Yearly Operational Plan (YOP)

Rights-of-Way Vegetation Management

Brookfield Renewable
Bear Swamp Project

Rowe, Massachusetts

2025

Prepared By:

Edward Sturtevant
300 Lucius Gordon Dr
West Henrietta, NY 14586

Abstract

This Yearly Operational Plan (YOP) describes the vegetation management operations for the scheduled vegetation maintenance for the year of 2025 in compliance with the Commonwealth of Massachusetts Rights-of-Way Management Regulations 333 CMR 11.00.

This YOP is a companion to the Vegetation Management Plan (VMP) which has been approved by the Massachusetts Department of Agricultural Resources.

Introduction

The purpose of 333 CMR 11.00, Rights of Way Management, is to promote the implementation of integrated pest management techniques and to establish standards, requirements, and procedures necessary to minimize the risk of unreasonable adverse effects on human health and the environment associated with the use of herbicides to maintain the utility right-of-way (ROW). These regulations establish procedures that guarantee ample opportunity for public and municipal agency review and input on the right-of-way maintenance plans.

A Yearly Operational Plan (YOP) must be submitted to the Massachusetts Department of Agricultural Resources (MDAR) every year herbicides are intended for use to maintain rights-of-way. The YOP provides a detailed program for vegetation management for the year. A five-year Vegetation Management Plan (VMP) covering the period from 2021 – 2025 was approved in 2021. The VMP contains the specifics of how the program will be carried out. Upon receipt of this YOP, the MDAR publishes a notice in the *Environmental Monitor*. Brookfield Renewables must provide a copy of the proposed YOP and *Environmental Monitor* notice to the Board of Health, Conservation Commission, and the Selectman's Office for the town where a proposed herbicide treatment is proposed. Then MDAR allows a 45-day comment period on the proposed YOP beginning with the publication of the notice and receipt of the YOP and *Environmental Monitor* notice by the Town.

Public notification of herbicide application to the rights of way is made at least 21 days in advance of the treatment by a separate notice. Notice is made to the Massachusetts Department of Agricultural Resources, Office of Selectman, Board of Health, and the Conservation Commissions in the Towns of Rowe.

Any comments on this YOP should be directed to:

Edward Sturtevant
Lewis Tree Service, Inc.
300 Lucius Gordon Dr
West Henrietta NY 14586
(413) 588-6167
edward.sturtevant@lewisservices.com

YEARLY OPERATIONAL PLAN REQUIREMENTS & TABLE OF CONTENTS

Individual Supervising YOP

Name and Title:	Michael J. Prusak; Operations Manager	
Department:	Maintenance	
Address:	Shipping:	370 River Rd, Florida MA 01247
	Mailing;	PO Box 461, Rowe, MA 01367
Telephone:	802-423-7015 EXT 559	

Contractor Performing Herbicide Treatment

A licensed herbicide applicator under contract to Brookfield Renewable Power will perform the herbicide treatment. Applicators are certified by the Massachusetts Department of Agricultural Resources in the applicator category:

Certified Applicator:	David O'Brien
Certified Applicator License Number:	CC-0022047
Company or Department:	Lewis Tree Service, Inc.
Address:	300 Lucius Gordon Dr West Henrietta, NY 14586
Telephone Number:	413-237-9870
Email:	david.obrien@lewistree.com

Yearly Operational Plan

The following information is the Yearly Operational Plan (YOP) for the Brookfield Renewables Right-of-Way Vegetation Management in accordance with the requirements of 333 CMR 11.06 (2):

Location of Intended Treatments

The rights-of-way proposed for herbicide treatments in 2025 and the municipalities through which they pass are listed below:

Name	Voltage	Miles	Towns
Lower Yard to Upper Yard	230 kV	0.82	Rowe
Upper Dam Feeder	13.8 kV	0.2	Rowe

Herbicides Proposed

The herbicides proposed for use in the calendar year 2025 are:

Herbicide	Active Ingredient	Carrier/ Adjuvant	Application Technique	EPA Regulation #	Application Rate
AquaNeat	Glyphosate	Aqufac/Water	Cut Surface	228-365	50%
Arsenal Powerline	Imazapyr	Aqufac/Water	Foliar	241-431	0.5%
Polaris	Imazapyr	Aqufac/Water	Foliar	228-534	0.5%
Escort XP	Metsulfuron-Methyl	Aqufac/Water	Foliar	432-1549	4 oz/100 gal
Milestone	Aminopyralid	Aqufac/Water	Foliar	62719-519	0.33%
Garlon 4 Ultra	Triclopyr	Mehtylated Seed Oil	Cut Surface	62719-527	25%

Complete information on these products is attached, including the Safety Data Sheets (SDS) for the products. The herbicide fact sheet for the above listed herbicides is attached to and made part of this YOP.

