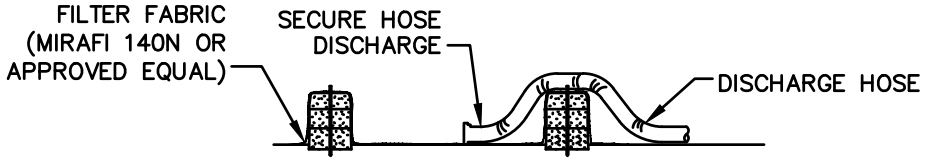
File: Sedimentation_Basin.dwg

# BMP DETAIL

SCALE: NONE




PLAN VIEW




CROSS–SECTION

NOTES:

1. NUMBER OF BALES MAY VARY DEPENDING ON SITE CONDITIONS,
2. THE BASIN TO BE SIZED TO PREVENT DISCHARGE WATER FROM OVERTOPPING BASIN.
3. KEEP AS FAR FROM WETLANDS AS PRACTICAL.
4. CLEAN AND REMOVE AS SOON AS DEWATERING IS COMPLETE.

# BMP PICTURE






AA-10
DEWATERING BASIN
(SMALL SCALE)

File: Dewat_Bas_Small.dwg

# BMP PICTURE

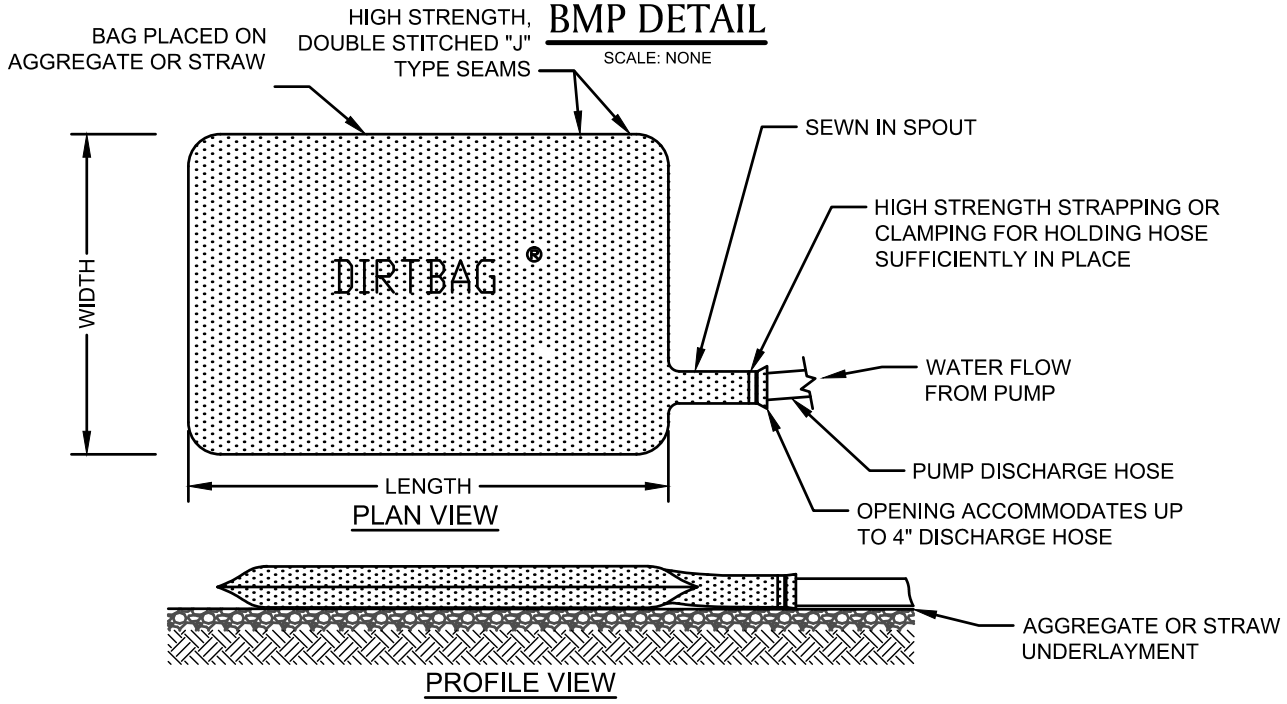


NOTE:

1. EXACT SIZE, LOCATION AND DESIGN IS DEPENDANT ON SITE CONDITIONS, AND LOCAL AND STATE REGULATIONS. COORDINATE THIS BMP WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST PRIOR TO CONSTRUCTION.

## BMP DETAIL

SCALE: NONE




NOTE:
ONCE PUMPING COMMENCES, THE DIRT BAG SHALL BE MONITORED FREQUENTLY TO ASSURE THAT THE CONNECTIONS ARE SECURELY FASTENED AND THE RATE OF WATER DELIVERY TO THE STRUCTURE IS LOW ENOUGH TO PREVENT UNFILTERED WATER FROM FLOWING FROM THE HOSE CONNECTIONS OR BAG.

## BMP PICTURE



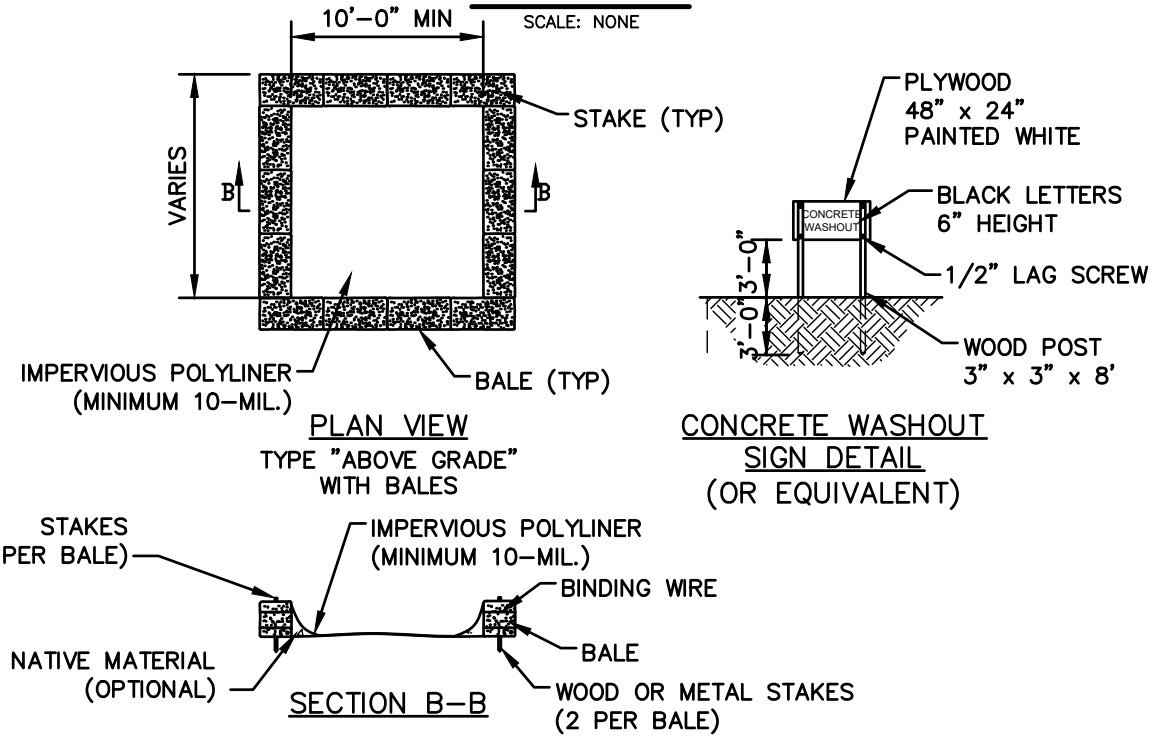
* PICTURE AND DETAIL PROVIDED BY ACF ENVIRONMENTAL

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AA-12
DIRTBAG *

File: Dirtbag.dwg

# BMP DETAIL




NOTES:

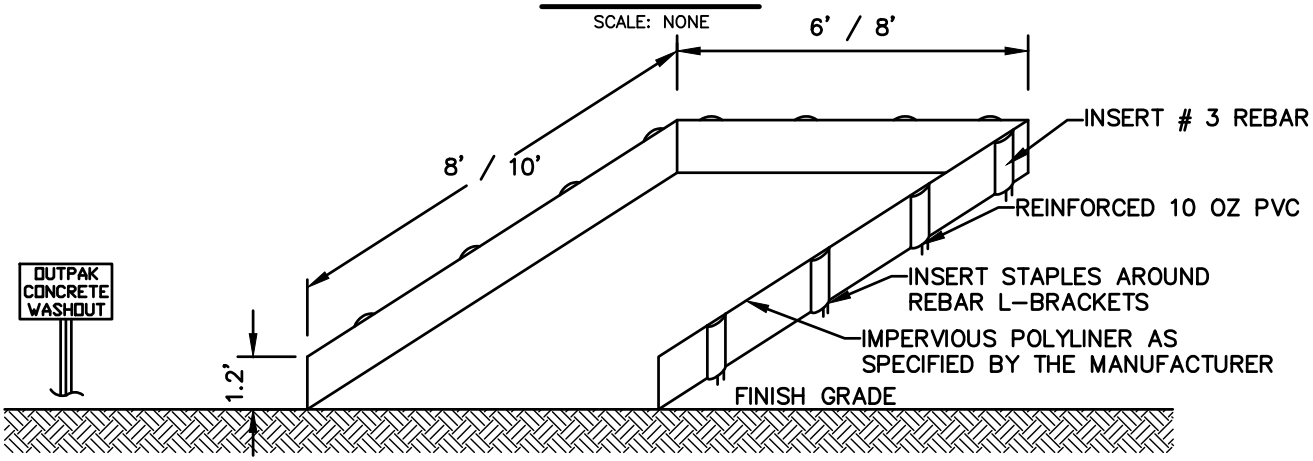
1. NUMBER OF BALES MAY VARY DEPENDING ON SITE CONDITIONS. COORDINATE SIZE AND LOCATION OF CONCRETE WASTE SUMP WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. KEEP AS FAR FROM DRAINAGE CHANNELS AND WETLAND AREAS AS PRACTICAL.
3. SUMPS TO BE CLEANED AND WASTE CONCRETE REMOVED AND PROPERLY DISPOSED OF UPON COMPLETION OF WORK.
4. SEE ADDITIONAL NOTES ON DETAIL AA–14.

# BMP PICTURE



# BMP DETAIL

SCALE: NONE




CROSS SECTION

NOTES:

1. PRODUCT TO BE OUTPAK PVC CONCRETE WASHOUT OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT.
3. SIGNS SHALL BE PLACED AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT.
4. THE CONCRETE WASHOUT AREA WILL BE REPLACED AS NECESSARY TO MAINTAIN CAPACITY FOR WASTE CONCRETE AND OTHER LIQUID WASTE.
5. WASHOUT RESIDUE SHALL BE REMOVED FROM THE SITE AND DISPENSED OF AT AN APPROVED WASTE SITE.
6. DO NOT MIX EXCESS AMOUNTS OF FRESH CONCRETE OR CEMENT ON-SITE.
7. DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
8. AVOID DUMPING EXCESS CONCRETE IN NON-DESIGNATED DUMPING AREAS.
9. LOCATE WASHOUT AREA AT LEAST 50' FROM STORM DRAIN, OPEN DITCHES, OR WATERBODIES. COORDINATE LOCATION WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.
10. WASH OUT WASTES INTO THE OUTPAK WASHOUT WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED OF PROPERLY.
11. A SECURE, NON-COLLAPSING, NON-WATER COLLECTING COVER MUST BE PLACED OVER CONCRETE WASHOUT PRIOR TO PREDICTED WET WEATHER TO PREVENT ACCUMULATION AND OVERFLOW OF PRECIPITATION.

# BMP PICTURE




*** PICTURE AND DETAIL PROVIDED BY OUTPAK WASHOUT**

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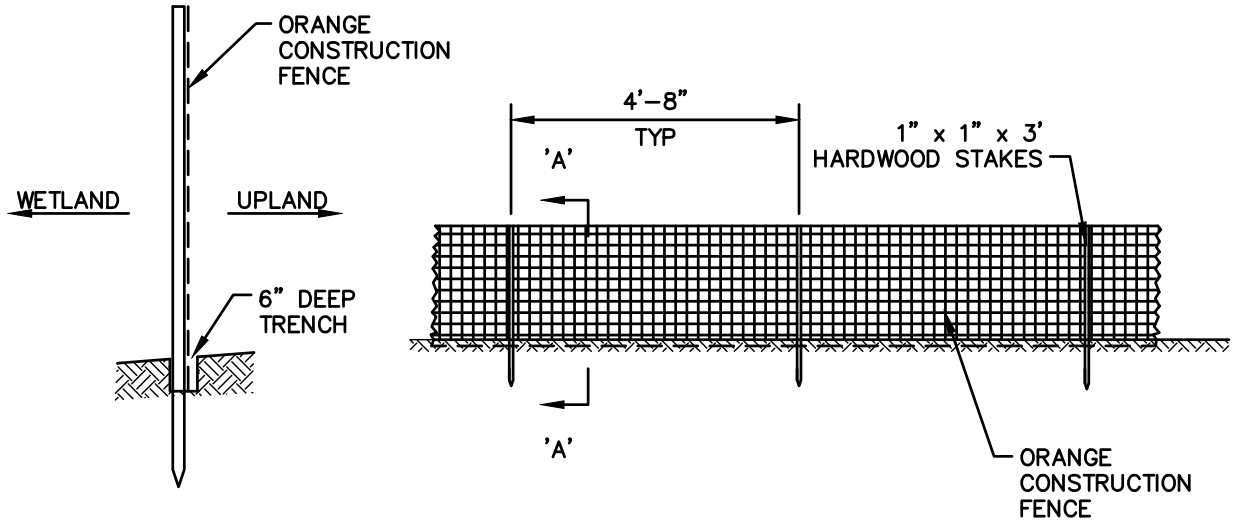
AA-14

OUTPAK CONCRETE WASHOUT *

File: Outpak_Washout.dwg

# BMP DETAIL

SCALE: NONE




SECTION A-A

# BMP PICTURE



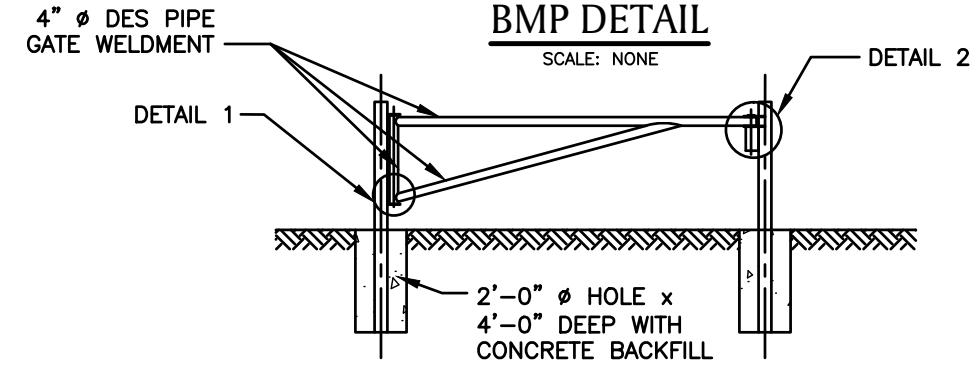
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PRINTED COPIES ARE NOT DOCUMENT CONTROLLED. FOR LATEST AUTHORIZED VERSION PLEASE REFER TO THE NATIONAL GRID ENVIRONMENTAL INFONET SITE.

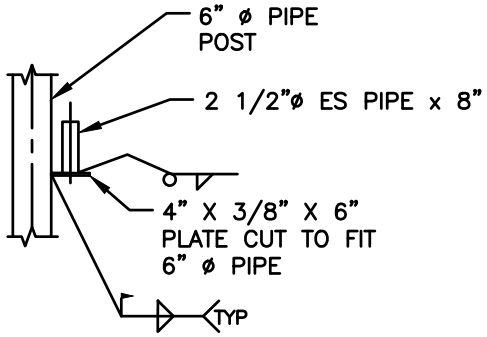
AA-15
BARRIER FENCE
(CONSTRUCTION FENCE)

File: Barrier_Fence.dwg

# BMP DETAIL

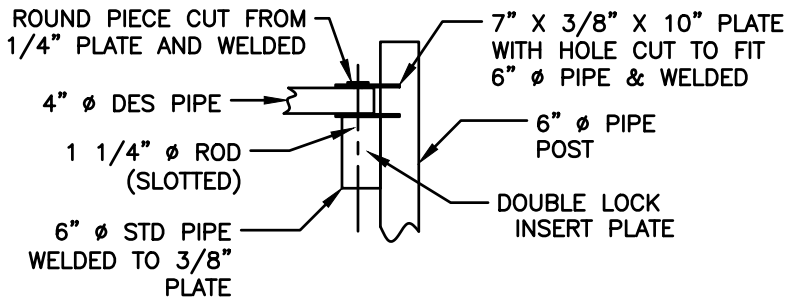
SCALE: NONE




DETAIL 1

SIMILAR DETAIL AT TOP




DETAIL 2

NOTES:

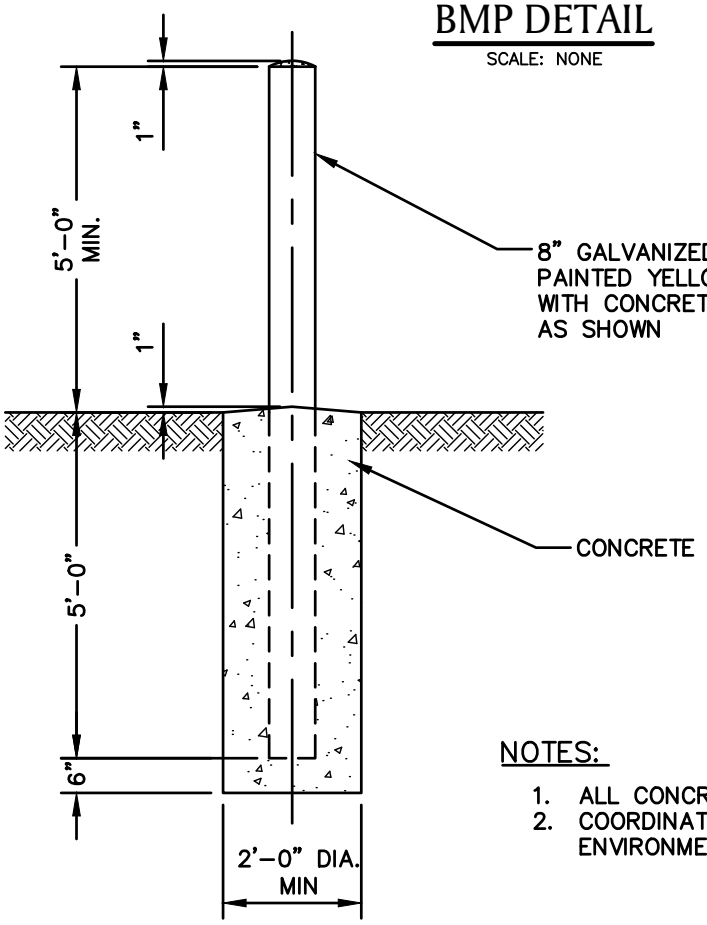
1. ALL GATE STEEL PIPES SHALL BE IN ACCORDANCE WITH ASTM A–501, PLATES SHALL BE ASTM A–36.
2. ALL STEEL PIPES SHALL BE PRIMED WITH ZINC–CHROMATE PRIMER AND FINISHED WITH AN APPROVED OSHA "SAFETY YELLOW" TOP COAT COMPATIBLE WITH THE PRIMER AND FOR EXTERIOR EXPOSURE.
3. REFLECTORS SHALL BE SPACED AT 3 FEET ALONG THE LENGTH OF THE CROSSBAR AND BRACE
4. BACKFILL AT POSTS TO BE COMPACTED.

# BMP PICTURE



# BMP DETAIL

SCALE: NONE




## NOTES:

1. ALL CONCRETE TO BE 2500 P.S.I. MINIMUM.
2. COORDINATE LOCATIONS WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.

# BMP PICTURE



# BMP



## Definition

The control of dust resulting from land-disturbing activities.

## Purpose

To prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

## Conditions Where Practice Applies

On construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing where off-site damage may occur if dust is not controlled.

## Design Criteria

**Construction operations should be scheduled to minimize the amount of area disturbed at one time.** Buffer areas of vegetation should be left where practical. Temporary or permanent stabilization measures shall be installed. No specific design criteria is given; see construction specifications below for common methods of dust control.

