City of Waltham

2021 Yearly Operational Plan

Submitted by:
City of Waltham
Consolidated Public Works Department

Prepared by:
Vegetation Control Service, Inc.

February 15, 2021

SUMMARY

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 public ways (rights-of-way). The YOP provides a detailed program for vegetation management including the methods used to identify target vegetation and sensitive areas, planned treatment methods, herbicides and herbicides mixtures and rates for the year.

A five-year Vegetation Management Plan (VMP) is available for review at the office of the Consolidated Public Works Department (CPW).

Upon receipt of this YOP, the MDAR publishes a notice in the Environmental Monitor. The City must also provide a copy of the proposed YOP and Environmental Monitor notice to the Board of Health, Conservation Commission, and Chief Elected Official. The Department 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. A one-page notice is also sent to all public water suppliers.

Public notification of herbicide application is made at least 21 days prior to the treatment(s) by a separate notice. This Notice is made to the Massachusetts Department of Agricultural Resources, Chief Elected Official, Board of Health, the Conservation Commission and the Municipal Public Water Supplier.

A newspaper notice will also be made at least 48 hours in advance of the start of the treatment program.

Any comments on this YOP should be made to the person designated herein as the person supervising the YOP.

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1. INTRODUCTION

In compliance with Commonwealth of Massachusetts' Rights-of-Way Vegetation Management Regulations (333 CMR 11.00) the City of Waltham's Yearly Operational Plan (YOP) details our vegetation management program for 2021. This YOP is consistent with the terms and procedures set forth in Waltham's *2020-2024 Five-year Vegetation Management Plan* (VMP); with the Massachusetts Pesticide Control Act (Chapter 132B); with all pertinent clauses in Chapter 85 of the Acts of 2000; and with all acts and regulations that apply to public way (right-of-way) vegetation management.

Vegetation growing along curbing, within and around paved traffic islands, in cracks in the asphalt, under guiderails along roadways and in areas that cannot be mowed is of a growing concern in Waltham. These areas, along with Poison Ivy, Japanese Knotweed and other public nuisance vegetation within the public ways, can be effectively controlled with the use of herbicide applications.

Herbicide applications will be done under the supervision of a certified applicator in compliance with 333 CMR 11.00 as detailed in the public way Integrated Vegetation Management (IVM) program and protocols described in Waltham's VMP.

An Integrated Vegetation Management program on public ways is a combination of cultural, physical, mechanical, and chemical management techniques that control undesirable vegetation in an ecologically sound manner. As with all IVM programs, this program is designed to maximize control of incompatible vegetation while minimizing potential impact to the environment.

2. THE INDIVIDUALS THAT WILL PERFORM AND SUPERVISE THE HERBICIDE TREATMENT

Waltham CPW and/or appropriated licensed applicators will perform the herbicide applications. Please note that all application crews will include an individual with a Category 40 pesticide license issued by the MDAR.

Supervisor:

Kevin Thompson
City of Waltham Tree Warden
Consolidated Public Works Department
The City of Waltham
165 Lexington Street, Waltham, MA 02452
(781) 314-3800

Herbicide Applicators:

Consolidated Public Works Department	**Vegetation Control Service, Inc.**
The City of Waltham	2342 Main Street
165 Lexington Street	Athol, MA 01331
Waltham, MA 02452	(978) 249-5348

3. LOCATION OF INTENDED HERBICIDE TREATMENT(S)

For 2021, the treatment areas include, but are not limited to, cracks in asphalt, along guiderails, along curbing, within and around paved traffic islands, between sidewalks and the adjacent curbing, and wherever vegetation is causing a public hazard in the city's public ways (rights-of-way) as defined in the VMP.

Known sensitive areas are included in the map(s) of Waltham included in Appendix 1. Appendix 1 also includes a street listing to cover potential treatment locations for public nuisance and other vegetation posing a risk to public safety. Predicting the location of all target vegetation along public ways in advance of the active growing season is not possible or practical. In an effort to limit the application of herbicides to areas that require treatment, the town will, therefore, conduct patrols and treat those areas in which vegetation poses a public nuisance and/or poses a safety risk to pedestrian or vehicular safety.

4. IDENTIFICATION OF TARGET VEGETATION

Target Vegetation:
Vegetation that poses a public nuisance and/or poses a safety risk to pedestrian or vehicular safety.

Nuisance Grass and Herbaceous Growth

In most instances grass is a desirable plant species. Along the shoulders of roads, grass growth is encouraged and maintained through mechanical mowing. However, in some instances, grasses and other herbaceous plants can be identified as targets in areas where they cause a safety risk. These areas include, but are not limited to along curbing, cracks in asphalt, along guiderails, within and around paved traffic islands, and between sidewalks and the adjacent curbing.

Public Nuisance Vegetation

Public nuisance vegetation includes, but is not limited to poisonous and noxious plant species growing along public ways that pose a health hazard. Noxious vegetation poses a risk to safety and health because of heavy thorns, dense foliage and/or impenetrable stems; examples include but are not limited to Multiflora Rose, Common and Glossy Buckthorn, and Blackberries. Although not the only target species of concern, Poison Ivy is the dominant poisonous plant community along public ways that requires control.

Vegetation Posing a Risk to Safety

Vegetation that hampers visibility or impedes movement along public ways often poses a risk to public safety. M.G.L. Chapter 87, Section 5 authorizes tree wardens to have control of "all public shade trees, shrubs, and growths" along public ways. This includes woody plant species and invasive species. A short list of examples includes all tree species considered "street trees", all shrubs, vines and more specifically, invasive species, particularly Autumn Olive, Japanese Knotweed, Bittersweet and Multiflora Rose. Please note that only vegetation under twelve feet in height may be foliar treated.

5. DEFINITION, IDENTIFICATION AND TREATMENT OF SENSITIVE AREAS

The general definition of sensitive areas regulated by 333 CMR 11.04 is as follows:

> …any areas within Rights-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.

Protecting these sensitive sites is accomplished by following the definition in 333 CMR 11.04 and establishing the mandated no-spray and treatment restrictions within their borders according to Table 1 below. In brief, these sensitive areas consist of no-spray zones in which

herbicide use is prohibited, and limited spray areas where herbicide use is permitted under certain conditions.

