



**CITY OF MARLBOROUGH
DEPARTMENT OF PUBLIC WORKS**

**VEGETATION MANAGEMENT PLAN
FOR
CALENDER YEARS 2014 THROUGH 2018**

November 2013
Modified November 19, 2013

Prepared by:

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Department of Public Works

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MUNICIPAL ROADWAY VEGETATION MANAGEMENT PLAN

1.0 GENERAL STATEMENT OF GOALS AND OBJECTIVES

This roadway vegetation management plan (VMP) is intended to establish the criteria whereby the City of Marlborough which controls vegetation along roads and highways are in compliance with the right-of-way management regulations (333 CMR 11.00) as promulgated by the Massachusetts Department of Agricultural Resources. This Vegetation Management Plan (VMP) establishes criteria for the City of Marlborough to control vegetation along municipal Rights-of-Way (ROW) in compliance with the ROW Management Regulations (333 CMR 11.00) as promulgated by the Massachusetts Department of Agricultural Resources.

The primary objective of this VMP is to provide the public with safe and unobstructed ROWs while utilizing an Integrated Pest Management (IPM) program and minimizing reliance upon herbicides. Vegetation maintenance is necessary along public ROWs to control unwanted vegetation that may pose a public nuisance, result in safety hazards or cause damage to structures and infrastructure. The goal of the program is to control undesirable vegetation while maximizing environmental protection and minimizing herbicide use. The plan's success will be based upon periodic monitoring and inspection which is expected to result in:

Protection of the public and environment;

- Control of target vegetation;
- Reduction in volume of chemical application;
- Reduction in frequency of chemical application; and
- Protection of sensitive areas.

This VMP will serve as a technical guidance for individuals involved in ROW vegetation management and as an accessible source of information for residents and public officials.

2.0 IDENTIFICATION OF TARGET VEGETATION

Target vegetation will be limited to species that pose a safety hazard, compromise infrastructure, are a public nuisance, or are invasive and may have detrimental effects on natural resources.

2.1 Public Nuisance Vegetation

This category includes vegetation that could cause problems to the general public, employees or contractors and generally include poisonous and noxious plant species. Nuisance vegetation poses a risk to safety and health often due to dermal contact with plants that are poisonous, heavily-thorned or densely colonized. Target vegetation in this category is primarily Poison Ivy and other nuisance vegetation within 10 feet of the edge of pavement or trail

2.2 Nuisance Grasses

In most instances grass is a desirable plant species. Along the shoulders of roads, grass growth will be encouraged and maintained through mechanical mowing. However in some instances, grasses may grow in areas where control is necessary through the limited use of herbicides. These areas include cracks in asphalt and along guard rails. In these instances, grass will become target vegetation if the stem density and height impedes movement or hampers visibility.

2.3 Invasive Vegetation

Invasive species can colonize a space and virtually eliminate the biodiversity of an area. This can result in changes in wildlife due to habitat change, impede natural hydrologic function and cause an overall change in the natural functions of an area. Managing invasive species via mechanical means can be ineffective and/or detrimental depending on the species, making the colonization stronger. In these situations, the use of an herbicide may be necessary. Working in conjunction with the Conservation Commission and/or private groups, there may be opportunities to remove invasive vegetation and encourage the growth of native species. Vegetation listed on the MA Department of Agricultural Resources, *Massachusetts Prohibited Plant List*, is included in this category.

2.4 *Hazard Vegetation*

Hazard Vegetation poses a risk to public safety and represents vegetation that impedes movement along public ways and paths. Hazard vegetation may obscure sightlines, obscure signs, obscure vehicle movements, create windfall hazards, block storm drains and cause winter shading (causing ice/reduced melting). Hazard vegetation may include but is not limited to, trees, tree limbs, and shrubs

Most plants that interfere with traffic and visibility shall be controlled by mowing and/or hand cutting. However, due to topography, rate of growth, or physical characteristics, certain plant species are best controlled with herbicides.

3.0 **Vegetation Management Methods & Actions to Minimize Herbicides**

Vegetation management methods will include both non-chemical techniques and chemical application where necessary, and an IPM Program to minimize herbicide use. Vegetation management may involve the following methods:

- Physical Control – street-sweeping, sealing cracks, repaving.
- Mechanical Methods – hand-cutting, mowing, selective trimming.
- Chemical Control –foliar herbicide treatments and cut stump surface treatment.