Water quality must be considered when materials are selected for dust control. Where there is a potential for the material to wash off to a stream, ingredient information must be provided to the local permitting authority.

## Construction Specifications

**A. Non-driving Areas** – These areas use products and materials applied or placed on soil surfaces to prevent airborne migration of soil particles.

**Vegetative Cover** – For disturbed areas not subject to traffic, vegetation provides the most practical method of dust control (see Section 3).

**Mulch** (including gravel mulch) – Mulch offers a fast effective means of controlling dust. This can also include rolled erosion control blankets.

**Spray adhesives** – These are products generally composed of polymers in a liquid or solid form that are mixed with water to form an emulsion that is sprayed on the soil surface with typical hydroseeding equipment. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations for the specific soils on the site. In no case should the application of these adhesives be made on wet soils or if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators and others working with the material.

**B. Driving Areas** – These areas utilize water, polymer emulsions, and barriers to prevent dust movement from the traffic surface into the air.

**Sprinkling** – The site may be sprayed with water until the surface is wet. This is especially effective on haul roads and access routes.

**Polymer Additives** – These polymers are mixed with water and applied to the driving surface by a water truck with a gravity feed drip bar, spray bar or automated distributor truck. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations. Incorporation of the emulsion into the soil will be done to the appropriate depth based on expected traffic. Compaction after incorporation will be by vibratory roller to a minimum of 95%. The prepared surface shall be moist and no application of the polymer will be made if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators working with the material.

**Barriers** – Woven geotextiles can be placed on the driving surface to effectively reduce dust throw and particle migration on haul roads. Stone can also be used for construction roads for effective dust control.

**Windbreak** – A silt fence or similar barrier can control air currents at intervals equal to ten times the barrier height. Preserve existing wind barrier vegetation as much as practical.

* BMP INFORMATION FROM "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (AUGUST, 2005)." INFORMATION OBTAINED VIA WEBSITE: http://www.dec.ny.gov/chemical/29066.html

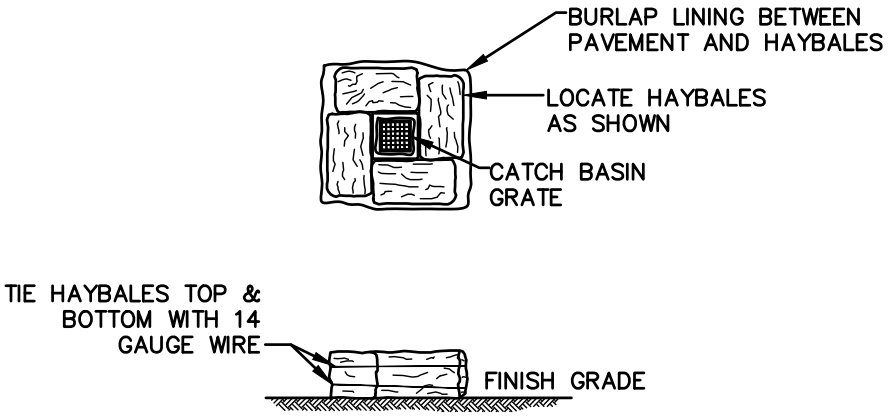


AA-18
DUST CONTROL (FROM NY) *

File: Dust_Control.dwg

# BMP DETAIL

SCALE: NONE




NOTES:

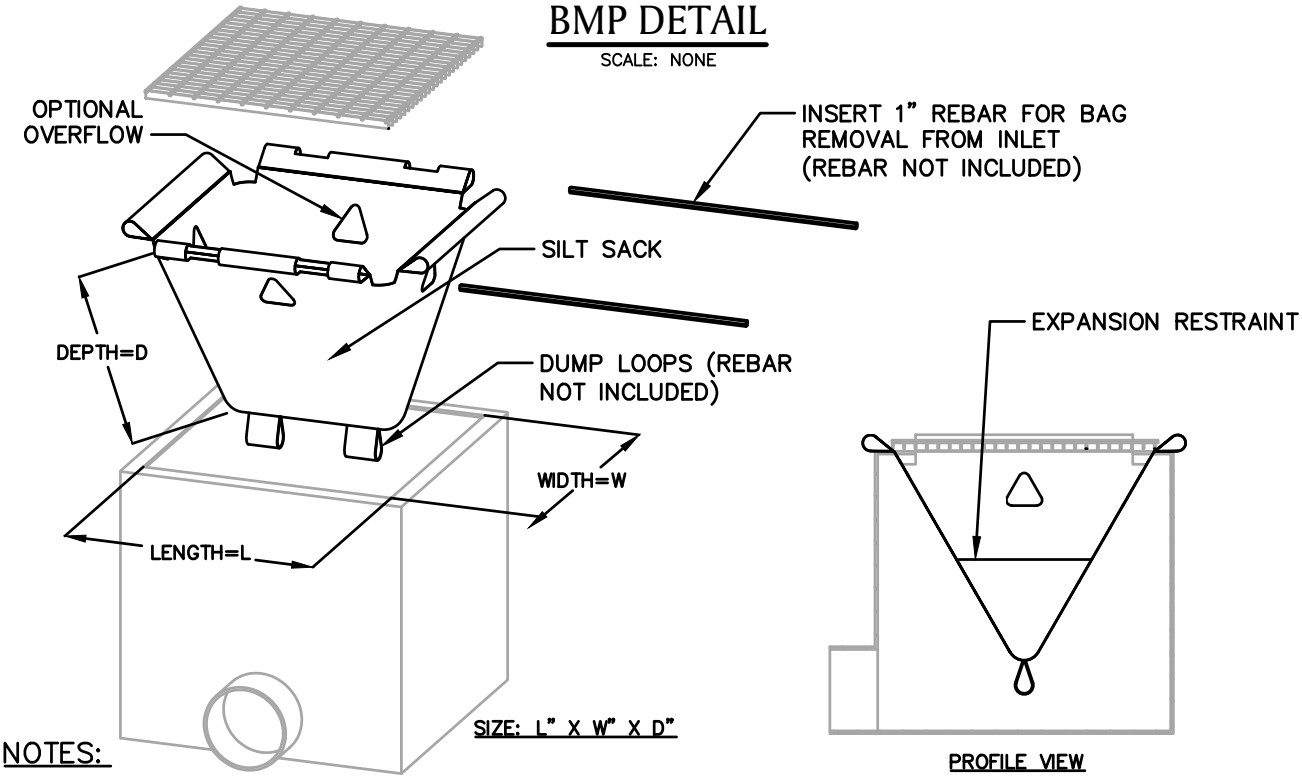
1. SURROUND STREET DRAINAGE STRUCTURE INLET WITH HAY BALES PRIOR TO CONSTRUCTION AND MAINTAIN UNTIL CONSTRUCTION IS COMPLETED. ACCUMULATED SEDIMENTS SHALL BE REMOVED.
2. HAYBALES PLACED ON PAVEMENT SHALL HAVE BURLAP PLACED BETWEEN PAVEMENT AND HAYBALE

# BMP PICTURE



# BMP DETAIL

SCALE: NONE




NOTES:

1. PRODUCT TO BE SILT SACK OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. THE USE OF A SILT SACK OPTIONAL OVERFLOW AND OVERALL DIMENSIONS ARE TO BE COORDINATED WITH A NATIONAL GRID ENVIRONMENTAL SCIENTIST.

# BMP PICTURE




*** DETAIL PROVIDED BY ACF ENVIRONMENTAL**

**APPROVED BY: VICE PRESIDENT, ENVIRONMENTAL SERVICES**

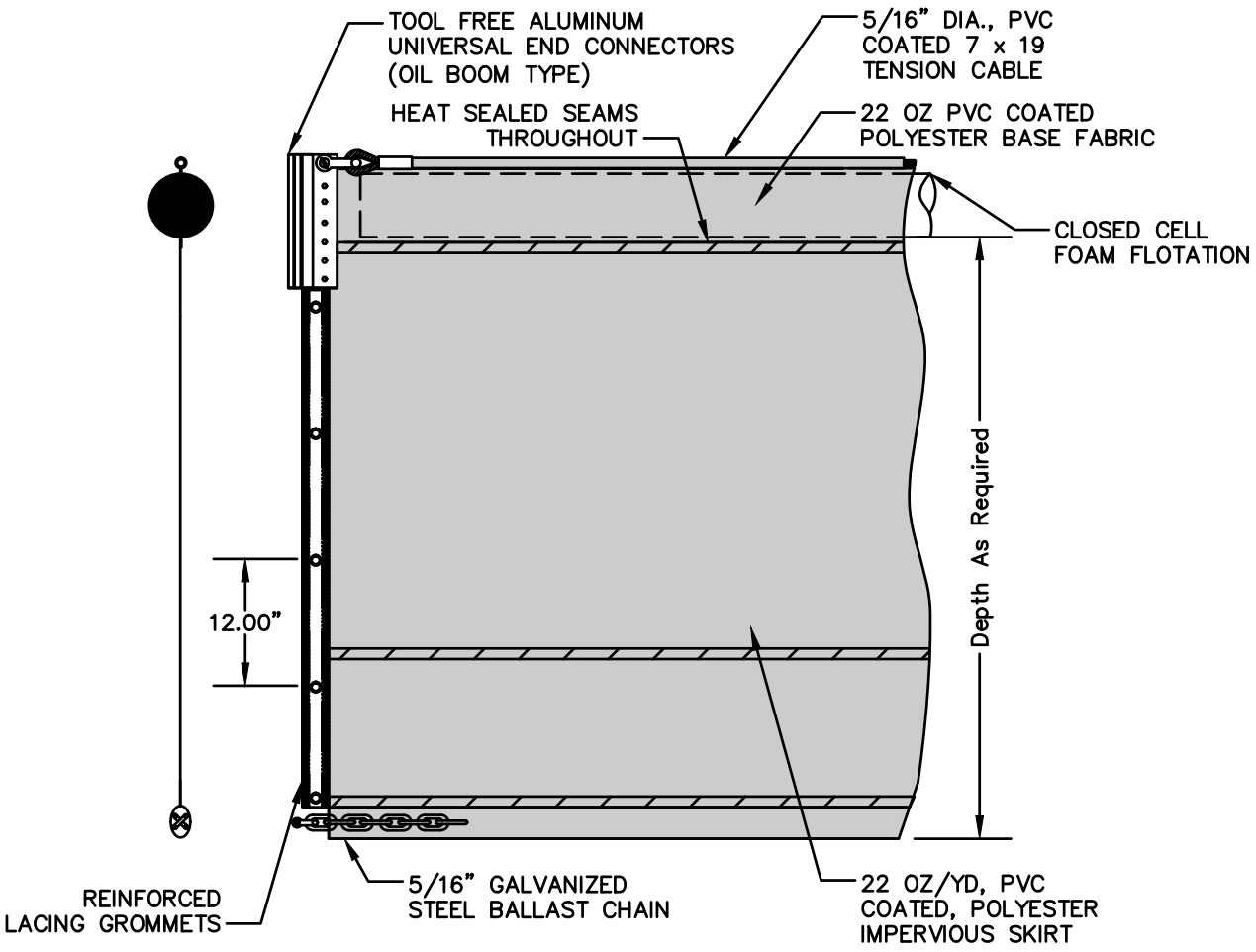
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AA-20
SILT SACK *

File: SILT SACK.dwg

# BMP DETAIL

SCALE: NONE




# BMP PICTURE



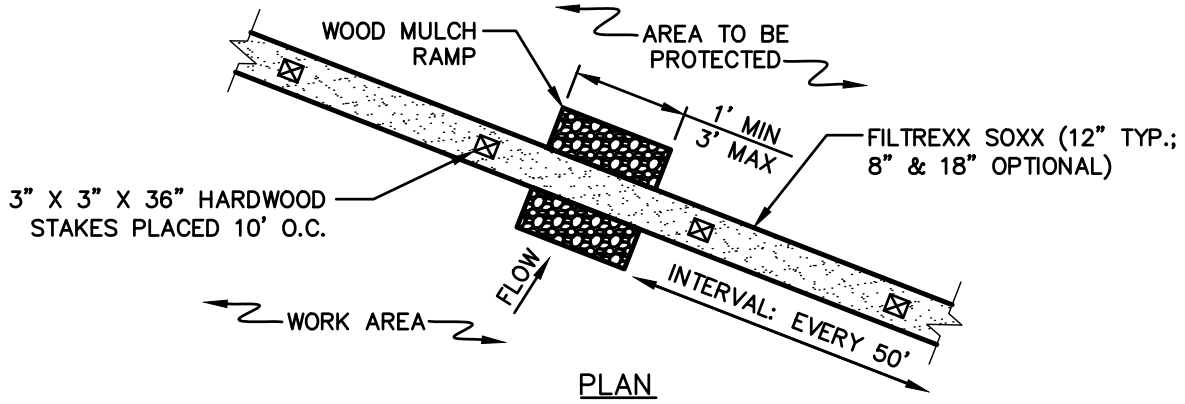
*** DETAIL PROVIDED BY BROCKTON EQUIPMENT / SPILLDAM INC.**
**APPROVED BY: VICE PRESIDENT, ENVIRONMENTAL SERVICES**
PRINTED COPIES ARE NOT DOCUMENT CONTROLLED. FOR LATEST AUTHORIZED VERSION PLEASE REFER TO THE NATIONAL GRID ENVIRONMENTAL INFONET SITE.

AA-21
TURBIDITY CURTAIN *

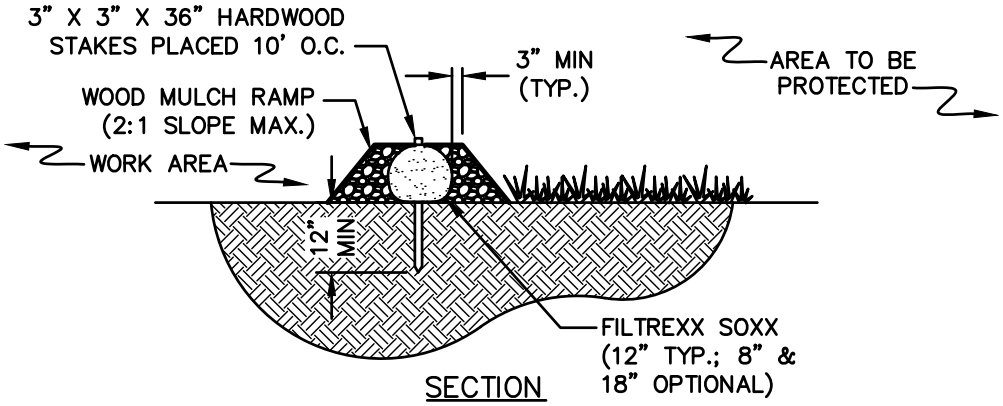
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# BMP DETAIL

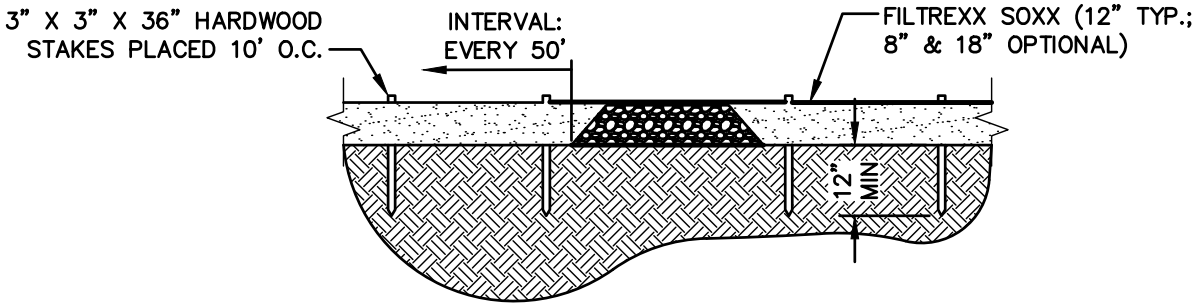
SCALE: NONE




PLAN




SECTION




PROFILE

## NOTES

1. PRODUCT TO BE FILTREXX SILT SOXX OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
3. FILTER MEDIA FILL TO MEET APPLICATION REQUIREMENTS.
4. NON-MONOFILAMENT CONTAINMENT MATERIAL SHOULD BE KNITTED PHOTODEGRADABLE OR BIODEGRADABLE MATERIAL, WITH OPENING SIZES BETWEEN 1/8" – 1/4".
5. COMPOST MEDIA SHOULD HAVE PARTICLE SIZE WHERE 99% < 2", 50% > 1/2".
6. COMPOST MATERIAL TO BE DISPOSED OF ON-SITE, OR IN ACCORDANCE WITH ENVIRONMENTAL PERMITS AS APPROVED BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
7. WOOD MULCH RAMP IS OPTIONAL DEPENDING ON SUBSTRATE/SITE CONDITIONS, AND TO BE APPROVED BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.



BMP # AA-22
SILTSOXX AMPHIBIAN & REPTILE CROSSING #1 (1 OF 2)

File: Alternate_Mulch_Ramp_Siltsoxx.dwg

# BMP PICTURE



SALAMANDER AND SNAKE CROSSING #1

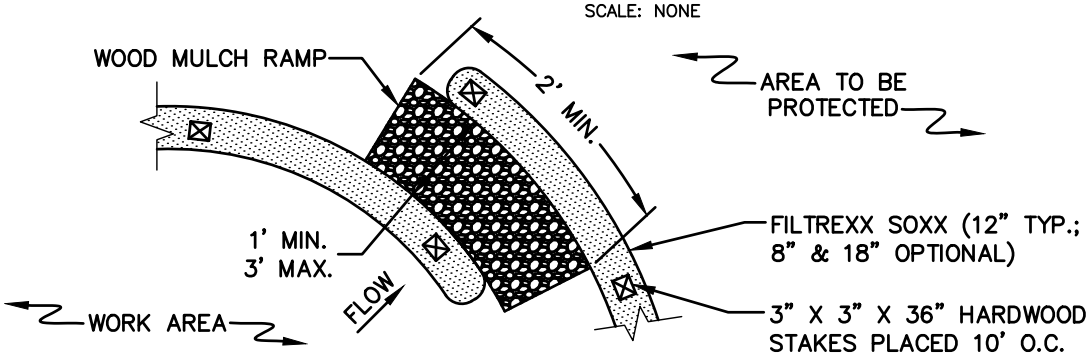
## ALTERNATE WOOD MULCH RAMP SILTSOXX NOTES:

1. SILTSOXX, BY FILTREX INTERNATIONAL, OR APPROVED EQUAL PRODUCT SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES.

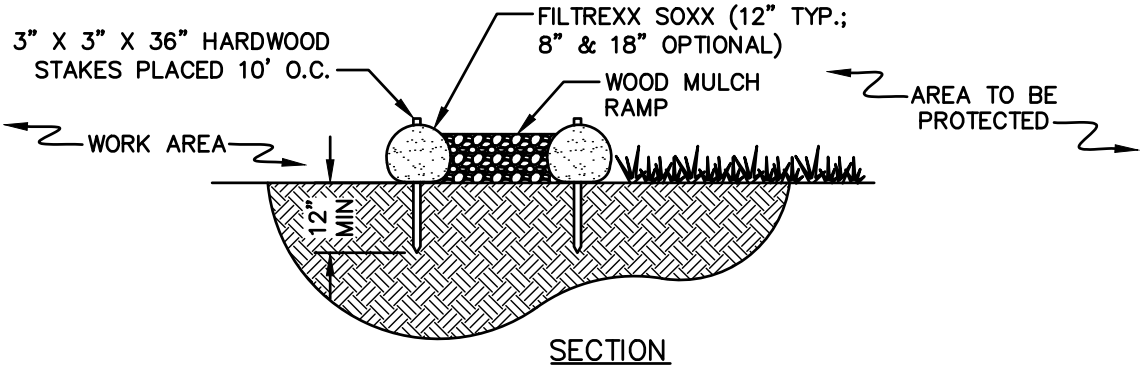
2. BMP SHOULD ONLY BE UTILIZED IN AREAS WHERE RARE SALAMANDER AND SNAKE HABITAT OCCURS, OR AT THE DIRECTION OF THE NATIONAL GRID ENVIRONMENTAL SCIENTIST.

