Yearly Operational Plan

2016

PROVIDENCE & WORCESTER RAILROAD COMPANY

75 HAMMOND STREET
WORCESTER, MA 01610

Prepared by:

TEC ASSOCIATES
46 SAWYER STREET
SOUTH PORTLAND, MAINE 04106

ABSTRACT:

This Yearly Operational Plan (YOP) describes the vegetation management operations for the Railroad's rights-of-way scheduled for vegetation maintenance during this calendar year in compliance with the Commonwealth of Massachusetts Rights-of-Way Management Regulations 333 CMR 11.00.

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

INTRODUCTION

Both Federal and State laws require railroads to manage vegetation to help insure the safe passage of people, material, and goods.

The Code of Federal Regulations mandates the safety of the railroad must be guaranteed by regular inspection and maintenance. Vegetation must be controlled so that it does not become a fire hazard, does not interfere with visibility, or impede direct visual inspections of the track structure. Vegetation must also be managed to allow for proper drainage of the track and ballast structure, to prevent tree and branch damage to cargo, and to provide safe footing and working conditions for trackside personnel. Vegetation growing along side the rails can prevent effective and adequate braking, especially in emergency situations.

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 heath and the environment associated with the use of herbicides to maintain rights-of-way. These regulations establish procedures which guarantee ample opportunity for public and municipal agency review and input on rights-of-way maintenance plans.

A Yearly Operational Plan or YOP must be submitted to the Department of Agricultural Resources every year herbicides are intended for use to maintain rights-of-way. The YOP provides a detailed program for vegetation management for the year. This YOP is a companion document to the Vegetation Management Plan (VMP) approved by the Department. The VMP is the long term management plan for the railroad which describes the intended program for vegetation control over a five year period.

Upon receipt of this YOP, the Department publishes a notice in the Environmental Monitor. The applicant has provided a copy of the YOP and Environmental Monitor notice to the Board of Health, Conservation Commission, and the chief elected municipal official for the city or town in which the herbicide treatment is proposed.

The Department allows a 45 day comment period on the proposed YOP beginning with publication of the notice in the Environmental Monitor and receipt of the YOP and Environmental Monitor notice by each municipality.

Public notification of herbicide applications to the right-of-way is made by certified mail under separate cover at least 21 days in advance of the treatment. Notice is made to the Department of Agricultural Resources; the Mayor, City Manager or chairman of the Board of Selectman; the Board of Heath; and the Conservation Commission of the municipality where the right-of-way lies.

Any comments on this YOP should be directed to:

Thomas W. Lewis
TEC Associates
46 Sawyer Street
South Portland, ME 04106
(207) 767-6068

MUNICIPALITIES WHERE TREATMENT DESCRIBED IN THIS YOP WILL BE MADE

Auburn
Blackstone
Dudley
Gardner
Grafton
Holden
Hubbardston
Millbury
Millville
Northbridge
Oxford
Princeton
Seekonk
Sutton
Uxbridge
Webster
Worcester

YOP REQUIREMENTS AND TABLE OF CONTENTS

		Page
I.	The Company which will perform any herbicide treatment	1
II.	Individual representing applicant and supervising the YOP	1
III.	Herbicides proposed including application rates, carriers, and adjuvants	2
IV.	Herbicide application techniques and alternative control procedures	3
V.	Identification of target vegetation	4
VI.	Flagging methods to designate sensitive areas on the ROW	5
VII.	Procedures and locations for handling, mixing and loading of herbicide concentrates	7
VIII.	Emergency contacts	8

APPENDICES

A. Herbicide Fact Sheets as approved by the Department of Agricultural Resources, herbicide labels, and MSDS.

B. Maps locating the ROW and sensitive areas not readily identifiable in the field.

I. THE COMPANY WHICH WILL PERFORM ANY HERBICIDE TREATMENT

This company or contractor will perform the herbicide treatment. Applicators are certified by the Department of Agricultural Resources in the applicator category Right-of-Way Pest Control.

