

**VEGETATION MANAGEMENT PLAN
FOR
SPRINGFIELD TERMINAL
RAILWAY COMPANY
PAN AM RAILWAYS
2021 to 2025**

Prepared for:

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1.0 INTRODUCTION

This document details a five (5) year Vegetation Management Plan (VMP) for Rights-Of-Ways of the Springfield Terminal/Pan Am Railways (The Railroad), of North Billerica Massachusetts. The VMP addresses the intended program to be carried out by the Railroad for the control of nuisance vegetation within their Rights-Of-Way (ROW) that may interfere with safe railroad operations. The plan includes: a statement of goals and objectives related to vegetation management; a description of the ROW; identification of components and vegetation categories targeted for control; the methods intended for control and management of vegetation; the rationale and justification for the proposed vegetation management techniques and herbicide applications; timing of herbicide applications; the operational strategies and requirements to be followed by the Railroad and application contractors; equipment used for vegetation control; the techniques used for identification of sensitive areas and control strategies for sensitive areas; Integrated Pest Management Techniques and alternative control techniques used to minimize the frequency of herbicide applications; emergency/contingency measures to be implemented to prevent, control, or clean up a possible spill of herbicides; alternative land use provisions; and the qualifications of the people preparing this plan.

2.0 GENERAL DESCRIPTION OF THE SPRINGFIELD TERMINAL/PAN AM RAILWAYS

Pan Am Railways is headquartered in North Billerica, Massachusetts. It is a subsidiary of Portsmouth, New Hampshire based Pan Am Systems, formerly known as Guildford Transportation Industries. The railroad has been in operation for approximately 150 years and consists of the Springfield Terminal and Pan Am Southern. The Railroad main line passes through fifty two (52) Massachusetts communities. It runs north to south from the Massachusetts/Vermont State line in Northfield to Springfield and from Ayer south to Worcester. The railroad also runs from Ayer easterly to Andover, and westward to the Massachusetts/New York State Line in Williamstown. A list of communities in which the Railroad has rights-of-way ownership, and therefore may be affected by vegetation management activities is as follows:

Adams	Andover	Ashburnham	Athol
Ayer	Bernardston	Buckland	Charlemont
Chelmsford	Chicopee	Clinton	Conway
Deerfield	Devens	Easthampton	Erving
Fitchburg	Florida	Gardner	Greenfield
Groton	Harvard	Hatfield	Holyoke
Lancaster	Lawrence	Littleton	Lowell
Montague	North Adams	Northampton	Northfield
Orange	Peabody	Phillipston	Rowe
Royalston	Salem	Shelburne	Springfield
Sterling	Templeton	Tewksbury	Tyngsborough
Wendell	West Boylston	Westford	Westminster
Whately	Williamstown	Winchendon	Worcester

See Appendix A

3.0 GOALS AND OBJECTIVES OF THE VEGETATION MANAGEMENT PLAN

This VMP was prepared in the interests of safety and welfare of railroad personnel and the general public. These interests are protected by providing the Railroad with operational standards and procedures necessary to implement an effective vegetation management program, while providing municipalities and regulatory agencies, as well as Railroad employees, with the information necessary to monitor vegetation management activities for the insurance of a safe and healthy environment. The VMP describes methods utilized by the Railroad to control or eradicate vegetation growing adjacent to and within the roadbed using herbicides, mechanical equipment, proper planning and management practices, and Integrated Pest Management Techniques in order to minimize the amount of herbicide used. Such a need for vegetation control along the Railroad's ROW stems from regulatory statutes governing the railroad industry's safe operation, and from a practical evaluation of the processes, which lead to the degradation of a roadbed. Although the Railroad currently only treats the ballast area, switch boxes, signals and signposts with herbicides, the railroad reserves the right to treat brush under communication lines after additional sensitive area delineation to allow for the expanded spray zone.

