SWCA
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®

15 Research Drive
Amherst, Massachusetts 01002
Tel 413.256.0202 Fax 413.256.1092
www.swca.com

January 3, 2024

Matthew Devlin
Senior Environmental Specialist – Licensing and Permitting
Eversource Energy
247 Station Drive
Westwood, Massachusetts 02090

Re: Sudbury to Hudson Reliability Project Invasive Species Management Year End Summary 2024 / SWCA Project Nos. 63499 and 67104

Dear Matthew Devlin:

SWCA Environmental Consultants (SWCA) is pleased to provide you with this summary report of invasive species management activities performed in 2023 and 2024 within the Sudbury to Hudson Reliability Project (the Project). This summary report includes details about the invasive species management activities that took place under two separate contracts; one for invasive species management associated with mitigation tied to the Project (contract with Eversource) and one for invasive species management within the limit of work (LOW) only (contract with E.T. & L. Construction Corporation).

PROJECT INTRODUCTION

NSTAR Electric Company d/b/a Eversource Energy (Eversource) is building an approximately 9-mile-long 115-kilovolt underground transmission line between Eversource's existing Sudbury substation in Sudbury, Massachusetts, and the Hudson Light & Power Company's substation in Hudson, Massachusetts. The new underground transmission line traverses the municipalities of Sudbury, Hudson, Stow, and Marlborough, Massachusetts. Approximately 7.5 miles of the new transmission line has been installed within an inactive Massachusetts Bay Transportation Authority (MBTA) railroad right-of-way (ROW). Eversource has coordinated with the Massachusetts Department of Conservation and Recreation (DCR) to develop a two-phased project in which a portion of the Massachusetts Central Rail Trail (MCRT) will be co-located with the new transmission line. Phase I (currently underway) is the responsibility of Eversource and includes the installation of the underground transmission line, all major earthwork, installation of the stormwater management system, construction of a 14-foot gravel road, construction/renovation of Bridges 128 and 127, site restoration, and implementation of all mitigation. Phase II is the responsibility of DCR and will include the paving of the MCRT, installation of safety plantings and other trail amenities, and long-term maintenance of the corridor.

The Town of Sudbury, per requirements of the Sudbury Wetlands Administration Bylaw, requires mitigation of adjacent upland resource areas (AURAs) through invasive species management per the Order of Conditions (OOC) issued to Eversource and DCR (MassDEP File# 301-1287). AURAs generally consist of land within 100 feet of wetland resource areas and land within 200 feet of the top of bank of perennial streams and rivers.

Prior to the commencement of each project phase, Special Condition Part I(r) of the OOC requires that invasive species presence along the corridor be mapped within and adjacent to the LOW. Special Condition Part II specific to Phase I(b) requires submittal of an invasive species management plan to the Sudbury Conservation Commission 4 weeks prior to any land disturbance. The management plan specifically involves the removal and management of invasive species and revegetation with native species for a period of 5 years for a minimum of 3.3 acres of land within the MBTA ROW, but outside of the proposed LOW. The intent of the invasive species management efforts at the Project site is to improve wildlife habitat. The mapping and subsequent invasive species management plan were submitted to the Sudbury Conservation Commission in December 2021 to satisfy the conditions of the permit. The intent of the preconstruction mapping and data collection was to create a baseline map identifying invasive plant populations existing along the ROW prior to the commencement of construction activities.

The initial invasive species management activities were implemented at the start of construction and were completed in November 2023. This report documents the invasive plant management efforts conducted in Year 2 of the project (2024) and general observations of invasive species along the project corridor.

INVASIVE SPECIES MANAGEMENT

SWCA conducted invasive plant management in Sudbury, Hudson, and Stow, Massachusetts, along the project corridor in 2023 and 2024. All management methods were restricted to mechanical removal including hand pulling or digging using an excavator or mechanical tools such as pitch forks, shovels, and weed wrenches. All invasive plants were removed from mitigation areas and from within the LOW regardless of whether they were observed in these areas previously. Invasive plant material was either cut or uprooted and placed directly into a trailer or truck bed to be disposed of off-site. Photographs of invasive plant management can be found in Attachment A.

2023 Invasive Species Management

SWCA began invasive species removal activities in May 2023 in Sudbury. Prior to conducting any vegetation removal on the ROW, the outer limit of each mitigation area was identified using a GPS with sub-meter accuracy and demarcated using orange paint. SWCA placed compostable straw wattles at the downhill edge of management areas that were adjacent to wetlands where there was a risk of erosion resulting from invasive species removal activities.

Management in May 2023 targeted garlic mustard (*Alliaria petiolata*), which is an early season biennial. Most garlic mustard removal occurred in Segment 14 management areas, particularly within a few hundred feet west of the Landham road overpass.

Woody invasive species removal began in late June and continued until mid-September. Management began in Segment 14 and in general, continued west in a linear fashion. As the invasive management team encountered other construction crews, the team relocated to other segments where construction activities were not occurring. To improve efficiency, management of invasive species in the invasive species mitigation areas were removed simultaneously with invasive species found in the limit of work as the team was working in each segment.

Removal of large diameter Norway maple (*Acer platanoides*) occurred in Segment 14 within approximately 150 feet west of the Landham Road overpass and in Segment 10 within approximately 350 feet east Peakham Road. This tree work was subcontracted to Moosehead LLC and occurred in late June.

A mini excavator was used to remove invasive species in mitigation areas with a high density of invasive trees, shrubs and vines. Areas for excavation were selected based on invasive species density and

accessibility. A mini excavator was used in Segment 14 between approximately station (STA) 734+00 and 743+00, Segment 11 between approximately STA 556+00 and 560+00, in Segment 10 between approximately STA 551+50 and 555+75 and in Segment 9 between approximately STA 513+00 and 517+00.

Glossy buckthorn (*Frangula alnus*) and Asiatic bittersweet (*Celastrus orbiculatus*) were the dominant woody invasive plants found in most management areas. SWCA also removed multiflora rose (*Rosa multiflora*), tree of heaven (*Ailanthus altissima*), invasive bush honeysuckle (*Lonicera* spp.), common buckthorn (*Rhamnus cathartica*), Japanese barberry (*Berberis thunbergii*), autumn olive (*Elaeagnus umbellata*), purple loosestrife (*Lythrum salicaria*), black locust (*Robinia pseudoacacia*), Norway maple (*Acer platanoides*), phragmites (*Phragmites australis*), and burning bush (*Euonymus alatus*).

Glossy buckthorn greater than 2 inches in diameter and Norway maples 1 to 4 inches in diameter that could not be removed manually were controlled using Buckthorn Baggies. These are small, black, 12 × 12–inch contractor-type bags that are placed over a living stump and zip tied to the stump. Successful management occurs when the stump resprouts inside the bag where there is no light or oxygen, causing the plant to die. The bags should remain in place for 1-2 complete growing seasons before being removed.