Company Name	RWC, Inc.
Address	Lockhouse Road
	P.O. Box 876
	Westfield, MA 01086
Telephone #	(413) 562-5681
Contact Person(s)	Brian Chateauvert

II. INDIVIDUAL REPRESENTING APPLICANT AND SUPERVISING THE YOP

Individual supervising execution of the YOP and representing the railroad.

Name & Title	David Cuthbertson, Chief Engineer - Track
Address	Providence & Worcester Railroad
	75 Hammond Street
	Worcester, MA 01610
Telephone #	(508) 755-4000

III. HERBICIDES PROPOSED INCLUDING APPLICATION RATES, CARRIERS, ADJUVANTS, AND APPLICATION TECHNIQUES

Weed Control Herbicide Program for the Roadbed

The post-emergent herbicide program is aimed primarily toward keeping the ballast section and shoulder, yards, switches, signals, and highway grade crossings weed free. Areas scheduled for weed control treatments have been inspected for density of target vegetation to determine appropriate control methods. Herbicide Fact Sheets for the herbicides proposed are found in Appendix A.

Location	Herbicide(s)	Carriers or Adjuvants	Application Technique	Application Rate
Sensitive area buffer zone	Aquaneat Polaris AC Complete	 More Grounded	Foliar Foliar Foliar Foliar	2 qts/acre 3 pts/acre 2-5 oz/acre 1-4 pts/acre
Non-sensitive areas	Aquaneat Polaris AC Complete	 More Grounded	Foliar Foliar Foliar Foliar	2 qts/acre 3 pts/acre 2-5 oz/acre 1-4 pts/acre
Touch-up applications	Aquaneat Polaris AC Complete	 More Grounded	Foliar Foliar Foliar Foliar	2 qts/acre 3 pts/acre 2-5 oz/acre 1-4 pts/acre

Brush Control Program for Areas Adjacent to the Roadbed

The brush control program is designed to prevent the re-growth of trees and other woody vegetation in areas adjacent to the roadbed. Areas scheduled for brush control treatments are limited to target vegetation which obscures visibility or interferes with railroad signs, signals, or communication wires. Herbicide Fact Sheets for herbicides proposed may be found in Appendix A.

Location	Herbicide(s)	Carriers or Adjuvants	Application Technique	Application Rate
Non-sensitive areas	None	N/A	N/A	N/A
Touch-up applications	None	N/A	N/A	N/A

IV. HERBICIDE APPLICATION TECHNIQUES AND ALTERNATIVE CONTROL PROCEDURES

Herbicide applications within the Railroad right-of-way will be preformed using low pressure application from a specialized hy-rail truck equipped with a spray boom. This method is suitable for application within the buffer zone, or restricted application zone of sensitive areas, as defined in 333 CMR 11.04. The spray vehicle is equipped with spray nozzles and controls to allow for treatment of the entire roadbed, or to selectively treat individual sections of the ballast and ballast shoulders. Within sensitive areas, a container will be used to catch any accidental dripping of herbicide. It is a trough-shaped apparatus mounted just behind and above the boom, and will be hydraulically lowered to sit underneath the spray nozzles while the vehicle is traveling through areas where herbicide spraying is prohibited.

In order to assist in rapid identification of sensitive areas in the field, a pilot vehicle will proceed approximately 1/4 mile ahead of the applicator vehicle in order to signal ahead the location of sensitive areas.

In order to provide greater mobility and decrease the amount of time required to apply the herbicide mixture in the railroad yard areas, a vehicle equipped with hoses will be used in these areas. In compliance with the Regulations for herbicide application in sensitive areas, the spray pressure from the hoses will not exceed 60 psi.

ALTERNATIVE CONTROL PROCEDURES

No alternative vegetation control methods are feasible within the track areas of the right-of-way. No vegetation control is proposed in ballast areas where herbicide use is prohibited.

Touch-up techniques controls any target vegetation within the ballast that may have been missed or not treated during the initial phase. Control of vines and other vegetation that might creep onto the ballast from roots growing outside the original treatment boundaries can be managed as a selective, foliage, or spot spray. No more than 10% of the initially identified target vegetation on the right-of-way in any municipality may be treated during a touch-up application and the total amount of herbicide applied in any one year shall not exceed the limits specified by the label or YOP in accordance with 333 CMR 11.03(8)(c).