The methods listed above will be chosen based on a variety of factors. The method chosen to treat a particular problem will be based on achieving a long term, low maintenance and stable herbaceous community of vegetation.

3.1 **Physical Control**

Physical control methods will rely primarily on sustainable landscape methods and pavement maintenance.

Pavement Maintenance

Pavement maintenance will consist of sealing cracks and general ROW repairs including repaving and installing new sidewalks. The City completes routine street-sweeping yearly, and in certain areas after heavy precipitation and after construction, as needed.

Sustainable Landscapes

Sustainable landscape techniques include alternative methods for new development and reconstruction that minimize roadside maintenance and promote active planting of competing vegetation. This may include:

- Encouraging the use of seeding and planting specifications that require less maintenance;

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- Planting of native trees, shrubs, wildflowers and grasses to compete and replace undesirable species;
 - Allowing private abutters to maintain ROWs, where applicable; and
 - Encouraging the use of Low Impact Development (LID) techniques including residential rain gardens.

3.2 **Mechanical Control**

Mechanical control methods may include hand cutting, mowing, and/or selective trimming.

Hand Cutting

Hand cutting consists of the mechanical cutting of target species using chain and brush saws. Target species are cut as close to the ground as practical with stump heights usually not exceeding three inches. Hand cutting is used in order to protect environmentally sensitive sites or on target vegetation greater than four feet tall where herbicide use is prohibited by regulation or on non-sprouting conifer species greater than six feet in height. Hand cutting is used on those restricted sites where terrain, site size or sensitivity renders mowing impossible or impractical. Hand cutting may be used at any time of the year.

Mowing

Mowing consists of the mechanical cutting of target vegetation using machines. Depending upon the resources available, mechanical cutting may be performed using a push mower, a large rider mower, brush hog, edger's, and "weed whackers". Selection of specific equipment is based on terrain, target vegetation size and equipment availability. Mowing shall be used in most areas where terrain and target stem size permit efficient use of the equipment and especially in areas where herbicide use is prohibited by regulation. Mowing shall be the principle vegetation control measure on the shoulders of roads.

Selective Trimming

Selective trimming consists of the mechanical pruning of the tops of encroaching limbs of tall trees that may hamper roadway access. Trimming will be accomplished using aerial lifts via trucks or tractors, or if terrain or obstructions prevent equipment access by climbing crews.

3.3 **Chemical Control**

Chemical control methods involve foliar treatment and cut stump surface treatments.

Foliar Treatments

Foliar treatments involve the selective application of an herbicide diluted in water, to the foliage and stems of the target vegetation. Two types of equipment for foliar treatments are used: Low volume and high volume. Both treatments use low pressure, below 60 psi at the nozzle, for application.

Low volume foliar treatments can be made using ready to use products, squirt bottles or backpack application equipment. The herbicide solution is applied to lightly wet the target plant. This technique has few limitations with the exception being reduced effectiveness on tall, high density target vegetation.

High volume foliar treatments use vehicle mounted application equipment that delivers the herbicide solution through hand held nozzles attached to a hose. The herbicide solution is sprayed to thoroughly wet the target vegetation using a water based herbicide mixture from a pressurized system on the application vehicle. This technique is used along roadways that have good access where obstructions, terrain or site sensitivity does not exclude the equipment. It should be noted that the need for high volume foliar treatments is extremely limited under this VMP.

Foliar treatments will only be used on hardwood target species below twelve feet in height, conifers below six feet in height, grasses and herbaceous weeds.

Low pressure foliar applications will take place when plants are in full leaf and actively growing, and in accordance with the manufacturer's recommendations. Generally speaking this means that applications may begin approximately June first and terminate around September 15th.

Cut Stump Treatment

Cut stump treatments consist of mechanical cutting of target species using chain saws, followed by herbicide treatment applied with a squirt bottle, a hand pump sprayer, or painted on the freshly cut surface of the stump. The cutting procedure is identical to that outlined in the Hand Cutting section of this VMP. Cut stump application can be effective during the dormant period, however, may not be effective during times of sap flow (i.e., maples and birches during the months of February through early April), as flowing sap will limit the herbicide from being absorbed into the stump down to the roots. Certain types of herbicide formulations are limited to freshly cut stumps to be effective.