All other woody invasive plant material was removed using hand tools. Areas where invasive plant management resulted in exposed or heavily disturbed soil were seeded using an approved native seed mix. Straw mulch was spread over seeded areas.

2024 Follow-Up Mitigation Area Management

SWCA began invasive species removal activities in mid-May to target garlic mustard. Woody invasive species removal began in mid-July and continued through mid-November. In general, the management team moved from east to west through each segment in a linear fashion. However, as the invasive management team encountered other construction crews, the team relocated to other segments where construction activities were not occurring. Invasive management efforts were mapped daily.

Most of the invasive plants that were removed consisted of seedling woody invasive plants. Some resprouting root fragments were also found and removed, but most of the effort and time spent was dedicated to seedling removal. This is common during the second and third years following manual removal of invasive plants. Manually removing invasive stumps and roots disturbs the soil which creates ideal conditions for seeds to germinate. As glossy buckthorn and Asiatic bittersweet were the dominant woody invasive plants found in most management areas before removal began, these became the dominant seedlings found and removed in 2024. SWCA also removed multiflora rose, tree of heaven, invasive bush honeysuckle, common buckthorn, Japanese barberry, autumn olive, purple loosestrife, black locust, Norway maple, phragmites, and burning bush.

Glossy buckthorn greater than 2 inches in diameter and Norway maples 1 to 4 inches in diameter that could not be removed manually during initial efforts in 2023 were controlled using Buckthorn Baggies. SWCA invasive species technicians inspected the previously installed Buckthorn Baggies to document if management was successful. Many of these were successful in killing the buckthorn; however, some stumps were able to resprout from below the bag and grow suckering stems outside of the bag. When encountered, these individuals were re-bagged, with their suckering stems added to the existing or replacement bag to receive another year of smothering treatment. When successful management was observed, the bag was removed from the deceased plant and taken off-site.

2024 Follow-Up Limit of Work Management

Invasive species management within the LOW in Sudbury took place between June and November. Management within the LOW in Hudson and Stow took place in November only. Invasive species management progress was mapped daily as it was completed. Invasive species pressure within the LOW in 2024 was low, but some seedling and resprouting woody invasive plants were found and removed from all segments.

While conducting invasive removal within the LOW in November, SWCA observed that Japanese knotweed populations in Segments 1 and 2 had changed from their previous mapped distribution. These populations were mapped in 2021 prior to beginning construction. Figures 1 through 3 (Attachment B) show Japanese knotweed distribution preconstruction and as observed in November 2024. While some populations have reduced their footprint, particularly where they were present in the center of the LOW, these populations have also moved or expanded slightly to occupy adjacent areas of the LOW.

Additionally, Japanese knotweed was found emerging from the rip rap used to stabilize the slopes leading into a stone culvert at approximately STA 119+70. As detailed in Attachment B, Japanese knotweed existed in this location prior to site construction. A constructed swale leading into this rip rap also contained Japanese knotweed. Photographs of Japanese knotweed populations in Segments 1 and 2 can be found in Attachment A.

While conducting invasive species management in the LOW in Segment 1, SWCA found a Norway maple in a native planting area near STA 121+00 on the north side of the ROW. This tree was approximately 8 inches in diameter and could not be removed manually or controlled using Buckthorn Baggies. The stump appeared damaged as if a machine had attempted to remove it in the past, possibly while clearing or grading the area in preparation for planting. Due to the size of this tree stump, alternative methods of management might be necessary to ensure this tree is managed. A potential alternative is girdling of the tree stump; however, this is not very likely to be successful as the tree was already impacted vegetatively through machine work. The other potential management method would be a targeted application of herbicides to the cut surface of the tree.

Japanese Hops Management

During early August 2024, SWCA was informed of the potential for Japanese hops (*Humulus japonicus*) to appear in topsoil that was recently applied within the margins of the LOW in several segments.

Japanese hops is an annual herbaceous vine that is currently categorized by the Massachusetts Invasive Plant Advisory Group as "likely invasive."[1] Likely invasive plants are defined as non-native plants that are naturalized in the state and meet some but not all the criteria used to designate plants as invasive.

On August 7, 2024, SWCA found Japanese hops in a newly created stormwater retention basin within the LOW in the western end of Segment 9. Following this initial sighting, SWCA swept the entire LOW to survey for and remove any Japanese hops. During this survey, Japanese hops was found in topsoil in all segments in Sudbury except Segments 7 and 8. All observations of Japanese hops were restricted to the topsoil that was used along the margins of the LOW. All Japanese hops were removed from the site and disposed of in landfill waste.

[1] Massachusetts Invasive Plant Advisory Group. 2022. Plants Voted as: LIKELY INVASIVE. Massachusetts Invasive Plant Advisory Group, Massachusetts Natural Resources Collaborations. Available at: https://massnrc.org/mipag/linvasive.htm https://massnrc.org/mipag/linvasive.htm. Accessed November 20, 2024.

Following this initial sweep, additional Japanese hops were found by SWCA staff during invasive species management visits, as well as by SWCA and AECOM construction monitors during routine, daily inspections. All individual Japanese hops sightings were reported to SWCA with approximate station number locations. The distribution of Japanese hops can be seen in Attachment C of this report.

A total of 165 Japanese hops were removed from the LOW in Sudbury and Hudson. The vast majority of these were found in Sudbury with only 6% (10 plants) found in Hudson. This distribution is organized by segment and station number in Table 1 (see Attachment C).

Due to the collaborative team approach to Japanese hops discovery and management, none of the plants were able to reach flowering maturity and were not able to reproduce and contribute to the existing seed bank. However, it is possible that additional Japanese hops seed still exist in the soil seed bank and may germinate next year. Thorough, repeated sweeps are planned to continue from April through July of 2025 to ensure that any Japanese hops plants that emerge are not able to reproduce and produce seed.

Supplementary Invasive Species Management

During the supplementary mitigation review on August 27, 2024, with the Sudbury Conservation Agent, Lori Capone, an area dominated by Asiatic bittersweet that was not included in the invasive plant management mitigation management area was identified along the Project route and selected for invasive plant management as supplementary mitigation required to meet the regulatory needs of the Project. Specifically, the area is in Segment 14 near STA 762+00 on the north side of the Project LOW about 400 feet west of the Sudbury Substation driveway. The area is approximately 2,860 square feet of upland located between the recently installed project landscape plantings and the easement line. The area appeared to be historically disturbed and contained a variety of invasive plant species: Asiatic bittersweet, Japanese barberry, multiflora rose, and glossy buckthorn. Please refer to the Environmental Resource Map (Attachment D) identifying the location of the area.