V. IDENTIFICATION OF TARGET VEGETATION

Whenever and wherever possible an integrated approach to vegetation management will be implemented by encouraging plant communities that hinder the growth of target vegetation. Prior to an herbicide application, a review will be made noting location, density, and type of vegetation present. This information will be used to develop an herbicide application program that will be effective against target vegetation and minimize the amount of herbicide used.

In accordance with the Code of Federal Regulations, 49 Part 213 - Track Safety Standards, all vegetation growing in the ballast and ballast shoulder; in yards; and around switches, signals, signs and highway grade crossings is considered target vegetation and must be controlled so that it does not:

a) become a fire hazard to track-carrying structures;
b) obstruct visibility of railroad signs and signals;
c) interfere with railroad employees performing normal trackside duties;
d) prevent proper functioning of signal and communication lines; and
e) prevent railroad employees from visually inspecting moving equipment form their normal duty stations.

Woody vegetation growing in areas adjacent to the shoulder will be managed to promote the growth of low growing shrubs. Targeted tall woody vegetation will be that which has the potential to block visibility or invade the roadbed and/or overhead communication lines. Target vegetation will include but not be limited to the following:

Ailanthus	Black Walnut	Honey Locust
American Basswood	Buckthorn	Maple
American Beech	Butternut	Northern Catalpa
American Hornbeam	Cherry	Oak
Apple	Eastern Horphornbeam	Pine
Ash	Eastern Red Cedar	Poplar
Aspen	Elm	Sassafras
Birch	Flowering Dogwood	Shadbush
Black Locust	Hawthorn	Spruce
Black Tupelo	Hickory	Sumac

VI. FLAGGING METHODS TO DESIGNATE SENSITIVE AREAS ON THE ROW

Sensitive areas are defined in the Rights-Of-Way Management Regulations (333 CMR 11.02) are as defined in 333 CMR 11.04, any areas within the Right-of-Way, including No-Spray and Limited-Spray Areas, in which public health, environmental or agricultural concerns warrant special protection to further minimize risks of unreasonable adverse effects. These include but are not limited to the following:

No Spray Area, any area that is both within a Right-of-Way and within:

(a) any Zone I;
(b) 100 feet of any Class A Surface Water Source;
(c) 100 feet of any tributary or associated surface water body where the tributary or associated surface water body runs within 400 feet of a Class A surface water source;
(d) 10 feet of any tributary or associated surface water body where the tributary or associated surface water body is at a distance greater than 400 feet from a Class A surface water source;
(e) a lateral distance of 100 feet for 400 feet upstream, on both sides of the river, of a Class B Drinking Water Intake;
(f) 50 feet of any identified Private Well;
(g) 10 feet of any Wetlands or Water Over Wetlands;
(h) 10 feet of the mean annual high-water line of any river; and
(i) 10 feet of any Certified Vernal Pool.

Limited Spray Area, any area that is both within a Right-of-Way and within:

(a) any Zone II or IWPA;
(b) a distance of between 100 feet and 400 feet of any Class A Surface Water source;
(c) a distance of between 10 and 200 feet of any tributary or associated surface water body where the tributary or associated surface water body runs outside the Zone A for the Class A surface water source;
(d) a lateral distance of between 100 and 200 feet for 400 feet upstream, on both sides of the river, of a Class B Drinking Water Intake;
(e) a distance of between 50 and 100 feet of any identified Private Well;
(f) a distance of between 10 and 100 feet of any Wetlands or Water Over Wetlands;
(g) a distance of between 10 feet from the mean annual high water line of any river and the outer boundary of the Riverfront Area;
(h) a distance of between 10 feet from any Certified Vernal Pool and the outer boundary of any Certified Vernal Pool Habitat; and
(i) a distance of 100 feet of any Agricultural or Inhabited Area.