Herbicide Application Techniques and Alternative Control Procedures

The herbicide(s) will be applied in accordance with the instructions in the attached manufacturer's information and as described below. Alternative control procedures, applicable at the designated "No Spray Zones" will consist of hand cutting, mowing, or selective trimming, as necessary.

Selected Treatment Methods for this YOP:

Foliar

Description: An herbicide mixture is applied to fully developed leaves, stems, needles or blades of individual target species. The herbicide concentrate is usually mixed or diluted with water and applied as a uniform spray over the plant's foliage. Two types of equipment for foliar treatments are used: backpack and vehicle mounted. Both treatments use low pressure, below 60 pounds per square inch (psi) at the nozzle, for applications. This technique is generally the most economical and effective method, particularly in medium and high brush density situations and to control noxious and poisonous vegetation that presents a hazard to inspection and maintenance crews. The application period usually extends from early June through the beginning of leaf abscission in the fall when not restricted by regulations.

Backpack Foliar Techniques utilize hand/battery-operated pumps or motorized backpack sprayers. The motorized backpack sprayer produces an air current that delivers the herbicide mixture in small droplets from the portable three to five-gallon spray tank to the target vegetation. Both techniques only require the applicator to dampen or lightly wet the target leaf area not to the point of runoff. This minimizes the amount of excess herbicide drip from target species onto desirable ground cover. Low volume applications also eliminate the need to bring heavy equipment on the ROW for the transportation of large quantities of herbicide solution.

Vehicle Mounted Techniques generally utilizes a 100-500 gallon hydraulic sprayer mounted on a truck, tractor or tracked vehicle equipped with hand-held spray guns. The herbicide mixture is directed at specific vegetation or broadcast for uniform coverage. Specially designed showerhead type nozzles reduce spray volumes and limit fine droplets, thus reducing the potential for spray drift off-target. These nozzles deliver effective spray coverage at relatively low spray pressures of sixty psi or less. This is particularly useful for sites where total weed control or pre-emergent herbicide applications are required, such as at pumping stations, valve sites and electrical facility yards and areas of rip rap.

Cut Surface Treatment

Cut Surface Treatment (CST) is the application of herbicide solution to the cut surface of target vegetation. This technique can be used year-round unless there is deep snow. Herbicide is applied with a backpack sprayer with a wand to get as close to the stump as possible and only the outside of the cut surface where the phloem is located is treated. This method is not effective where there is a large volume of targets but is effective when vegetation is too tall to foliar treat, in sensitive areas or where standing dead vegetation is not desirable.

Hand cutting

Chainsaws will be used to clear target vegetation in areas where herbicide treatments are not allowed or when areas of the ROW that are not cleared to full width are cleared before treatment. In some cases, these are mature trees that must be climbed or are accessed with a lift to be removed safely in pieces. In these cases, no herbicide is applied but may be applied to sprouts later if applicable.

All equipment used for vegetation management programs must be maintained in good working condition and should be of adequate design and ability to produce the professional quality of work that Brookfield Renewables requires. Because Brookfield Renewables recognizes the vast variety and performance of herbicide application equipment, dictating how that equipment should be calibrated to deliver precise amounts of herbicide to effectively control a host of vegetation conditions is literally impossible. Therefore, Brookfield Renewables insists that the contractor provides the most appropriate application equipment, calibrated to control target vegetation effectively and legally.

Both the Contractor and Brookfield Renewables are responsible for ensuring that vegetation management activities are conducted in a professional, safe, efficient manner, with special attention directed towards minimal environmental impact. The contractor is qualified, licensed, and certified to apply herbicides. A qualified contractor means those personnel who have been trained to recognize and identify target and non-target vegetation and are knowledgeable in the safe and proper use of both mechanical and chemical vegetation management techniques. All personnel applying herbicides in Massachusetts must be licensed in the Commonwealth and must work under the on-site supervision of a certified applicator. All contract personnel will also follow all label instructions regarding Personal Protective Equipment (PPE).

Brookfield Renewables will rely on the independent contractor listed in the YOP for vegetation management applications and requires, in a contractual agreement, that contractors comply with all applicable federal and state laws and regulations. These include, but are not limited to, applicable OSHA, FIFRA and DOT regulations, 333 CMR 2.00-14.00, Chapter 132B, Chapter 85 of the Acts of 2000 and 321 CMR 10.00 as managed by NHESP.