On October 18, 2024, the SWCA Invasive Species Management Team removed all the invasive plant species listed above by hand from the identified additional supplementary mitigation area. The removed invasive plants were bagged, sealed, removed off site, and disposed of appropriately. Please refer to the attached photograph pages (see Attachment A) for view of the site before and after restoration.

CONCLUSION

SWCA completed invasive species management between May and September 2023 and May and November 2024. Management efforts were conducted under two separate contracts; one for invasive species management associated with mitigation tied to the Project and one for invasive species management within the LOW. All invasive control methods were restricted to manual removal including hand pulling or digging using a mini excavator or mechanical hand tools.

All invasive plant species along the ROW will be monitored in 2025. Specific attention should be given to the Japanese knotweed in Segments 1 and 2, particularly where it is growing within newly established infrastructure. Japanese hops will also be closely monitored throughout the entire Project LOW and removed to ensure that it does not become established along the ROW.

If you have any questions about SWCA's invasive species management efforts associated with the Project, please contact Scott Fisher at (413) 530 9394 or via email at sfisher@swca.com.

Sincerely,

Scott Fisher
Senior Office Director

Gabe Siegel
Staff Biologist

Attachment A: Photographs
Attachment B: Mapping
Attachment C: Japanese Hops Location Table
Attachment D: Environmental Resource Map

ATTACHMENT A

Photographs

Photo 1. Mitigation area conditions at approximately STA 738+00 (Segment 14) facing south prior to invasive species management**.** Photo taken May 2023.

Photo 2. Mitigation area conditions at approximately STA 738+00 (Segment 14) facing south after invasive species management. Photos 1 and 2 show invasive management that was performed by hand in 2023.

Photo 3. Mitigation area conditions at approximately STA 739+00 (Segment 14) facing northeast prior to invasive species management. Photo taken May 2023.

Photo 4. Mitigation area conditions at approximately STA 739+00 (Segment 14) facing northeast after invasive species management. Photos 3 and 4 show invasive management that was done using a mini excavator in 2023.

Photo 5. Mitigation area conditions at approximately STA 516+00 (Segment 9) facing northwest prior to invasive species management. Photo taken June 2023.

Photo 6. Mitigation area conditions at approximately STA 516+00 (Segment 9) facing northwest after invasive species management. Photos 5 and 6 show invasive management that was done using a mini excavator in 2023**.**

Photo 7. A mini excavator is shown removing invasive plants in Segment 10 in 2023. A dense patch of glossy buckthorn is visible to the right.

Photo 8. Glossy buckthorn and other woody invasive plants collected for removal in 2023.

Photo 9. A Buckthorn Baggie placed over a buckthorn stump in Segment 14 in 2023**.**

Photo 10. Soil disturbance caused by invasive species removal was seeded and mulched using straw in 2023**.**

Photo 111. Before removing garlic mustard near STA 757 in Segment 14 in May 2024**.**

Photo 112. After removing garlic mustard near STA 757 in Segment 14 in May 2024.

Photo 113. A roughly 10 foot by 10 foot area in Segment 8 containing several hundred glossy buckthorn seedlings in 2024**.**

Photo 114. Hundreds of glossy buckthorn seedlings removed from the area pictured in photo 3. Material was bagged and disposed of off-site.

Photo 115. A Buckthorn Baggie removed, revealing a dead buckthorn stump in 2024**.**

Photo 116. A mitigation area at STA 552 in Segment 10 after completing management in 2024**.**

Photo 117. Native seed mix emerging densely in a large mitigation area. This photo was taken in Segment 14 at STA 740+50 facing west in 2024**.**

Photo 118. Native seed mix emerging densely in a large mitigation area. This photo was taken in Segment 14 at STA 740+50 facing east in 2024**.**

Photo 119. Japanese hops in the LOW in Segment 9.

Photo 2020. Japanese hops in the LOW in Segment 11.

Photo 21. Japanese knotweed growing through rip rap near STA 119+50 in Segment 1**.** This photo was taken in fall of 2024.

Photo 22. Japanese knotweed in the LOW near STA 135 in Segment 2**.** This photo was taken in fall of 2024.

Photo 23. Japanese knotweed growing in the LOW near STA 142+50 in Segment 2**.** This photo was taken in fall of 2024.

Photo 24. A Norway maple stump in a native planting area near STA 121+30 in Segment 1**.** This photo was taken in fall of 2024.

Photo 255. Segment 14 supplemental invasive management area at approximately STA 762+00 facing north before invasive species removal.

Photo 266. Segment 14 supplemental invasive management area at approximately STA 762+00 facing north after invasive species removal.

ATTACHMENT B

Mapping

Document Path: N:\Projects\63000\63499_sudburyHudsonReliabilityInvasiveSpeciesHabitatRestoration\aprx\63499_SudHud_2024\63499_SudHud_2024.aprx

INDEX MAP

Legend

- Stationing
- Limit of Work (LOW)
- Existing Right-of-Way (ROW)
- Japanese Knotweed Observed in 2021
- Japanese Knotweed Observed in 2024