# BMP DETAIL

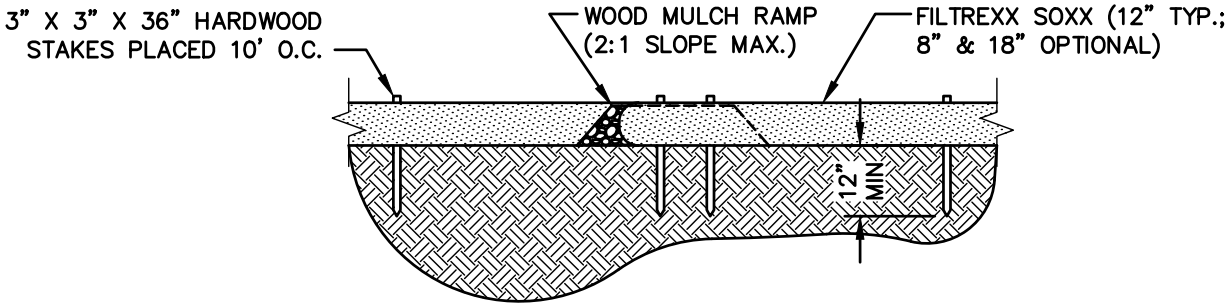
SCALE: NONE




PLAN




SECTION




PROFILE

## NOTES

1. PRODUCT TO BE FILTREXX SILT SOXX OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
3. FILTER MEDIA FILL TO MEET APPLICATION REQUIREMENTS.
4. NON-MONOFILAMENT CONTAINMENT MATERIAL SHOULD BE KNITTED PHOTODEGRADABLE OR BIODEGRADABLE MATERIAL, WITH OPENING SIZES BETWEEN 1/8" – 1/4".
5. COMPOST MEDIA SHOULD HAVE PARTICLE SIZE WHERE 99% < 2", 50% > 1/2".
6. COMPOST MATERIAL TO BE DISPOSED OF ON-SITE, OR IN ACCORDANCE WITH ENVIRONMENTAL PERMITS AS APPROVED BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
7. WOOD MULCH RAMP IS OPTIONAL DEPENDING ON SUBSTRATE/SITE CONDITIONS, AND TO BE APPROVED BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
8. GAPS TO BE SPACED EVERY 50 FT, IF POSSIBLE GIVEN WETLAND PERMIT CONDITIONS.



BMP # AA-23
SILTSOXX AMPHIBIAN & REPTILE CROSSING #2 (1 OF 2)

File: Alternate_Siltsoxx.dwg

# BMP PICTURE



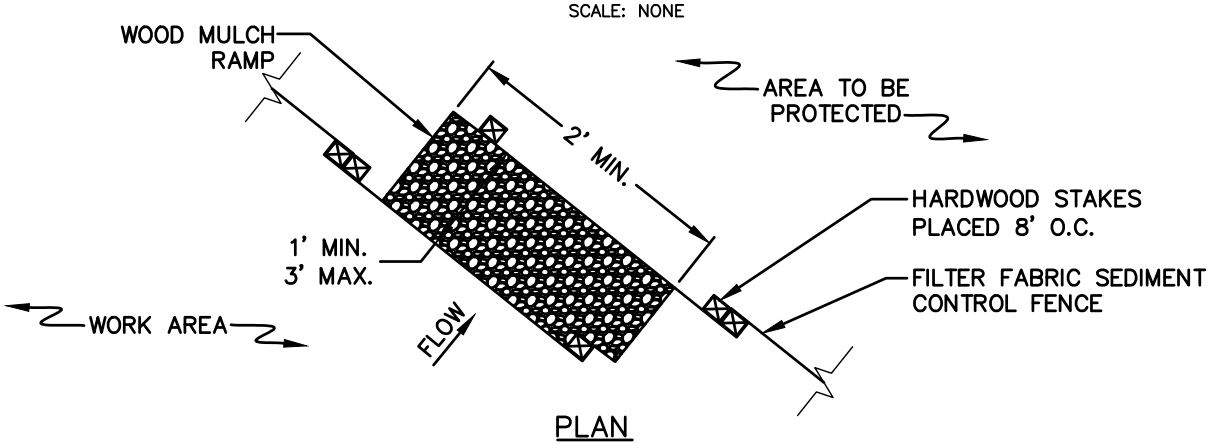
SILTSOXX AMPHIBIAN & REPTILE CROSSING #2

## ALTERNATE WOOD MULCH RAMP SILTSOXX NOTES:

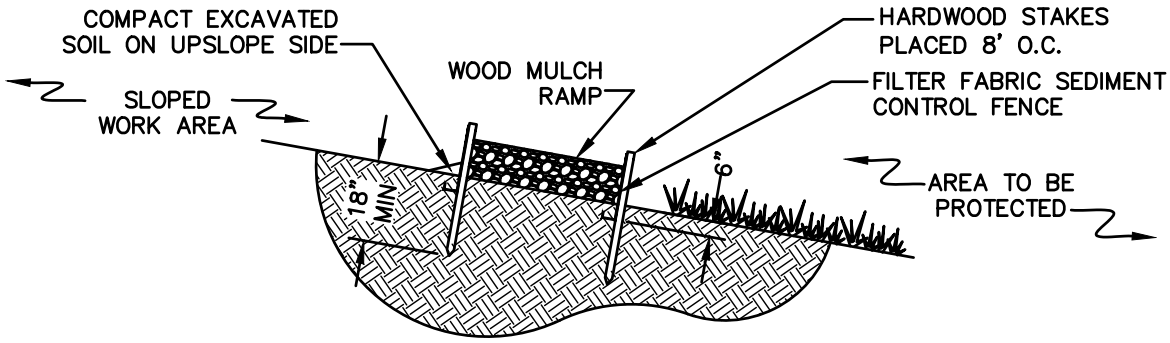
1. SILTSOXX, BY FILTREX INTERNATIONAL, OR APPROVED EQUAL PRODUCT SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES.
2. BMP SHOULD ONLY BE UTILIZED IN AREAS WHERE RARE SALAMANDER AND SNAKE HABITAT OCCURS OR AT THE DIRECTION OF THE NATIONAL GRID ENVIRONMENTAL SCIENTIST.

# BMP DETAIL

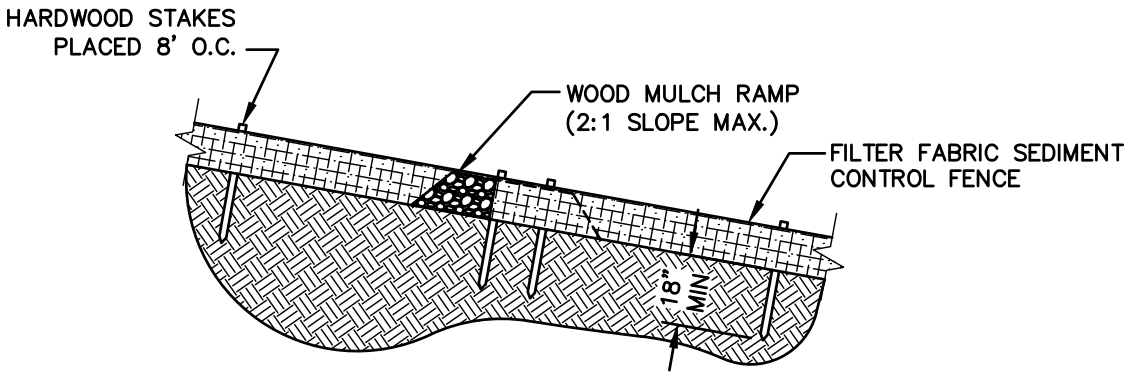
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PLAN




SECTION



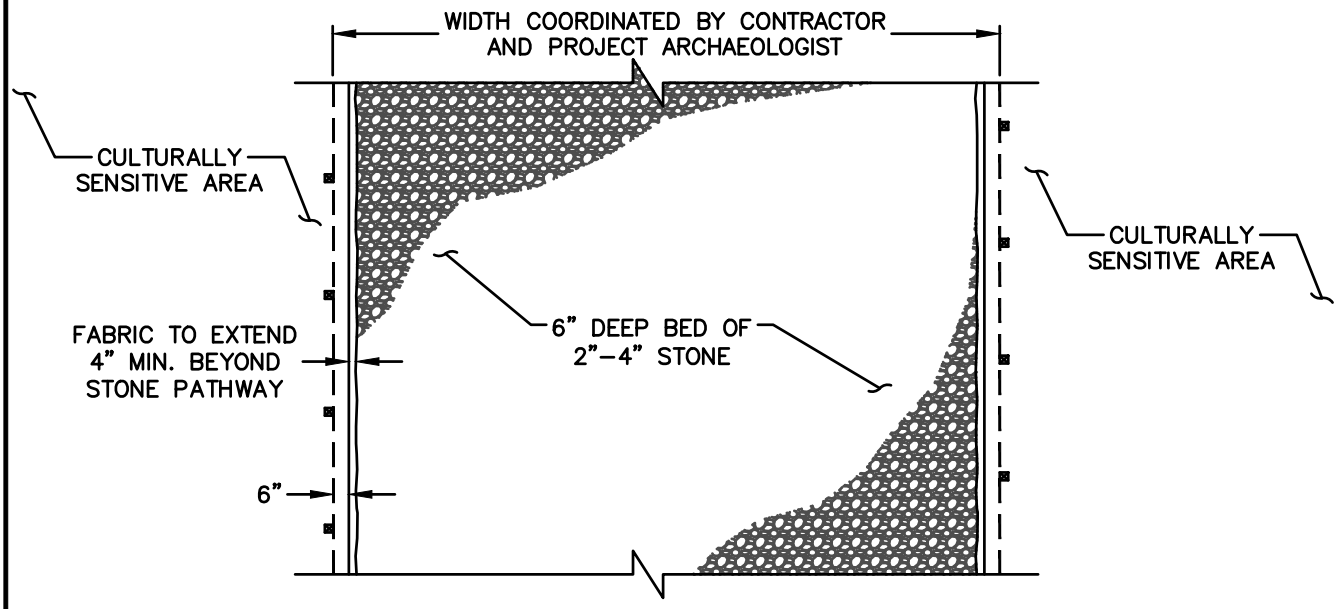

PROFILE

## NOTES

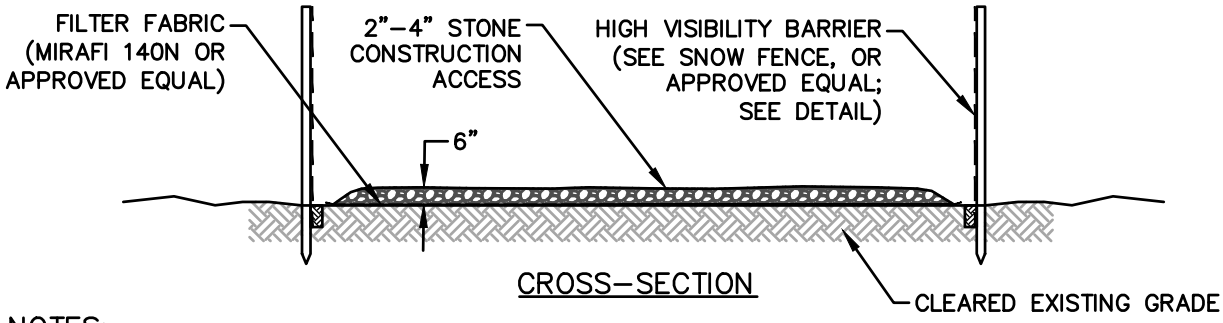
1. IN AREAS WHERE SLOPES OR RUN-OFF VOLUME PROHIBIT USE OF SILTSOXX, CROSSINGS CAN BE PROVIDED THROUGH TRENCHED SILT FENCE.
2. INTALL SILT FENCE TO SPECIFICATIONS IN EG303 APPENDIX 7 "SEC-2 SEDIMENT CONTROL FENCE."
3. WOOD MULCH RAMP IS OPTIONAL DEPENDING ON SUBSTRATE/SITE CONDITIONS, AND TO BE APPROVED BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
4. GAPS TO BE SPACED EVERY 50 FT, IF POSSIBLE GIVEN WETLAND PERMIT CONDITIONS.

# BMP DETAIL

SCALE: NONE




PLAN VIEW




CROSS–SECTION

NOTES:

1. ARCHAEOLOGICAL SITE BOUNDARIES, AS DEFINED BY INTENSIVE ARCHAEOLOGICAL SURVEY AND SITE AVOIDANCE AND PROTECTION PLANS, WILL BE DEMARCATED BY STAKING BY THE PROJECT ARCHAEOLOGIST.
2. GEOTEXTILE AND STONE MAY REMAIN IN PLACE FOLLOWING CONSTRUCTION IF PERMANENT PROTECTION IS NECESSARY AND DEPENDENT ON EASEMENT RIGHTS.
3. WHERE APPROVED BY THE PROJECT–SPECIFIC SAPP, CONSTRUCTION MATTING MAY BE ADDED OVER, OR IN PLACE OF, THE FABRIC AND STONE.
4. INSTALLATION AND REMOVAL OF FABRIC AND STONE, EROSION CONTROLS, AND/OR CONSTRUCTION MATTING WILL BE MONITORED BY THE PROJECT ARCHAEOLOGIST AT EACH LOCATION(S).
5. INSTALLATION OF THESE MEASURES WILL BE CONDUCTED WITH LOW–GROUND PRESSURE VEHICLES WHERE FEASIBLE.
6. WHERE REQUIRED BY THE PROJECT–SPECIFIC SAPP, TEMPORARY, HIGH VISIBILITY PROTECTIVE FENCING (E.G., SNOW FENCE OR PLASTIC FENCE) WILL BE ERECTED ALONG THE SITE BOUNDARIES OUTSIDE OF THE WORKSPACE WITHIN THE ROW IN ORDER TO PREVENT VEHICLES FROM TRAVELING THROUGH THOSE SITE AREAS DURING CONSTRUCTION. THE PROTECTIVE FENCE WILL BE POSTED WITH "NO TRESPASSING" SIGNS, SO THAT THE SITES CAN BE AVOIDED BY ALL CONSTRUCTION RELATED ACTIVITIES. THE FENCING WILL BE REMOVED UPON COMPLETION OF THE PROJECT. THE INSTALLATION AND REMOVAL OF FENCING WILL BE MONITORED BY THE PROJECT ARCHAEOLOGIST.

# BMP PICTURES





## APPENDIX 5
## CERTIFICATION FORM FOR INVASIVE SPECIES CONTROL

Certain permit conditions, therefore a Condition of Contracts for the Prime Contractor, any Subcontractors, and any equipment or mat vendors for ***National Grid Projects*** shall be required to Certify their equipment[7] {each piece of equipment used on site} as 'clean'[8].

_____ (*name of firm*) hereby Certifies that

_____ (*make, model, and/or type*)

_____ (*equipment ID tag or #)* meets the following

1. before entry on to the job site, has been sufficiently cleaned to remove all accumulated mud, debris, plant fragments, and detritus that could harbor seeds, roots, or plant fragments of so-called invasive plant species; and

2. that the above piece of equipment has neither been off-loaded nor operated in the interval between cleaning and delivery to the jobsite.

3. that equipment deployed in areas of invasive species (as identified in project plans) shall be cleaned prior to redeployment.

_____ (*signed*) _____ (*dated*)

_____ (*printed name*) _____ (*title*)

_____ (*Firm*)

The signed original of this form {one for each piece of equipment (or lot[9] of mats)} is to be given to the NG Construction Supervisor assigned to the project.

---

7 Equipment may include, but is not limited to bulldozers, excavators, backhoes, bucket trucks (tracked or wheeled), pulling equipment, concrete trucks, compressors, drilling equipment, and mats (composite, wood, or other materials).

8 With regard to invasive species, the definition of clean means free of accumulated mud, debris, plant fragments, and detritus that could harbor seeds, roots, or plant fragments of so-called invasive plant species.

9 Lot of mats is the number of mats that may be transported by one forwarder/truck at a time.

# APPENDIX 6
# SNOW DISPOSAL GUIDELINES

Finding a place to dispose of collected snow poses a challenge. While we are all aware of the threats to public safety caused by snow, collected snow that is contaminated with road salt, sand, litter, and automotive pollutants such as oil also threatens public health and the environment.

As snow melts, road salt, sand, litter, and other pollutants are transported into surface water or through the soil where they may eventually reach the groundwater. Road salt and other pollutants can contaminate water supplies and are toxic to aquatic life at certain levels. Sand washed into water bodies can create sand bars or fill in wetlands and ponds, impacting aquatic life, causing flooding, and affecting our use of these resources.

There are several steps that should be taken to minimize the impacts of snow disposal on public health and the environment.

- **DO NOT** dump snow into any water body, including rivers, the ocean, reservoirs, ponds, or wetlands. In fact, a buffer of at least 50 feet between any snow disposal area and any the high-water mark of any surface water should be kept. A silt fence or equivalent barrier should be securely placed between the snow storage area and the high-water mark. In addition to water quality impacts and flooding, snow disposed in surface waters can cause navigational hazards when it freezes into ice blocks.
- **DO NOT** dump snow within a wellhead protection area (e.g., a Zone II), in a high or medium-yield aquifer, or within 75 feet of a private well, where road salt may contaminate water supplies**. Ask an Environmental Department representative for guidance in determining if a proposed disposal area is located within one of these sensitive areas.**
- Avoid disposing of snow on top of storm drain catch basins or in storm water drainage swales or ditches. Snow combined with sand and debris may block a storm drainage system, causing localized flooding. A high volume of sand, sediment, and litter released from melting snow also may be quickly transported through the system into surface water.
- All debris in a snow storage area should be cleared from the site and properly disposed of no later than May 15 of each year the area is used for snow storage.

**Under extraordinary conditions**, when all land-based snow disposal options are exhausted, disposal of snow that is not obviously contaminated with road salt, sand, and other pollutants may be allowed near (within 50 feet) or even in certain water bodies under certain conditions.

In these dire situations, **notify the Environmental Department** so that the local Conservation Commission and the appropriate MassDEP Regional Service Center (in MA), RI DEM Office of Water Resources – RIPDES

Program (in RI), NH Department of Environmental Services – NHDES (in NH) and VT Department of Environmental Conservation - VT DEC (in VT) can be contacted before disposing of snow in a water body.

**In emergency situations and after consulting an Environmental Department representative the following guidance should be followed:**

- Dispose of snow in open water with adequate flow and mixing to prevent ice dams from forming.
- Do not dispose of snow in saltmarshes, vegetated wetlands, certified vernal pools, shellfish beds, mudflats, drinking water reservoirs and their tributaries, wellhead protection areas, or other environmentally sensitive areas.
- Do not dispose of snow where trucks may cause shoreline or stream bank damage or erosion.