Pursuant to Article 49 Code of Federal Regulations (CFR) ss 213.37, railroads are required to control vegetation in order to alleviate the potential of fire, to provide railroad employees with unobstructed visibility of the track, and road bed components from their normal duty stations, and, during routine inspections, to allow clear visibility of signs and signals, the safe performance of normal duties of Railroad personnel, and to prevent damage to or malfunction of signal and communication lines. The Railroad will incorporate the proposed vegetation control techniques along with sound management, planning and record keeping practices in order to meet or exceed the safety requirements imposed by state and federal regulations. It is also the Railroads' intent to minimize the need for herbicide use as part of their vegetation management program.

Subject to approval of this VMP by the Massachusetts Department of Agricultural Resources (DAR), the railroad will prepare on an annual basis a Yearly Operational Plan (YOP) that will provide specific information about the vegetation management program to be carried out for the specified year. This YOP shall contain all information required by the DAR and will be submitted to the DAR for its review, comment and subsequent approval. As per 333 CMR 11.06(3)(b), copies of the YOP or a web site where the YOP can be viewed will be submitted to the chief elected municipal official, Conservation Commission and Board of Health for each affected community listed in the YOP. The municipal officials and general public shall have 45 days, upon receipt, to review the YOP and submit comments to the DAR. Following the review and comment period, the DAR will provide the Railroad with formal notice of approval or denial of the YOP, or request modification as necessary.

4.0 INTEGRATED PEST MANAGEMENT TECHNIQUES

Integrated Pest Management Techniques (IPM) is the process of optimizing pest control by implementing best practices that minimize the amount of herbicides applied while still achieving the desired results. This includes the performance of a survey of the ROW with the goal of the elimination from its spray schedule those areas where undesirable vegetation is not present. The survey shall include the identification of the undesirable vegetation in order to select herbicides most suited for the control of those species. The survey shall also include identification and recording of areas adjacent to the roadbed section of the ROW where vegetative conditions are found to be favorable to the interests of the railroad. For example, grasses or other low growing herbs that occur within the roadbed are undesirable, whereas their occurrence in areas below the communication lines is tolerable as they do not interfere with the communication lines or obscure the vision of railroad personnel. Non-selective use of herbicides or mechanical means of vegetation control will be avoided in these areas. Additionally, the conditions, which appear to contribute to a lack of or abundance of favorable vegetation, will be noted, and efforts made to alter those conditions in order to achieve the desired conditions. Such conditions that may affect the presence or absence of undesirable vegetation include regional topography, drainage, availability of sunlight, nutrients, and in the case of the ballast, the potential for soil and detritus accumulation. The railroad will implement this integrated approach to vegetation management by encouraging plant communities that hinder the development of target vegetation.

4.1-HISTORICAL VEGETATION MANAGEMENT

According to RWC INC, Pan Am's licensed applicator, the current herbicide products/programs in the Commonwealth of Massachusetts have gone primarily unchanged since the early 2000's primarily due to no action being taken to approve new products for the Massachusetts Sensitive Materials List. Because we as an industry continue to rely on glyphosate (Razor/Aquaneat) and sulfometuron/metsulfuron methyl based products (Oust/Oust Extra) we will continue to have significant resistance from using these products year after year in the field to control annual grasses effectively. This leaves the railroads with glyphosate (Razor/Aquaneat) and metsulfuron methyl based products (Escort XP/Patriot), meant for broad leaf applications, and the limited use of imazapyr based products (Powerline/Polaris) and the restriction on the number of consecutive years it can be applied to control yearly weed and grass species in the ROW Program.

In the years when imazapyr is restricted the application will primarily, if not solely, be glyphosate and metsulfuron methyl based products. The combination of these products will only control actively growing vegetation due to its need to be absorbed through foliage. Railroads in the Commonwealth typically do one yearly application and because of the cost prohibitive nature of a second application many forgo additional touch up applications with a glyphosate based product.