1:1,000

0 25 50 Feet

N

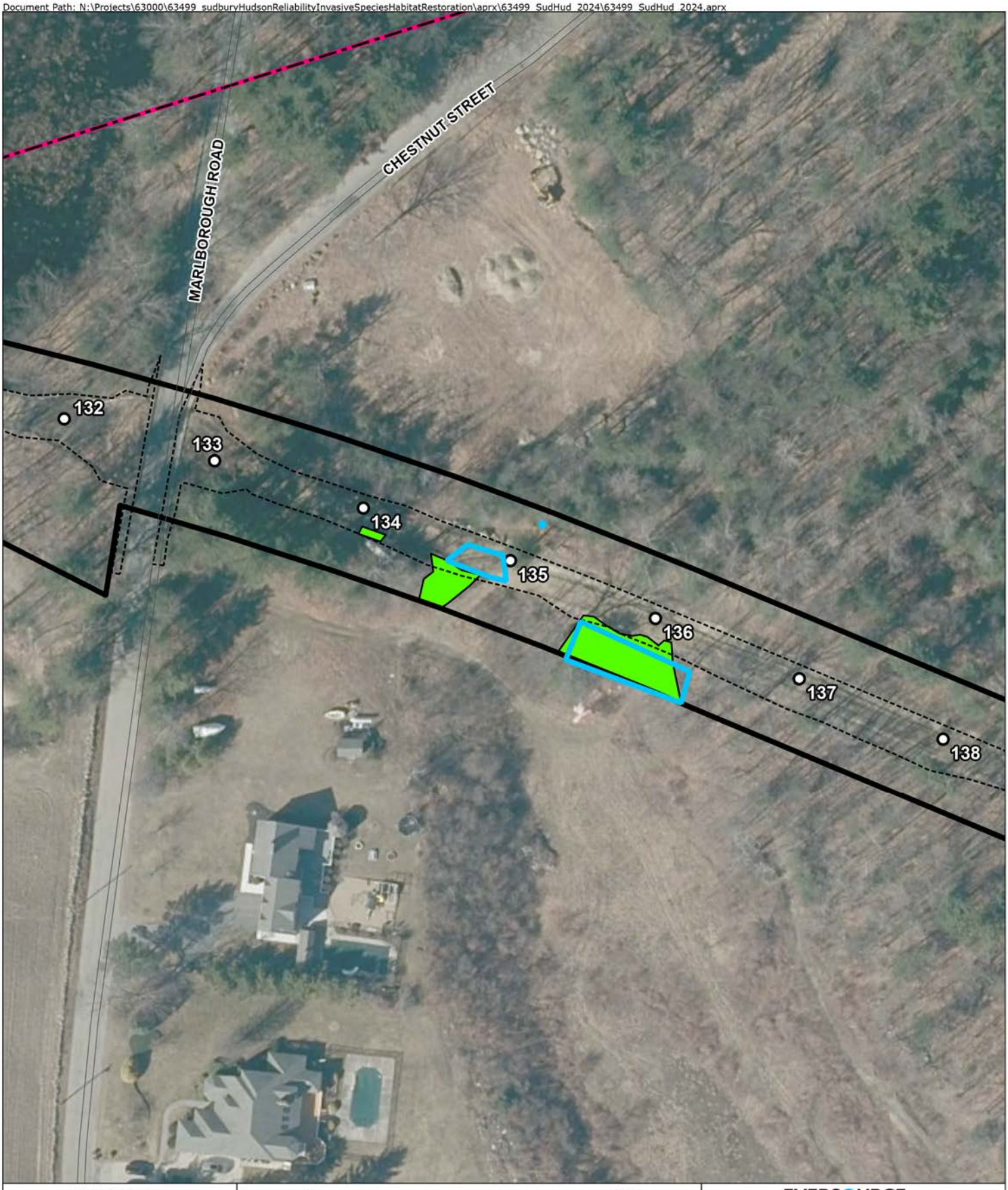
EVERSOURCE ENERGY

Figure 1. Japanese Knotweed in Segment 1 LOW
Sudbury to Hudson Reliability Project, Hudson, MA

November 18, 2024

SWCA ENVIRONMENTAL CONSULTANTS

Document Path: N:\Projects\63000\63499_sudburyHudsonReliabilityInvasiveSpeciesHabitatRestoration\aprx\63499_SudHud_2024\63499_SudHud_2024.aprx



INDEX MAP

Legend

- Stationing
- Limit of Work (LOW)
- Existing Right-of-Way (ROW)
- Japanese Knotweed Observed in 2021
- Japanese Knotweed Observed in 2024

1:1,000
0 25 50 Feet

N

EVERSOURCE ENERGY

Figure 2. Japanese Knotweed in Segment 2 LOW (West) Sudbury to Hudson Reliability Project, Hudson, MA

November 18, 2024

SWCA ENVIRONMENTAL CONSULTANTS

Document Path: N:\Projects\63000\63499_sudburyHudsonReliabilityInvasiveSpeciesHabitatRestoration\aprx\63499_SudHud_2024\63499_SudHud_2024.aprx

INDEX MAP

Legend

- Stationing
- Limit of Work (LOW)
- Existing Right-of-Way (ROW)
- Japanese Knotweed Observed in 2021
- Japanese Knotweed Observed in 2024

1:1,000

0 25 50 Feet

N

EVERSOURCE ENERGY

Figure 3. Japanese Knotweed in Segment 2 LOW (East) Sudbury to Hudson Reliability Project, Hudson, MA

November 18, 2024

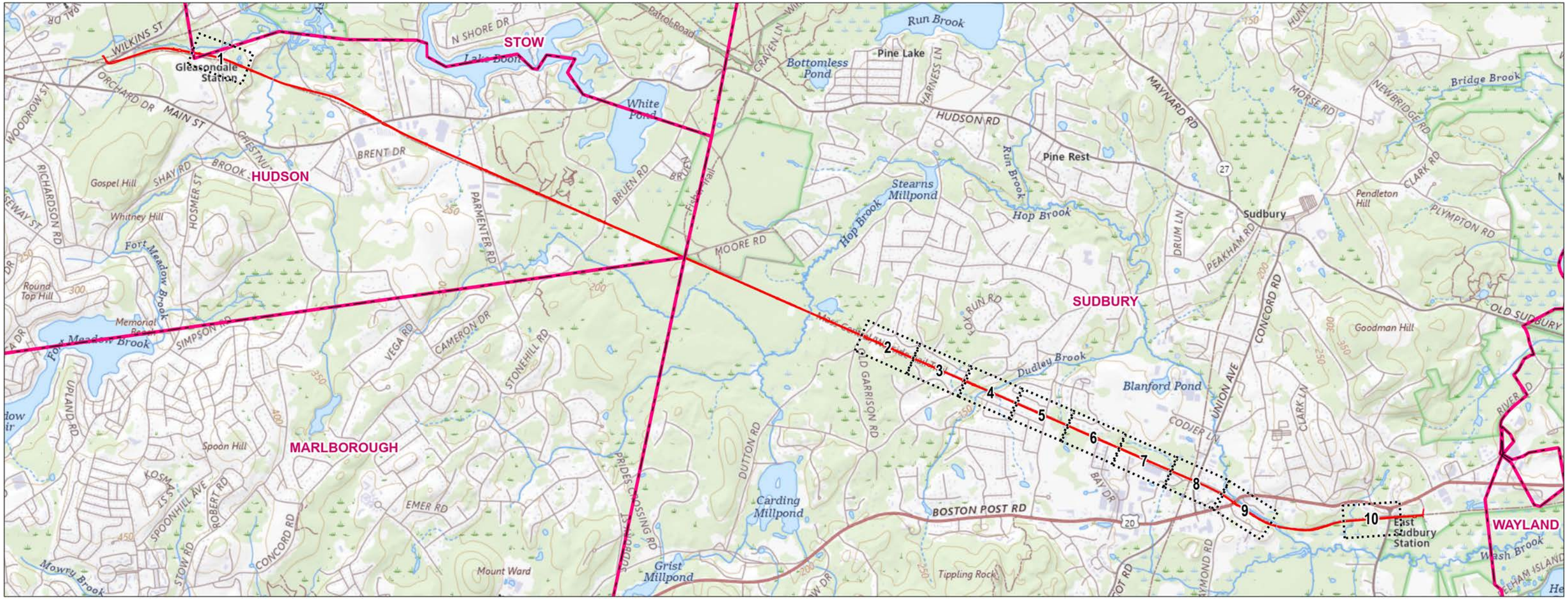
SWCA ENVIRONMENTAL CONSULTANTS

Sudbury to Hudson Reliability Project

HUDSON, STOW, AND SUDBURY, MA

Japanese Hops Distribution

November 14, 2024



Legend

Limit of Work

Map Sheet

N

0 0.25 0.5 Mile

INDEX OF FIGURES

Title Sheet / Index Map
& Map Sheets 1-10

NO.	DATE	REVISIONS

PREPARED FOR:

