Mitigation Area Annual Report Eversource Sudbury to Hudson Transmission Reliability Project Sudbury, Massachusetts

OCTOBER 2023 - OCTOBER 2024

PREPARED FOR

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MITIGATION AREA ANNUAL REPORT EVERSOURCE SUDBURY TO HUDSON TRANSMISSION RELIABILITY PROJECT SUDBURY, MASSACHUSETTS

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SWCA Project No. 67849

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CONTENTS

1	Project Background	Error! Bookmark not defined.
2	Pre-Construction Conditions	
3	Mitigation Area Construction	
4	Monitoring Activities	
5	Summary	4

Attachment A: Copy of Approved Mitigation Plan

Attachment B: Monitoring Photos

1 PROJECT BACKGROUND

The Eversource Sudbury to Hudson Transmission Reliability Project (the "Project") consists of a new, approximately 9-mile-long transmission line between Eversource's existing Sudbury substation in Sudbury, Massachusetts and the Hudson Light & Power Company's (HL&P) substation in Hudson, Massachusetts. The new underground transmission line is currently being installed in the municipalities of Sudbury, Hudson, Stow, and Marlborough, Massachusetts. Approximately 4 miles of the Project are located within Sudbury, with portions of the work located within jurisdictional resource areas.

As part of the Project, the construction of an 819-square foot (sf) mitigation area was proposed within the existing Project easement, approximately 140 linear feet west of the start of the Project by the Sudbury Substation. The approved mitigation plan, dated January 2021, is located in Attachment A.

The Sudbury Order of Conditions for the Project (DEP# 301-1287) has four special conditions pertaining to the mitigation area and mitigation plantings installed in Sudbury:

Under Special Condition Part I(z) of the Sudbury Order of Conditions for DEP# 301-1287

The wetland replication area and land adjacent thereto shall be monitored for invasive species, and manually removed when found, for the life of the Order. The wetland replication area shall be considered substantially restored when it contains a minimum of 90% cover with native species. Replications that do not properly restore the functions and values of altered resource areas will not be deemed acceptable no matter how closely the adhere to approved engineered plans.

Under Special Condition Part II(y) of the Sudbury Order of Conditions for DEP# 301-1287

Mitigation, and restoration efforts within the limit of work, shall be implemented during the first growing season following commencement of work. Written reports shall be submitted by December 1 of each year the Order is active that details mitigation efforts that have been implemented, success of implementation, and anticipated activities the following growing season. Mitigation and Restoration areas shall be deemed substantially in compliance when there is a minimum of 90% cover with native species and free of invasive species.

Under Special Condition Part II(bb) of the Sudbury Order of Conditions for DEP# 301-1287

The wetland replication area shall be constructed during vegetation removal in the vicinity of the replication area and prior to the construction of structures in that vicinity.

Under Special Condition Part II(cc) of the Sudbury Order of Conditions for DEP# 301-1287

All plantings must survive for at least two growing seasons or be replaced at the expense of the Applicant.

SWCA Environmental (SWCA) has developed this report on behalf of Eversource to provide information on the status of the constructed mitigation area after one year of construction.

2 PRE-CONSTRUCTION CONDITIONS

The approximate four-mile Project area within Sudbury is broken up into eight segments. The mitigation area is located in Segment 14 and is approximately 140-lf west of the Sudbury Substation driveway. The area proposed for mitigation is located on the southern side of Mass Central Rail Road easement. Railroad ties spanned east to west along the center of Segment 14. A wetland is located north of the railroad ties with a culvert spanning

underneath the railroad ties. The culvert outlet was located south of the railroad ties, with the water flowing in a man-made channel to another culvert located along the easement line, which eventually flows into another wetland. The man-made channel was straight with steep banks. The vegetation within the proposed mitigation area consisted predominantly of invasive plant species such as buckthorn, honey suckle, and bittersweet. There were few trees within the proposed mitigation area, and those that were present were in poor condition or standing dead trees, covered in Asiatic bittersweet (*Celastrus orbiculatus*).