Treatment in limited spray areas require the use of herbicides from the *Sensitive Area Materials List* available at: http://www.mass.gov/eea/agencies/agr/pesticides/rights-of-way-vegetation-management.html and following the application restrictions in 333 CMR 11.04 which includes applying minimum herbicide application rate for the control of target species.

TABLE 1: CONTROL STRATEGIES FOR SENSITIVE AREAS

Table Compiled by Jeffrey M. Taylor, Vegetation Control Service, Inc.

Sensitive Area	Limited Spray or No-Spray Areas (feet)	Control Method	Time Limits Between Treatment(s)
Public Ground Water Supplies	400'	Mechanical Only	None
Primary Recharge Area	Designated buffer zone or ½ mile radius	Mechanical, Approved Herbicides*	24 months
Public Surface Water Supplies (Class A & Class B)	100'	Mechanical Only	None
	100'-400'	Approved Herbicides	24 months
Tributary to Class A Water Source, within 400' upstream of water source	100'	Mechanical Only	None
	100'-400'	Approved Herbicides	24 months
Tributary to Class A Water Source, greater than 400' upstream of water source	10'	Mechanical Only	None
	10'-200'	Approved Herbicides	24 months
Class B Drinking Water Intake, within 400' upstream of intake	100'	Mechanical Only	None
	100'-200'	Approved Herbicides	24 months
Private Drinking Water Supplies	50'	Mechanical Only	None
	50'-100'	Approved Herbicides	24 months
Surface Waters	10'	Mechanical Only	None
	10'-100'	Approved Herbicides	12 months
Rivers	10' from mean annual high water line	Mechanical Only	None
	10'-200'	Approved Herbicides	12 months
Wetlands	10'	Mechanical Only	None
	100' or with approved Wetlands Determination 10'-100' [per 310 CMR 0.05(3)(a) & 310 CMR 0.03(6)(b)]	Low-pressure Foliar, CST, Basal, Approved Herbicides	24 months
Inhabited Areas	100'	Approved Herbicides	12 months
Agricultural Area (Crops, Fruits, Pastures)	100'	Approved Herbicides	12 months
Certified Vernal Pools	10'	Mechanical Only when water is present	None
Certified Vernal Pool Habitat	10'-outer boundary of habitat	No treatment without approval	
Priority Habitat	No treatment outside the 4 foot paved road exemption without approval of the Natural Heritage Endangered Species Program (NHESP)		

*Massachusetts Approved herbicides for sensitive sites

Identification Methods

As appropriate, sensitive areas will be identified and marked in the field by trained and experienced individuals.

Two simple descriptions guide the identification of the sensitive areas defined in 333 CMR 11.04: *Readily identifiable in the field* and *Not readily identifiable in the field. Readily identifiable in the field areas* will be treated, identified and when appropriate, marked according to all applicable restrictions listed in 333 CMR 11.00. *Not readily identifiable in the field* areas will likewise marked and treated when appropriate, but they are identified by the use of data marked on maps and collected in the YOP and notification processes before the time of treatment.

The individuals assigned the task of identifying and treating sensitive areas in the field will use the appropriate sources and methods from the following list:

- Town maps, records and institutional knowledge
- Massachusetts Department of Environmental Protection water supply maps mapping layers available through MassGIS (https://www.mass.gov/orgs/massgis-bureau-of-geographic-information)
- Water Department, MDAR and Waltham Board of Health maps and lists of identified private wells along the ROW
- Correspondence, meetings and input—from the chief elected official, board of health, conservation commission, public water suppliers and the public—within the forty-five day YOP and twenty-one day municipal right-of-way notification letter review and comment periods and the 48 hour newspaper notification (under 333 CMR 11.06 & 11.07 and Chapter 85 of the Acts of 2000)
- A point person who verifies, identifies and where appropriate marks sensitive areas
- and any additional areas that may require special precautions
- USGS topographical maps
- Information from Mass GIS
- When necessary, confidential information from NHESP
- A copy of the YOP and VMP.

6. PROPOSED HERBICIDE TREATMENT METHODS

In 2021, the herbicide program will consist of the following:

Chemical (Herbicide Applications) Methods

1. **Foliar Treatments:** the selective application of herbicides diluted in water, to the foliage of target vegetation. Two types of equipment for foliar treatments are used: back pack and vehicle mounted; both use low pressure at the nozzle per 333 CMR 11.02. Foliar applications take place when leaves are fully developed in the spring until early fall and the beginning of leaf abscission—i.e., when leaves begin dropping.

a. **Hand-held and back-pack sprayers:** hand pump or motorized back pack sprayers or squirt bottles. This technique is excellent for spot treatments, such as localized poison ivy infestations. It is not as effective as other methods on high density target vegetation.

b. **Vehicle mounted sprayers** use truck, tractor and/or ATV mounted equipment that delivers the herbicide solution through nozzles attached to a hose or boom-mounted apparatus. This technique is used along roadways that have good access and where obstructions, terrain or site sensitivity do not exclude the equipment.

2. **Pre-emergent Treatments:** the use of pre-emergent herbicides using the same equipment described in the foliar treatments above. Pre-emergent applications are used where season long vegetation control requires "vegetation-free conditions" such as along curbing, sidewalks, under guiderails/guardrails and on paved traffic islands. This method is used from the early spring to early fall.

3. **Cut Stump Treatment (CST):** the mechanical cutting of target species followed by an herbicide treatment to the phloem and cambium tissue of the stumps. CST treatments prevent re-sprouts, thereby reducing the need to re-treat the same vegetation. The CST mixture is diluted in water, basal oil or a non-freezing agent and is ideally made to freshly cut stumps. Application equipment includes low-volume, backpack sprayers, hand held squirt bottles, paintbrushes, or sponge applicators. This method is used where maximum control is desirable; to reduce the visual impact of vegetation management treatments, and/or to reduce the potential of adverse impacts to desirable vegetation because of its selectivity. CST may be used at any time of the year provided snow depths do not prevent cutting the stumps below three inches in height. It is best to avoid during the season of high sap flow, or in moderate to heavy rains. It is not practical in moderate to heavy stem densities.

4. **Low Volume Basal Treatment:** the selective application of an herbicide, diluted in specially formulated oil, to wet the entire lower twelve to eighteen inches of the target plant stems. Using a hand pump backpack, the oil enables the herbicide solution to penetrate the bark tissue and translocate within the plant. Low volume basal treatments are extremely selective and used when vegetation density is low and in areas where extreme selectivity is necessary. For public way treatments it is primarily an option for invasive species control. It can be used any time of year except when snow is too deep, in extremely wet weather and/or during spring sap flow.