# Attachment D: RMAT Tool Output Report

Expanded Environmental Notification Form (EENF)
J136S Tap Line Rebuild Project

# Climate Resilience Design Standards Tool Project Report

**J136S Tap Line Rebuild Project**

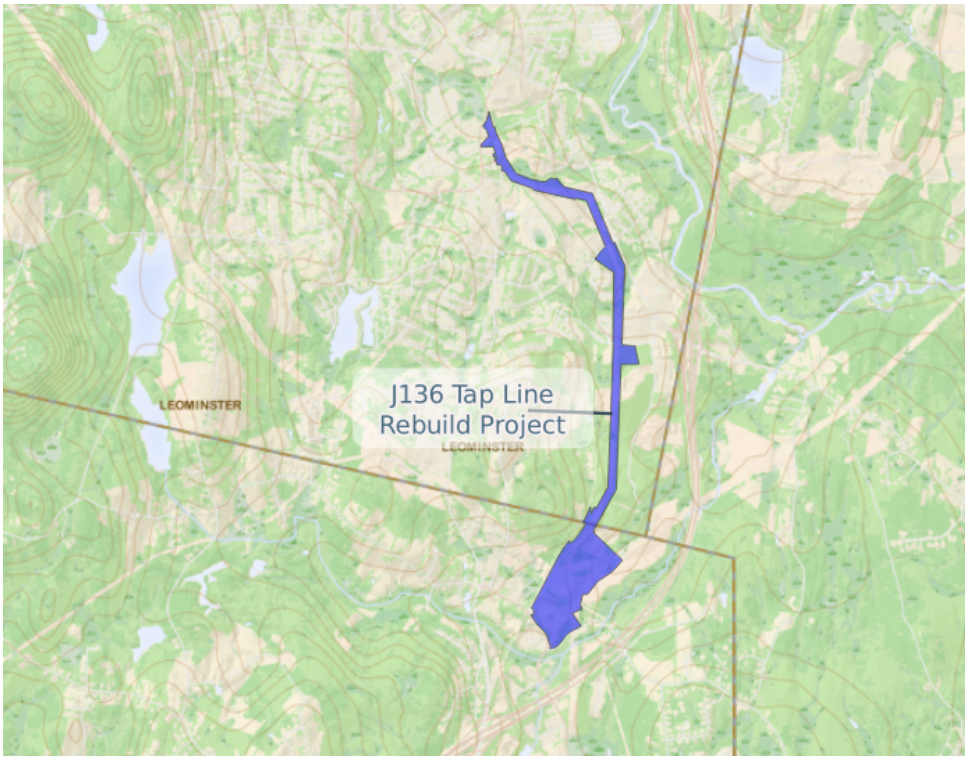
Date Created: 8/11/2025 6:26:40 PM
Created By: mcharney
Date Report Generated: 9/25/2025 9:42:53 PM
Tool Version: Version 1.4
Project Contact Information: Timothy Sullivan (Timothy.Sullivan@nationalgrid.com)

## Project Summary

Link to Project

Estimated Capital Cost: $100000000.00
End of Useful Life Year: 2077
Project within mapped Environmental Justice neighborhood: Yes

| Ecosystem Service Benefits | Scores |
|---|---|
| Project Score | Low |
| **Exposure** | **Scores** |
| Sea Level Rise/Storm Surge | Not Exposed |
| Extreme Precipitation - Stormwater Flooding | Moderate Exposure |
| Extreme Precipitation - Riverine Flooding | High Exposure |
| Extreme Heat | High Exposure |




## Asset Preliminary Climate Risk Rating Summary

Number of Assets: 1

| Asset Risk | Sea Level Rise/Storm Surge | Extreme Precipitation - Stormwater Flooding | Extreme Precipitation - Riverine Flooding | Extreme Heat |
|---|---|---|---|---|
| J136 Tap Line | Low Risk | High Risk | High Risk | High Risk |

## Climate Resilience Design Standards Summary

| | Target Planning Horizon | Intermediate Planning Horizon | Percentile | Return Period | Tier |
|---|---|---|---|---|---|
| **Sea Level Rise/Storm Surge** | | | | | |
| J136 Tap Line | | | | | |
| **Extreme Precipitation** | | | | | |
| J136 Tap Line | 2070 | | | 50-yr (2%) | Tier 3 |
| **Extreme Heat** | | | | | |
| J136 Tap Line | 2070 | | 90th | | Tier 3 |

## Scoring Rationale - Project Exposure Score

The purpose of the Exposure Score output is to provide a preliminary assessment of whether the overall project site and subsequent assets are exposed to impacts of natural hazard events and/or future impacts of climate change. For each climate parameter, the Tool will calculate one of the following exposure ratings: Not Exposed, Low Exposure, Moderate Exposure, or High Exposure. The rationale behind the exposure rating is provided below.

**Sea Level Rise/Storm Surge**

This project received a "Not Exposed" because of the following:

- Not located within the predicted mean high water shoreline by 2030
- No historic coastal flooding at project site
- Not located within the Massachusetts Coast Flood Risk Model (MC-FRM)

**Extreme Precipitation - Stormwater Flooding**

This project received a "Moderate Exposure" because of the following:

- Maximum annual daily rainfall exceeds 10 inches within the overall project's useful life
- No historic flooding at project site
- No increase to impervious area
- Existing impervious area of the project site is less than 10%

**Extreme Precipitation - Riverine Flooding**

This project received a "High Exposure" because of the following:

- Project site has a history of riverine flooding
- Part of the project is within a mapped FEMA floodplain, outside of the Massachusetts Coast Flood Risk Model (MC-FRM)
- Part of the project is within 200ft of a waterbody and less than 30ft above the waterbody
- Project is not likely susceptible to riverine erosion

**Extreme Heat**

This project received a "High Exposure" because of the following:

- 30+ days increase in days over 90 deg. F within project's useful life
- Existing trees are being removed as part of the proposed project
- Between 10% and 40% of the existing project site has canopy cover
- Located within 100 ft of existing water body
- No increase to the impervious area of the project site

## Scoring Rationale - Asset Preliminary Climate Risk Rating

A Preliminary Climate Risk Rating is determined for each infrastructure and building asset by considering the overall project Exposure Score and responses to Step 4 questions provided by the user in the Tool. Natural Resource assets do not receive a risk rating. The following factors are what influenced the risk ratings for each asset.

**Asset - J136 Tap Line**
Primary asset criticality factors influencing risk ratings for this asset:

- Asset may inaccessible/inoperable during natural hazard event, but must be accessible/operable within one day after natural hazard event
- Less than 100,000 people would be directly affected by the loss/inoperability of the asset
- The infrastructure provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.
- Inoperability of the asset would result in moderate or severe injuries or moderate or severe impacts to chronic illnesses
- Cost to replace is between $30 million and $100 million
- Spills and/or releases of hazardous materials would be relatively easy to clean up

## Project Climate Resilience Design Standards Output

Climate Resilience Design Standards and Guidance are recommended for each asset and climate parameter. The Design Standards for each climate parameter include the following: recommended planning horizon (target and/or intermediate), recommended return period (Sea Level Rise/Storm Surge and Precipitation) or percentile (Heat), and a list of applicable design criteria that are likely to be affected by climate change. Some design criteria have numerical values associated with the recommended return period and planning horizon, while others have tiered methodologies with step-by-step instructions on how to estimate design values given the other recommended design standards.

Asset: J136 Tap Line — Infrastructure

**Sea Level Rise/Storm Surge** — Low Risk

**Applicable Design Criteria**

**Projected Tidal Datums:** NOT APPLICABLE

**Projected Water Surface Elevation:** NOT APPLICABLE

**Projected Wave Action Water Elevation:** NOT APPLICABLE

**Projected Wave Heights:** NOT APPLICABLE

**Projected Duration of Flooding:** NOT APPLICABLE

**Projected Design Flood Velocity:** NOT APPLICABLE

**Projected Scour & Erosion:** NOT APPLICABLE

**Extreme Precipitation** — High Risk

Target Planning Horizon: 2070
Return Period: 50-yr (2%)

**LIMITATIONS:** The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

While Total Precipitation Depth & Peak Intensity for 24-hour Design Storms are useful to inform planning and design, it is recommended to also consider additional longer- and shorter-duration precipitation events and intensities in accordance with best practices. Longer-duration, lower-intensity storms allow time for infiltration and reduce the load on infrastructure over the duration of the storm. Shorter-duration, higher-intensity storms often have higher runoff volumes because the water does not have enough time to infiltrate infrastructure systems (e.g., catch basins) and may overflow or back up during such storms, resulting in flooding. In the Northeast, short-duration high intensity rain events are becoming more frequent, and there is often little early warning for these events, making it difficult to plan operationally. While the Tool does not provide recommended design standards for these scenarios, users should still consider both short- and long-duration precipitation events and how they may impact the asset.

The projected values, standards, and guidance provided within this Tool may be used to inform plans and designs, but they do not provide guarantees for future conditions or resilience. The projected values are not to be considered final or appropriate for construction documents without supporting engineering analyses. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence.

**Applicable Design Criteria**

**Tiered Methodology:** Tier 3

**Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms:** APPLICABLE

| Asset Name | Recommended Planning Horizon | Recommended Return Period (Design Storm) | Projected 24-hr Total Precipitation Depth (inches) | Step-by-Step Methodology for Peak Intensity |
|---|---|---|---|---|
| J136 Tap Line | 2070 | 50-Year (2%) | 9.1 | Downloadable Methodology PDF |

**Projected Riverine Peak Discharge & Peak Flood Elevation:** APPLICABLE
Methodology to Estimate Projected Values : Tier 3

**Extreme Heat** High Risk

Target Planning Horizon: 2070
Percentile: 90th Percentile

**LIMITATIONS:** The recommended standards are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

**Applicable Design Criteria**

**Projected Annual/Summer/Winter Average Temperatures:** APPLICABLE

| Asset Name | Recommended Planning Horizon | Recommended Percentile | Projected Annual Average Temperature [°F] | Projected Summer Average Temperature [°F] | Projected Winter Average Temperature [°F] |
|---|---|---|---|---|---|
| J136 Tap Line | 2070 | 90th | 58.17 | 79.17 | 37.91 |

**LIMITATIONS:** The recommended Standards for Projected Average Annual/Summer/Winter Temperature are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

**Projected Growing Degree Days:** NOT APPLICABLE

**Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F:** APPLICABLE

| Asset Name | Recommended Planning Horizon | Recommended Percentile | Projected Days with Max Temp >95°F (days) | Projected Days with Max Temp >90°F (days) | Projected Days with Max Temp <32°F (days) |
|---|---|---|---|---|---|
| J136 Tap Line | 2070 | 90th | 27 | 63 | 77 |

**LIMITATIONS:** The recommended Standards for ProjectedÂ Days per Year with Max Temp >95Â°F, >90Â°F, <32Â°F are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

**Projected Number of Heat Waves Per Year & Average Heat Wave Duration:** APPLICABLE

| Asset Name | Recommended Planning Horizon | Recommended Percentile | Projected Number of Heat Waves Per Year (events) | Projected Average Heat Wave Duration (days) |
|---|---|---|---|---|
| J136 Tap Line | 2070 | 90th | 0 | 4 |

**LIMITATIONS:** The recommended Standards for ProjectedÂ Number of Heat Waves Per Year and Average Heat Wave DurationÂ are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

**Projected Cooling Degree Days & Heating Degree Days (base = 65°F):** NOT APPLICABLE

**Projected Heat Index:** APPLICABLE
Methodology to Estimate Projected Values : Tier 3

# Project Inputs

## Core Project Information

| | |
|---|---|
| Name: | J136S Tap Line Rebuild Project |
| Given the expected useful life of the project, through what year do you estimate the project to last (i.e. before a major reconstruction/renovation)? | 2077 |
| Location of Project: | Leominster, Sterling |
| Estimated Capital Cost: | $100,000,000 |
| Who is the Submitting Entity? | Private Other Massachussets Electric Company (MECO)<br>Timothy Sullivan (Timothy.Sullivan@nationalgrid.com) |
| Is this project being submitted as part of a state grant application? | No |
| Which grant program? | |
| What stage are you in your project lifecycle? | Permitting |
| Is climate resiliency a core objective of this project? | No |
| Is this project being submitted as part of the state capital planning process? | No |
| Is this project being submitted as part of a regulatory review process or permitting? | Yes |
| Brief Project Description: | New England Power Company (NEP) is proposing to conduct Asset Condition Refurbishment (ACR) activities along the J136S Tap right-of-way (ROW). The Project will be located within the existing J136 ROW. The J136 Line begins at Pratts Junction Substation # 225 in Sterling and terminates at the Litchfield Street Substation in Leominster. Activities include installing a switch structure, reconductoring with 795 KCMIL ACSS "Drake" conductor, and replacing the shieldwire with 1/2" 48-Fiber optical groundwire (OPGW), as well as tree removal in select areas and access road and work envelope improvements to facilitate work. The project will result in reliable high-capacity lines powering the City of Leominster. |

## Project Ecosystem Service Benefits

### Factors Influencing Output

- ✓ Project filters stormwater using green infrastructure
- ✓ Project provides pollinator habitat

### Factors to Improve Output

- ✓ Incorporate strategies that reduce carbon emissions

### Is the primary purpose of this project ecological restoration?

No

### Project Benefits

| | |
|---|---|
| Provides flood protection through nature-based solutions | No |
| Reduces storm damage | No |
| Recharges groundwater | No |
| Protects public water supply | No |
| Filters stormwater using green infrastructure | Yes |
| Improves water quality | No |
| Promotes decarbonization | Maybe |
| Enables carbon sequestration | No |
| Provides oxygen production | No |
| Improves air quality | No |
| Prevents pollution | No |
| Remediates existing sources of pollution | No |
| Protects fisheries, wildlife, and plant habitat | No |
| Protects land containing shellfish | No |
| Provides pollinator habitat | Yes |
| Provides recreation | No |
| Provides cultural resources/education | No |

## Project Climate Hazard Exposure

| | |
|---|---|
| Is the primary purpose of this project ecological restoration? | No |
| Does the project site have a history of coastal flooding? | No |
| Does the project site have a history of flooding during extreme precipitation events (unrelated to water/sewer damages)? | Unsure |
| Does the project site have a history of riverine flooding? | Yes |
| Does the project result in a net increase in impervious area of the site? | No |
| Are existing trees being removed as part of the proposed project? | Yes |

**Project Assets**

Asset: J136 Tap Line
Asset Type: Utility Infrastructure
Asset Sub-Type: Energy (electric, gas, petroleum, renewable)
Construction Type: Major Repair/Retrofit
Construction Year: 2027
Useful Life: 50

**Identify the length of time the asset can be inaccessible/inoperable without significant consequences.**
Infrastructure may be inaccessible/inoperable during natural hazard event, but must be accessible/operable within one day after natural hazard event.

**Identify the geographic area directly affected by permanent loss or significant inoperability of the infrastructure.**
Impacts would be limited to local area and/or municipality

**Identify the population directly served that would be affected by the permanent loss or significant inoperability of the infrastructure.**
Less than 100,000 people

**Identify if the infrastructure provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.**
The infrastructure provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

**Will the infrastructure reduce the risk of flooding?**
No

**If the infrastructure became inoperable for longer than acceptable in Question 1, how, if at all, would it be expected to impact people's health and safety?**
Inoperability of the infrastructure would result in moderate or severe injuries or moderate or severe impacts to chronic illnesses

**If there are hazardous materials in your infrastructure, what are the extents of impacts related to spills/releases of these materials?**
Spills and/or releases of hazardous materials are expected with relatively easy cleanup

**If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts on other facilities, assets, and/or infrastructure?**
Significant – Inoperability is likely to impact other facilities, assets, or buildings and result in cascading impacts that will likely affect their ability to operate

**If the infrastructure was damaged beyond repair, how much would it approximately cost to replace?**
Between $30 million and $100 million

**Does the infrastructure function as an evacuation route during emergencies? This question only applies to roadway projects.**
No

**If the infrastructure became inoperable for longer than acceptable in Question 1, what are the environmental impacts related to natural resources?**
No impact on surrounding natural resources is expected

**If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts to government services (i.e. the infrastructure is not able to serve or operate its intended users or function)?**
Loss of infrasturcture may reduce the ability to maintain most government services, while some sevices will still exist

**What are the impacts to loss of confidence in government resulting from loss of infrastructure functionality (i.e. the infrastructure asset is not able to serve or operate its intended users or function)?**
Loss of confidence in government agency

## Report Comments

N/A

# Attachment E: Environmental Justice

Expanded Environmental Notification Form (EENF)
J136S Tap Line Rebuild Project


Environmental Justice Locus Map

EJ Screening Form

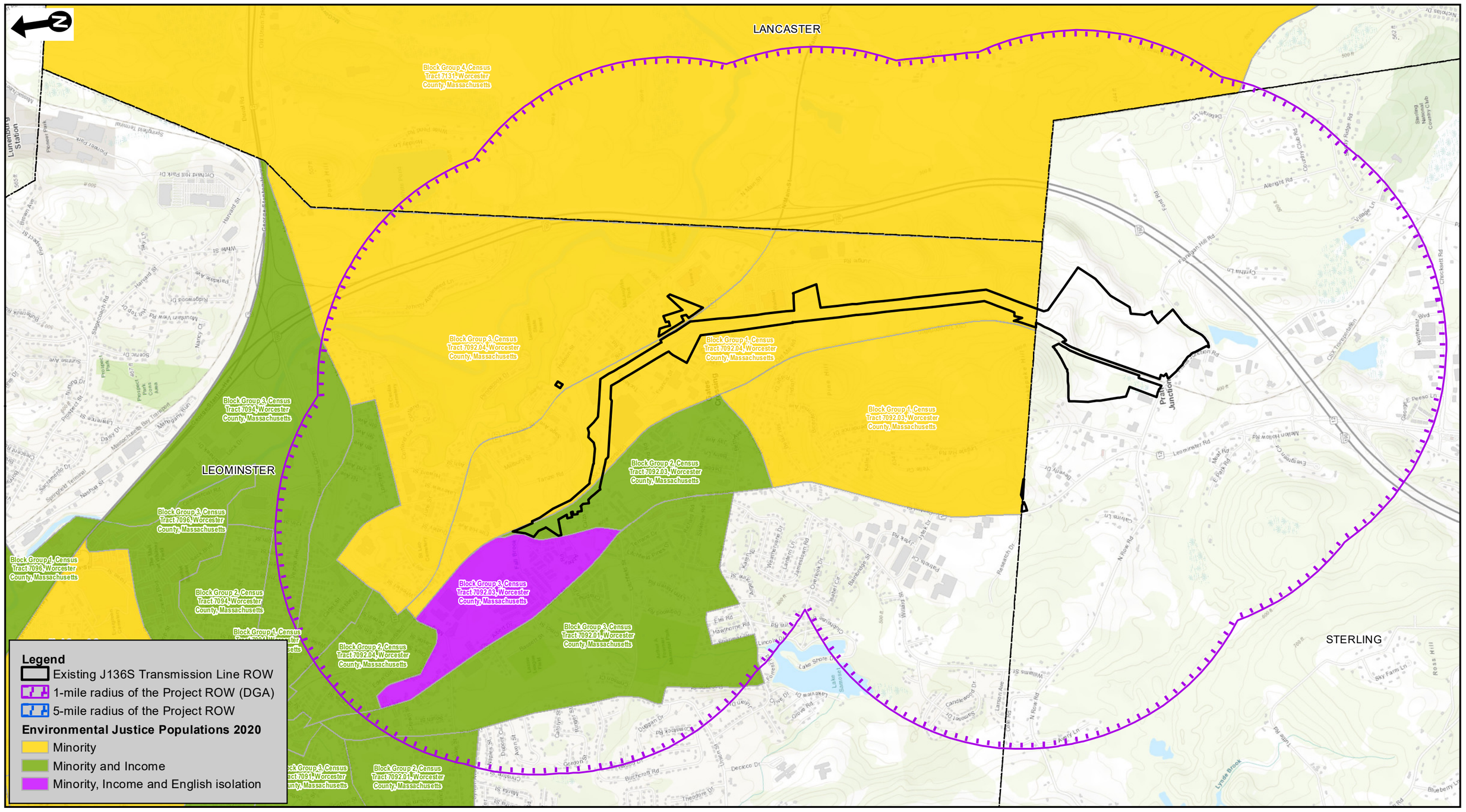
EJ Reference List

Advance Notification Submittal

Invite to Meeting Submittal

# Environmental Justice Locus Map

Document Path: G:\GISPrj\10128000\Output\Maps\MXD\ReportMaps\EJ\J136TapLine_EJLocus_20250128.mxd
Date Saved: 1/28/2025 3:19:49 PM




Scale:
1 inch = 2,000 feet
*(page size: 11 X 17)*
0 2,000 4,000
Feet

**J136S TAP LINE REBUILD PROJECT**

**Environmental Justice USGS Locus Map**
**Leominster & Sterling, MA**

Source: 2013 National Geographic Society, i-cubed

nationalgrid
BSC GROUP

*THIS DOCUMENT IS INTENDED FOR GENERAL PLANNING & INFORMATION PURPOSES ONLY. ALL MEASUREMENTS & LOCATIONS ARE APPROXIMATE*

# EJ Screening Form

# Environmental Justice Screening Form

| | |
|---|---|
| Project Name | J136S Tap Line Rebuild Project |
| Anticipated Date of MEPA Filing | 9/22/2025 |
| Proponent Name | Massachusetts Electric Company (MECO) |
| Contact Information (e.g., consultant) | **Proponent:**<br>Timothy Sullivan, MECO<br>170 Data Drive<br>Waltham, MA 02451<br>(781) 663-3106<br>Timothy.Sullivan@nationalgrid.com<br><br>**Consultant:**<br>Sióna Patisteas, BSC Group Inc.<br>1 Mercantile Street, Suite 610<br>Worcester, MA 01608<br>(617) 896-4317<br>spatisteas@bscgroup.com |
| Public website for project or other physical location where project materials can be obtained (if available) | https://www.nationalgridus.com/construction-projects/Community-Projects/J136S-Tap-Replacement/J136S-Tap-Line |
| Municipality and Zip Code for Project (if known) | Sterling (01564) and Leominster (01453) |
| Project Type* (list all that apply) | Energy Transmission |
| Is the project site within a mapped 100-year FEMA flood plain? Y/N/unknown | Yes |
| Estimated GHG emissions of conditioned spaces (click **here** for GHG Estimation tool) | Not applicable; no buildings are proposed as part of this Project. |

Project Description

1. Provide a brief project description, including overall size of the project site and square footage of proposed buildings and structures if known.