Monitoring – All roadsides will be surveyed prior to any scheduled treatment program. Monitoring will be conducted by foot and/or by vehicle. Monitoring of areas may result from requests from the public. All monitoring records will be maintained by the City.

Maintenance – All roads will be cleaned using a street sweeper. Cracking asphalt and sidewalks and other ROW defects will be repaired. The use of groundcover will be used, where appropriate, to assist in the prevention of vegetation growth. The use of groundcover can sometimes help outcompete and/or crowd out poison ivy and some invasive species.

Record Keeping – A log of areas surveyed will be maintained by the City for future planning and reference. Areas maintained either through physical repair, mechanical or chemical control will be recorded.

Control Tactics – The decision to use one or a combination of vegetation control techniques will depend on the site-specific situation. The control tactics selected will control target vegetation in the most environmentally and efficient manner.

3.4 Summary of Control Strategies

<u>TARGET</u>	<u>TECHNIQUES</u>	<u>COMMENTS</u>
Poison Ivy	low volume foliar	Must be growing within 10 feet of the roadway. Spot treatment will be made using the low volume method, in most cases, except no spray zones around sensitive areas.
Grasses	mowing / street sweeping	In most cases
	low volume foliar	Spot treatment of grass growing along guard rails or in cracks where mowing or cutting is not practical
Low growth	mowing	In most cases; option for sensitive areas.
	low volume foliar	Terrain prevents mowing or hand - cutting; rapid resprouting species
	hand cutting	Terrain prevents mowing and re-sprouting is not a concern; option for sensitive areas.
Tall growth	selective trimming	In cases where the visibility or interference does not warrant removal of entire vegetation;

	option for sensitive areas.
hand cutting	Terrain prevents mowing; mowing not effective due to stump size; species greater than 12 feet in height that will not resprout; option for sensitive areas.
low & high volume foliar	Used on hardwoods less than 12 feet in height and on conifers less than 6 feet in height.
cut stump	For species greater than 12 feet in height that are capable of resprouting

4.0 JUSTIFICATION OF HERBICIDE APPLICATIONS PROPOSED

This plan focuses on the minimization of herbicide use within ROWs. Vegetation management along public ways is necessary to control unwanted vegetation that pose a public nuisance, obstructs views and creates a traffic or pedestrian hazard. By following the proposed vegetation management methods and IPM approach discussed in this plan, physical and mechanical treatment controls most of the plants that interfere with traffic, visibility and safety. Chemical controls are necessary in management situations where topography, access, growth rate, species specific factors, worker safety, or environmental/social concerns limit the potential for control by physical or mechanical methods.

Chemical controls are often the preferred method or only method of control for plants which pose a health hazard for the technician in the field, either directly or as a function of location. Poison Ivy, for example, is extremely hazardous to handle, biologically resistant to mechanical removal and can pose a serious threat. Individuals attempting to control curbside plants and weeds by pulling them or trimming them can put a technician in danger from traffic and is generally not effective for long-term control.

In many situations, poisonous plant species such as Poison Ivy cannot be effectively controlled by mowing. Due to the low growing nature of Poison Ivy, and the fact that it grows along stolons and reproduces both by fine and fibrous rhizomes as well as by berry, it is nearly impossible to control through cultivation, hand pulling or mowing at the height generally used in roadside mowing operations. Moreover, the climbing characteristics of this plant over stone walls, tree trunks and guardrails make mechanical control out of the question for safety and economic reasons. In some locations, the use of herbicides may help develop herbaceous communities that out-compete Poison Ivy and otherwise promote natural control of these plants.

Mowing will control most grasses. Herbicide applications, however, are used where mechanical control is not feasible due to location, stem density and/or height. Although

grass is more often a desirable vegetative cover along public ways, in areas where it is a target, it is difficult and sometimes dangerous to remove by mechanical treatment methods. These areas include, but are not limited to, cracks in asphalt, along guardrails, paved traffic islands, sidewalks and curbs. In these instances, grass can be identified as target vegetation.