Because we are seeing significant resistance and been for multiple years to the products currently approved, the need for increased and expedient testing by the Department of Agricultural Resources (DAR) must be top priority. While some involved may be concerned for the potential effects the newer products such as Method 240 SL, Esplanade 200 SC, and many other products that are approved by the Commonwealth of Massachusetts (but not on the Sensitive Materials List) have on our environment there is a need to consider the safety of the rail networks within the Commonwealth. Railroads are regulated by the Federal Railroad Administration (FRA) and vegetation control is mandated by the FRA for vehicle safety at RR crossings: for fire reduction for local citizens near the tracks: for trip and fall reduction for RR workers: to reduce vegetation induced train braking failure: and to help maintain the integrity of the road bed structure. As stated earlier, the herbicides currently available on the sensitive materials list for use on the railroad rights of way in Massachusetts no longer control the resistant weeds and grasses as they did when they were originally approved. It is time to approve new products for use on the railroad rights of way in Massachusetts.

5.0 RIGHT-OF-WAY COMPONENTS AND JUSTIFICATION FOR HERBICIDE USE

5.1-ROADBED

The railroad ROW is comprised of the roadbed and the areas adjacent to the roadbed. Components of the roadbed are the steel rails and wooden ties that are supported on a bed of crushed traprock, known as ballast. The sloped sides of the ballast are referred to as the shoulder. Figure 1 (Appendix B) depicts a typical roadbed layout. Vegetation growing within the roadbed can cause several safety and functional problems for the Railroad. Excessive vegetation within the roadbed can hinder visibility of the tracks and roadbed components during track inspections and normal operations. Vegetation may also present physical hazards to Railroad personnel while working alongside rail equipment such as boxcars and locomotives. Vegetation may cause personnel to trip, slip or fall, which could result in serious injury or death. Vegetation in the roadbed can also result in the accumulation of soils and organic matter within the ballast section, which may inhibit drainage and weaken the structural integrity of the roadbed. As the height and density of the roadbed weeds increase, they become crushed against the wheel of trains, thereby reducing the effectiveness of the braking system, which increases the risk of accidents. The term “weeds” as used in this plan refers to any vegetation growing within the roadbed section of the ROW.

During dry months, weeds and brush can ignite from sparks created by the wheels and undercarriage of the trains. Brush fires may also be ignited along the roadbed from external sources such as vandals, discarded cigarettes dropped by pedestrians or from passing motor vehicles. Since most wooden rail components such as the rail ties and trestle timbers are treated with creosote or other flammable wood preservatives, brush fires can easily accelerate, resulting in damage to the roadbed components, communication lines and the disruption of the Railroad as a whole. Weed eradication in the early growth stage is essential, as growing root systems tend to assist in the

accumulation of soil within the ballast, resulting in additional weed propagation. Based upon the aforementioned factors, weeds growing within the roadbed shall be targeted for complete control by the use of herbicides.

5.2- DRAINAGE DITCHES

One of the most important components of the Railroad ROW is drainage ditches, which parallel the roadbed on each side of the shoulder. Rapid drainage of stormwater away from the roadbed is essential to maintain its structural integrity. If saturation of the ground below the roadbed occurs, the weight of the trains could cause the roadbed to sink into the underlying mud, which results in damage to the track sections and reduces the stability of the passing rail traffic, potentially resulting in a train derailment. For this reason the roadbed is designed to allow for quick stormwater drainage. If the ballast is maintained free of weeds and soil, stormwater can pass easily through the roadbed allowing the runoff to collect in the adjacent drainage ditches.

In areas where the drainage ditches are not kept free of sediments and nuisance vegetation (see Section 6.0), the ditches tend to pond water rather than promote free drainage. The problem is compounded by the fact that some drainage ditches have developed hydrophytic (wetland) plant communities. Where no direct hydraulic connection occurs between drainage ditches and viable wetlands, the ditches shall be maintained by selective application of herbicides or mechanical trenching equipment. No herbicides shall be applied when standing water is present. Treatment of ditches shall only occur during dry periods using only those herbicides, which have been recommended by the DAR for use in sensitive areas.

5.3- BRIDGES AND ABUTMENTS

Wooden or steel railroad bridges generally do not have the capability to trap soils and allow for vegetative growth and therefore will not be treated with herbicides. Vegetation can grow between gaps and cracks and in stone abutments, footings, or foundations and loosen the stone, brick, or concrete. Vegetation growing in and around these structures will be maintained by both mechanical cutting and by selective herbicide application, as allowed, when mechanical means are not practical.