Massachusetts Electric Company (MECO) is proposing to conduct a rebuild of the J136S Tap Line (the "Tap Line") within the existing right-of-way (ROW) due to recent analyses that determined this century-old Tap Line is increasingly unreliable. The Tap Line runs approximately 3 circuit miles from Pratts Junction Substation in Sterling, Massachusetts to the Litchfield Street Substation in Leominster, Massachusetts (the "J136S Tap Line Rebuild Project" or the "Project"). The scope of the Project involves a complete rebuild of the Tap Line on new structures with new conductors, the replacement of the existing shield wire with optical ground wire (OPGW), and access improvements. The rebuilt structures will be in a new alignment offset to the east of the existing line, which requires widening of the cleared width of the corridor within the existing easements and MECO-owned properties.

Please refer to **Figure 1-1** in **Attachment B** for an overview map of the Project.

2. List anticipated MEPA review thresholds (301 CMR 11.03) (if known)

ENF Review Thresholds:

- 301 CMR 11.03(3)(b)(1)(d)- Wetlands, Waterways and Tidelands: Provided a Permit is required, alteration of 5,000 or more sf of bordering vegetated wetlands (BVW).
- 301 CMR 11.03(1)(b)(1) - Land: Direct alteration of 25 or more acres of land, unless the Project is consistent with an approved conservation farm plan or forest cutting plan or other similar generally accepted agricultural or forestry practices.

ENF and Mandatory EIR Review Thresholds:

- 301 CMR 11.03(3)(a)(1)(a) - Wetlands, Waterways and Tidelands: alteration of one or more acres of BVW.
- 301 CMR 11.06(7)(b) - Environmental Justice (EJ): The Secretary shall require an EIR for any Project that is located within a Designated Geographic Area around an EJ Population.

3. List all anticipated state, local and federal permits needed for the project (if known)

| Agency | Permit, Review, or Approval |
|---|---|
| **Federal** | |
| U.S. Army Corps of Engineers (USACE) | Section 404 General Permit (Pre-Construction Notice); and Consultations under Section 106 of National Historic Preservation Act |
| United States Environmental Protection Agency (EPA) | National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) from Construction Activities Notice of Intent (NOI)/Stormwater Pollution Prevention Plan (SWPPP) |
| **State** | |
| Executive Office of Energy and Environmental Affairs (EEA) | MEPA Review/Certificate of the Secretary |
| Massachusetts Department of Environmental Protection (MassDEP) | Section 401 Individual Water Quality Certificate |
| Massachusetts Historical Commission (MHC) | Consultation under M.G.L. c. 9 in accordance with 950 CMR 70-71 |
| **Local** | |
| Conservation Commissions in Sterling and Leominster | Order of Conditions per the Massachusetts Wetlands Protection Act |

4. Identify EJ populations and characteristics (Minority, Income, English Isolation) within 5 miles of project site (can attach map identifying 5-mile radius from EJ Maps Viewer in lieu of narrative)

There are 11 EJ block groups within the Project's 1-mile Designated Geographic Area (DGA), and a total of 45 EJ block groups within 5 miles of the Project (see **Figure 1-2** in **Attachment B** and **Table A-1** in **Attachment A**). The EJ block groups within the DGA consist of:

- Four block groups meet the Minority EJ Criterion;
- Six block groups meet the Minority and Income EJ Criteria; and,
- Two block groups meet the Minority, Income, and English Isolation EJ Criteria.

5. Identify any municipality or census tract meeting the definition of "vulnerable health EJ criteria" in the DPH EJ Tool located in whole or in part within a 1 mile radius of the project site.

The City of Leominster and the Town of Lancaster meet the Heart Attack Vulnerable Health EJ Criterion definition (see **Table A-2** in **Attachment A**). No other municipalities in the DGA meet a Vulnerable Health EJ Criterion definition. One census tract in Sterling meets the low-birth-weight Vulnerable Health EJ Criterion definition. No other census tracts in the DGA meet a Vulnerable Health EJ Criterion definition (see **Table A-3** in **Attachment A**).

6. Identify potential short-term and long-term environmental and public health impacts that may affect EJ Populations and any anticipated mitigation.

Construction activities and post-construction operation within the ROW are not anticipated to adversely impact EJ populations nor public health. Potential impacts include the following:

- Construction-period equipment and activities may result in a temporary increase in airborne dust. Best management practices (BMPs) and minimization measures will be used during construction to control dust and its potential impacts. Soil will be stabilized and re-vegetated post-construction.
- Temporary construction matting will be used to minimize the impact of Project activities that cross wetland and water resources. All watercourses will be spanned the full width of bank. Matting will be removed and wetlands will be restored post-construction. Additional BMPs, including stormwater management features, will be used to avoid and minimize impacts to water quality and wetland resources. Impacts to water quality will be negligible and temporary with the use of BMPs.
- Municipally owned protected open space is located within the ROW from approximately existing Structure 7 to 13[1] that also overlaps with Block Group 1, Census Tract 7092.04. This includes three parcels all owned by the City of Leominster: two parcels are managed by the City of Leominster Water Department and the Nashua Valley Conservation Area parcel is managed by the Conservation Commission. Project activities are limited to the existing ROW within these parcels. There are no public trails or parking areas and there will be no impacts to public access to Protected Land and Open Space for EJ populations.
- Noise impacts associated with construction-period activities are temporary in nature and are expected to be minimal. MECO will notify landowners prior to the commencement of nearby work. Noise-generating activities will be conducted in accordance with local and state requirements.
- Traffic impacts during the construction are anticipated to be minor and intermittent. The work areas will be accessed primarily from existing MECO access routes and minor municipal roadways. Once on-site, vehicle traffic will be limited to within or in close proximity to the ROW. Since the ROW is an un-manned facility, there will be no permanent impacts to traffic patterns or use of existing roadways.

7. Identify project benefits, including "Environmental Benefits" as defined in 301 CMR 11.02, that may improve environmental conditions or public health of the EJ population.

Potential "Environmental Benefits" include the following:

- Transmission Line ROWs offer benefits for wildlife by creating habitats and movement corridors for various species, including pollinators and birds; and,
- Replacing and upgrading infrastructure reduces the frequency of maintenance (i.e., during outages) and associated disturbance to adjacent landowners, wetland resource areas, and habitat.

8. Describe how the community can request a meeting to discuss the project, and how the community can request oral language interpretation services at the meeting. Specify how to request other accommodation, including meetings after business hours and at locations near public transportation.

Communities and members of the public can access information related to the project in the following ways:

- Visit the Project website: https://www.nationalgridus.com/construction-projects/Community-Projects/J136S-Tap-Replacement/J136S-Tap-Line
- Attend the virtual community meeting hosted by MECO on August 19, 2025; or
  - Recipients of this EJ Screening Form will receive information related to this meeting via email.
  - Notification of this virtual meeting will be published in the local newspapers of each municipality prior to the meeting.
- Request hard copies of Project materials.

[1] Massachusetts Executive Office of Energy and Environmental Affairs. (2025). *MassGIS data: Protected and recreational open space*. Massachusetts Government. https://www.mass.gov/info-details/massgis-data-protected-and-recreational-openspace

Requests for additional information and translated Project materials can be made by contacting Joe Carroll at (781) 635-8066 or at Joseph.Carroll1@nationalgrid.com.

Recipients of this EJ Screening Form include organizations on the EJ Reference List provided by MEPA per the MEPA Public Involvement Protocol for Environmental Justice Populations. In addition, notice of the virtual public meeting details will be sent to Town Administrators.

**Table A-1 Environmental Justice Communities Within 1 and 5 Miles of the Project**

| Block Group | Census Tract | Municipality | Total Minority Population (%) | Median Household Income ($) | Total English Isolation Population (%) | Environmental Justice Criteria Met |
|---|---|---|---|---|---|---|
| **Within the 1-Mile Designated Geographic Area (DGA)** | | | | | | |
| 2 | 7092.01 | Leominster | 34.6% | $48,654 | 0.0% | Minority and Income |
| 3 | 7092.01 | Leominster | 41.7% | $54,180 | 3.1% | Minority and Income |
| 1 | 7092.03 | Leominster | 31.2% | $120,833 | 0.0% | Minority |
| 2 | 7092.03 | Leominster | 50.1% | $40,121 | 15.7% | Minority and Income |
| 3 | 7092.03 | Leominster | 35.4% | $46,126 | 50.1% | Minority, Income, and English Isolation |
| 1 | 7092.04 | Leominster | 43.8% | $92,567 | 14.7% | Minority |
| 2 | 7092.04 | Leominster | 49.1% | $34,291 | 7.4% | Minority and Income |
| 3 | 7092.04 | Leominster | 30.4% | $87,559 | 0.0% | Minority |
| 1 | 7094 | Leominster | 54.8% | $53,008 | 9.1% | Minority and Income |
| 3 | 7094 | Leominster | 50.7% | $18,563 | 20.1% | Minority and Income |
| 4 | 7131 | Lancaster | 36.0% | $108,676 | 0.0% | Minority |
| **Within 5 Miles** | | | | | | |
| 2 | 3882 | Shirley | 41.1% | $69,342 | 2.3% | Minority |
| 3 | 7091 | Leominster | 53.6% | $53,301 | 6.0% | Minority and Income |
| 2 | 7094 | Leominster | 44.4% | $53,137 | 18.0% | Minority and Income |
| 1 | 7095.02 | Leominster | 38.1% | $58,750 | 0% | Minority |
| 2 | 7095.02 | Leominster | 26.7% | $98,768 | 2.5% | Minority |
| 3 | 7095.02 | Leominster | 31.0% | $56,554 | 0% | Minority |
| 1 | 7096 | Leominster | 49.0% | $43,576 | 15.9% | Minority and Income |
| 2 | 7096 | Leominster | 36.9% | $61,750 | 8.8% | Minority |
| 3 | 7096 | Leominster | 61.4% | $52,135 | 9.1% | Minority and Income |
| 1 | 7097.01 | Leominster | 63.3% | $41,235 | 25.2% | Minority, Income, and English Isolation |
| 2 | 7097.01 | Leominster | 42.2% | $67,553 | 11.5% | Minority |
| 4 | 7097.01 | Leominster | 25.8% | $110,833 | 0% | Minority |
| 5 | 7097.01 | Leominster | 27.1% | $67,188 | 0% | Minority |
| 1 | 7097.02 | Leominster | 30.5% | $72,744 | 1.4% | Minority |
| 2 | 7097.02 | Leominster | 37.4% | $51,736 | 0% | Minority and Income |
| 1 | 7101 | Fitchburg | 49.3% | $64,597 | 7.2% | Minority |
| 2 | 7101 | Fitchburg | 62.9% | $41,800 | 0% | Minority and Income |
| 3 | 7101 | Fitchburg | 57.7% | $63,427 | 0% | Minority |
| 1 | 7102 | Fitchburg | 60.6% | $26,461 | 2.6% | Minority and Income |
| 2 | 7102 | Fitchburg | 33.3% | $58,295 | 3.1% | Minority |
| 3 | 7102 | Fitchburg | 36.4% | $76,591 | 39.0% | Minority and English Isolation |
| 4 | 7102 | Fitchburg | 53.7% | $40,577 | 4.2% | Minority and Income |
| 1 | 7106.02 | Fitchburg | 56.9% | $25,920 | 1.5% | Minority and Income |
| 2 | 7106.02 | Fitchburg | 60.9% | $80,230 | 15.8% | Minority |
| 3 | 7106.02 | Fitchburg | 39.8% | $80,455 | 2.0% | Minority |
| 1 | 7161.02 | Clinton | 36.8% | $46,023 | 0% | Minority and Income |
| 2 | 7161.02 | Clinton | 42.5% | $61,361 | 0% | Minority |
| 4 | 7161.02 | Clinton | 24.9% | $81,757 | 2.0% | Minority |

| Block Group | Census Tract | Municipality | Total Minority Population (%) | Median Household Income ($) | Total English Isolation Population (%) | Environmental Justice Criteria Met |
|---|---|---|---|---|---|---|
| 1 | 7162 | Clinton | 35.8% | $63,750 | 8.0% | Minority |
| 2 | 7162 | Clinton | 30.1% | $51,027 | 5.6% | Minority and Income |
| 1 | 7163 | Clinton | 28.1% | $94,500 | 7.1% | Minority |
| 2 | 7163 | Clinton | 27.2% | $87,240 | 1.6% | Minority |
| 3 | 7163 | Clinton | 43.0% | $50,078 | 11.4% | Minority and Income |
| 2 | 7614.02 | Harvard | 47.7% | $133,594 | 0% | Minority |

Source: Massachusetts Executive Office of Energy and Environmental Affairs (EEA) GIS, *2020 Environmental Justice Populations*. https://www.mass.gov/info-details/massgis-data-2020-environmental-justice-populations

**Table A-2 Vulnerable Health Environmental Justice Criteria by Community within the Designated Geographic Area**

| Municipality | Vulnerable Health Criteria Met (Yes/No) | | | |
|---|---|---|---|---|
| | Heart Attack | Elevated Blood Lead | Low Birth Weight | Childhood Asthma |
| Lancaster | **Yes** | No | No | No |
| Leominster | **Yes** | No | No | No |
| Sterling | No | No | No | No |

Source: MA Department of Public Health (DPH) Environmental Justice (EJ) Tool, *2017-2021 Heart Attack data; 2019-2023 Elevated Blood Lead data; 2011-2015 Low Birth Weight data; 2017-2021 Childhood Asthma data.* https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html#MyPopup

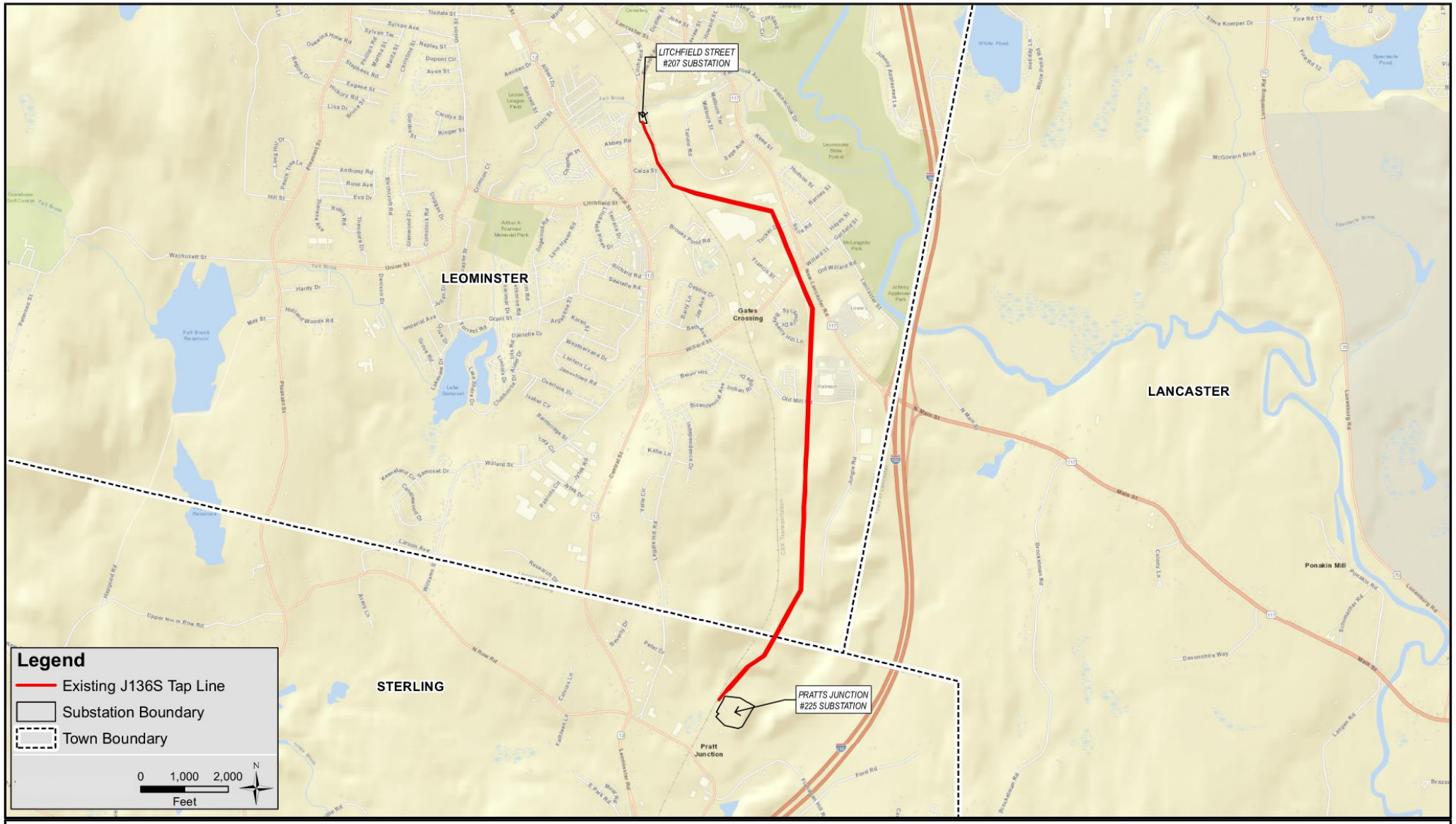
**Table A-3 Vulnerable Health Environmental Justice Criteria by Census Tract within the Designated Geographic Area**

| Census Tract | Municipality | Environmental Justice Block Group Present (Yes/No) | Elevated Blood Lead | | Low Birth Weight | |
|---|---|---|---|---|---|---|
| | | | Rate Prevalence | Criteria Met (Yes/No) | Rate Prevalence | Criteria Met (Yes/No) |
| 7092.01 | Leominster | Yes | 7.2 | No | N/A | N/A |
| 7094 | Leominster | Yes | 16.3 | No | 171.2 | No |
| 7131 | Lancaster | Yes | 8.2 | No | N/A | N/A |
| 7191 | Sterling | No | 9 | No | 240.4 | **Yes** |

Source: MA Department of Public Health Environmental Justice Tool, *2015-2019 Elevated Blood Lead data;* 2011-2015 Low Birth Weight data. https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html#MyPopup

Notes: The criteria are met if the prevalence rate exceeds 110 percent of the statewide value, which is 17.8 for elevated blood lead and 238.5 for low birth weight.