Woody vegetation (low and high growth species) growing along the ROW that interfere with pedestrian or vehicle safety is controlled by a variety of techniques. Pruning or ground cutting using hand tools or chain saws primarily controls large woody vegetation. Depending upon the species of plant removed and its proximity to other vegetation, these stumps may be treated with an herbicide to prevent re-sprouting, although they often can be removed mechanically.

Small woody plants that are growing along the road shoulder in an accessible location will usually be mowed along with the roadside grass. Woody plants that are growing over obstacles that would impede the mower, or have a vine like growth habit and are not practical to hand cut or chip, or that grow very rapidly, can be controlled through the use of the foliar application of herbicides.

Finally, invasive species elimination is sometimes warranted to promote the growth of a more diverse mix of vegetative species, reduce sedimentation and improve natural drainage and wildlife habitat. Invasive species are rarely controlled with ground cutting techniques and generally need to be eliminated via herbicide application to restore an area.

5.0 CONTROL STRATEGIES PROPOSED FOR SENSITIVE AREAS

5.1 Methods, References and Source for Identifying Sensitive Areas

Sensitive areas are defined within 333 CMR 11.00 as areas within ROWs in which public health and environmental concerns warrant special protection to further minimize risks of unreasonable adverse effects of herbicides. These include: public groundwater sources, Class A public surface water sources, associated surface water bodies, tributaries, Class B drinking water intakes, private wells, state listed species habitat, wetlands, waters over wetlands, riverfront areas, certified vernal pools, inhabited areas, and agricultural areas. The Marlborough Conservation Commission will be consulted to assist in identifying sensitive areas. For the purposes of identification, sensitive areas can be separated into two categories: areas that are readily identifiable in the field, and areas that are not readily identifiable in the field.

Sensitive areas that are not readily identifiable in the field include public groundwater supplies, private water supplies and public surface water supplies. Additional sources available to identify these areas include:

- 1) Massachusetts Department of Environmental Protection (DEP) Watershed Maps (1:25,000); delineates the perimeter of public watersheds and the location of public wells;
- 2) Massachusetts DEP Wetland Conservancy Maps (scale usually 1:1,000):

- 3) Municipal maps and records, Board of Health, Conservation Commissions, and water suppliers;
- 4) Regional Planning Agencies maps and records;
- 5) U.S. Fish and Wildlife Service National Wetlands Inventory Maps, available from the University of Massachusetts, Cartographic Information Research Services, Amherst;
- 6) Massachusetts Division of Fisheries and Wildlife Natural Heritage Resources Maps

The following is a description of how the sensitive areas will be identified for required protection.

- 1) Consult the appropriate reference materials and resources to determine the precise location of these areas
- 2) Place the boundaries of these sensitive areas on U.S. Geological Survey (USGS) topographical maps.
- 3) Prior to commencement of herbicide application operations, the treatment crew will be provided the marked-up topographical map with which to flag boundaries of these sensitive areas.
- 4) The treatment crew will deploy a cutting crew or point person in advance of the main herbicide application operation to locate and flag these boundaries or the boundaries of the appropriate buffer zone.

Sensitive areas readily identifiable in the field include surface waters, inhabited areas, and agricultural areas. The method utilized to identify these sensitive areas will be as follows:

- 1) Consult USGS topographical maps to locate any of these sensitive areas that may be already being identified on these maps.
- 2) Prior to commencement of herbicide application operations, the treatment crew will be provided the marked topographic map.
- 3) The treatment crew will visually survey the area to be treated for any sensitive areas.