5.4- SWITCH BOXES, SIGNALS, AND SIGNPOSTS

Federal law (40 CFR 213.00) requires railroads to control vegetation around switch boxes, signals and signposts to allow for complete visibility by train engineers, inspectors, passing motorists, and pedestrians. Unless this task can be accomplished quickly and effectively by mechanical means, these areas will most often be controlled, as allowed, by herbicide application. Herbicides in these areas will be manually applied by the licensed applicator utilizing a hose with spray nozzle attached to the hy-rail vehicle. The area within a 10-foot radius of switches, signals and signposts will be maintained free of weeds.

5.5- COMMUNICATION LINES

The Railroad utilizes overhead communication lines that parallel the roadbed. The vegetation present in the areas below the communication lines must be maintained free of dense brush or trees to prevent damage and to allow access to the lines and associated poles for periodic and emergency services. Lines may become shorted out if contact is made with tree limbs or creeping vines. They may also be knocked down if struck by falling limbs or branches. Some nuisance vegetation, such as tree limbs or branches may be controlled effectively by mechanical pruning, however, other problematic vegetation, such as poison ivy, which may attach itself to the utility poles and continue to spread along communication lines, is better controlled by herbicides. Mechanical means of poison ivy removal may result in direct contact with the plant by the equipment operator, which could pose a risk to the health of the operator. In general, tree limbs will be pruned when they overhang or are near the point of direct contact (within 2 to 5 feet) with communication lines.

6.0-IDENTIFICATION OF TARGET (NUISANCE) VEGETATION

6.1-WEEDS

The term “weeds” as used in this plan refers to any vegetation growing within the roadbed section of the ROW. Weeds shall be targeted for complete eradication. Weeds frequently found within the roadbed include grasses, sedges, forbs, tree and shrub seedlings, and creeping vines. Control of weeds within the roadbed can only be achieved cost effectively and efficiently through the discriminate use of herbicides.

Other types of vegetation growing outside of the roadbed includes:

6.2-BRUSH

The term “brush” as used in this plan refers to any low moderate height woody or non-woody vegetation growing in areas adjacent to the roadbed. Brush present in areas adjacent to the roadbed will be controlled whenever visibility of signals, signposts, crossings and adjacent rail lines are obstructed, and when encroaching upon communication lines adjacent to the roadbed. Vegetation along the inside of curves will be managed to provide the train’s engineer with adequate visibility of track conditions, persons, animals or foreign objects present ahead of the train, and for observation of the train’s performance.

6.3-TREES

The term “trees” as used in this plan refers to any woody plant species, which are supported by a single stem or trunk, and are capable of reaching heights greater than 10 feet. Trees will be targeted for maintenance when limbs or branches encroach upon railroad bridges or the communication lines located adjacent to the roadbed. Tree maintenance will occur when the trees or branches obscure the train engineer’s vision of

the roadbed components, signals, or road crossings. Tree maintenance will be achieved using mechanical cutting methods, followed by a stump treatment with herbicides when appropriate.

6.4-VINES

The term “Vines” as used in this plan shall refer to any creeping or climbing plants. Vines will be controlled through herbicide applications and mechanical cutting when they encroach upon communication lines, utility poles, signals, and the roadbed components.

6.5-DESIRABLE VS UNDESIRABLE VEGETATION

“Desirable vegetation” refers to any vegetation, which does not interfere with railroad operations. Conversely “undesirable vegetation” is any vegetation, which due to its species characteristics, or location in the ROW, interferes in railroad operations. For example, grasses or other low growing herbs that occur within the roadbed are undesirable, whereas their occurrence in areas below the communication lines is tolerable as they do not interfere with the communication lines or obscure the vision of railroad personnel. Shrubs and trees located along the outer limits of the ROW (usually 30 to 50 feet from the centerline of the roadbed) provide an aesthetically pleasing visual barrier between the ROW and nearby residential areas. However, this type of vegetation may pose a visual obstruction at roadway crossings. As mentioned in Section 4, Integrated Pest Management Techniques will be utilized to minimize the use of herbicides.