Herbicides will only be applied in a safe and judicious manner, in compliance with all-applicable State and Federal pesticide regulations. Applicators will at all time exercise good judgment and common-sense during herbicide treatment activities and will immediately cease operations if adverse conditions or other circumstances warrant.

Herbicides will NOT be applied during the following adverse weather conditions:

A. During high wind velocity, per 333 CMR 11.03
B. Foliar applications during periods of dense fog, or moderate to heavy rainfall
C. Foliar applications of volatile herbicides during periods of high temperatures (90 plus degrees Fahrenheit) and low humidity
D. Cut Stump applications when deep snow (i.e., 6" plus or ice frozen on stem or stump) prevents adequate coverage of target plants to facilitate acceptable control

The contractor or a representative of Brookfield Renewables must complete daily vegetation management reports that include:

A. Date, name, and address of vegetation management contractor(s)
B. Identification of site or work area
C. List of crew members
D. Type of equipment and hours used, both mechanical and chemical
E. Method of application and description of target vegetation
F. Amount, concentration, product name of herbicide(s), adjuvants, and diluents (EPA registration numbers must be on file)
G. Weather conditions
H. Notation of any unusual conditions or incidents, including public inquiries
I. Recording and/or verification of sensitive areas on ROW maps

Identification of Target Vegetation

The target vegetation for this YOP will be all non-desirable, tall growing species of vegetation that could reduce line clearances below required minimum distance for safe and reliable electric transmission. In areas of rip rap and stone in and on faculties, all vegetation will be controlled. Vegetation management crews will exercise care to ensure that low-growing desirable vegetation and other non-target organisms are not unreasonably affected by the application of herbicides.

Methods Used to Flag or Designate Sensitive Areas

The sensitive areas detailed herein are easily recognizable in the field as described on work YOP maps. With the assistance of the contractor, sensitive areas will be identified and marked along the ROW prior to any herbicide application.

Sensitive Area Restrictions
333 CMR 11.04

CONTROL STRATEGIES FOR SENSITIVE AREAS

Sensitive Area	Minimum Buffer Zone (feet)	Control Method	Restriction Code
Public Ground Water Supplies	400'	Mechanical Only	None
Primary Recharge Area	Designated buffer zone or 1/2 mile radius	Mechanical, Recommended Herbicides*	1
Public Surface Water Supplies (Class A & Class B)	100'	Mechanical Only	None
	100'-400'	Recommended Herbicides	1
Tributary to Class A Water Source, within 400' upstream of water source	100'	Mechanical Only	None
	100'-400'	Recommended Herbicides	1
Tributary to Class A Water Source, greater than 400' upstream of water source	10'	Mechanical Only	None
	10'-200'	Recommended Herbicides	1
Class B Drinking Water Intake, within 400' upstream of intake	100'	Mechanical Only	None
	100'-200'	Recommended Herbicides	1
Private Drinking Water Supplies	50'	Mechanical Only	None
	50'-100'	Recommended Herbicides	2
Surface Waters	10'	Mechanical Only	None
	10'-100'	Recommended Herbicides	2
Rivers	10' from mean annual high water line	Mechanical Only	None
	10'-200'	Recommended Herbicides	2
Wetlands	100' (treatment in wetlands permitted up to 10' of standing water)*+	Low-pressure Foliar, CST, Basal Recommended Herbicides	1
Inhabited Areas	100' (for high-pressure foliar only)	Recommended Herbicides	2
Agricultural Area (Crops, Fruits, Pastures)	100' (for high-pressure foliar only)	Recommended Herbicides	2
Certified Vernal Pools	10'	Mechanical Only	None
Certified Vernal Pool Habitat	10'-outer boundary of habitat	As recommended by NHESP in their permit process, no treatment without written permission	
Priority Habitat	As recommended by NHESP in their permit process, no treatment without written permission		

Restriction Code "1": A minimum of twenty-four months shall elapse between applications
Code "2": A minimum of twelve months shall elapse between applications
*Massachusetts recommended herbicides for sensitive sites
+Per "The Wetlands Impact Study," 10/1995 (see Appendix III)

Procedures and Locations for Handling, Mixing and Loading of Herbicide Concentrates

The herbicide will be mixed in a controlled environment prior to entering the right of way. Should mixing become necessary while the contractor is in the ROW, all mixing shall be performed on level ground in the access road away from wetlands and other sensitive areas.