EVERSOURCE ENERGY

107 Selden Street
Berlin, CT 06037

PREPARED BY:

SWCA ENVIRONMENTAL CONSULTANTS

15 Research Drive
Amherst, MA 01002

STOW

HUDSON

MARLBOROUGH ROAD

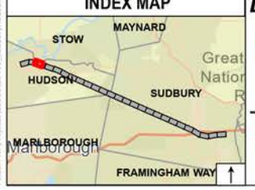
CHESTNUT STREET

Segment 1

Segment 2

125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140

INDEX MAP



Legend

- Japanese Hops
- Stationing
- Limit of Work
- Municipal Boundary
- Existing Right-of-Way (ROW)
- Map Sheet

N

1 inch = 100 feet

0 100 Feet

Base Map: Esril ArcGIS Online, accessed November 2024

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

Sudbury to Hudson Reliability Project
Japanese Hops Distribution

SUDBURY, STOW, HUDSON, MA

MAP SHEET 1 OF 10

November 14, 2024

SWCA ENVIRONMENTAL CONSULTANTS

Folder: R:\Projects\53000\53499_sudburytohudsonReliabilityInvasiveSpeciesHabitatRestoration\arcv\53499_SudHud_2024\

AMANDA ROAD

BULKLEY ROAD

Segment 8

Segment 9

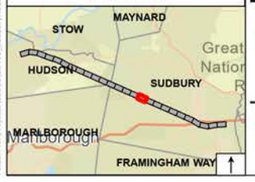
SUDBURY

Map Sheet 3

417 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515

DUTTON ROAD

INDEX MAP



Legend

- Japanese Hops
- Stationing
- Limit of Work
- Municipal Boundary
- Existing Right-of-Way (ROW)
- Map Sheet

N

1 inch = 100 feet

0 100 Feet

Base Map: Esril ArcGIS Online, accessed November 2024

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

Sudbury to Hudson Reliability Project
Japanese Hops Distribution

SUDBURY, STOW, HUDSON, MA

MAP SHEET 2 OF 10

November 14, 2024

SWCA ENVIRONMENTAL CONSULTANTS

AXDELL ROAD

AUSTIN ROAD

Segment 9

Segment 10

516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531

Map Sheet 2

SUDBURY

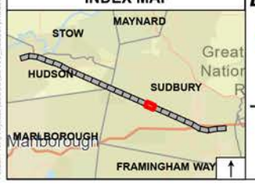
Map Sheet 4

COLBURN CIRCLE

ROBERT BEST ROAD

PEAKHAM ROAD

INDEX MAP



Legend

- Japanese Hops
- Stationing
- Limit of Work
- Municipal Boundary
- Existing Right-of-Way (ROW)
- Map Sheet

N

1 inch = 100 feet

0 100 Feet

Base Map: Esril ArcGIS Online, accessed November 2024

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

Sudbury to Hudson Reliability Project
Japanese Hops Distribution

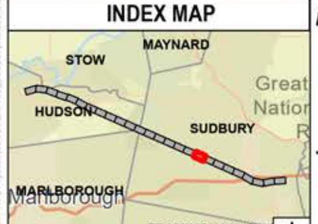
SUDBURY, STOW, HUDSON, MA

November 14, 2024

MAP SHEET 3 OF 10

SWCA ENVIRONMENTAL CONSULTANTS

INDEX MAP



Legend

- Japanese Hops
- Stationing
- Limit of Work
- Municipal Boundary
- Existing Right-of-Way (ROW)
- Map Sheet

N

1 inch = 100 feet

0 — 100 Feet

Base Map: Esril ArcGIS Online, accessed November 2024

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

Sudbury to Hudson Reliability Project
Japanese Hops Distribution

SUDBURY, STOW, HUDSON, MA

MAP SHEET 4 OF 10

November 14, 2024

SWCA ENVIRONMENTAL CONSULTANTS

STONEBROOK ROAD

BRIDLE PATH

Segment 10

Segment 11

SUDBURY

Map Sheet 6

547 548 549 550 551 552 553 555 556 557 558 559 560 561 562

Map Sheet 4

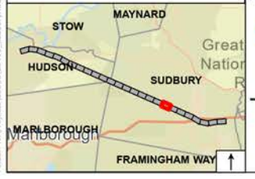
HORSE POND ROAD

JARMAN ROAD

OLD MEADOW ROAD

ROLLING LANE

INDEX MAP



Legend

- Japanese Hops
- Stationing
- Limit of Work
- Municipal Boundary
- Existing Right-of-Way (ROW)
- Map Sheet

N

1 inch = 100 feet

0 100 Feet

Base Map: Esril ArcGIS Online, accessed November 2024

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

Sudbury to Hudson Reliability Project
Japanese Hops Distribution

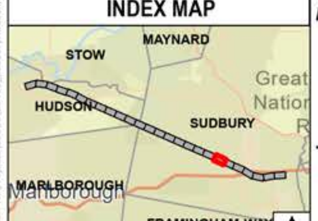
SUDBURY, STOW, HUDSON, MA

MAP SHEET 5 OF 10

November 14, 2024

SWCA ENVIRONMENTAL CONSULTANTS

INDEX MAP



Legend

- Japanese Hops
- Stationing
- Limit of Work
- Municipal Boundary
- Existing Right-of-Way (ROW)
- Map Sheet

N

1 inch = 100 feet

0 — 100 Feet

Base Map: Esri ArcGIS Online, accessed November 2024

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

Sudbury to Hudson Reliability Project
Japanese Hops Distribution

SUDBURY, STOW, HUDSON, MA

MAP SHEET 6 OF 10

November 14, 2024

SWCA ENVIRONMENTAL CONSULTANTS

Segment 11

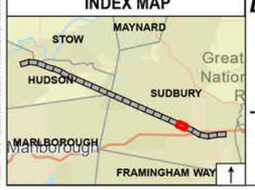
579 580 581 582 583 584 585 586 587 588 589 590 592 594

SUDBURY

Map Sheet 6

Map Sheet 8

INDEX MAP



Legend

- Japanese Hops
- Stationing
- Limit of Work
- Municipal Boundary
- Existing Right-of-Way (ROW)
- Map Sheet