7.0 METHODS OF VEGETATION MANAGEMENT

Before implementing a vegetation control program, the Railroad will periodically re-evaluate problematic areas along the ROW, and select the vegetation control methods(s) most suited to conditions encountered. Integrated Pest Management Techniques will be implemented. For areas where herbicides are deemed the suitable means of vegetation control, herbicide selection will be based upon its ability to control the undesirable vegetation present within the target area. The various vegetation control methods to be implemented along the Railroad's ROW are discussed in the following sections.

7.1-VEGETATION CONTROL TECHNIQUES

Vegetation can be controlled along the ROW by herbicide applications and mechanical means. However, both techniques have their advantages and limitations depending upon where, when, and how they are implemented. The only available technology feasible for complete eradication of vegetation within the roadbed is through herbicide applications. Mowing or hand weeding around the track components would be an impractical, if not impossible task to accomplish successfully based upon the amount of time and manpower that would be required. Mowing would not remove the entire root system, resulting in regrowth of the plants in a short period of time. Herbicides are currently the most effective and practical means of obtaining total vegetation eradication within the roadbed. However, their use is restricted by weather conditions as well as by regulatory constraints that prohibit their use in certain designated sensitive areas (See Chapter 8.0).

Vegetation below communication lines, along inside curves, and at road crossings, will be managed using a combination of herbicide and mechanical control methods. The methods selected will be dependent upon the degree of vegetation control needed, the class and species of vegetation (desirable vs. undesirable, see Chapter 6.0), and sensitive area restrictions that may apply to the target area (see Chapter 8.0). Specific methods of vegetation control to be implemented along the Railroads ROW are discussed in Section 7.2.

7.2 HERBICIDE APPLICATION EQUIPMENT AND METHODS

7.2.1 Hy-rail Equipment and Uses

Hy-rail vehicles are trucks or utility vehicles that are equipped with roller wheels that lower onto the steel rails of the track allowing the vehicle to ride on the track. The hy-rail equipment allows for performance of herbicide applications to the ROW from the railroad tracks thereby alleviating the need for traversing rough terrain. The spray truck is equipped with a water tank, and a separate herbicide mixing tank. In addition to the spray vehicle, a hy-rail spotter vehicle, which is in radio contact with the applicator, will ride ahead of the applicator to assist in the identification of sensitive areas.

Hy-rail vehicles are equipped with spray booms that have a series of spray nozzles that apply a low-pressure (30 to 60 pounds per square inch) spray of herbicide directly to the roadbed from a height of approximately 18 inches above the ballast. The boom is also equipped with side spray guards that prevent drift of herbicide to non-target areas. The spray boom is controlled from within the cab of the spray vehicle. Multiple controls allow the applicator to direct the spray of herbicide to any portion or the roadbed, or to the entire surface area. For example, if weeds are present in the center of the roadbed, but the shoulder areas are free of vegetation, the applicator can selectively treat the center of the roadbed, thereby eliminating unnecessary herbicide application to the shoulders. The maximum width of the spray boom is variable depending upon hy-rail equipment used, but is generally between 16 and 20 feet. Some hy-rail spray vehicles are also equipped with spray hoses and extended nozzles that can be used to apply herbicides, via low pressure spray, to vegetation growing around switches, signals, and sign posts. The hy-rail equipment can also be affixed with extension booms capable of reaching drainage ditches and areas below communication lines.

To further control drift of herbicide, anti-drift agents are added to the herbicide solution. All herbicide applications shall be conducted by a certified applicator in the Commonwealth of Massachusetts.

7.2.2 Foliar Application

Foliar application refers to the application of herbicides to the leaves and stem of plants using a low-pressure spray. As mentioned above, hy-rail vehicles are equipped with spray booms that have a series of nozzles that apply a low-pressure spray applied at pressures between 30 and 60 PSI. Proper application of herbicides by low-pressure spray equipment allows for complete coverage of the target vegetation and the reduction of overspray or airborne drift, which can result from high-pressure spray equipment.