Final Note: Anti-drift Adjuvants are added to the mix or solution in foliage and pre-emergent applications to help reduce the potential exposure to non-target organisms, reduce the break-up of sprays into fine droplets and increase selectivity and herbicide deposition onto target plants.

7. PROPOSED HERBICIDES, CARRIERS, ADJUVANTS AND RATES

Waltham will only use the Commonwealth of Massachusetts recommended herbicides listed below from the *Sensitive Area Materials List*. Complete information on these products is included in Appendix 2, Fact Sheets and Appendix 3, Labels

Table 2: Tank Mix #1 for Curbing, Cracks, Guiderail, Traffic Island Treatments (General Foliar Weed Control)

Herbicides & Adjuvants	Active Ingredient	EPA Registration Number(s)	Mix Concentration (per 100 gals. water)
Rodeo	Glyphosate	62719-324	2-5%
Esplanade 200SC*	Indaziflam	432-1516	10 oz.
Induce, Clean Cut, or equivalent surfactant[1]	not applicable	n.a.	0.125%-1%
Point Blank, 41A, Clasp, or equivalent drift retardant[1]	n.a.	n.a.	4-16 oz.
Carrier: Water	n.a.	n.a.	n.a.

* Esplanade 200SC will only be used if the product is added to the Massachusetts Sensitive Materials list prior to the 2021 treatment.

Table 3: Tank Mix #2 for Poison Ivy, Noxious and Invasive Species

Herbicides & Adjuvants	Active Ingredient	EPA Registration Number(s)	Mix Concentration (per 100 gals. water)
Rodeo	Glyphosate	62719-324	2-5%
Escort XP or Patriot	Metsulfuron-Methyl	432-1549 or 228-391	1.25-4 oz.
Induce, Clean Cut, MSO or equivalent surfactant[1]	not applicable	n.a.	0.125%-1%
Point Blank, 41A, Clasp or equivalent drift retardant[1]	n.a.	n.a.	4-16 oz.
Carrier: Water	n.a.	n.a.	n.a.

Table 4: Tank Mix #3 for Poison Ivy

Herbicides & Adjuvants	Active Ingredient	EPA Registration Number(s)	Mix Concentration (per 100 gals. water)
Garlon 4 Ultra	Triclopyr	62719-527	2-4%
Induce, Clean Cut, MSO, or equivalent surfactant[1]	n.a.	n.a.	0.125%-1%
Point Blank, Clasp, or equivalent drift retardan[1]t	n.a.	n.a.	4-16 oz.

[1] Equivalent surfactants, drift retardants and basal oils will used in case those listed are no longer available or more effective alternatives become available.

Table 5. Tank Mixes #4 for Low Volume Foliage Applications

Herbicides & Adjuvants	Active Ingredient	EPA Registration Number(s)	Mix Concentration (per 100 gals. water)
Rodeo	Glyphosate	62719-324	3-5%
Krenite S	Fosamine Ammonium	42750-247	6-10%
Escort XP or Patriot	Metsulfuron-Methyl	432-1549 or 228-391	2-4 oz.
Polaris	Imazapyr[2]	228-534	0.125%-.5%
Induce, Clean Cut, MSO, or equivalent surfactant[1]	n.a.	n.a.	0.125%-1%
Point Blank, Clasp, or equivalent drift retardant[1]	n.a.	n.a.	6-64 oz.

Table 6. Tank Mix #5 for Cut Surface Treatment (CST) Applications

Herbicides & Adjuvants	Active Ingredient	EPA Registration Number(s)	Mix Concentration (per 100 gals.)
Rodeo	Glyphosate	62719-324	40% to 50%
Polaris	Imazapyr[2]	228-534	3%-5% (mixed with Rodeo)
Carriers: Water or Windshield Washing Fluid	n.a.	n.a.	n.a.

Table 7. Tank Mix #6 for Low-Volume Basal Applications or Cut Surface Treatment (CST) Applications

Herbicides & Adjuvants	Active Ingredient	EPA Registration Number(s)	Mix Concentration
Garlon 4 Ultra	Triclopyr	62719-527	20%-30%
Polaris	Imazapyr[2]	228-534	2-5% (Mixed with Garlon 4 Ultra)
Carrier: Aqua Mix Oil or equivalent	n.a.	n.a.	70%-80%

8. HANDLING, MIXING AND LOADING HERBICIDE CONCENTRATES

All herbicides will be handled, mixed and applied according to the directions in 333 CMR 11.00, which includes following *Label Instructions* and in compliance with all applicable federal and state laws and regulations. All herbicide mixing should be done at the CPW garage or contractor's facilities and extreme care shall be exercised during all mixing, handling and loading in order to prevent careless spills or splashes. No herbicide concentrates will be mixed, handled or loaded on a ROW or within one hundred feet of a sensitive area.

Although it is expected that all the mixed herbicide will be used, any remaining will be stored in accordance with manufacturer's instructions.

[2]Imazapyr will not be applied on the same location in two consecutive years.

9. ALTERNATE CONTROL TECHNIQUES

Decisions on the appropriate control techniques are made following the IVM Protocol in the VMP which for convenience is repeated below:

***Monitoring**:* All public ways will be surveyed prior to any scheduled treatment program. Monitoring will be conducted by foot or by vehicle. Monitoring of areas may also result from public requests.

Maintenance: Roads will be cleaned using a street sweeper. Cracking asphalt and sidewalks and other right-of-way defects will be repaired and ditches cleaned. Where appropriate, the use of ground cover will be encouraged to assist in the prevention of undesirable target vegetation growth.

Direct Control Methods: The decision to use one or a combination of IVM techniques will take into consideration the cultural uses of the landscape. The direct IVM management tactics selected will control nuisance vegetation in an environmentally responsible and efficient manner:

A. Mechanical Controls

1. Hand Cutting
2. Mowing
3. Selective Pruning

B. Chemical Controls

1. Foliar Treatments
2. Pre-emergent Treatments
3. Cut Stump Treatments
4. Basal Treatments

Record Keeping: A log of surveyed areas will be kept for future planning and reference purposes. Areas maintained either through physical repair, mechanical or chemical control will be recorded by CPW for at least 3 years.