N

1 inch = 100 feet

0 100 Feet

Base Map: Esril ArcGIS Online, accessed November 2024

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

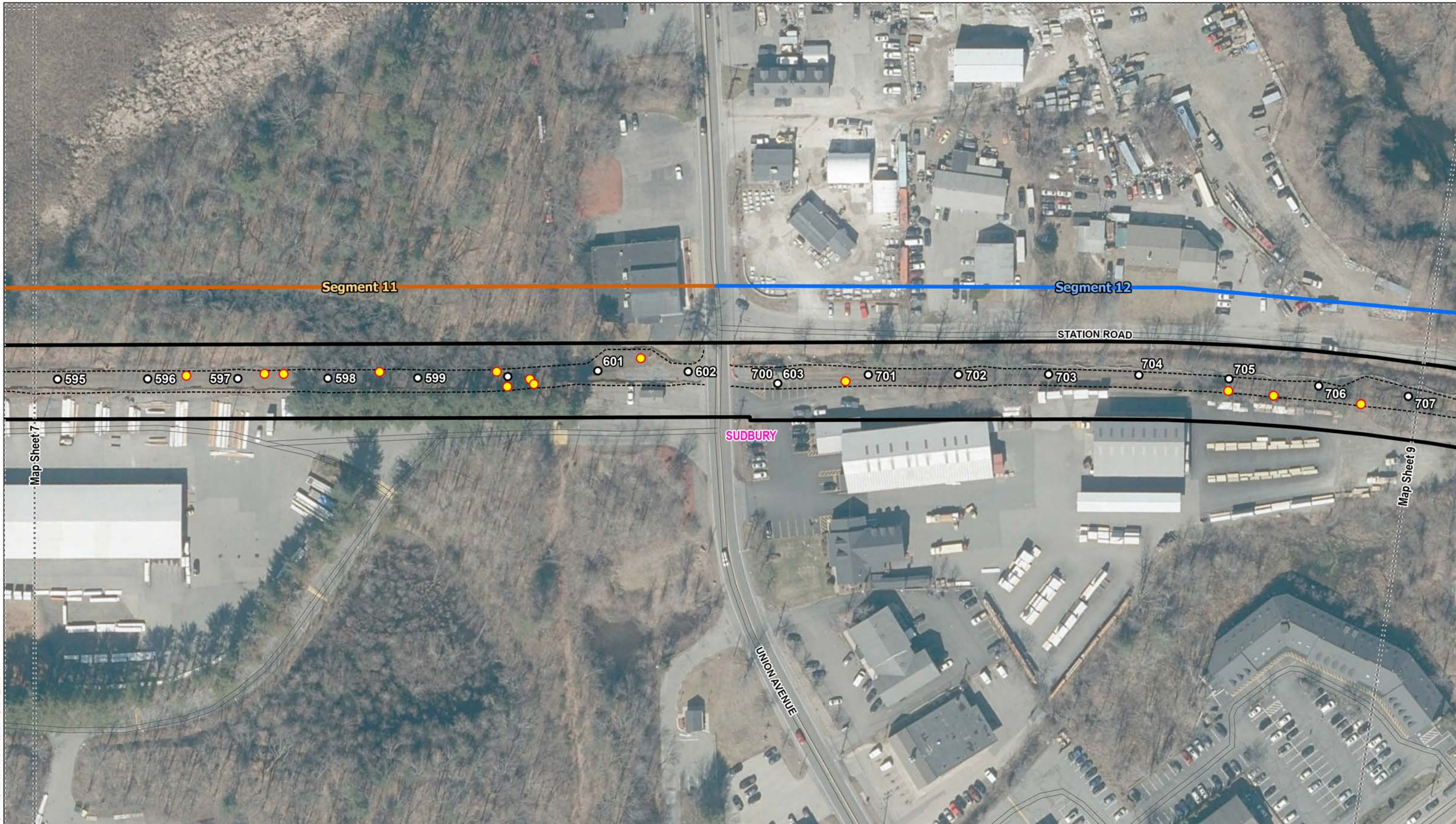
Sudbury to Hudson Reliability Project
Japanese Hops Distribution

SUDBURY, STOW, HUDSON, MA

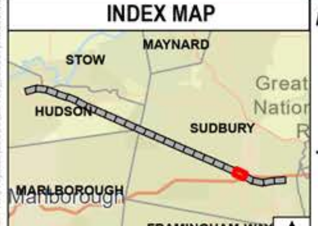
MAP SHEET 7 OF 10

November 14, 2024

SWCA ENVIRONMENTAL CONSULTANTS



INDEX MAP



Legend

- Japanese Hops
- Stationing
- Limit of Work
- Municipal Boundary
- Existing Right-of-Way (ROW)
- Map Sheet

1 inch = 100 feet

0 — 100 Feet

Base Map: Esri ArcGIS Online, accessed November 2024

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

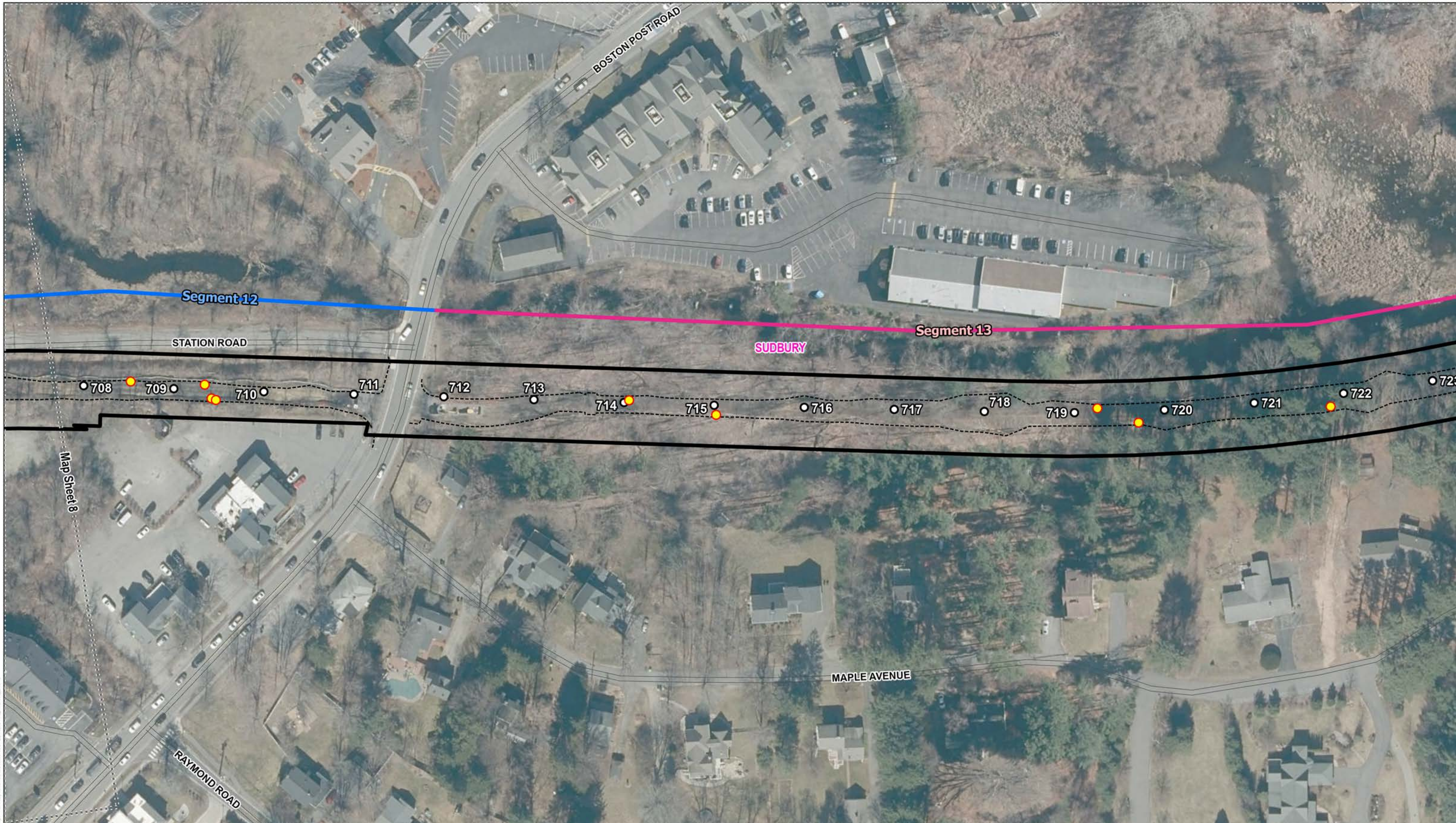
Sudbury to Hudson Reliability Project
Japanese Hops Distribution