3 MITIGATION AREA CONSTRUCTION

During the first phase of the Project, in December 2022, trees located within the mitigation area boundaries were cut and removed off site, along with any shrubs and vines. During the spring and summer of 2023, invasive plant management in the form of hand pulling was conducted within the mitigation area.

In October 2023, the construction of the mitigation area commenced and was overseen by Terry Ramborger, an AECOM wetland scientist. At the time of the mitigation area construction, it was anticipated that more impact was to occur within the Project area than originally anticipated and therefore the mitigation area was enlarged by 40-sf expanding the replication area from the proposed 819-sf to 859-sf. The anticipated additional impact did not occur, however the replication area remains to be 859-sf. The additional 40-sf were added to the eastern side of the upland.

Mr. Ramborger was present to monitor and document soil composition and assist with establishment of the final grade. Installed soil had high organic characters and suitable for successful vegetation growth in the replication area. Hydrology was observed during construction and planting activities. Final grade documented and reviewed on October 27, 2023.Grading of the area consisted of the channel being removed and the construction of a detention basin with gentle slopes on all sides. The culvert spanning under the railroad tracks remained along with the culvert south of the easement.

MON Landscaping Inc. supplied and installed the plantings and seed material, detailed in Table 1 of this report, for the wetland mitigation area. Plantings were installed on October 30, 2023. The wetland planting and seeding activities were conducted in accordance with the project specifications and are detailed in this report and photo pages. When the proposed replication area was expanded, additional herbaceous plantings were installed.

All plantings were installed in accordance with the proposed plantings list, however, during plant installation it was determined that the proposed three (3) red maple (*Acer rubrum*) trees were not available at the garden center and were substituted for three (3) black tupelo (*Nyssa sylvatica*) trees. The substitution was reviewed and approved by the Sudbury Conservation Agent, Lori Capone. With the expansion of the mitigation area, additional herbaceous plantings, specifically twenty (20) giant bur-reed (*Sparganium eurycarpum*) and twenty (20) arrow arum (*Peltandra virginica*), were installed. Table 1, below, is the summary of the plantings installed within the replication area.

Following plant installation, the mitigation area was seeded using a wetland seed mix provided by MON. The seed mix was reviewed to ensure the seed mix consisted of native wetland plant species and approved by Mr. Ramborger. Following the seeding, the area was stabilized with straw mulch.

Location	Plant	PROPOSED			INSTALLED				
Location	Туре	QTY	Scientific Name	Common Name	Specs	QTY	Scientific Name	Common Name	Specs
	Shrubs	5	Cephalanthus occidentalis	Common Buttonbush	18-24 inch	5	Cephalanthus occidentalis	Common Buttonbush	18-24 inch
		5	Rosa palustris	swamp rose	18-24 inch	5	Rosa palustris	swamp rose	18-24 inch
		5	Swida amomum	Silky dogwood	18-24 inch	5	Swida amomum	Silky dogwood	18-24 inch
Wetland		20	Sparganium eurycarpum	Giant bur-reed	2" plug	40	Sparganium eurycarpum	Giant bur-reed	2" plug
	Herbs	20	Peltandra virginica	Arrow arum	2" plug	40	Peltandra virginica	Arrow arum	2" plug
			Wetland Seed m	ix	18 lb/acre		Wetland Seed mix		18 lb/acre
	Tree	3	Acer rubrum	Red maple	1-2" caliper	3	Nyssa sylvatica	Black tupelo	
Buffer	Shrubs	10	Clethra alnifolia	Sweet pepper bush	18-24"	10	Clethra alnifolia	Sweet pepper bush	18-24"
			Wetland Seed m	ix	18 lb/acre		Wetland Seed mix		18 lb/acre

Table 1: Plantings	Proposed and	Installed within	the Wetland Re	plication Area

4 MONITORING ACTIVITIES

Construction of the mitigation area was completed on October 30, 2023, and was followed by a winter and spring with higher than average rainfall. To ensure the mitigation remained stable and installed plantings were thriving, the area was reviewed daily during the months between November 2023 through end of June 2024 after which the area was reviewed monthly. Monitoring consisted of reviewing the area for erosion and sedimentation, function of the constructed detention basin, review of condition of installed plantings, and reviewing the area for invasive plants. Please see selected photos of the area in Attachment B.