10. TREATMENT RECORDS

The Category 40 applicator must complete daily vegetation management reports that include:

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

11. REMEDIAL PLAN TO ADDRESS SPILLS AND RELATED ACCIDENTS

This section is offered as a general procedural guide for responding to chemical spills or related accidents (related accidents include but are not limited to fire, poisoning and vehicle accidents). The following is, therefore, a guide to the items that will be available to the applicator on site in the event of a chemical spill or emergency.

Although education and attention will constantly be directed at accident and spill prevention, in the event of a spill, immediate action will be taken to contain the spill and protect the spill area (Appendix 4: *Herbicide Spill Check List* shall be available on-site to the applicator). Until completely clean, the spill area will be protected by placing barriers, flagging or crew members at strategic locations, as appropriate. 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 adsorption clay or other adsorptive material and placed in leak proof containers, removed from the site and disposed of properly. Dry herbicides, such as granular, will be swept up or shoveled up directly into leak proof containers for proper disposal. When applicable, all contaminated soil will be placed in leak proof containers, removed from the site and disposed of properly. When applicable, activated charcoal will be incorporated into the soil at the spill location at a rate of several pounds per thousand square feet to inactivate any herbicide residue. Any spill will be reported to the MDAR Pesticide Division.

The Massachusetts Department of Environmental Protection will be contacted when there is a spill of a reportable quantity, regardless of major or minor spill status and in accordance with 310 CMR 40.0000, Massachusetts Contingency Plan.

Types of Chemical Spills that Require Action

Chemicals include, but are not limited to the following:

- Herbicides
- Bar and Chain Oil
- Motor and Hydraulic Oil/Fluids
- Diesel Fuel
- Gasoline
- Title 3 Hazmat Materials

Required Spill Response Equipment

As a minimum, the treatment crew will have available on the job site:

- YOP with Emergency Contact List
- SDS (Safety Data Sheet)
- Product Label
- Product Fact Sheets (when applicable)
- Appropriate Adsorbent Material
- Shovel
- Broom
- Flagging
- Leak Proof Container
- Heavy-duty Plastic Bags

Personal Contact

In the event of **Personal Contact** with hazardous chemicals:

- Wash affected area with plenty of soap and water
- Change clothing which has absorbed hazardous chemicals
- If necessary, contact a physician
- If necessary, contact the proper emergency services
- If necessary, follow the procedures for Major or Minor Spills as outlined in Appendix 5
- Avoid breathing the fumes of hazardous chemicals

Reference Tables (information subject to change as necessary)

Table 8. Herbicide Manufacturers

MANUFACTURER	TELEPHONE NUMBER	SPECIAL INSTRUCTIONS
Albaugh Inc.	(800) 247-8013	
BASF Corporation	(800) 832-4357	
Bayer Environmental Science	(800) 334-7577	
Corteva Agriscience	(800) 992-5994	
Nufarm	(877) 325-1840	Medical Emergencies

Table 9. State Agencies

STATE AGENCY	TELEPHONE NUMBER	SPECIAL INSTRUCTIONS
Massachusetts Pesticide Bureau	(617) 626-1700	A.S.A.P. (within 48 hours)
Massachusetts Department of Environmental Protection, Emergency Response Section	Main Office: (888) 304-1133 (after hours number) Northeast Region: (978) 694-3200	For emergencies involving reportable quantities of hazardous materials; required info: City/town, street address, site name (if applicable), material
Massachusetts Dept of Public Health, Bureau of Env.Health Assessment Toxilicology Program	(617) 624-5757	
Massachusetts Poison Information Centers	(800) 682-9211	For medical emergencies involving suspected or known pesticide poisoning symptoms

Table 10. Emergency Services

EMERGENCY SERVICE	TELEPHONE NUMBER	SPECIAL INSTRUCTIONS
Waltham Police/Fire Department	911	
ChemTrec	(800) 424-9300	
Clean Harbors	(800) OIL-TANK	
Pesticide Hotline	(800) 858-7378	PST: 6:30 am-4:30 pm, web: www.NPIC.orst.edu

Table 11. City of Waltham contact(s) in the case of a spill or accident

Kevin Thompson
City of Waltham Tree Warden
Department of Consolidated Public Works
The City of Waltham
165 Lexington Street, Waltham, MA 02452
(781) 314-3800

Waltham Fire/ Police Department	911
Waltham Environmental Specialist – Sheryl Waddick	(781) 314-3296
Waltham Health Department	(781) 314-3305