5.2 *Sensitive Area Restrictions (333 CMR 11.04)*

Sensitive Area	No Spray Area	Limited Use Area
Wetlands and Water Over Wetlands	Within 10 feet (unless provisions of 333 CMR 11.04(4)(c) are followed)	10 – 100 feet; 12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications

Sensitive Area	No Spray Area	Limited Use Area
Certified Vernal Pool	Within 10 feet	10 feet to the outer boundary of any Certified Vernal Pool Habitat; 12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications
Public Ground Water Supply	Within 400 feet (Zone I)	Zone II or IWPA (Primary Recharge Area); 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications
Public Surface Water Supply	Within 100 feet of any Class A public surface water source	100 feet to the outer boundary of the Zone A; 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications
	Within 10 feet of any tributary or associated surface water body located outside of the Zone A	10 feet to the outer boundary of the Zone A; 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications
	Within 100 feet of any tributary or associated surface water body located within the Zone A of a Class A public surface water source	
	Within a lateral distance of 100 feet for 400 feet upstream of any Class B Drinking Water Intake	Within a lateral distance of between 100 -200 feet for 400 feet upstream of intake; 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications
Private Water Supply	Within 50 feet	50 – 100 feet; 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications
Surface Waters	Within 10 feet from mean annual high-water line	10 feet from the mean annual high water line and the outer boundary of the Riverfront Area; 12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications
Agricultural and Inhabited Areas	N/A	0 – 100 feet 12 months must elapse between application; Selective low pressure, using foliar techniques or basal or cut-stump applications.
State-listed Species Habitat	No application within habitat area except in accordance with a Yearly Operational Plan approved in writing by the Division of Fisheries and Wildlife	

6.0 OPERATIONAL GUIDELINES FOR APPLICATORS RELATIVE TO HERBICIDE USE

As required by regulations, application to roadside ROW requires a valid Category 40 pesticide certification from the Department of Agricultural Resources. The applicator(s) will be a City employee and/or certified contractor working under the supervision of the City of Marlborough Project Manager. All applicators and their supervisors will have a copy of the VMP and Yearly Operational Plan (YOP) with them at all times for reference during the herbicide application. In addition to the applicable rules and regulations, applicators will adhere to the following operational guidelines. Only herbicides listed on the current ROW Sensitive Area Materials List will be used

Weather- Herbicide application will be restricted during certain adverse weather conditions, such as rain, wind or deep snow. Herbicide applications will not be made during periods of moderate to heavy rainfall. Foliar applications are effective in light mist situations; however, any measurable rainfall that creates leaf runoff will wash the herbicide off target. If foliar applications are interrupted by unexpected rainfall, the treatment will not resume until the rain ends and active leaf runoff has ceased. Cut stump treatments will not be made during measurable precipitation. Cut stump treatments will cease during measurable precipitation and will not resume until precipitation has ceased.

Excessive wind can create drift during foliar applications. Significant herbicide drift can cause damage to desirable vegetation on or off the roadside. Cut stump treatments are much less effected by wind because they are applied in such a close proximity to the ground.

To minimize off-target drift, the applicator will comply with the following restrictions:

- a. During periods of wind, which are enough to bend the tops of the main stems of tree species on the roadside, the applicator will periodically observe the application of the foliar treatment to insure that there is no significant movement of the herbicide. If the applicator can see the herbicide moving off target, the application will immediately stop until the wind has subsided enough to permit further applications.
- b. All herbicide solutions to be used for foliar application will contain low drift agents. Low-drift agents will be added to the foliar herbicide solution as per the low-drift agent label. In moderate wind conditions, as per label recommendations, more low-drift may be added at the discretion of the applicator, to control drift.
- c. Foliar treatment will not be made to target vegetation that exceeds approximately twelve feet.

Equipment Calibration- Foliar application equipment will be calibrated at the beginning of the season, prior to touch-up application treatment, and in accordance with manufacturer's recommendations. Foliar application equipment will be calibrated to maintain pressures not exceeding sixty pounds per square inch at the nozzle. Applicator nozzles will be adjusted to apply a course spray pattern. Throttles will be kept to the minimum setting required to transport the herbicide solution to the tops of each target and penetrate the foliage to the main stem of each target.

Cut stump treatment squirt bottle applicators will be adjusted to deliver the herbicide solution in a thin stream to the target zone.

Private Properties- Trees located on private property will not be treated unless there is approval given by the landowner in writing. Applications shall also be in accordance with city ordinances and by-laws.

Sensitive Area Restrictions- In defined sensitive areas; there exist a no-spray buffer zone where herbicide use is prohibited and a zone where herbicide use is allowed under certain conditions. In areas around sensitive areas where herbicide use is allowed, only the minimum labeled rate of application for control of target species can be applied.