Non-Sensitive Areas are upland areas and/or track not in proximity to sensitive areas and do not require specific precautions or herbicide restrictions.

Sensitive areas, no-spray areas, limited-spray areas, and non-sensitive areas will be marked at their boundaries with permanent color-coded markers. Sensitive areas considered to be readily identifiable in the field (i.e. agricultural and inhabited areas) will not be marked. The markers will be one or any combination of the following:

color-coded signs attached to posts
color-coded signs attached to the railroad ties
color-coded painted rail sections

Sensitive and non-sensitive areas will be designated by the following color-codes:

white	non-sensitive areas
blue	sensitive area in which a minimum of 12 months shall elapse between herbicide applications
double blue	sensitive areas in which a minimum of 24 months shall elapse between herbicide applications.
yellow	no spray zone

VII. PROCEDURES AND LOCATIONS FOR HANDLING, MIXING, AND LOADING OF HERBICIDE CONCENTRATES

The herbicide application crew will wear protective clothing and personal safety equipment when mixing, handling, loading, or applying herbicide, including standard work clothing or coveralls, work gloves, and work boots. Latex or nitrile rubber gloves, as well as eye goggles are recommended to be worn during mixing of herbicide concentrate as some herbicides may cause mild eye and skin irritations.

Mixing and use of herbicide shall be consistent with the labeling instructions included on the packaging. The herbicide mix will be prepared from herbicide concentrate and water. In compliance with the regulations, the handling, mixing and/or loading of this material will not occur within 100 feet of any sensitive area. Wherever and whenever possible, the herbicide applicator will prepare the herbicide mix on non-porous surfaces, such as pavement or concrete.

Sources of Water and Safeguards to Prevent Contamination

Water used for herbicide mix will be obtained from hydrants and freshwater sources. During the herbicide mix preparations and during herbicide application, strict adherence to the following safeguards will be maintained:

1) Water will be obtained using hoses equipped with anti-siphon devices to eliminate herbicide backflow.

    a) Hoses used to extract water from water bodies will be equipped with two such devices: one will be found directly behind the mouth of the hose and another will be at the coupling that joins the hose to the mix tank.

    b) Hoses used to extract water from the hydrant will utilize the same setup as described above, except that a third anti-siphon device will be found within the coupling joining the hose to the hydrant.

2) The herbicide concentrate will not be added to the tank until the water has been obtained and the application apparatus is at least 100 feet outside a sensitive area.

Disposal of Herbicide Waste

Disposal of all herbicidal wastes will be the responsibility of the licensed applicator. It is the applicator's responsibility to ensure that such disposal will be carried out in an environmentally sensitive manner, in compliance with all Federal and State regulations and guidelines.

VIII. EMERGENCY CONTACTS

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

Herbicide Label

Herbicide Fact Sheet

Herbicide Material Safety Data Sheet

Herbicide Manufacturer

BASF Specialty Products	(800) 832-4357
Dupont (general)	(888) 638-7668
Dupont (medical emergency)	(800) 441-3637
Dupont (transportation emergency)	(800) 424-9300
Monsanto	(314) 694-4000
Nufarm Turf & Specialty	(800) 345-3330

Massachusetts Pesticide Bureau	(617) 626-1720
Massachusetts DEP Emergency Response	(888) 304-1133
ChemTrec	(800) 424-9300
EPA National Pesticide Information Center	(800) 858-7378
Massachusetts Poison Control Center	(800) 222-1222

Local Community Chief of Police and/or Fire Chief

Auburn	(508) 832-7777
Blackstone	(508) 883-1212
Dudley	(508) 943-4411
Gardner	(978) 632-5600
Grafton	(508) 839-2858
Holden	(508) 829-4444
Hubbardston	(978) 928-1405
Millbury	(508) 865-3521
Millville	(508) 883-3117
Northbridge	(508) 234-6211
Oxford	(508) 987-0156
Princeton	(978) 464-2928
Seekonk	(508) 336-8510
Sutton	(508) 865-4449
Uxbridge	(508) 278-7755
Webster	(508) 943-1212
Worcester	(508) 799-8600