APPENDIX 1:
MAP AND STREET LISTINGS

City of Waltham 2021 Yearly Operational Plan

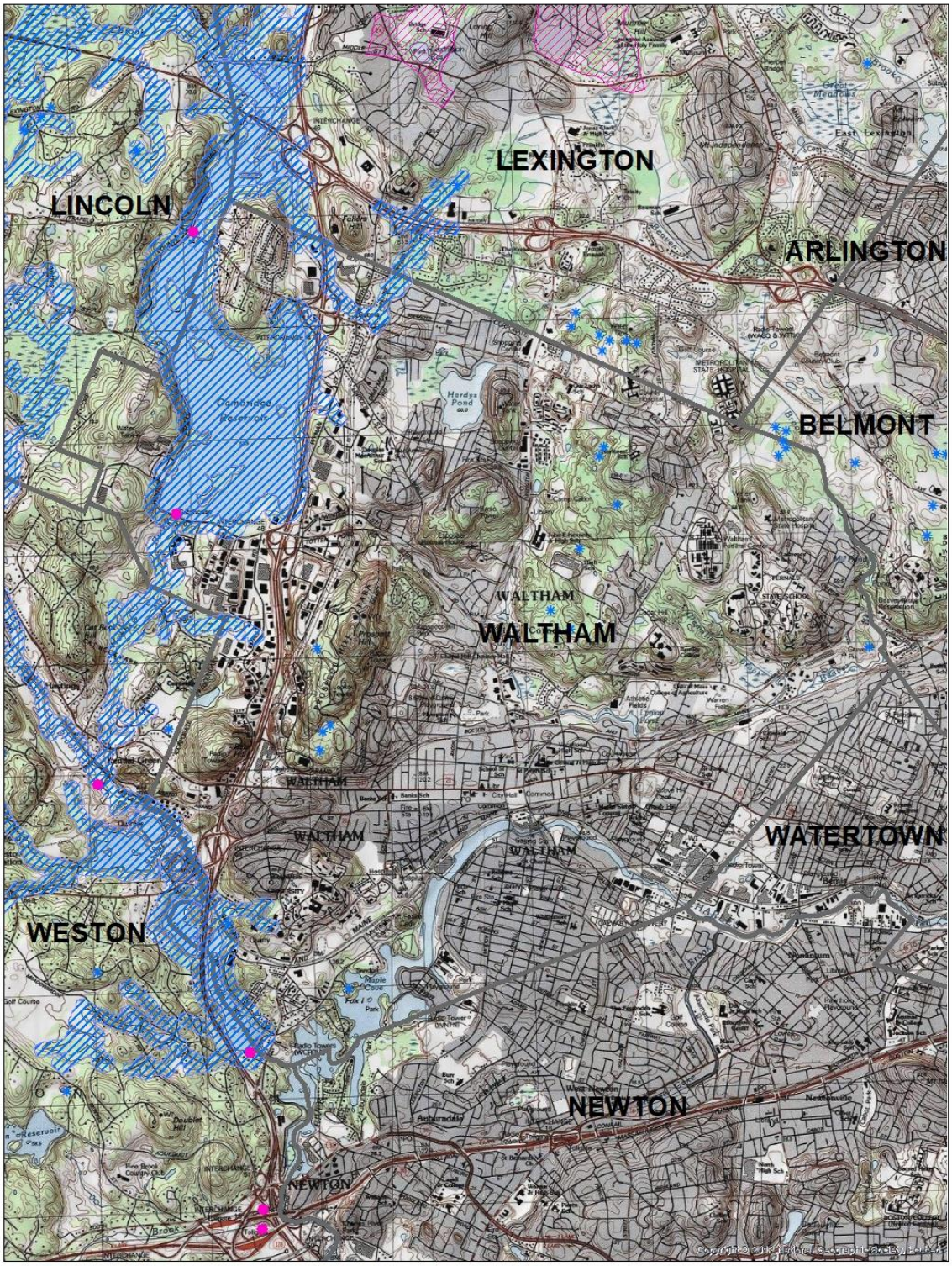
N
W E
S
1:32,000

0 0.35 0.7 1.4 Miles

Legend

- Public Wells
- NHESP Certified Vernal Pools
- Zone II
- Zone A

(Identifies surface waterbodies, tributaries and associated waterbodies, follow Sensitive Area treatment methods per 313 CMR 11.04)



Source: "Office of Geographic and Environmental Information (Mass GIS), Commonwealth of Massachusetts, Executive Office of Energy and Environmental Affairs".
Public Water Supply data provided by MA DEP Drinking Water Program, October 2020, DEP Public Water Supplies

January 27, 2021

WALTHAM STREET NAMES			
ABBOTT ROAD	DALE STREET	KEACH TERRACE	PROSPECT HILL AVENUE
ABERDEEN AVENUE	DANIELS COURT	KENDALL PARK	PROSPECT HILL LANE
ACORN STREET	DARTMOUTH STREET	KENMORE ROAD	PROSPECT HILL ROAD
ADAMS AVENUE	DAWES STREET	KENMORE TERRACE	PROSPECT STREET
ADAMS STREET	DAY STREET	KENWOOD LANE	PUTNEY LANE
ADDISON ROAD	DEMEREST STREET	KINGS WAY	RAFFAELE DRIVE
AGRILLO CIRCLE	DENNISON STREET	KINGSLEY COURT	RANDALL STREET
ALBEMARLE ROAD	DERBY STREET	KINGSTON ROAD	RANDO LANE
ALBERT STREET	DERMODY ROAD	KINGSTON TERRACE	RANGELY ROAD
ALDER STREET	DEXTER AVENUE	KNOLLWOOD DRIVE	RAVENSWOOD ROAD
ALDER TERRACE	DEXTER STREET	KODIAK WAY	RESERVOIR ROAD
ALDERWOOD ROAD	DIX STREET	LAFAYETTE STREET	REYEM STREET
ALLEN ROAD	DOBBINS STREET	LAKE ROAD	RICH STREET
ALUMNI DRIVE	DOLORES AVENUE	LAKE STREET	RICHGRAIN AVENUE
AMELIA DRIVE	DORCHESTER STREET	LAKEVIEW AVENUE	RIDGE LANE
AMES STREET	DOTY STREET	LAKEVIEW TERRACE	RIDGEWOOD TERRACE
AMHERST AVENUE	DOUGLAS ROAD	LARCHMONT AVENUE	RIPLEY STREET
AMORY ROAD	DREW STREET	LAUREL AVENUE	RIVER AVENUE
ANDERSEN TERRACE	DRURY LANE	LAURICELLA LANE	RIVER STREET
ANDREA ROAD	DUDDY AVENUE	LAWNDALE AVENUE	RIVERSIDE DRIVE
ANGLESIDE ROAD	DWIGHT STREET	LAWRENCE STREET	RIVERVIEW AVENUE
ANTICO CIRCLE	EDDY STREET	LAWTON PLACE	ROBBINS PLACE