7.0 IDENTIFICATION AND QUALIFICATIONS OF INDIVIDUALS DEVELOPING AND SUBMITTING A PLAN

This plan has been developed and submitted by the following individuals:

Christopher White;

- General Foreman, Forestry, Parks, and Cemetery Division and has been employed by the City of Marlborough for twenty three years.
- Taken both sections of Green School and received certificates Turf 2000, Landscape Operations 1998, Certificate in Horticulture 1982.
- Associates in Science/Business Administration, Mass Bay C.C.
- City of Marlborough's Tree Warden and prior to this promotion worked directly with predecessor who managed the ROW program.
- Several training courses through the Department of Agricultural Resources and holds a license/certification in categories 36 Shade Trees/Ornamentals and 40 Rights-of Way.
- Worked with the Marlborough's public facility's director to develop and implement the outdoor IPM Plan for the city's schools.

Priscilla Ryder;

- City of Marlborough Conservation Commission Agent,
- Bachelor of Science/ Environmental Conservation, UNH
- Master of Science in Environmental Policy, Tufts University
- Past administrator of the city's Vegetation Management Plan

8.0 MUNICIPAL ROADWAY VEGETATION MANAGEMENT PLAN

This Municipal Roadway Vegetation Management Plan, approved by the Department of Agricultural Resources pursuant to the Rights of Way Management Regulations (333CMR 11.00), has been adopted by the following municipality and agency. As the representative of the municipality and agency, the undersigned hereby acknowledges that the conditions of the Roadway Vegetation Management Plan will be effective for five 5 years unless sooner modified or revoked by the Department.

MUNICIPALITY: Marlborough, MA

AGENCY: Department of Public Works

ADDRESS: 135 Neil Street
Marlborough, MA. 01752

PHONE: (508)-624-6910 ext. 7601

NAME: Christopher White,
General Foremen, Forestry, Parks and Cemeteries Division
Department of Public Works

Email: cwhite@marlborough-ma.gov

SIGNATURE: _____

DATE: November 19, 2013

A municipality will be considered to have an approved Vegetation Management Plan when a completed copy of this cover page is submitted to the Department of Agricultural Resources.

The Conservation Commission, Board of Health and chief elected official in the community must receive a copy of this page and the entire Roadway Vegetation Management Plan.

9.0 A DESCRIPTION OF INTEGRATED PEST MANAGEMENT PROGRAMS OR OTHER TECHNIQUES/PROGRAMS TO MINIMIZE THE AMOUNT AND FREQUENCY OF HERBICIDE APPLICATION

Integrated Pest Management (IPM) as it applies to roadside maintenance involves utilizing a variety of techniques to control unwanted vegetation in the most ecologically based manner. Implementation of IPM will result in a reduced reliance on chemical pesticides (herbicides) by encouraging the vegetation management technique which will result in establishment and stabilization of beneficial vegetation. The resulting cultural control will reduce the need for vegetation management in the future. Vegetation management activities will place the non-chemical techniques as the methods of choice in light of the goal of controlling the undesirable vegetation and establishing a stable, beneficial vegetation community. If and when used, herbicides will be minimized through timing of applications to maximize control, and avoiding fixed application schedules while protecting non-target organisms and environmentally sensitive sites. The specific components the roadside IPM program includes:

Monitoring: All roadsides will be surveyed prior to any scheduled treatment program. Monitoring will be made by foot or by vehicle. Monitoring of areas may be the result of requests from the public.

Record Keeping: In addition to the record keeping requirements of the Pesticide Board regulations, a log of areas surveyed will be kept for future planning and reference. Areas maintained either through mechanical or chemical control will be recorded.

Control Tactics – The decision to use one of the vegetation control techniques will depend on evaluating the specific situation. The goal of the control tactic will be to establish an easily maintainable, stable plant population that will not interfere with vehicles or pedestrians. Emphasis will be given to the control tactic that will address the vegetation control in the long term.