# Attachment B: Project Figures

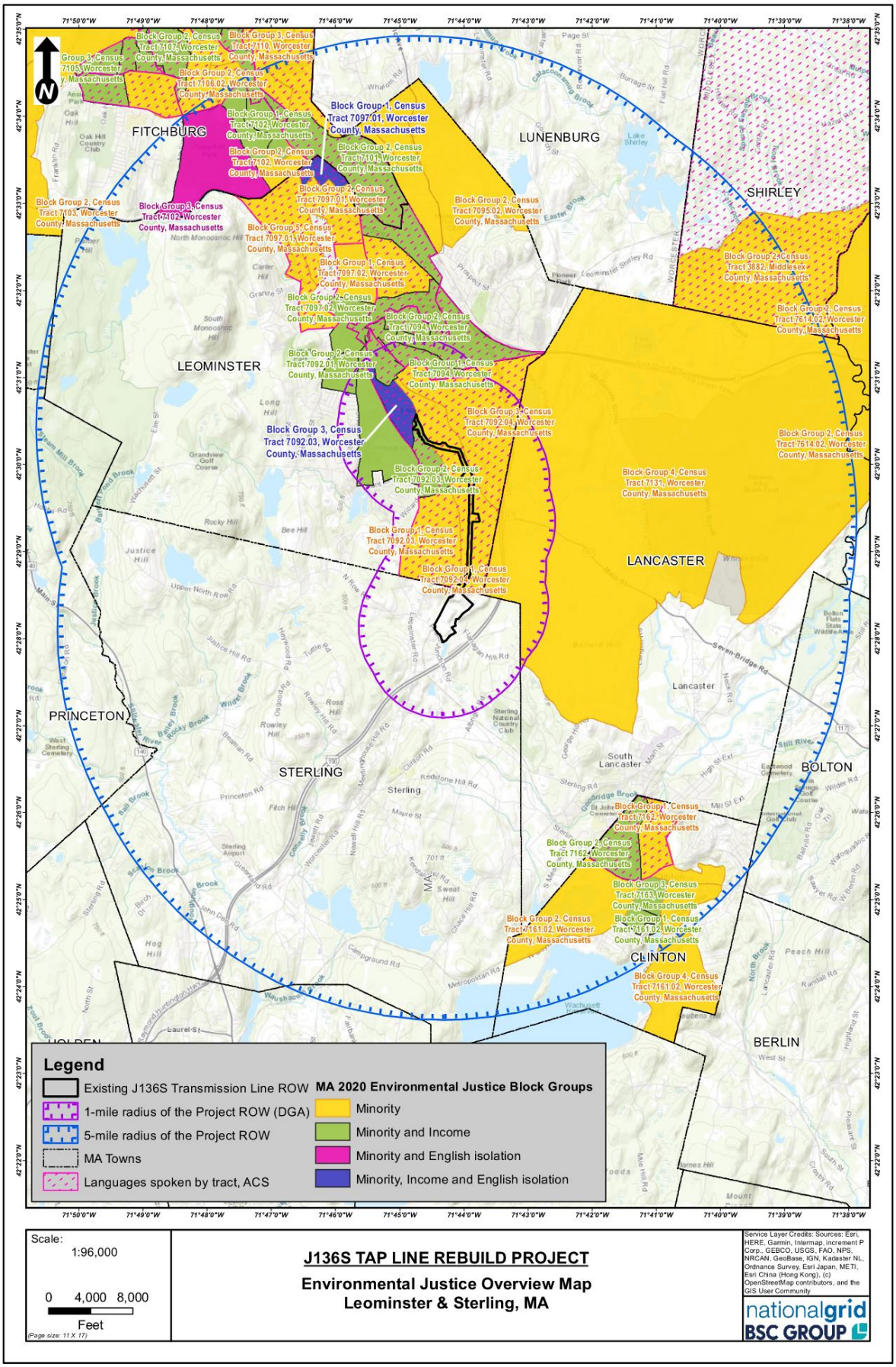



**J136S Tap Line Rebuild Project**

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**Figure 1-1**
*Overview of the Project Route*

# Attachment B: Project Figures




*THIS DOCUMENT IS INTENDED FOR GENERAL PLANNING & INFORMATION PURPOSES ONLY. ALL MEASUREMENTS & LOCATIONS ARE APPROXIMATE*

# Formulario de Evaluación de la Justicia Ambiental

| | |
|---|---|
| Nombre del proyecto | Proyecto de reconstrucción de línea de derivación J136S |
| Fecha prevista de presentación ante la MEPA | 9/22/2025 |
| Nombre del proponente | Massachusetts Electric Company (MECO) |
| Información de contacto (por ejemplo, consultor) | **Proponente:**<br>Timothy Sullivan, MECO<br>170 Data Drive<br>Waltham, MA 02451<br>(781) 663-3106<br>Timothy.Sullivan@nationalgrid.com<br><br>**Consultor:**<br>Sióna Patisteas, BSC Group Inc.<br>1 Mercantile Street, Suite 610<br>Worcester, MA 01608<br>(617) 896-4317<br>spatisteas@bscgroup.com |
| Sitio web público del proyecto u otro lugar físico donde puedan obtenerse los materiales del proyecto (si está disponible) | https://www.nationalgridus.com/construction-projects/Community-Projects/J136S-Tap-Replacement/J136S-Tap-Line |
| Municipio y código postal del proyecto (si se conocen) | Sterling (01564) y Leominster (01453) |
| Tipo de proyecto* (indique todos los que procedan) | Transmisión de energía |
| ¿Se encuentra el emplazamiento del proyecto dentro de una llanura aluvial de 100 años con mapas realizados por la FEMA? S/N/desconocido | Sí |
| Emisiones estimadas de GEI de los espacios acondicionados (haga clic **aquí** para acceder a la herramienta de estimación de GEI) | No aplicable; no se propone la construcción de edificios como parte de este Proyecto. |

Descripción del Proyecto

1. Describir brevemente el proyecto, incluidos el tamaño total del emplazamiento del proyecto y los pies cuadrados de los edificios y estructuras propuestos, si se conocen.

Massachusetts Electric Company (MECO) propone llevar a cabo una reconstrucción de la Línea de derivación J136S (la "Línea de derivación") dentro del derecho de paso (right of way, ROW) existente debido a análisis recientes que determinaron que esta Línea de derivación centenaria es cada vez menos fiable. La Línea de derivación recorre aproximadamente 3 millas de circuito desde la subestación de Pratts Junction en Sterling, Massachusetts, hasta la subestación de Litchfield Street en Leominster, Massachusetts (el "Proyecto de reconstrucción de la línea de derivación J136S" o el "Proyecto"). El alcance del proyecto incluye una reconstrucción completa de la Línea de derivación sobre nuevas estructuras con nuevos conductores, la sustitución del cable de blindaje existente por cable óptico de tierra (optical ground wire, OPGW) y mejoras en el acceso. Las estructuras reconstruidas estarán en una nueva alineación desplazada hacia el este de la línea existente, lo que requiere ampliar la anchura despejada del corredor dentro de las servidumbres existentes y las propiedades de MECO.

Consulte la **Figura 1-1** del **Anexo B** para ver un mapa general del Proyecto.

2. Listar umbrales de revisión MEPA previstos (Título 301 del Código de Reglamentaciones de Massachusetts, Sección 11.03) (si se conocen)

Umbrales de Revisión del Formulario de Notificación Ambiental (Environmental Notification Form, ENF):

- Título 301 del Código de Reglamentaciones de Massachusetts, Sección 11.03(3)(b)(1)(d)- Humedales, vías fluviales y marismas: Siempre que se requiera un permiso, la alteración de 5,000 o más pies cuadrados de humedales con vegetación adyacentes (bordering vegetated wetlands, BVW).
- Título 301 del Código de Reglamentaciones de Massachusetts, Sección 11.03(1)(b)(1) - Terreno: Alteración directa de 25 acres o más de terreno, a menos que el Proyecto sea coherente con un plan de conservación agrícola o un plan de tala forestal aprobados u otras prácticas agrícolas o forestales similares generalmente aceptadas.

Umbrales de revisión obligatoria del ENF y del EIR:

- Título 301 del Código de Reglamentaciones de Massachusetts, Sección 11.03(3)(a)(1)(a) - Humedales, vías fluviales y marismas: alteración de uno o más acres de BVW.
- Título 301 del Código de Reglamentaciones de Massachusetts, Sección 11.06(7)(b) - Justicia Ambiental (Environmental Justice, EJ): El Secretario exigirá un Informe de impacto ambiental (Environmental Impact Report, EIR) para cualquier proyecto que se encuentre dentro de un Área geográfica designada alrededor de una Población de la Justicia Ambiental.

3. Enumerar todos los permisos estatales, locales y federales previstos que se necesitan para el Proyecto (si se conocen)

| Agencia | Permiso, revisión o aprobación |
|---|---|
| **Federal** | |
| Cuerpo de Ingenieros del Ejército de los EE. UU. (U.S. Army Corps of Engineers, USACE) | Permiso General de la Sección 404 (Notificación previa a la construcción); y Consultas en virtud de la Sección 106 de la Ley de Preservación Histórica Nacional (National Historic Preservation Act) |
| Agencia de Protección Ambiental de los Estados Unidos (Environmental Protection Agency, EPA) | Sistema Nacional de Eliminación de Descargas Contaminantes (National Pollutant Discharge Elimination System, NPDES); Permiso General de Construcción (Construction General Permit, CGP) de la Notificación de Intención de Actividades de Construcción (Notice of Intent, NOI)/Plan de Prevención de la Contaminación de Aguas Pluviales (Stormwater Pollution Prevention Plan, SWPPP) |
| **Estatal** | |
| Oficina Ejecutiva de Energía y Asuntos Ambientales (Energy and Environmental Affairs, EEA) | Revisión de la MEPA/Certificado del Secretario |
| Departamento de Protección Ambiental de Massachusetts (MassDEP) | Sección 401 Certificado Individual de Calidad del Agua |
| Comisión Histórica de Massachusetts (Massachusetts Historical Commission, MHC) | Consulta en virtud de M.G.L. c. 9 de acuerdo con el Título 950 del Código de Reglamentaciones de Massachusetts, Sección 70-71 |
| **Local** | |
| Comisiones de Conservación de Sterling y Leominster | Orden de Condiciones según la Ley de Protección de Humedales de Massachusetts |

4. Identificar las poblaciones y características de equidad ambiental (minoría, ingresos, aislamiento del inglés) en un radio de 5 millas del emplazamiento del proyecto (se puede adjuntar un mapa que identifique el radio de 5 millas desde EJ Maps Viewer (Visualizador de Mapas de Justicia Ambiental) en lugar de una descripción narrativa)

Hay 11 grupos de manzanas de Justicia Ambiental dentro del Área geográfica designada (DGA) de 1 milla del Proyecto, y un total de 45 grupos de manzanas de Justicia Ambiental dentro del radio de 5 millas del Proyecto (véase la **Figura 1-2** en el **Anexo B** y la **Tabla A-1** en el **Anexo A**). Los grupos de manzanas de Justicia Ambiental dentro de la DGA consisten en:

- Cuatro grupos de manzanas cumplen con el Criterio de minoría de la Justicia Ambiental;
- Seis grupos de manzanas cumplen con los Criterios de minoría y de ingresos de la Justicia Ambiental; y
- Dos grupos de manzanas cumplen con los Criterios de minoría, ingresos y aislamiento del inglés de la Justicia Ambiental.

5. Identificar cualquier municipio o sector censal que cumpla con la definición de "criterios de salud vulnerable de la Justicia Ambiental" en la Herramienta de Justicia Ambiental DPH situada total o parcialmente en un radio de 1 milla del emplazamiento del Proyecto.

La ciudad de Leominster y la localidad de Lancaster cumplen con la definición del Criterio de salud vulnerable a los ataques cardíacos de la Justicia Ambiental (véase la **Tabla A-2** del **Anexo A**). Ningún otro municipio de la DGA cumple con la definición del Criterio de salud vulnerable de la Justicia Ambiental. Un sector censal en Sterling cumple con la definición de Criterio de salud vulnerable por bajo peso al nacer de la Justicia Ambiental. Ningún otro sector censal en la DGA cumple con la definición de Criterio de salud vulnerable de la Justicia Ambiental (ver **Tabla A-3** en el **Anexo A**).

6. Identificar los posibles impactos ambientales y de salud pública a corto y largo plazo que puedan afectar a las Poblaciones de la Justicia Ambiental y cualquier mitigación prevista.

No se prevé que las actividades de construcción y las operaciones posteriores a la construcción dentro del derecho de paso tengan un impacto adverso en las poblaciones de la Justicia Ambiental ni en la salud pública. Los impactos potenciales incluyen lo siguiente:

- Los equipos y las actividades durante el período de construcción podrían provocar un aumento temporal del polvo en suspensión. Se utilizarán las mejores prácticas de administración (Best management practices, BMP) y medidas de minimización durante la construcción para controlar el polvo y sus impactos potenciales. El suelo se estabilizará y se revegetará después de la construcción.
- Se utilizarán esteras de construcción temporales para minimizar el impacto de las actividades del proyecto que atraviesen humedales y recursos hídricos. Todos los cursos de agua se extenderán a lo largo de todo el ancho de la orilla. Las esteras se retirarán y los humedales se restaurarán después de la construcción. Se utilizarán BMP adicionales, incluidas características de administración de aguas pluviales, para evitar y minimizar los impactos en la calidad del agua y los recursos de los humedales. Los impactos en la calidad del agua serán insignificantes y temporales con el uso de las BMP.
- El espacio abierto protegido de propiedad municipal se encuentra dentro del derecho de paso, aproximadamente entre las estructuras 7 y 13[1] existentes, que también se superpone con el grupo de manzanas 1, Sector censal 7092.04. Esto incluye tres parcelas, todas propiedad de la ciudad de Leominster: dos parcelas son administradas por el Departamento de agua de la ciudad de Leominster y la parcela del Área de conservación del Valle de Nashua es administrada por la Comisión de Conservación. Las actividades del proyecto se limitan al derecho de paso existente dentro de estas parcelas. No hay senderos públicos ni áreas de estacionamiento y no habrá impactos en el acceso público a los terrenos protegidos y los espacios abiertos para las poblaciones de la Justicia Ambiental.

[1] Oficina Ejecutiva de Asuntos Energéticos y Medioambientales de Massachusetts. (2025). *MassGIS data: Espacio abierto protegido y recreativo*. Gobierno de Massachusetts. https://www.mass.gov/info-details/massgis-data-protected-and-recreational-openspace

- Los impactos acústicos asociados a las actividades del periodo de construcción son de naturaleza temporal y se espera que sean mínimos. MECO notificará a los propietarios antes del inicio de los trabajos en las inmediaciones. Las actividades que generen ruido se llevarán a cabo de acuerdo con los requisitos locales y estatales.
- Se prevé que los impactos sobre el tráfico durante la construcción sean menores e intermitentes. El acceso a las zonas de trabajo se realizará principalmente a través de las vías de acceso existentes de MECO y de pequeñas carreteras municipales. Una vez en el emplazamiento, el tráfico de vehículos se limitará al interior o a las inmediaciones del derecho de paso. Dado que el derecho de paso es una instalación no tripulada, no habrá impactos permanentes en los patrones de tráfico ni en el uso de las carreteras existentes.

7. Identificar los beneficios del Proyecto, incluidos los "Beneficios ambientales" definidos en el Título 301 del Código de Reglamentaciones de Massachusetts, Sección 11.02, que puedan mejorar las condiciones medioambientales o la salud pública de la población de la Justicia Ambiental.

Los posibles "Beneficios ambientales" incluyen los siguientes:

- Las vías de derecho de paso de las Líneas de transmisión ofrecen beneficios para la fauna silvestre al crear hábitats y corredores de movimiento para diversas especies, incluidos los polinizadores y las aves; y
- La sustitución y mejora de las infraestructuras reduce la frecuencia del mantenimiento (es decir, durante los cortes de suministro) y las molestias asociadas a los propietarios de terrenos adyacentes, las zonas de recursos de humedales y el hábitat natural.

8. Describir cómo la comunidad puede solicitar una reunión para analizar el Proyecto y cómo la comunidad puede solicitar servicios de interpretación oral en la reunión. Especificar cómo solicitar otras adaptaciones, incluidas reuniones fuera del horario laboral y en lugares cercanos al transporte público.

Las comunidades y los miembros del público pueden acceder a la información relacionada con el Proyecto de las siguientes maneras:

- Visite el sitio web del Proyecto: https://www.nationalgridus.com/construction-projects/Community-Projects/J136S-Tap-Replacement/J136S-Tap-Line
- Asista a la reunión virtual de la comunidad organizada por MECO el 19 de agosto de 2025; o
  - Los destinatarios de este Formulario de selección de la Justicia Ambiental recibirán información relacionada con esta reunión por correo electrónico.
  - La notificación de esta reunión virtual se publicará en los periódicos locales de cada municipio antes de la reunión.
- Solicite copias impresas de los materiales del Proyecto.

Las solicitudes de información adicional y materiales traducidos del Proyecto pueden realizarse poniéndose en contacto con Joe Carroll en el (781) 635-8066 o en la dirección electrónica Joseph.Carroll1@nationalgrid.com.

Entre los destinatarios de este Formulario de selección de la Justicia Ambiental se incluyen las organizaciones de la Lista de Referencia de la Justicia Ambiental proporcionada por la MEPA según el Protocolo de Participación Pública de la MEPA para las Poblaciones de la Justicia Ambiental. Además, se enviará a los administradores municipales una notificación con los detalles de la reunión pública virtual.

**Tabla A-1 Comunidades de la Justicia Ambiental en un radio de 1 y 5 millas del Proyecto**

| Grupo de manzanas | Sector censal | Municipalidad | Población minoritaria total (%) | Ingreso familiar medio ($) | Población total en aislamiento del inglés (%) | Criterios de la Justicia Ambiental cumplidos |
|---|---|---|---|---|---|---|
| **Dentro del Área geográfica designada (DGA) de 1 milla** | | | | | | |
| 2 | 7092.01 | Leominster | 34.6 % | $48,654 | 0.0 % | Minoría e ingresos |
| 3 | 7092.01 | Leominster | 41.7 % | $54,180 | 3.1 % | Minoría e ingresos |
| 1 | 7092.03 | Leominster | 31.2 % | $120,833 | 0.0 % | Minoría |
| 2 | 7092.03 | Leominster | 50.1 % | $40,121 | 15.7 % | Minoría e ingresos |
| 3 | 7092.03 | Leominster | 35.4 % | $46,126 | 50.1 % | Minoría, ingresos y aislamiento del inglés |
| 1 | 7092.04 | Leominster | 43.8 % | $92,567 | 14.7 % | Minoría |
| 2 | 7092.04 | Leominster | 49.1 % | $34,291 | 7.4 % | Minoría e ingresos |
| 3 | 7092.04 | Leominster | 30.4 % | $87,559 | 0.0 % | Minoría |
| 1 | 7094 | Leominster | 54.8 % | $53,008 | 9.1 % | Minoría e ingresos |
| 3 | 7094 | Leominster | 50.7 % | $18,563 | 20.1 % | Minoría e ingresos |
| 4 | 7131 | Lancaster | 36.0 % | $108,676 | 0.0 % | Minoría |
| **En un radio de 5 millas** | | | | | | |
| 2 | 3882 | Shirley | 41.1 % | $69,342 | 2.3 % | Minoría |
| 3 | 7091 | Leominster | 53.6 % | $53,301 | 6.0 % | Minoría e ingresos |
| 2 | 7094 | Leominster | 44.4 % | $53,137 | 18.0 % | Minoría e ingresos |
| 1 | 7095.02 | Leominster | 38.1 % | $58,750 | 0 % | Minoría |
| 2 | 7095.02 | Leominster | 26.7 % | $98,768 | 2.5 % | Minoría |
| 3 | 7095.02 | Leominster | 31.0 % | $56,554 | 0 % | Minoría |
| 1 | 7096 | Leominster | 49.0 % | $43,576 | 15.9 % | Minoría e ingresos |
| 2 | 7096 | Leominster | 36.9 % | $61,750 | 8.8 % | Minoría |
| 3 | 7096 | Leominster | 61.4 % | $52,135 | 9.1 % | Minoría e ingresos |
| 1 | 7097.01 | Leominster | 63.3 % | $41,235 | 25.2 % | Minoría, ingresos y aislamiento del inglés |
| 2 | 7097.01 | Leominster | 42.2 % | $67,553 | 11.5 % | Minoría |
| 4 | 7097.01 | Leominster | 25.8 % | $110,833 | 0 % | Minoría |
| 5 | 7097.01 | Leominster | 27.1 % | $67,188 | 0 % | Minoría |
| 1 | 7097.02 | Leominster | 30.5 % | $72,744 | 1.4 % | Minoría |
| 2 | 7097.02 | Leominster | 37.4 % | $51,736 | 0 % | Minoría e ingresos |
| 1 | 7101 | Fitchburg | 49.3 % | $64,597 | 7.2 % | Minoría |
| 2 | 7101 | Fitchburg | 62.9 % | $41,800 | 0 % | Minoría e ingresos |
| 3 | 7101 | Fitchburg | 57.7 % | $63,427 | 0 % | Minoría |
| 1 | 7102 | Fitchburg | 60.6 % | $26,461 | 2.6 % | Minoría e ingresos |
| 2 | 7102 | Fitchburg | 33.3 % | $58,295 | 3.1 % | Minoría |
| 3 | 7102 | Fitchburg | 36.4 % | $76,591 | 39.0 % | Minoría y aislamiento del inglés |
| 4 | 7102 | Fitchburg | 53.7 % | $40,577 | 4.2 % | Minoría e ingresos |
| 1 | 7106.02 | Fitchburg | 56.9 % | $25,920 | 1.5 % | Minoría e ingresos |
| 2 | 7106.02 | Fitchburg | 60.9 % | $80,230 | 15.8 % | Minoría |
| 3 | 7106.02 | Fitchburg | 39.8 % | $80,455 | 2.0 % | Minoría |
| 1 | 7161.02 | Clinton | 36.8 % | $46,023 | 0 % | Minoría e ingresos |

| Grupo de manzanas | Sector censal | Municipalidad | Población minoritaria total (%) | Ingreso familiar medio ($) | Población total en aislamiento del inglés (%) | Criterios de la Justicia Ambiental cumplidos |
|---|---|---|---|---|---|---|
| 2 | 7161.02 | Clinton | 42.5 % | $61,361 | 0 % | Minoría |
| 4 | 7161.02 | Clinton | 24.9 % | $81,757 | 2.0 % | Minoría |
| 1 | 7162 | Clinton | 35.8 % | $63,750 | 8.0 % | Minoría |
| 2 | 7162 | Clinton | 30.1 % | $51,027 | 5.6 % | Minoría e ingresos |
| 1 | 7163 | Clinton | 28.1 % | $94,500 | 7.1 % | Minoría |
| 2 | 7163 | Clinton | 27.2 % | $87,240 | 1.6 % | Minoría |
| 3 | 7163 | Clinton | 43.0 % | $50,078 | 11.4 % | Minoría e ingresos |
| 2 | 7614.02 | Harvard | 47.7 % | $133,594 | 0 % | Minoría |