WALTHAM STREET NAMES			
APPLETON STREET	EDGE HILL ROAD	LEBLANC LANE	ROBBINS STREET
ARBOR LANE	EDGEWATER DRIVE	LEDGE ROAD	ROBERT A KING BOULEVARD
ARCADIA AVENUE	EDWIN ROAD	LEITHA DRIVE	ROBERT TREAT PAINE DRIVE
ARCADIA PLACE	ELINOR CIRCLE	LEONARD STREET	ROBERTS ROAD
ARLINGTON ROAD	ELLERY ROAD	LESLIE ROAD	ROCKRIDGE ROAD
ASH STREET	ELLISON PARK	LEXINGTON STREET	ROGERS WAY
ATHLETIC FIELD ROAD	ELM AVENUE	LEXINGTON TERRACE	ROSE HILL WAY
ATWATER LANE	ELM COURT	LIBERTY STREET	ROSEANNA PARK DRIVE
AUBURN STREET	ELM STREET	LINCOLN STREET	ROSEMONT AVENUE
AUBURN TERRACE	ELMHURST TERRACE	LINCOLN TERRACE	ROSEWOOD DRIVE
AUGUSTUS ROAD	ELMWOOD AVENUE	LINCOLN WOODS ROAD	ROYAL STREET
AUTUMN LANE	ELSON ROAD	LINDEN CIRCLE	RUMFORD AVENUE
AZALEA ROAD	EMERSON ROAD	LINDEN PARK DRIVE	RUSSELL STREET
BACON STREET	EMERY STREET	LINDEN STREET	RUTLEDGE TERRACE
BALDWIN ROAD	EMMELINE AVENUE	LINDEN TERRACE	SACHEM STREET
BALSAM STREET	ENDICOTT STREET	LINDY LANE	SAGAMORE WAY
BANBURY AVENUE	ESSEX STREET	LIONEL AVENUE	SAMOSET LANE
BANCROFT STREET	EVERETT STREET	LISA LANE	SANDERS LANE
BANFORD WAY	EVERGREEN AVENUE	LIVERMORE ROAD	SANDERSON ROAD
BANKS STREET	EXCHANGE COURT	LIVERPOOL LANE	SARTELL ROAD

WALTHAM STREET NAMES			
BARBARA ROAD	EXCHANGE STREET	LIVINGSTONE LANE	SAWYER ROAD
BARNES STREET	FAIRFAX ROAD	LOGAN STREET	SCHOOL AVENUE
BARTLETT WAY	FAIRMONT AVENUE	LONGFELLOW ROAD	SCHOOL STREET
BARTON STREET	FAIRVIEW AVENUE	LOOP ROAD	SECOND AVENUE
BEAL ROAD	FALCON WAY	LORD STREET	SEMINOLE AVENUE
BEAR HILL ROAD	FALCONER CIRCLE	LORETTA ROAD	SEMINOLE AVENUE
BEAVER BROOK ROAD	FALMOUTH ROAD	LORY DRIVE	SHADE STREET
BEAVER STREET	FANEUIL ROAD	LOWELL PLACE	SHAKESPEARE ROAD
BEDFORD STREET	FARNSWORTH AVENUE	LOWELL STREET	SHARON STREET
BEECH STREET	FARNSWORTH STREET	LUNDA STREET	SHAWMUT ROAD
BEECHWOOD ROAD	FARNUM ROAD	LURA LANE	SHEFFIELD ROAD
BELLEVUE PLACE	FARWELL STREET	LYMAN STREET	SHERBOURNE PLACE
BELLEVUE STREET	FELTON STREET	LYMAN TERRACE	SHERIDAN ROAD
BEMIS AVENUE	FENTON STREET	MACKS COURT	SHERWOOD LANE
BENEFIT STREET	FERN STREET	MADISON ROAD	SHIRLEY ROAD
BENNETT STREET	FIELD ROAD	MAGNOLIA STREET	SHORE ROAD
BERKLEY STREET	FIFTH AVENUE	MAIN STREET	SIBLEY ROAD
BERKSHIRE ROAD	FIR AVENUE	MALLARD WAY	SILVER HILL LANE
BIGELOW ROAD	FIRST AVENUE	MALONE PARK DRIVE	SIOUX AVENUE
BIRCH ROAD	FISKE AVENUE	MALONE STREET	SMART STREET
BISHOP TERRACE	FISKE COURT	MALVERN STREET	SMITH STREET
BISHOPS FOREST DRIVE	FISKE STREET	MANNING ROAD	SNOW CIRCLE

WALTHAM STREET NAMES			
BITHER AVENUE	FLAGG CIRCLE	MANOR ROAD	SOUTH FOUNTAIN AVENUE
BLACK BEAR DRIVE	FLOOD STREET	MAPLE STREET	SOUTH STREET
BLOSSOM STREET	FLORAL CIRCLE	MAPLE TERRACE	SPARKILL STREET
BOLAND STREET	FLORENCE ROAD	MARGUERITE AVENUE	SPENCER STREET
BOLTON STREET	FLOYD STREET	MARIANNE ROAD	SPRING STREET
BOW STREET	FOREST CIRCLE	MARION STREET	SPRUCE STREET
BOWDOIN AVENUE	FOREST GROVE ROAD	MARIVISTA AVENUE	STANDISH COURT
BOWKER ROAD	FOREST PARK DRIVE	MARLBOROUGH ROAD	STANLEY ROAD
BOWKER STREET	FOREST STREET	MARLTON ROAD	STEARNS HILL ROAD
BOYNTON STREET	FOUNDRY AVENUE	MARTYN STREET	STEARNS STREET
BRADFORD STREET	FOUNTAIN STREET	MASSASOIT COURT	STERLING ROAD
BRAEMORE ROAD	FOURTH AVENUE	MASSASOIT STREET	STONE ROAD
BRENNAN AVENUE	FOX ROAD	MATTHEW LANE	STOW STREET
BREWSTER ROAD	FRANCIS STREET	MAYALL ROAD	STRATTON TERRACE
BRIAR HILL LANE	FREEMONT TERRACE	MCBRIDE COURT	SUMMER AVENUE
BRIARWOOD ROAD	FRIEND STREET	MCKENN STREET	SUMMER STREET
BRIGHAM ROAD	FULLER STREET	MEADE ROAD	SUMMIT AVENUE
BRIGHT STREET	GALE STREET	MEADOW LANE	SUMMIT STREET
BRIGHTWOOD ROAD	GALEN STREET	MECHANIC STREET	SUN STREET
BROOK AVENUE	GARDEN CIRCLE	MELODY LANE	SUNNYSIDE STREET
BROOKFIELD ROAD	GARDEN LANE	METROPOLITAN PKWY	SUNSET ROAD