- A. Selection of Alternative Vegetation
 - 1. Manipulation of native species
 - 2. Replanting of desirable species
- B. Physical Controls
 - 1. Selective pruning
 - 2. Ground cutting
 - 3. Mowing
- C. Chemical Controls
 - 1. Back pack sprayers (low volume foliar)

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2. Cut stem treatments
 3. Low pressure foliar treatments with power equipment (high volume foliar)

10.0 DESCRIPTION OF ALTERNATIVE LAND USE PROVISION OR AGREEMENTS THAT MAY BE ESTABLISHED WITH INDIVIDUALS, STATE, FEDERAL OR MUNICIPAL AGENCIES THAT WOULD MINIMIZE THE NEED FOR HERBICIDE, INCLUDING THE RATIONALE FOR ACCEPTING OR DENYING ANY REASONABLE REQUEST MADE BY AN INDIVIDUAL

Every effort will be made for alternative land use options. However, there are specific criteria to be met for adoption of alternative land use options. First, the alternative land use option must control the undesirable vegetation in a similar manner, ecologically and efficaciously as allowed in the VMP. For example, a common practice of abutters to roadways is to mow and maintain road shoulders. In this instance, the monitoring program would reveal that the area does not warrant vegetation control. A written agreement with landowners for alternative vegetation control methods will be obtained. This agreement would clearly specify that the Department of Public Works, Forestry, Parks and Cemetery Division will not treat vegetation in these areas and outline the landowner's responsibilities for vegetation control.

11.0 REMEDIATION PLAN TO ADDRESS SPILLS AND RELATED ACCIDENTS

All mixing and loading of herbicides will be conducted at the facility where the herbicides are stored, either at a secure City facility if the application is completed by a City employee or offsite if the application is being completed by an outside contractor. Only the amount of herbicide necessary to carry out the vegetation control, based on monitoring results, will be mixed to ensure that there will be no waste and to minimize potential problems. The vehicles carrying out the 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 will 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 absorptive clay or other absorptive material or, for large spills, building clay or soil dikes to impede spill progress. Until completely remediated, the spill area will be protected by the placement of barriers and by the delineation of the spill area by crew members. 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 placing it 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 in 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 per label instructions. Any minor spill will be reported to the Massachusetts Department of Agricultural Resources, Division of Crop & Pest Services.

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. In this case, the MassDEP Incident Response Unit and the Massachusetts Department of Agricultural Resources, Division of Crop & Pest Services must be contacted.

Emergency first responders (including, but not limited to, fire and police) should be immediately notified of a major spill and/or any size incident deemed a possible risk to public health, safety and the environment

MassDEP will be contacted when there is a spill of a regulated quantity, regardless of major or minor spill status and in accordance with 310 CMR 40.0000 Massachusetts Contingency Plan.

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

Herbicide label

Herbicide MSDS sheet

Herbicide Manufacturer

DOW 800-992-5994

Dupont 800-441-3637

Monsanto 314-697-4000

NuFarm 877-325-1840

Massachusetts Pesticide Bureau Main # 617-626-1720

Michael McClean 617-626-1781

Massachusetts Department of Environmental Protection

Emergency Response 888-304-1133

Department of Public Health

Environmental Toxicology Program 617-624-5757

Massachusetts Poison Control Center

24-Hour Hotline 800-222-1222

City of Marlborough Public Works Department 508-624-9610

City of Marlborough Board of health 508-460-3751

City of Marlborough Fire Department 508-485-2323 or 911

City of Marlborough Police Department 508-485-1212 or 911

Chem-Trec 800-424-9300

National Pesticide Information Center 800-858-7378

National Animal Poison Control Center 888-426-4435

Monitoring Plan

On an annual basis, the City will evaluate the success of the vegetation management program. The goal of this monitoring plan is to evaluate the relative success of vegetation control efforts. Following treatment, after an appropriate period of time, treatment areas will be revisited. The survivorship or regrowth of nuisance vegetation will be recorded and evaluated periodically to determine whether the program is meeting its goals. Any changes will be reflected in the next year's YOP, as applicable.

APPENDIX A

LOCUS MAP

APPENDIX B

DETERMINATION OF APPLICABILITY VARIOUS STREETS – ROADSIDE VEGETATION MANAGEMENT

APPENDIX C

LETTER FROM BOARD OF HEALTH

APPENDIX D

LETTER FROM CHIEF EXECUTIVE OFFICER (MAYOR)