SUDBURY, STOW, HUDSON, MA

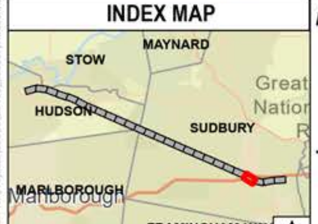
November 14, 2024

MAP SHEET 8 OF 10

SWCA ENVIRONMENTAL CONSULTANTS



INDEX MAP



Legend

- Japanese Hops
- Stationing
- Limit of Work
- Municipal Boundary
- Existing Right-of-Way (ROW)
- Map Sheet

1 inch = 100 feet

0 100 Feet

Base Map: Esri ArcGIS Online, accessed November 2024

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

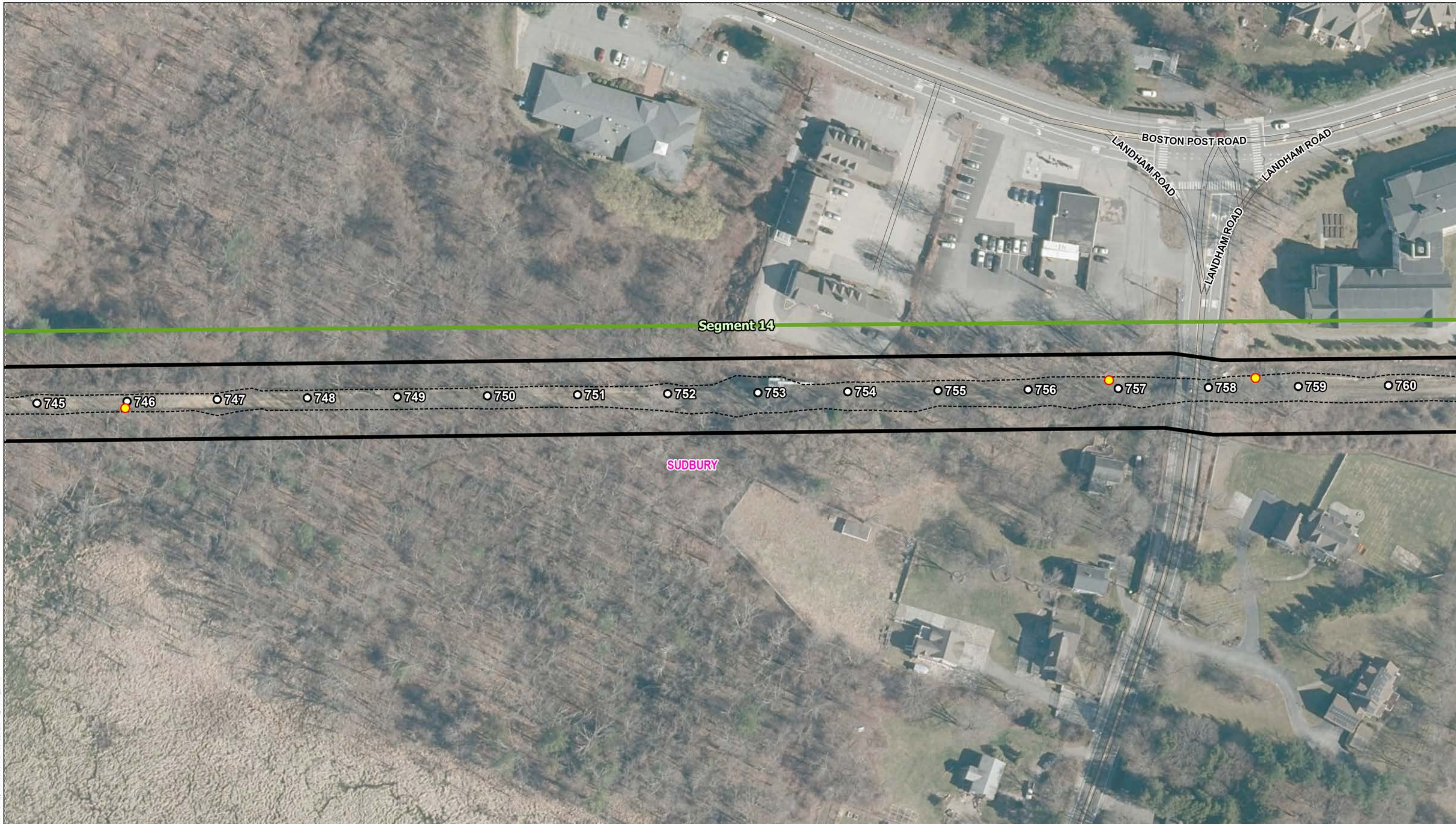
Sudbury to Hudson Reliability Project
Japanese Hops Distribution