Fuente: Oficina Ejecutiva de Asuntos Energéticos y Medioambientales (EEA) de Massachusetts GIS, *2020 Poblaciones de Justicia Ambiental*. https://www.mass.gov/info-details/massgis-data-2020-environmental-justice-populations

**Tabla A-2 Criterios de la Justicia Ambiental de salud vulnerable por Comunidad dentro del Área geográfica designada**

| Municipalidad | Criterios de salud vulnerable cumplidos (Sí/No) | | | |
|---|---|---|---|---|
| | Ataque cardíaco | Plomo en sangre elevado | Bajo peso al nacer | Asma infantil |
| Lancaster | **Sí** | No | No | No |
| Leominster | **Sí** | No | No | No |
| Sterling | No | No | No | No |

Fuente: Departamento de Salud Pública (Department of Public Health, DPH) de MA, Herramienta de la Justicia Ambiental, *datos sobre Ataques cardíacos de 2017-2021;*

*Datos sobre Plomo en sangre elevado de 2019-2023; datos sobre Bajo peso al nacer de 2011-2015; datos sobre Asma infantil de 2017-2021.* https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html#MyPopup

**Tabla A-3 Criterios de la Justicia Ambiental de salud vulnerable por sector censal dentro del Área geográfica designada**

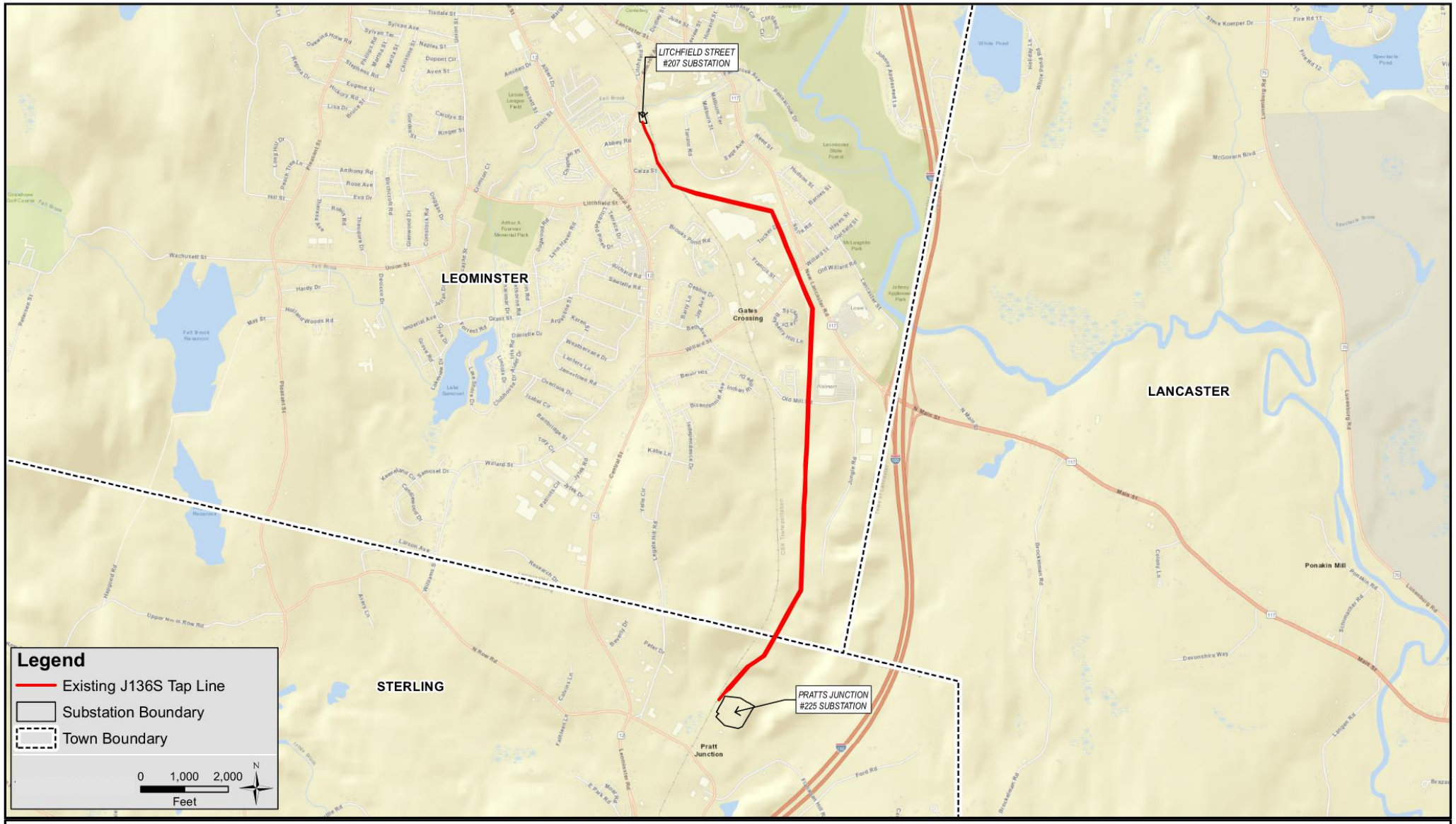
| Sector censal | Municipalidad | Grupo de manzanas de la Justicia Ambiental presente (Sí/No) | Plomo en sangre elevado | | Bajo peso al nacer | |
|---|---|---|---|---|---|---|
| | | | Tasa de prevalencia | Criterios cumplidos (Sí/No) | Tasa de prevalencia | Criterios cumplidos (Sí/No) |
| 7092.01 | Leominster | Sí | 7.2 | No | N/A | N/A |
| 7094 | Leominster | Sí | 16.3 | No | 171.2 | No |
| 7131 | Lancaster | Sí | 8.2 | No | N/A | N/A |
| 7191 | Sterling | No | 9 | No | 240.4 | **Sí** |

Fuente: Herramienta de la Justicia Ambiental del Departamento de Salud Pública de MA, datos sobre Plomo en sangre elevado de *2015-2019;*

datos sobre Bajo peso al nacer de 2011-2015.
https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html#MyPopup

Notas: Se cumplen los criterios si la tasa de prevalencia supera el 110 % del valor a escala estatal, que es del 17.8 para plomo en sangre elevado y 238.5 para bajo peso al nacer.

# Anexo B: Imágenes del Proyecto

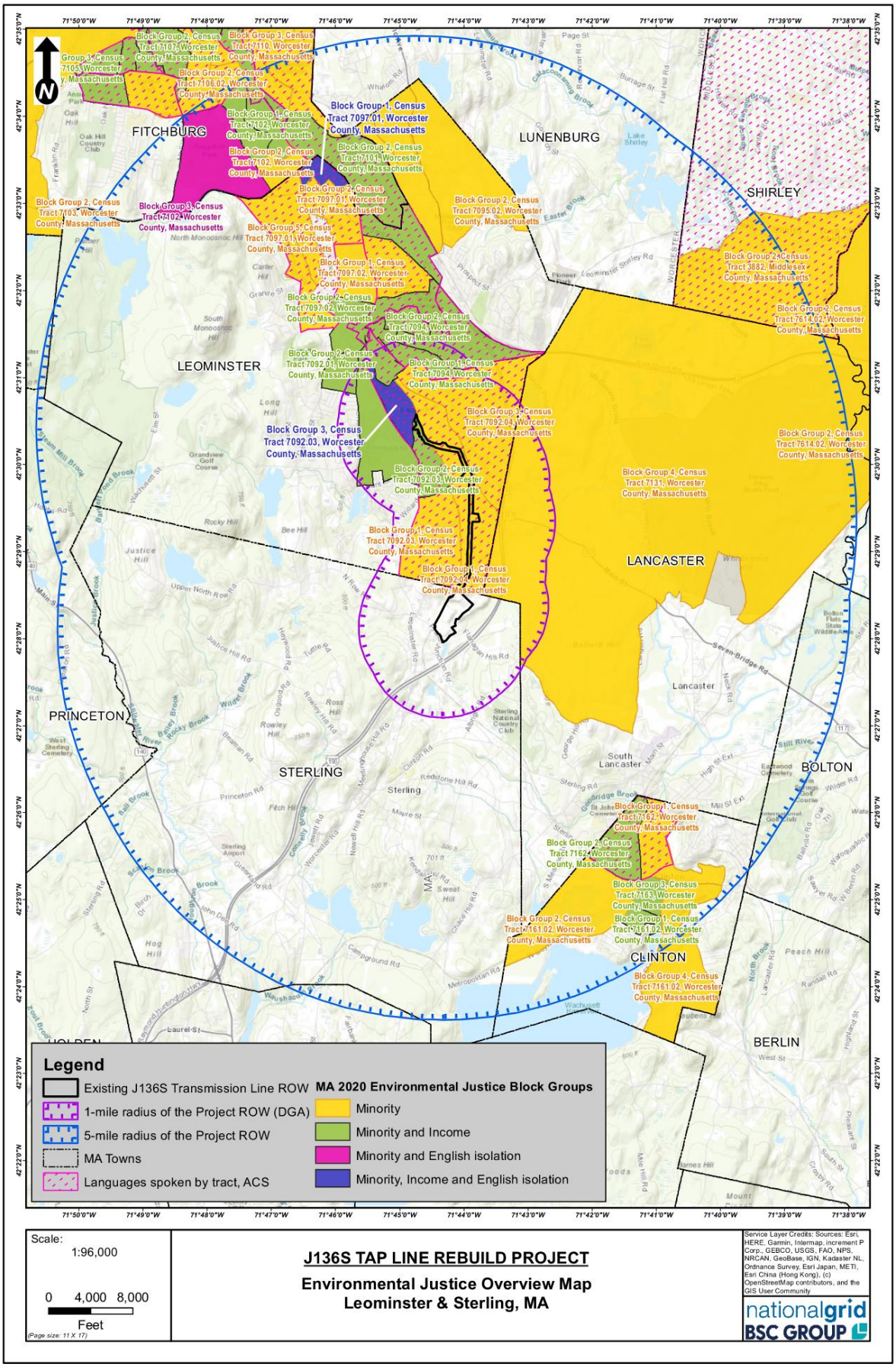



**J136S Tap Line Rebuild Project**

nationalgrid
BSC GROUP

**Figure 1-1**
*Overview of the Project Route*

# Anexo B: Imágenes del Proyecto




*THIS DOCUMENT IS INTENDED FOR GENERAL PLANNING & INFORMATION PURPOSES ONLY. ALL MEASUREMENTS & LOCATIONS ARE APPROXIMATE*

# EJ Reference List

## Project-Specific EJ Refence List

Populate this Project-Specific Reference List with the appropriate contacts from all 4 tabs in the EJ Reference List workbook

**Project Name:** J136S Tap Line Rebuild Project

**Project Address:** Existing overhead electric transmission ROW in Leominster and Sterling

**MA Municipalities in Project's DGA:** Lancaster, Leominster, and Sterling

**Date Generated:** Workbook sent by MEPA on 7/15. EJ Reference List returned to MEPA on 7/16. Updated EJ Reference List with Supplemental Contacts sent to MEPA on 8/4.

**Filing Type:**

▪ ENF/EENF ▫ DEIR/FEIR ▫ SEIR ▫ Other

| First Name | Last Name | Title | Phone | Email | Affiliation | Contact Type *(autopopulates)* |
|---|---|---|---|---|---|---|
| Claire | B.W. Muller | Movement Building Director | (508) 308-9261 | claire@uumassaction.org | Unitarian Universalist Mass Action Network | Statewide CBO |
| Julia | Blatt | Executive Director | (617) 714-4272 | juliablatt@massriversalliance.org | Mass Rivers Alliance | Statewide CBO |
| Jodi | Valenta | Massachusetts State Director | (617) 367-6200 | Jodi.Valenta@tpl.org | The Trust for Public Land | Statewide CBO |
| Kerry | Bowie | Board President | Not Provided | kerry@msaadapartners.com | Browning the GreenSpace | Statewide CBO |
| Sylvia | Broude | Executive Director | (617) 292-4821 | sylvia@communityactionworks.org | Community Action Works | Statewide CBOLocal CBO |
| Britteny | Jenkins | Vice President | Not Provided | Bjenkins@clf.org | Conservation Law Foundation | Statewide CBO |
| Alex | St. Pierre | Director of Communities & Toxics | Not Provided | aestpierre@clf.org | Conservation Law Foundation | Statewide CBO |
| Paulina | Muratore | Director of Transportation Justice and Infrastructure | Not Provided | pmuratore@clf.org | Conservation Law Foundation | Statewide CBO |
| Breanne | Frank | Associate Attorney | Not Provided | bfrank@clf.org | Conservation Law Foundation | Statewide CBO |
| Amy | Boyd Rabin | Vice President of Policy | (617) 221-8258 | aboydrabin@environmentalleague.org | Environmental League of Massachusetts | Statewide CBO |
| Ben | Hellerstein | MA State Director | (617) 747-4368 | ben@environmentmassachusetts.org | Environment Massachusetts | Statewide CBO |
| Robb | Johnson | Executive | (978) 443-2233 | robb@massland.org | Mass Land Trust Coalition | Statewide CBO |
| Cindy | Luppi | New England Director | (617) 338-8131 x208 | cluppi@cleanwater.org | Clean Water Action | Statewide CBO |
| Dálida | Rocha | Executive | Not Provided | dalida@n2nma.org | Neighbor to Neighbor Mass. | Statewide CBOLocal CBO |
| Lena Miles | Entin Gresham | Director of Individual Giving Campaign Director | Not Provided | Lena@N2NMa.org Miles@N2NMa.org | Neighbor to Neighbor Mass. | Statewide CBOLocal CBO |
| Rob | Moir | Executive | Not Provided | rob@oceanriver.org | Ocean River Institute | Statewide CBO |
| Vickash | Mohanka | Director, MA Chapter | Not Provided | vick.mohanka@sierraclub.org | Sierra Club MA | Statewide CBO |
| Heidi | Ricci | Director of Policy | Not Provided | hricci@massaudubon.org | Mass Audubon | Statewide CBO |
| Bettina | Washington | Tribal Historic Preservation Officer | (508) 560-9014 | thpo@wampanoagtribe-nsn.gov | Wampanoag Tribe of Gay Head (Aquinnah) | Federal Tribe |
| Brian | Weeden | Chair | (774) 413-0520 | Brian.Weeden@mwtribe-nsn.gov | Mashpee Wampanoag Tribe | Federal Tribe |
| Nakia | Hendricks Jr. | Office Manager | Not Provided | 106Review@mwtribe-nsn.gov | Mashpee Wampanoag Tribe | Federal Tribe |
| David | Weeden | THPO/Director | (774) 327.0068 | David.Weeden@mwtribe-nsn.gov | Mashpee Wampanoag Tribe | Federal Tribe |
| Alma | Gordon | President | Not Provided | tribalcouncil@chappaquiddickwampanoag.org | Chappaquiddick Tribe of the Wampanoag Nation | Indigenous Org |
| Cheryll | Toney Holley | Chair | (774) 317-9138 | crwritings@aol.com | Nipmuc Nation (Hassanamisco Nipmucs) | Indigenous Org |
| John | Peters, Jr. | Executive Director | (617) 573-1292 | john.peters@mass.gov | Massachusetts Commission on Indian Affairs (MCIA) | Indigenous Org |
| Melissa | Ferretti | Chair | (508) 304-5023 | melissa@herringpondtribe.org | Herring Pond Wampanoag Tribe | Indigenous Org |
| Raquel | Halsey | Executive Director | (617) 232-0343 | rhalsey@naicob.org | North American Indian Center of Boston | Indigenous Org |
| Cora | Pierce | Not Provided | Not Provided | Coradot@yahoo.com | Pocassett Wampanoag Tribe | Indigenous Org |
| Elizabeth | Solomon | Not Provided | Not Provided | Solomon.Elizabeth@gmail.com | Massachusetts Tribe at Ponkapoag | Indigenous Org |
| Neddy | Latimer | Not Provided | (978) 534-3145 | info@spanishamericancenter.org | Spanish American Center | Local CBO |
| Colleen | Abrams | President | (508) 829-3954 | colleen.abrams@verizon.net | Wachusett Greenways | Supplemental Contact |
| Not Provided | Not Provided | President | (508) 886-2341 | sterlinggrange53@gmail.com | Sterling Grange #53 | Supplemental Contact |
| Paul | MacKinnon | President | (978) 345-7040 | info@mocinc.org | Making Opportunity Count | Supplemental Contact |
| Liz | Leonard | Director | 508-370-4946 | liz.leonard@uwotc.org | WHEAT Community Connections | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 508-885-3111 Ext.113 | maryqueen@mqrparish.org | Mary Queen of the Rosary Parish | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | (508) 885-2149 | office@spencerchurch.net | First Congregational Church of Spencer, United Church of Christ | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-534-6121 | office@agudat-achim.org | Congregation Agudat Achim | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | (978) 537-0837 | hello@churchofchristatleominster.org | The Congregational Church of Christ | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-534-5164 | pilgrimchurch1743@comcast.net | Pilgrim Congregational Church | Supplemental Contact |
| Stephanie | Trudel | Lay Minister | Not Provided | stephanietrudel2@yahoo.com | First Church UU of Leominster | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-537-3560 | admin@stmarksleominster.org | St. Mark's Episcopal Church | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-537-1356 | info@leominsterumc.org | Leominster United Methodist Church | Supplemental Contact |
| Martin | Kang | Appointed Clergy | Not Provided | myungsukkang169@gmail.com | Antioch Korean United Methodist Church | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | (978) 537-6541 | office@stceciliachurch.net | St. Cecilia Parish | Supplemental Contact |

| | | | | | | |
|---|---|---|---|---|---|---|
| Fr. Carlos | Ruiz | Pastor | Not Provided | fathercarlosruizgmail.com | St. Anna Parish | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-537-3016 | churchonhill@aol.com | Holy Family of Nazareth Parish | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-537-7257 | stleoparish@verizon.net | St. Leo Parish | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | (978) 342-2978 | Information@ourladylake.org | Our Lady of the Lake | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | (978) 365-6582 | iconception@comcast.net | Immaculate Conception Parish | Supplemental Contact |
| Not Provided | Not Provided | Not Provided | 978-365-2427 | Office@FirstChurchLancasterMA.org | First Church of Lancaster, Unitarian Universalist | Supplemental Contact |

# Advance Notification Submittal

Outlook

## MEPA Advanced Notification – J136S Tap Line Rebuild Project

**From** Julie Goldberg <JGoldberg@bscgroup.com>

**Date** Mon 8/4/2025 4:46 PM

**To** MEPA (EEA) <mepa@mass.gov>; MEPA-EJ (EEA) <mepa-ej@mass.gov>; 'claire@uumassaction.org' <claire@uumassaction.org>; 'juliablatt@massriversalliance.org' <juliablatt@massriversalliance.org>; 'Jodi.Valenta@tpl.org' <Jodi.Valenta@tpl.org>; 'kerry@msaadapartners.com' <kerry@msaadapartners.com>; 'sylvia@communityactionworks.org' <sylvia@communityactionworks.org>; 'Bjenkins@clf.org' <Bjenkins@clf.org>; 'aestpierre@clf.org' <aestpierre@clf.org>; 'pmuratore@clf.org' <pmuratore@clf.org>; 'bfrank@clf.org' <bfrank@clf.org>; 'aboydrabin@environmentalleague.org' <aboydrabin@environmentalleague.org>; 'ben@environmentmassachusetts.org' <ben@environmentmassachusetts.org>; 'robb@massland.org' <robb@massland.org>; 'cluppi@cleanwater.org' <cluppi@cleanwater.org>; 'dalida@n2nma.org' <dalida@n2nma.org>; 'Lena@N2NMa.org' <Lena@N2NMa.org>; 'Miles@N2NMa.org' <Miles@N2NMa.org>; 'rob@oceanriver.org' <rob@oceanriver.org>; 'vick.mohanka@sierraclub.org' <vick.mohanka@sierraclub.org>

**Cc** Timothy Sullivan <timothy.sullivan@nationalgrid.com>; Joseph Carroll <joseph.carroll1@nationalgrid.com>; Siona Patisteas <spatisteas@bscgroup.com>

2 attachments (2 MB)

English_EJ Screening Form_J136S Tap Line Rebuild Project.pdf; Spanish_EJ Screening Form_J136S Tap Line Rebuild Project.pdf;

Good afternoon,

On behalf of the Massachusetts Electric Company (MECO), please find attached the Environmental Justice (EJ) Screening Form for MECO's **J136S Tap Line Rebuild Project**, located within an existing Right-of-Way within the Town of Sterling and City of Leominster. This EJ Screening Form provides advanced notification of the Project's upcoming Expanded Environmental Notification Form (EENF) filing, which is anticipated to be filed with the Massachusetts Executive Office of Energy and Environmental Affairs' (EEA's) Massachusetts Environmental Policy Act (MEPA) Office within 45 to 90 days of this notice.