WALTHAM STREET NAMES			
BROOKLINE STREET	GARDNER STREET	MICHAELCHRIS DRIVE	SYLVAN ROAD
BROOKVALE ROAD	GATEHOUSE DRIVE	MIDDLE STREET	TAVERN ROAD
BROOKWAY COURT	GENTLEMANS WAY	MIDDLE STREET COURT	TAYLOR STREET
BROOKWAY ROAD	GIBBS COURT	MIDDLESEX CIRCLE	TEMPLE ROAD
BROWN STREET	GILBERT STREET	MIDDLESEX ROAD	TENNYSON ROAD
BROWNS AVENUE	GILL ROAD	MIDLAND DRIVE	THAYER ROAD
BRUCE ROAD	GILMAN ROAD	MILNER STREET	THIRD AVENUE
BRYANT ROAD	GLEN CIRCLE	MILO STREET	THORNTON ROAD
BUTTRICK STREET	GOLDENCREST AVENUE	MILTON STREET	THORNTON ROAD
BUXTON LANE	GORDON STREET	MIRIAM ROAD	TOLMAN STREET
BYRON ROAD	GORE STREET	MOKEMA AVENUE	TOMLIN STREET
CABOT STREET	GORHAM STREET	MONTCLAIR AVENUE	TOMMY LANE
CALDWELL ROAD	GORMANS COURT	MONTVIEW AVENUE	TOTTEN CIRCLE
CALVARY STREET	GRANT AVENUE	MONTVIEW CIRCLE	TOTTEN POND ROAD
CAMBRIA ROAD	GRANT PLACE	MOODY STREET	TOTTENS COURT
CANDACE AVENUE	GRANT STREET	MOORE STREET	TOWER ROAD
CANDLEWOOD DRIVE	GRAYMORE ROAD	MORRIS STREET	TOWNSEND STREET
CANTERBURY ROAD	GREELEYS COURT	MORTON STREET	TRACER LANE
CARLETON ROAD	GREEN STREET	MORTON WAY	TRAPELO ROAD
CARLIN ROAD	GREENWOOD LANE	MOUNT IDA TERRACE	TRIMOUNT AVENUE
CAROL LANE	GREER STREET	MOUNT PLEASANT ST	TRINITY CIRCLE
CARTER STREET	GREGORY STREET	MOUNT VERNON AVE	TUDOR STREET

WALTHAM STREET NAMES			
CASEY CIRCLE	GROSVENOR ROAD	MOUNT WALLEY ROAD	TURNER STREET
CASTLE STREET	GROVE ROAD	MOUNTAIN ROAD	UNDERWOOD PARK
CAUGHEY STREET	GROVE STREET	MULDOONS COURT	UNION STREET
CEDAR HILL LANE	GUINAN STREET	MUNROE AVENUE	UNIVERSITY PARK
CEDAR STREET	HAGAR LANE	MUNSTER TERRACE	UPLAND ROAD
CEDARCROFT LANE	HAGAR STREET	MURRAY STREET	UPTON ROAD
CEDARWOOD AVENUE	HALL STREET	MUSIC HALL AVENUE	VALLEY VIEW ROAD
CENTRAL AVENUE	HAMBLIN ROAD	MYRTLE STREET	VAN VECHTEN STREET
CENTRAL STREET	HAMILTON ROAD	NANCY LANE	VARNUM PARK
CENTRE STREET	HAMMER STREET	NATHAN ROAD	VERNON STREET
CHAFFEE AVENUE	HAMMOND STREET	NAVIENS LANE	VESPER STREET
CHAMBERLAIN TER	HANSEN ROAD	NEIGHBORS LANE	VILES COURT
CHAPEL ROAD	HARDING AVENUE	NEWBURGH STREET	VILLA STREET
CHARLES RIVER ROAD	HARDY POND ROAD	NEWTON STREET	VIRGINIA ROAD
CHARLES STREET	HARDY STREET	NOONAN STREET	WADSWORTH AVENUE
CHARLES STREET AVE	HARLAND ROAD	NORUMBEGA TERRACE	WALL STREET
CHARLESBANK WAY	HARMON ROAD	NOTTINGHAM STREET	WALLS COURT
CHARLOTTE ROAD	HARRINGTON ROAD	NUTTING ROAD	WALNUT STREET
CHASE ROAD	HARRIS STREET	OAK HILL ROAD	WALTHAM FEDERAL CTR ROAD
CHATHAM LANE	HARTWELL PLACE	OAK ROAD	WALTON STREET

WALTHAM STREET NAMES			
CHERRY LANE	HARTWELL STREET	OAK STREET	WAMPUM AVENUE
CHERRY STREET	HARVARD PLACE	OAKLEDGE ROAD	WAMSUTTA AVENUE
CHERYL LANE	HARVARD STREET	OAKLEY LANE	WARREN AVENUE
CHESTER AVENUE	HASTINGS AVENUE	ODE STREET	WARREN STREET
CHESTER LANE	HASTINGS STREET	OLD CONANT CIRCLE	WARWICK AVENUE
CHESTERBROOK ROAD	HATHERLY ROAD	OLD CONANT ROAD	WASHINGTON AVENUE
CHESTNUT AVENUE	HAWTHORNE ROAD	OLD COUNTRY ROAD	WATER STREET
CHESTNUT PARK	HAYS ROAD	OLD COUNTY ROAD	WAVERLEY OAKS ROAD
CHESTNUT STREET	HAZEL STREET	OLD LEXINGTON ROAD	WAVERLEY STREET
CHRISTOPHER ROAD	HEARD STREET	OLD SOUTH STREET	WEBSTER STREET
CHURCH STREET	HELEN STREET	ORANGE STREET	WEIR ROAD
CIRCLE DRIVE	HEMLOCK TERRACE	ORCHARD AVENUE	WELLINGTON AVENUE
CIRCLE ROAD	HERSUM WAY	OUTLOOK ROAD	WELLINGTON STREET
CIRCUIT LANE	HIAWATHA AVENUE	OVERLAND ROAD	WEST STREET
CLAREMONT STREET	HIBISCUS AVENUE	OVERLOOK ROAD	WESTBROOK CIRCLE
CLARK LANE	HICKORY DRIVE	PALMER STREET	WESTGATE ROAD
CLARK STREET	HIGH ROCK CIRCLE	PARK AVENUE	WESTON STREET
CLARK TERRACE	HIGH STREET	PARK PLACE	WETHERBEE ROAD
CLEMATIS AVENUE	HIGHLAND STREET	PARK STREET	WHEELOCK ROAD
CLEMENTS ROAD	HILL ROAD	PARKERS LANE	WHEELOCK TERRACE
CLEVELAND ROAD	HILL STREET	PARKVIEW ROAD	WHITCOMB STREET