By the end of June 2024, the installed plantings had all survived and showed signs of additional growth. The understory of the mitigation area was densely vegetated with a variety of grasses. A patch of non-native common barnyard grass (*Echinochloa crus-galli*) was observed within the mitigation area. A SWCA restoration team removed the barnyard grass via hand pulling and applied additional a New England Wetland Seed Mix to the area between June 2024 and August 2024. During the annual review of the area in October 2024, there were no signs of barnyard grass within the mitigation area. The patch of mitigation area, where barnyard grass was removed and additional seed mix applied, did not show signs of germination of either the wetland seed mix or the non-native barnyard grass. The installed shrubs and trees were all present and appeared to be in good condition.

5 SUMMARY

Since the construction of the wetland replication area on October 30, 2023, SWCA returned to the replication area on October 31, 2024, to observe and monitor the success of the wetland replication area. Seeded species have established well. The entire mitigation area has reached approximately 90% percent vegetation cover, with an area where barnyard grass was removed still pending revegetation. All planted species are alive and show signs of new growth. Though the area surrounding the mitigation site still contains a variety of invasive plant species, no invasive species were observed within the mitigation area itself. No erosion or sedimentation has been observed within the wetland replication area. All adjacent slopes and vegetated areas are permanently stabilized.

ATTACHMENT A

Approved Wetland Mitigation Plan





PLANTING, AND ALL WORK SHALL BE PERFOR O OCTOBER 31). ARRIER) AND SHALL BE INSTALLED ALONG THE	MED UNDER THE SUPERVISION OF E ENTIRE PERIMETER OF THE REPLIC	AN EXPERIENCED WETLAND ATION AREA EXCEPT AT THE	
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Specimen	Wetland Status	Plant Type	Plant Size	Quantity	Density/Spacing
Basin Embankment:					
buttonbush (Cephalanthus occidentalis)	OBL	Shrub	18-24 inches	5	6-8 ft. on center
arrow arum (Peltandra virginica)	OBL	Herbaceous	2" plug	20	2-3 ft. on center
swamp rose	OBL	Shrub	18-24 inches	5	6 ft. on center
giant bur-reed (Sparganium eurycarpum)	OBL	Herbaceous	2" plug	20	2-3 ft. on center
silky dogwood (<i>Swida amomum</i>)	FACW	Shrub	18-24 inches	5	6 ft. on center
Wetland seed mix ¹		Herbaceous			18 lb./ac
Surrounding Buffer Zone:					
red maple (Acer rubrum)	FAC	Tree	1-2" caliper	3	15 ft. on center
sweet pepperbush (Clethra alnifolia)	FAC	Shrub	18-24 inches	10	6 ft. on center
Wetland seed mix ¹		Herbaceous			18 lb./ac

Wetland seed mix: "New England Wetmix" from New England Wetland Plants, Inc. or similar. Typical species: fox sedge (Carex vulpinoidea), sallow sedge (Carex lurida), broom sedge (Carex scoparia), sensitive fern (Onoclea sensibilis), blue vervain (Verbena hastata), hop sedge (Carex lupulina), dark-green bulrush (Scirpus atrovirens), nodding bur-marigold (Bidens cernua), bristly sedge (Carex comosa), fringed sedge (Carex crinita), tall mannagrass (Glyceria grandis), wool-grass (Scirpus cyperinus), soft rush (Juncus effusus), spotted Joe-Pye-weed (Eutrochium maculatum), boneset (Eupatorium perfoliatum), American water-plantain (Alisma subcordatum), New England aster (Symphyotrichum novae-angliae), rattlesnake mannagrass (Glyceria canadensis), purple-stem aster (Symphyotrichum puniceum), soft-stemmed bulrush (Schoenoplectus tabernaemontani), blueflag (Iris versicolor), swamp milkweed (Asclepias incarnata), and Allegheny monkey-flower (Mimulus ringens).