Recipients of this advanced notification include organizations on the EJ Reference List provided by the EEA per the *MEPA Public Involvement Protocol for EJ Populations* and additional local contacts identified by the Proponent during the public involvement process. If you are receiving this email, you will also receive notice of the EENF filing, including an electronic version of the EENF, unless you request to be removed from future Project correspondence.

Please do not hesitate to reach out with any questions.

Best regards,
The J136S Tap Line Rebuild Project Team

# Invite to Meeting Submittal

Outlook

## Virtual Community Meeting – J136S Tap Line Rebuild Project

**From** Julie Goldberg <JGoldberg@bscgroup.com>

**Date** Mon 8/4/2025 4:47 PM

**To** MEPA (EEA) <mepa@mass.gov>; MEPA-EJ (EEA) <mepa-ej@mass.gov>; claire@uumassaction.org <claire@uumassaction.org>; juliablatt@massriversalliance.org <juliablatt@massriversalliance.org>; Jodi.Valenta@tpl.org <Jodi.Valenta@tpl.org>; kerry@msaadapartners.com <kerry@msaadapartners.com>; sylvia@communityactionworks.org <sylvia@communityactionworks.org>; Bjenkins@clf.org <Bjenkins@clf.org>; aestpierre@clf.org <aestpierre@clf.org>; pmuratore@clf.org <pmuratore@clf.org>; bfrank@clf.org <bfrank@clf.org>; aboydrabin@environmentalleague.org <aboydrabin@environmentalleague.org>; ben@environmentmassachusetts.org <ben@environmentmassachusetts.org>; robb@massland.org <robb@massland.org>; cluppi@cleanwater.org <cluppi@cleanwater.org>; dalida@n2nma.org <dalida@n2nma.org>; Lena@N2NMa.org <Lena@N2NMa.org>; Miles@N2NMa.org <Miles@N2NMa.org>; rob@oceanriver.org <rob@oceanriver.org>; vick.mohanka@sierraclub.org <vick.mohanka@sierraclub.org>

**Cc** Timothy Sullivan <timothy.sullivan@nationalgrid.com>; Joseph Carroll <joseph.carroll1@nationalgrid.com>; Siona Patisteas <spatisteas@bscgroup.com>

Dear Neighbor,

The Massachusetts Environmental Protection Act (MEPA) review process provides opportunities for public review of a project's potential environmental impacts. Massachusetts Electric Company's (MECO's) **J136S Tap Line Rebuild Project** will host a virtual community meeting to provide Project information and engage the public, including Environmental Justice communities. The Project will traverse the Town of Sterling and City of Leominster.

Please join us on **Tuesday, August 19**, **2025**, from **6 PM to 8 PM** for a virtual community meeting to learn more about the Project, including an overview, timeline, activities, and anticipated schedule. This meeting will give our neighbors an opportunity to raise questions regarding the Project and the MEPA review process.

**Zoom Meeting Link:** https://bscgroup.zoom.us/j/98844544658?pwd=TmTIOUP9nGk8c18ijTqeDMZ6KX7cbW.1
**Zoom Dial-in Number and Meeting ID: +**1 (646) 931-3860, 988 4454 4658

MECO is committed to providing ample access and opportunity to stay up-to-date on this Project. More information can be found on the Project website: https://www.nationalgridus.com/construction-projects/Community-Projects/J136S-Tap-Replacement/J136S-Tap-Line or by calling our Public Outreach Team: +1 (781) 635-8066.

**To request translation of the project materials or live interpretation during the meeting**, please email Joseph.Carroll1@nationalgrid.com by Friday, August 8th.

We look forward to seeing you!

---

Estimado vecino:

El proceso de revisión de la Ley de Protección Ambiental de Massachusetts (Massachusetts Environmental Protection Act, MEPA) brinda oportunidades para la revisión pública de los posibles impactos ambientales de un proyecto. Se organizará una reunión comunitaria virtual sobre el **Proyecto de reconstrucción de la línea de derivación J136S** de Massachusetts Electric Company (MECO) para proporcionar información e involucrar al público, incluidas las comunidades de justicia ambiental. El proyecto atravesará el pueblo de Sterling y la ciudad de Leominster.

Acompáñenos el **martes 19 de agosto** de **2025**, de **6 p. m. a 8 p. m**. en una reunión comunitaria virtual para obtener más información sobre el proyecto, incluida una descripción general, un cronograma, actividades y el plan previsto. Esta reunión dará a nuestros vecinos la oportunidad de plantear preguntas sobre el proyecto y el proceso de revisión de MEPA.

**Enlace a la reunión de Zoom:** https://bscgroup.zoom.us/j/98844544658?pwd=TmTIOUP9nGk8c18ijTqeDMZ6KX7cbW.1
**Número de acceso telefónico de Zoom e ID de la reunión: +**1 (646) 931-3860, 988 4454 4658

MECO se compromete a proporcionar un amplio acceso y la oportunidad de mantenerse actualizado sobre este Proyecto. Puede encontrar más información en el sitio web del proyecto: https://www.nationalgridus.com/construction-projects/Community-Projects/J136S-Tap-Replacement/J136S-Tap-Line o llamando a nuestro Equipo de Divulgación Pública: +1 (781) 635-8066.

**Para solicitar la traducción de los materiales del proyecto o la interpretación en vivo durante la reunión**, envíe un correo electrónico a Joseph.Carroll1@nationalgrid.com a más tardar el viernes 8 de agosto.

¡Lo esperamos!

# Attachment F: Agency Correspondence

Expanded Environmental Notification Form (EENF)
J136S Tap Line Rebuild Project

# The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

May 23, 2025

Ora Elquist
Principal Investigator
Gray & Pape, Inc.
60 Valley St Suite 103
Providence, RI 02909

RE: National Grid Line I135S/J136S Mainline and Litchfield Tap Project, Fitchburg, Leominster, and Sterling, MA. G&P #23-67014.001. MHC #RC.46029.

Dear Ms. Elquist:

Staff of the Massachusetts Historical Commission (MHC) have reviewed report, *Intensive (Locational) Archaeological Survey, J136S Tap to Litchfield Street Substation Project, Leominster and Sterling, Massachusetts*, dated April 10, 2025, prepared for the project referenced above.

To complete the reporting for State Archaeologist's Permit #4281, please provide the MHC with a second copy of the report and a CD with a Word file listing the report authors, year, title, page count, and that includes the archaeological report abstract.

These comments are provided to assist in compliance with 950 CMR 70. If you have any questions, please contact me.

Sincerely,

Edward L. Bell
Deputy State Historic Preservation Officer
Senior Archaeologist
Massachusetts Historical Commission

220 Morrissey Boulevard, Boston, Massachusetts 02125
(617) 727-8470 • Fax: (617) 727-5128
www.state.ma.us/sec/mhc

# Attachment G: Legal Ad Confirmation

Expanded Environmental Notification Form (EENF)
J136S Tap Line Rebuild Project

# Sentinel and Enterprise – English

Outlook

## Thank you for placing your order with us.

**From** legals@mediaonene.com <legals@mediaonene.com>
**Date** Wed 9/17/2025 8:47 AM
**To** Akayla Newton <ANewton@bscgroup.com>; Priyanka Shrestha <pshrestha@bscgroup.com>

1 attachment (47 KB)
NY01563900.pdf;

## THANK YOU for your ad submission!

This is your confirmation that your order has been submitted. Below are the details of your transaction. Please save this confirmation for your records.

### Job Details

| | |
|---|---|
| Order Number: | **NY0156390** |
| Classification: | General Legal Notices & Bids |
| Package: | Legals MA |
| Order Cost: | $242.68 |
| Payment Type: | Visa |

### Account Details

Theresa Portante
1 Mercantile Street
Worcester, MA 01608
978-376-7070
JPrajapati@bscgroup.com
BSC Group
Credit Card - Visa **********6673

### Schedule for ad number NY01563900

**Fri Sep 26, 2025**
**Sentinel & Enterprise** *All Zones*
**Legals**

**PUBLIC NOTICE OF ENVIRONMENTAL REVIEW**

PROJECT: J136S Tap Line Rebuild Project

LOCATION: Existing J136S Overhead Transmission Lines Right-of-Way within the Town of Sterling and City of Leominster

PROPONENT: Massachusetts Electric Company (MECO)

The undersigned is submitting an Environmental Notification Form ("ENF") to the Secretary of Energy & Environmental Affairs on or before September 30, 2025

This will initiate review of the above project pursuant to the Massachusetts Environmental Policy Act ("MEPA," M.G.L. c. 30, ss. 61-62L). Copies of the ENF may be obtained from:

Siona Patisteas, BSC Group, Inc.; spatisteas@bscgroup.com; (617) 896-4317

Electronic copies of the ENF are also being sent to the Conservation Commission and Planning Board of the Town of Sterling and the City of Leominster

The Secretary of Energy & Environmental Affairs will publish notice of the ENF in the Environmental Monitor, receive public comments on the project, and then decide if an Environmental Impact Report is required. A site visit and/or remote consultation session on the project may also be scheduled. All persons wishing to comment on the project, or to be notified of a site visit and/or remote consultation session, should email MEPA@mass.gov or the MEPA analyst listed in the Environmental Monitor. Requests for language translation or other accommodations should be directed to the same email address. Mail correspondence should be directed to the Secretary of Energy & Environmental Affairs, 100 Cambridge St., Suite 900, Boston, Massachusetts 02114, Attention: MEPA Office, referencing the above project.

By Massachusetts Electric Company (MECO)

9/26/2025

#NY0156390

# Sentinel and Enterprise – Spanish

Outlook

**Thank you for placing your order with us.**

**From** legals@mediaonene.com <legals@mediaonene.com>
**Date** Wed 9/17/2025 8:52 AM
**To** Priyanka Shrestha <pshrestha@bscgroup.com>; Akayla Newton <ANewton@bscgroup.com>

1 attachment (48 KB)
NY01563970.pdf;

## THANK YOU for your ad submission!

This is your confirmation that your order has been submitted. Below are the details of your transaction. Please save this confirmation for your records.

### Job Details

| | |
|---|---|
| Order Number: | **NY0156397** |
| Classification: | General Legal Notices & Bids |
| Package: | Legals MA |
| Order Cost: | $326.20 |
| Payment Type: | Visa |

### Account Details

Theresa Portante
1 Mercantile Street
Worcester, MA 01608
978-376-7070
JPrajapati@bscgroup.com
BSC Group
Credit Card - Visa **********6673

### Schedule for ad number NY01563970

**Fri Sep 26, 2025**
**Sentinel & Enterprise** *All Zones*
**Legals**

**Mancomunidad de Massachusetts**
**Oficina Ejecutiva de Energía y Asuntos Ambientales**
Oficina de MEPA
100 Cambridge St., Suite 900
Boston, MA 02114
Teléfono 617-626-1020
Lo siguiente debe completarse y enviarse a un periódico local:
AVISO PÚBLICO DE REVISIÓN AMBIENTAL
PROYECTO: J136S Tap Line Rebuild Project
UBICACIÓN: Existing J136S Overhead transmisión Lines Right-of-Way within the Town of Sterling and the City of Leominster
PROPONENTE: _Massachusetts Electric Company (MECO)
El abajo firmante presentará un formulario de notificación ambiental ("ENF") al Secretario de Energía y Asuntos Ambientales el día
September 30, 2025 (fecha) o antes.
Esto iniciará la revisión del proyecto anterior en conformidad con la Ley de Política Ambiental de Massachusetts ("MEPA", Ley General de Massachusetts [M.G.L.], capítulo 30, secciones 61-62L). Se pueden obtener copias del ENF en:
Siona Patisteas, BSC Group, Inc.; spatisteas@bscgroup.com; (617) 896-4317
(Nombre, dirección de correo electrónico, número de teléfono del proponente o agente del proponente)
También se enviarán copias electrónicas del ENF a la Comisión de Conservación y la Junta de Planificación de the Town of Sterling and the City of Leominster (Municipio).
El Secretario de Energía y Asuntos Ambientales publicará un aviso del ENF en Environmental Monitor, recibirá comentarios públicos sobre el proyecto y luego decidirá si se requiere un informe de impacto ambiental. También se puede programar una visita al sitio o una sesión de consulta remota sobre el proyecto. Todas las personas que deseen hacer comentarios sobre el proyecto, o ser notificados de una visita al sitio o una sesión de consulta remota, deben enviar un correo electrónico a MEPA@mass.gov o al analista de MEPA que figura en Environmental Monitor. Las solicitudes de traducción de idiomas u otras adaptaciones deben enviarse a la misma dirección de correo electrónico. La correspondencia por correo debe dirigirse a Secretary of Energy & Environmental Affairs, 100 Cambridge St., Suite 900, Boston, Massachusetts 02114, Attention: MEPA Office, haciendo referencia al proyecto anterior.
9/26/2025
#NY0156397

# Worcester Telegram and Gazette – English

Outlook

**Thank you for placing your order with us.**

**From** Worcester Legals <legalnotices@telegram.com>
**Date** Mon 9/15/2025 2:07 PM
**To** Akayla Newton <ANewton@bscgroup.com>; Priyanka Shrestha <pshrestha@bscgroup.com>

1 attachment (15 KB)
LNEO03718310.pdf;

## THANK YOU for your ad submission!

This is your confirmation that your order has been submitted. Below are the details of your transaction. Please save this confirmation for your records.

We appreciate you using our online self-service ads portal, available 24/7. Please continue to visit Worcester Telegram & Gazette's online Classifieds HERE to place your legal notices in the future.

## Deadlines vary by publication, changes and/or cancellations may not be honored due to deadline restrictions.

### Job Details

| | |
|---|---|
| Order Number: | **LNEO0371831** |
| Classification: | Public Notices |
| Package: | General Package |
| Additional Options: | 1 Affidavit $5.00 |
| Base amount: | $165.48 |
| Service fee: | $6.60 |
| Cash/Check/ACH | □ |
| Discount: | -$0.00 |
| Total payment: | $172.08 |

As an incentive for customers, we provide a discount off the total order cost equal to the 3.99% service fee if you pay with Cash/Check/ACH. Pay by Cash/Check/ACH and save! In no event are service fees refundable.
Payment Type: visa

### Account Details

Theresa Portante
1 Mercantile street
Worcester, MA □ 01606
774-521-2878
JPrajapati@bscgroup.com
BSC group Inc
Credit Card - visa **********6673

### Schedule for ad number LNEO03718310

**Fri Sep 26, 2025**
**Worcester Telegram & Gazette** *All Zones*

# PUBLIC NOTICE OF ENVIRONMENTAL REVIEW

PROJECT: J136S Tap Line Rebuild Project

LOCATION: Existing J136S Overhead Transmission Lines Right-of-Way within the Town of Sterling and City of Leominster

PROPONENT: Massachusetts Electric Company (MECO)

The undersigned is submitting an Environmental Notification Form ("ENF") to the Secretary of Energy & Environmental Affairs on or before September 30, 2025

This will initiate review of the above project pursuant to the Massachusetts Environmental Policy Act ("MEPA," M.G.L. c. 30, ss. 61-62L). Copies of the ENF may be obtained from:

Siona Patisteas, BSC Group, Inc.; spatisteas@bscgroup.com; (617) 896-4317

Electronic copies of the ENF are also being sent to the Conservation Commission and Planning Board of the Town of Sterling and the City

of Leominster

The Secretary of Energy & Environmental Affairs will publish notice of the ENF in the Environmental Monitor, receive public comments on the project, and then decide if an Environmental Impact Report is required. A site visit and/or remote consultation session on the project may also be scheduled. All persons wishing to comment on the project, or to be notified of a site visit and/or remote consultation session, should email MEPA@mass.gov or the MEPA analyst listed in the Environmental Monitor. Requests for language translation or other accommodations should be directed to the same email address. Mail correspondence should be directed to the Secretary of Energy & Environmental Affairs, 100 Cambridge St., Suite 900, Boston, Massachusetts 02114, Attention: MEPA Office, referencing the above project.

By Massachusetts Electric

Company (MECO)
September 26 2025
LNEO0371831

# Worcester Telegram and Gazette – Spanish

Outlook

**Thank you for placing your order with us.**

**From** Worcester Legals <legalnotices@telegram.com>
**Date** Mon 9/15/2025 2:00 PM
**To** Akayla Newton <ANewton@bscgroup.com>; Priyanka Shrestha <pshrestha@bscgroup.com>

## THANK YOU for your ad submission!

This is your confirmation that your order has been submitted. Below are the details of your transaction. Please save this confirmation for your records.

We appreciate you using our online self-service ads portal, available 24/7. Please continue to visit Worcester Telegram & Gazette's online Classifieds HERE to place your legal notices in the future.

**Deadlines vary by publication, changes and/or cancellations may not be honored due to deadline restrictions.**

## Job Details

| | |
|---|---|
| Order Number: | **LNEO0371819** |
| Classification: | Public Notices |
| Package: | General Package |
| Additional Options: | 1 Affidavit $5.00 |
| Base amount: | $229.20 |
| Service fee: | $9.15 |
| Cash/Check/ACH | □ |
| Discount: | -$0.00 |
| Total payment: | $238.35 |

As an incentive for customers, we provide a discount off the total order cost equal to the 3.99% service fee if you pay with Cash/Check/ACH. Pay by Cash/Check/ACH and save! In no event are service fees refundable.

Payment Type: visa

## Account Details

Theresa Portante
1 Mercantile street
Worcester, MA □ 01606
774-521-2878
JPrajapati@bscgroup.com
BSC group Inc
Credit Card - visa **********6673

## Schedule for ad number LNEO03718190

**Fri Sep 26, 2025**
**Worcester Telegram & Gazette** *All Zones*

Mancomunidad de Massachusetts
Oficina Ejecutiva de Energía y Asuntos Ambientales
Oficina de MEPA
100 Cambridge St., Suite 900
Boston, MA 02114
Teléfono 617-626-1020

Lo siguiente debe completarse y enviarse a un periódico local:
AVISO PÚBLICO DE REVISIÓN AMBIENTAL
PROYECTO: J136S Tap Line Rebuild Project
UBICACIÓN: Existing J136S Overhead transmisión Lines Right-of-Way within the Town of Sterling and the City of Leominster
PROPONENTE: _Massachusetts Electric Company (MECO)
El abajo firmante presentará un formulario de notificación ambiental ("ENF") al Secretario de Energía y Asuntos Ambientales el día
September 30, 2025 (fecha) o antes.

Esto iniciará la revisión del proyecto anterior en conformidad con la Ley de Política Ambiental de Massachusetts ("MEPA", Ley General de Massachusetts [M.G.L.], capítulo 30, secciones 61-62L). Se pueden obtener copias del ENF en:
Siona Patisteas, BSC Group, Inc.; spatisteas@bscgroup.com; (617) 896-4317
(Nombre, dirección de correo electrónico, número de teléfono del proponente o agente del proponente)
También se enviarán copias electrónicas del ENF a la Comisión de Conservación y la Junta de Planificación de the Town of Sterling and the City of Leominster (Municipio).
El Secretario de Energía y Asuntos Ambientales publicará un aviso del ENF en Environmental Monitor, recibirá comentarios públicos sobre el proyecto y luego decidirá si se requiere un informe de impacto ambiental. También se puede programar una visita al sitio

o una sesión de consulta remota sobre el proyecto. Todas las personas que deseen hacer comentarios sobre el proyecto, o ser notificados de una visita al sitio o una sesión de consulta remota, deben enviar un correo electrónico a MEPA@mass.gov o al analista de MEPA que figura en Environmental Monitor. Las solicitudes de traducción de idiomas u otras adaptaciones deben enviarse a la misma dirección de correo electrónico. La correspondencia por correo debe dirigirse a Secretary of Energy & Environmental Affairs, 100 Cambridge St., Suite 900, Boston, Massachusetts 02114, Attention: MEPA Office, haciendo referencia al proyecto anterior.
Por Massachusetts Electric Company (MECO) (Proponente)
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