WALTHAM STREET NAMES			
CLIFF ROAD	HILLCREST ROAD	PARMENTER ROAD	WHITFORD TERRACE
CLINTON STREET	HILLCREST STREET	PARSONS AVENUE	WHITMAN ROAD
CLOCKTOWER DRIVE	HILLCROFT ROAD	PARTRIDGE CIRCLE	WHITNEY AVENUE
COLBURN STREET	HILLSIDE AVENUE	PEARL STREET	WHITNEY COURT
COLLEGE DRIVE	HILLSIDE ROAD	PEIRCE STREET	WHITTIER AVENUE
COLLEGE FARM ROAD	HOBBS BROOK ROAD	PELHAM ROAD	WIGHT STREET
COLONIAL AVENUE	HOBBS ROAD	PHEASANT ROAD	WILBUR STREET
COLUMBUS AVENUE	HOLLACE STREET	PHILIPS TERRACE	WILDWOOD LANE
COMMON STREET	HOPE AVENUE	PHILLIPS CIRCLE	WILLARD STREET
COOLIDGE AVENUE	HOVEY ROAD	PIEDMONT AVENUE	WILLIAMS STREET
COOPER STREET	HOWARD STREET	PIETY CORNER ROAD	WILLOW STREET
COPELAND STREET	HUMBOLDT STREET	PIGEON LANE	WILMOT ROAD
COPLEY AVENUE	HUNTINGTON STREET	PINE HILL CIRCLE	WILSON ROAD
CORNWALLIS PLACE	INDIAN ROAD	PINE OAK STREET	WILTON STREET
COTTAGE STREET	INTERVALE ROAD	PINE STREET	WIMBLEDON CIRCLE
COVE STREET	IRVING STREET	PINE VALE ROAD	WINDSOR TERRACE
COWASSET LANE	IVALOO STREET	PLANT ROAD	WINGATE ROAD
CRABTREE STREET	IVY LANE	PLEASANT AVENUE	WINSOM AVENUE
CRAFTS STREET	JACKS WAY	PLEASANT STREET	WINTER PLACE
CRAIG LANE	JACKSON PLACE	PLYMPTON AVENUE	WINTER STREET
CRAVEN CIRCLE	JACKSON STREET	PLYMPTON CIRCLE	WINTHROP STREET
CRESCENT STREET	JACQUELINE ROAD	PLYMPTON STREET	WOBURN STREET

WALTHAM STREET NAMES			
CRESTVIEW ROAD	JAMES STREET	POND END ROAD	WOERD AVENUE
CROSS STREET	JEFFERSON AVENUE	POND END SCHOOL LN	WOODCHESTER CIRCLE
CUNNINGHAM CIRCLE	JENNINGS ROAD	POND STREET	WOODCHESTER ROAD
CURTIS STREET	JERICHO HILL ROAD	POND STREET COURT	WOODCLIFF DRIVE
CURVE STREET	JOHN STREET	PORTER ROAD	WOODLAND ROAD
CUSANO CIRCLE	JONES ROAD	POTTER ROAD	WOODLAWN AVENUE
CUSHING STREET	JOY STREET	POWER PLANT ROAD	WORCESTER LANE
CUTTER STREET	JOYCE ROAD	PRATT AVENUE	WYCOMA WAY
CUTTING LANE	JUDITH LANE	PRENTICE STREET	WYMAN STREET
CYCLE STREET	JUNIPER HILL ROAD	PRINCETON AVENUE	WYOLA PROSPECT
DALE CIRCLE	KEACH STREET	PRISCILLA LANE	YETTEN TERRACE

APPENDIX 2:
HERBICIDE FACT SHEETS
LOCATED AT:

HTTP://WWW.MASS.GOV/EEA/AGENCIES/AGR/PESTICIDES/RIGHTS-OF-WAY-VEGETATION-MANAGEMENT.HTML

Appendix 3:
Herbicide Labels

Escort XP:
http://www.cdms.net/ldat/ldCFM000.pdf

Esplanade 200SC:
ldAB1004.pdf (cdms.net)

Garlon 4 Ultra:
http://www.cdms.net/ldat/ld7IN015.pdf

Krenite S:
https://s3-us-west-1.amazonaws.com/www.agrian.com/pdfs/Krenite_S_Label1i.pdf

Patriot:
http://www.cdms.net/ldat/ld6KH000.pdf

Polaris:
http://www.cdms.net/ldat/ld8KR002.pdf

Rodeo:
http://www.cdms.net/ldat/ld4TN001.pdf

APPENDIX 4:
HERBICIDE SPILL CHECK LIST

APPENDIX 4:
HERBICIDE SPILL CHECK LIST

REPORTABLE SPILLS (Spills of reportable quantity of material): FOLLOW STEPS 1-10
NON-REPORTABLE SPILLS: FOLLOW STEPS 1, 2, 3, 4, 7, 8, 9, 10 & 11 as appropriate and contact the Waltham representative.

Order	ACTION		Done (√)
1	Use any and all PPE as directed by product label or SDS.		
2	Cordon-off spill area to unauthorized people and traffic to reduce the spread and exposure of the spill		
3	Identify source of spill and apply corrective action, if possible, stop or limit any additional amounts of spilled product.		
4	Contain spill and confine the spread by damming or diking with soil, clay or other absorbent materials.		
5	Report spills of "reportable quantity" to the Mass. DEP and MDAR:		
	Massachusetts MDAR, Pesticide Bureau	(617) 626-1700	
	Massachusetts Department of Environmental Protection, Emergency Response Section	Main Office: (888) 304-1133 (after hours number)	
		Northeast Region: (978) 694-3200	
6	If the spill cannot be contained or cleaned-up properly, or if there is a threat of contamination to any bodies of water, immediately contact any of the following applicable emergency response personnel:		
	local fire, police, rescue	911	
	Waltham CPW Representative **Kevin Thompson**	(781) 314-3850	
	Waltham Environmental Specialist **Sheryl Waddick**	(781) 314-3296	
	Product manufacturer(s)		
	1	1	
	2	2	
	3	3	
	Chemtrec	(800) 424-9300	
	additional emergency personnel		
7	Remain at the scene to provide information and assistance to responding emergency clean-up crews		
8	Refer to the various sources of information relative to handling and cleanup of spilled product		
9	If possible, complete the process of "soaking up" with absorbent materials		
10	Sweep or shovel contaminated products and soil into leak proof containers for proper disposal at approved location		
11	Spread activated charcoal over spill area to inactivate any residual herbicide		