N.T.S. Source: VHB LD_691 WETLAND SEED × **GIANT BUR-REED** BUTTONBUSH MIX SWEET PEPPERBUSH ARROW ARUM REPLICATION AREA/WETLAND SEED MIX SILKY DOGWOOD TREE SNAG

RED MAPLE SWAMP ROSE DESCRIPTION BY DATE APPR N 0. | REVISION EVERS SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS WETLAND REPLICATION PLANTING PLAN PLAN 168 OF 347 **se Hangen Brustlin, In** nut St., PO Box 9151 SCALE: unless noted DATE DRAWN CH'KD. APPR. DRAWING NO. REV. wn, MA 02472 1770 FAX 617.924.2286 JAN 2021 MBB EJM MAC 1"=4' 9 10 11



ATTACHMENT B

Site Photographs



Photo #1: View of area proposed for wetland mitigation prior to construction. Railroad tracks are located in the center of the photo, the area proposed for mitigation is located on the left side of the railroad tracks. Photo taken November 18, 2022. *Facing west.*



Photo #2: Another view of the area proposed for wetland mitigation prior to construction. Photo taken November 18, 2022. *Facing southwest*.



Photo #3: View of wetland mitigation area after tree removal. Photo taken December 22, 2022. *Facing west.*



Photo #4: Another view of wetland mitigation area after tree removal. Photo taken December 22, 2022. *Facing southwest*.



Photo #5: View of the wetland mitigation area after area was graded. Photo taken October 27, 2023. *Facing west*.



Photo #6: View of installed plantings within the wetland mitigation area. Understory was seeded with a wetland seed mix and stabilized with straw mulch. Photo taken October 27, 2023. *Facing west.*



Photo #7: Another view of wetland mitigation area after plant installation. Photo taken October 27, 2023. *Facing east.*



Photo #8: View of wetland mitigation area in May. The applied seed mix has started to germinate. Photo taken May 13, 2024. *Facing southwest*.



Photo #9: Another view of wetland mitigation area in May. Photo taken May 13, 2024. *Facing west.*



Photo #10: View of wetland mitigation area in May. Photo taken May 13, 2024. Facing east.



Photo #11: View of wetland mitigation area in July. Installed plantings all appear in good condition. Understory has fully revegetated. Photo taken July 30, 2024. *Facing southwest*.



Photo #12: Another view of the wetland mitigation area in July. Photo taken July 30, 2024. *Facing west.*



Photo #13: Another view of the wetland mitigation area in July. Photo taken July 30, 2024. *Facing southeast.*



Photo #14: View of wetland mitigation area after barnyard grass was removed and additional New England wetland seed mix applied. Photo taken October 18, 2024. *Facing west*.



Photo #15: Another view of wetland mitigation area after barnyard grass was removed and additional New England wetland seed mix applied. No water present in the detention basin since July. Photo taken October 18, 2024. *Facing west*.



Photo #16: Another view of wetland mitigation area after barnyard grass was removed. The barnyard grass was removed from the slope leading towards the detention basin. Photo taken October 18, 2024. *Facing east.*



Photo #17: View of the wetland mitigation area in October. All of the installed shrubs and trees remain on site and appear to be in good condition. Photo taken October 28, 2024 *Facing southwest*.



Photo #18: Another view of the wetland mitigation area in October. No water present within the detention basin. Small unvegetated patch on the slope of the detention basin was the location of the removed barnyard grass. Photo taken October 28, 2024 *Facing southwest*.



Photo #19: Another view of the wetland mitigation area in October. Photo taken October 28, 2024. *Facing southeast*.