SUDBURY, STOW, HUDSON, MA

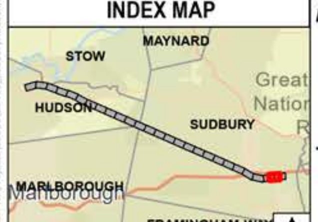
MAP SHEET 9 OF 10

November 14, 2024

SWCA ENVIRONMENTAL CONSULTANTS



INDEX MAP



Legend

- Japanese Hops
- Stationing
- Limit of Work
- Municipal Boundary
- Existing Right-of-Way (ROW)
- Map Sheet

N

1 inch = 100 feet

0 100 Feet

Base Map: Esri ArcGIS Online, accessed November 2024

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

Sudbury to Hudson Reliability Project
Japanese Hops Distribution

SUDBURY, STOW, HUDSON, MA

MAP SHEET 10 OF 10

November 14, 2024

SWCA ENVIRONMENTAL CONSULTANTS

ATTACHMENT C

Japanese Hops Location Table

Table 1. Japanese Hops Distribution

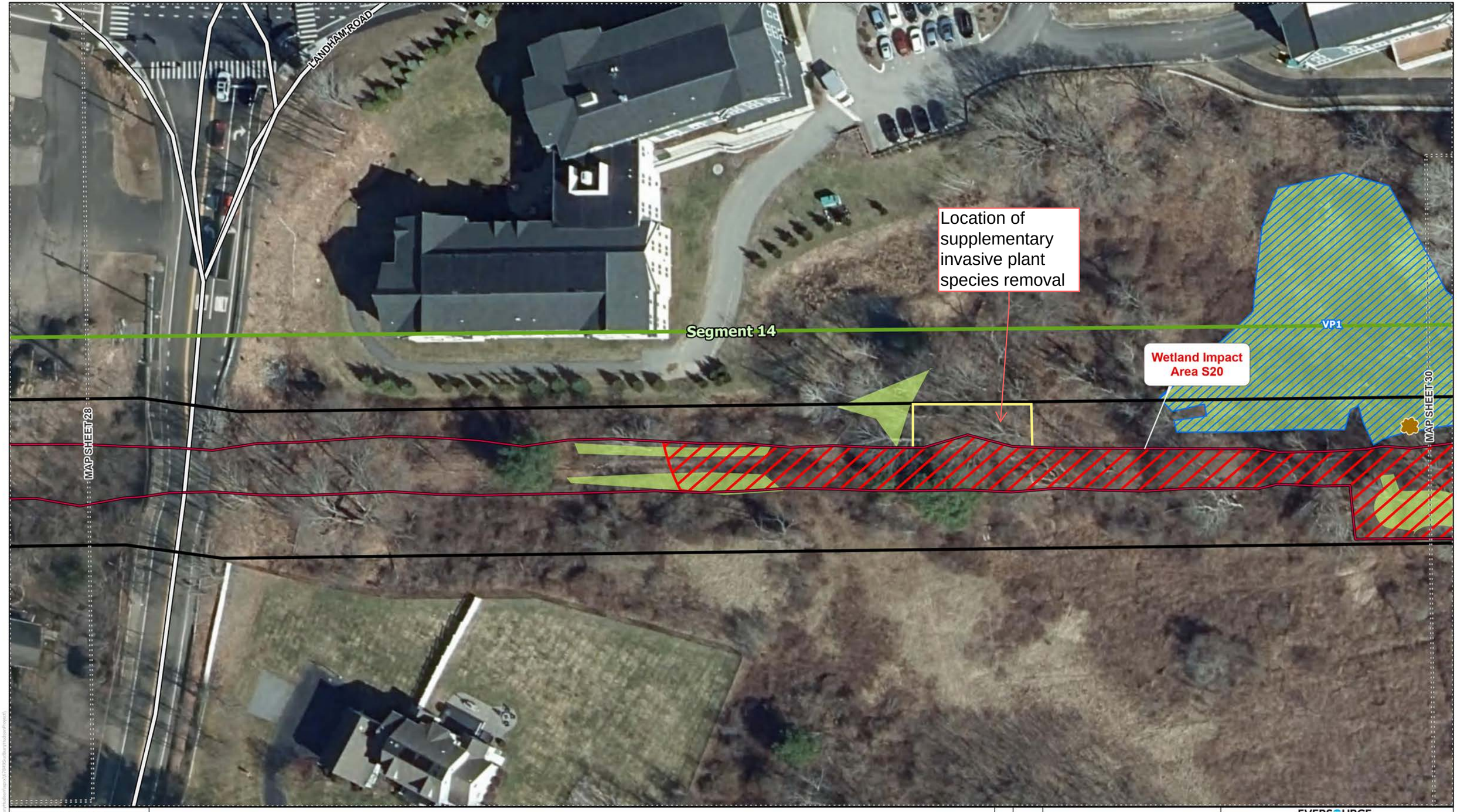
Segment	Station	No. Plants
1	132	9
2	133	1
9	501	1
9	502	1
9	504	1
9	513	1
9	514	3
9	515	2
9	516	3
9	517	1
9	530	1
10	531	6
10	532	12
10	533	9
10	534	2
10	537	3
10	543	1
10	544	1
10	546	1
10	547	3
10	550	3
10	551	1
10	552	1
10	554	2
11	557	1
11	558	1
11	560	2
11	562	2
11	565	3
11	566	1
11	568	1
11	570	1
11	571	1
11	572	6
11	573	1
11	576	2
11	578	3
11	580	1
11	581	3
11	583	8
11	584	8
11	585	6
11	586	5
11	588	3
11	590	1
11	591	3
11	592	1
11	593	4

Table 1. Japanese Hops Distribution

Segment	Station	No. Plants
11	594	2
11	596	1
11	597	2
11	599	1
11	600	4
11	601	1
12	701	1
12	705	1
12	706	3
12	709	4
13	714	1
13	715	1
13	719	1
13	720	1
13	722	1
14	746	1
14	757	1
14	759	1
	Total	165

ATTACHMENT D

Environmental Resource Map



INDEX MAP

Legend

- Installed Snag
- Existing Road/Cart Path
- Existing Right-of-Way (ROW)
- Limit of Work (LOW)
- Municipal Boundary
- Map Sheet Matchline
- Land Under Water
- Wetland Impact Area
- Vernal Pool
- Wetland

LABEL

- Segment 10
- Segment 11
- Segment 12
- Segment 13
- Segment 14
- Segment 7
- Segment 8
- Segment 9
- Municipal Boundary

N

1 inch = 50 feet

0 50 Feet

Base Map: MassGIS Ortho 2021, accessed June 2023

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

Sudbury to Hudson
Construction Compliance Monitoring
Wildlife Habitat Features

SUDBURY, MA | MAP SHEET 29 OF 30

June 30, 2023

SWCA ENVIRONMENTAL CONSULTANTS