Although it is expected that all the mixed herbicide will be used, any remaining herbicide will be safely removed by the contractor at the end of each workday and stored by the contractor in accordance with manufacturer's instructions. The absorbent product "Speedi-Dri" or equivalent will be available for use at the locations of application. If there is a leak in the hose, the pump will be immediately shut off and removed from the work area in a suitable container for repair. Equipment used will be washed in accordance with all applicable regulations at the place of business of the contractor.

Herbicides will be handled and applied only in accordance with the label instructions. Contractors will strictly adhere to all mandated safety precautions directed towards the public, the applicator, and the environment.

Remedial Plan to Address Spills and Related Accidents

All mixing and loading of herbicides will be conducted at the central facility where the herbicides are stored. Only the amount of herbicide necessary to carry out the vegetation control, based on the monitoring results, will be mixed to ensure that there will be no waste and minimize potential problems. The vehicle(s) used during spray operations will be equipped with a bag of absorbent, activated charcoal, leak-proof containers, a broom, and a shovel in case of minor spills. A clipboard log of the herbicides on the vehicle will be kept on the vehicle. Herbicide labels and fact sheets shall be carried on-site by the applicator.

As soon as any spill is observed, immediate action will be taken to contain the spill and protect the spill area. The cause of the spill must be identified and secured. Spill containment will be accomplished by covering the spill with Speedi-Dri or other absorptive material or, for large spills, building clay or soil dikes to impede spill progress. Until completely clean, protection of the spill area will be accomplished by placing barriers, flagging or crewmembers at strategic locations. If a fire is involved, care will be taken to avoid breathing fumes from any burning chemicals.

Minor spills will be remedied by soaking up the spill with Speedi-Dri or other adsorptive material and placing it in leak proof containers, removed from the site and disposed of property. Dry herbicides, such as granular and powdered products, will be swept up or shoveled up directly into leak proof containers for proper disposal. All contaminated soil will be placed in leak proof containers, removed from the site, and disposed of properly. Activated charcoal will be incorporated into the soil at the spill location at a rate of seven pounds per thousand square feet to inactivate any herbicide residue. Any minor spill will be reported to the Pesticide Bureau.

Major spills will be handled in a similar manner as minor spills, except in cases where the spill cannot be contained and/or removed by the crew. MassDEP will be contacted when there is a spill of a regulated quantity of material.

In the event of a spill, information on safety precautions and clean up procedures may be gathered from the following sources:

Emergency Contacts

Rowe

Rowe DPW	413-339-5588	
Rowe Fire Department	911 or 413-339-4001	
Rowe Police Department	911 or 413-339-8340	

National and State

Bureau Environmental Health Assessment	(617) 624-5757	
Mass DEP Incident Response Unit	(888) 304-1133	
EPA Pesticide Hotline	(800) 858-7378	
Mass Pesticide Bureau	(617) 626-1781	For all Pesticide Spills, Fire, and Related Accidents
Mass DEP Western Regional Office	(413) 784-1100	For Emergencies Involving Reportable Office Quantities of Hazardous Materials
BASF Corporation	(800) 832-4357	For Medical Emergencies Involving Arsenal Herbicide
Corteva Agriscience LLC	(800) 992-5994	For Emergencies Involving Garlon or Milestone Herbicide
Bayer Environmental Science	(800) 334-7577	For Emergencies Involving Escort XP Herbicide
Nufarm Americas Inc	(877) 325-1840	For Emergencies Involving AquaNeat or Polaris Herbicide
Mass Poison Information Center	(800) 222-1222	For Medical Emergencies Involving Pesticides

Chemical Technical Data Sheets

Glyphosate
https://www.mass.gov/doc/glyphosate-factsheet-2022-updated-may13/download

Imazapyr
https://www.mass.gov/doc/imazapyr-2011pdf/download

Metsulfuron Methyl
https://www.mass.gov/doc/metsulfuron-methyl-2011pdf/download

Triclopyr
https://www.mass.gov/doc/triclopyr-2011pdf/download

Aminopyralid
https://www.mass.gov/doc/aminopyralid-2016/download

Herbicide Labels & Safety Data Sheets

AquaNeat Specimen Label
https://www.cdms.net/ldat/ld5NE002.pdf

AquaNeat SDS
https://www.cdms.net/ldat/mp5NE005.pdf

Garlon 4 Ultra Specimen Label
https://www.cdms.net/ldat/ld7IN007.pdf

Garlon 4 Ultra SDS
https://www.cdms.net/ldat/mp7IN019.pdf

Arsenal Powerline Specimen Label
http://www.cdms.net/ldat/ld86K002.pdf

Arsenal Powerline SDS
https://www.cdms.net/ldat/mp86K005.pdf

Escort XP Specimen Label
http://www.cdms.net/ldat/ldCFM002.pdf

Escort XP SDS
http://www.cdms.net/ldat/mpCFM007.pdf

Polaris specimen Label
https://www.cdms.net/ldat/ld8KR002.pdf

Polaris SDS
https://www.cdms.net/ldat/mp8KR003.pdf

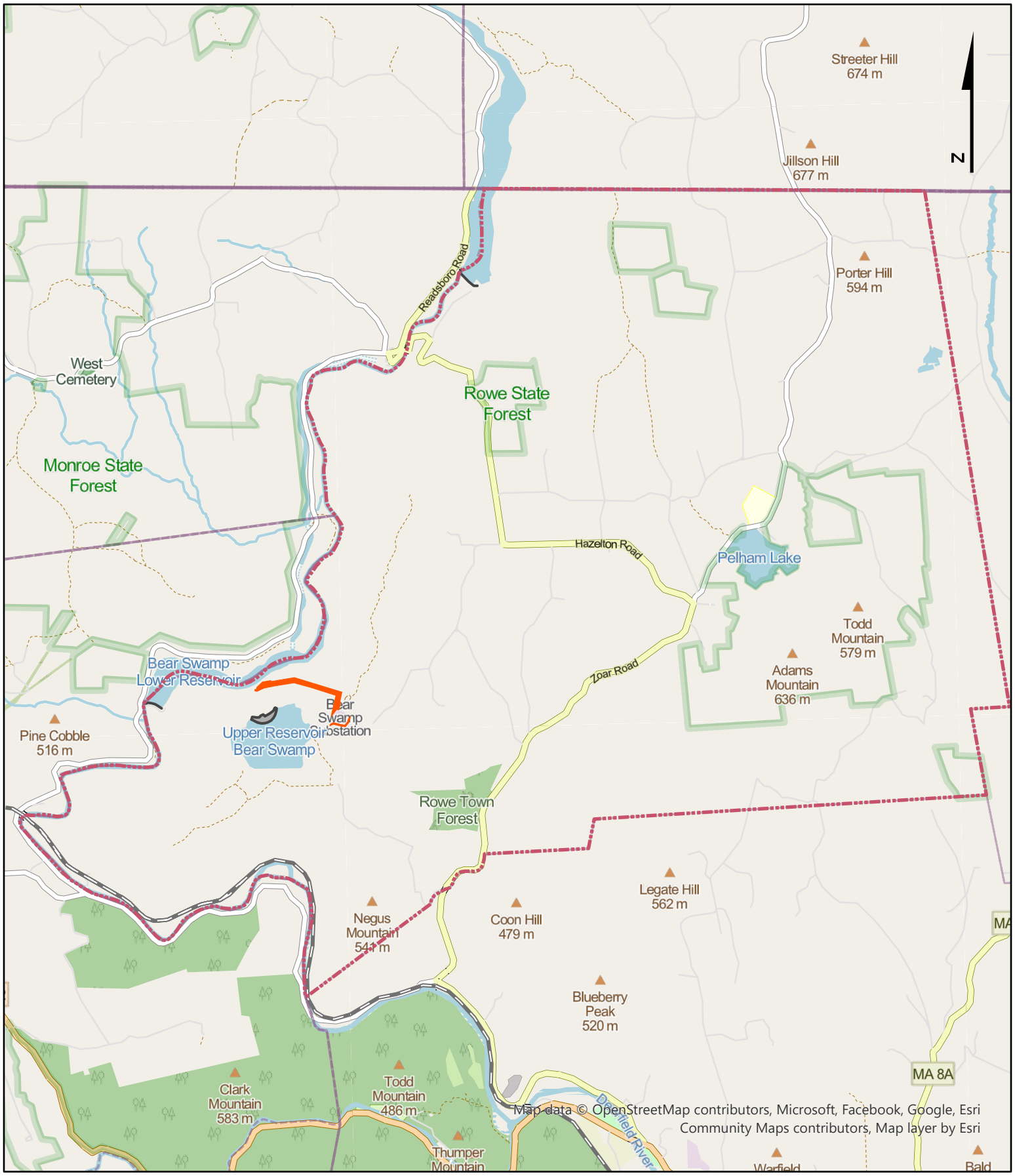
Milestone Specimen Label
https://www.cdms.net/ldat/ld77N057.pdf

Milestone SDS
https://www.cdms.net/ldat/mp77N004.pdf

YOP Maps

Town Map

Rowe, MA



Town

Right-of-Way

Brookfield
Renewable U.S.