The method of herbicide application to the roadbed as described in the previous subsection is one method of foliar application performed as part of a post-emergent spray program. Selective foliar application may also be performed to control vegetation around signals, sign posts, switch boxes, or around buildings. As mentioned previously, all applications of herbicides shall be performed by a certified applicator with hose and sprayer either attached to the spray vehicle or small tank.

This method may also be used for side trimming trees to eliminate nuisance branches without destroying the entire tree. Side trimming using herbicides will only be performed when the Railroad's Vegetation Control Engineer or contractor determines the method to be more suitable than alternative control methods, such as hand pruning.

7.2.3 Stump Treatment

When mature trees are removed along the ROW, a stump treatment may be applied to the cut surface to prevent re-sprouting of the tree. The herbicide stump treatment can be "painted" onto the stump using a brush or applied by squirting the stump using a low-pressure spray. Trees to be removed shall be marked by personnel in the field prior to treatment.

7.3 MECHANICAL EQUIPMENT

Mechanical means of vegetation control is implemented along the Railroad ROW when the use of herbicides is prohibited, or when a combination of mechanical cutting and herbicide applications is found to be the most suitable means of achieving total pest control. Throughout the term of this VMP, the railroad shall work to incorporate Integrated Pest Management practices. Examples of this may include the introduction of grasses or low growing shrubs to control undesirable vegetation under communication lines.

Mechanical means of vegetation control will be limited to nuisance woody and brush species that are found to be interfering with railroad operations occurring in the areas adjacent to the roadbed. No mechanical means of vegetation control is feasible within the ballast area of the roadbed.

Mechanical management of vegetation along the areas adjacent to the roadbed is most frequently and effectively performed by the use of high power mowing equipment. The mowing equipment is comprised of specialized cutting heads mounted on hydraulic arms which extend laterally, and are capable of reaching and pruning high branches or limbs which may obstruct communication wires, signals, bridges, or trestles, the view of personnel, passing motorists, and pedestrians. Mowing equipment can also be mounted on all-terrain vehicles to allow for movement and access through areas beyond the reach of hy-rail equipment.

Mechanical means of vegetation control may also be performed using chain saws and other hand tools, as well as portable weed cutters, when the use of rotary mowing equipment is not practical, and/or when selective vegetation management is desired. It is important to note that mechanical cutting equipment may pose a threat of risk to the health and safety of the operators as well as bystanders, especially if used by inexperienced persons. Therefore, only qualified individuals will use mechanical cutting and pruning equipment.

7.4 WEED CONTROL AS A SECONDARY BENEFIT

As part of the Integrated Pest Management, certain non-vegetation control activities may result in control or eradication of vegetation as a secondary benefit. Such activities may include periodic repair or replacement of rails, ties, or ballast. Scouring or retrenching drainage ditches will also eliminate weeds immediately adjacent to the roadbed and reduce the spreading of weeds via shoots, vines, or windblown seeds onto the roadbed. Trenching or other railroad maintenance activities other than herbicide applications may be subject to approval under Massachusetts Wetland Regulations, if performed in or within the regulated distance of a wetland.

7.5 SELECTION AND TIMING OF HERBICIDE APPLICATIONS

Selection of herbicides to be used in a given season will be dependant upon the timing of the application, the location of the target area with regard to sensitive area boundaries, and the species of nuisance vegetation present within the ROW. An evaluation of vegetation density and species identification along the roadbed of the main lines and branches will be made either during the late summer or fall proceeding the scheduled vegetation management season or during the early months of the growing season. Based upon the evaluation, the type of herbicide best suited for controlling observed nuisance vegetation will be selected.

7.5.1 Pre-Emergent Herbicide Program

The pre-emergent herbicide program involves the application of herbicides at the beginning of the growing season before weeds have emerged from the ground. The herbicide takes effect after the newly developed roots of seedlings absorb it. The pre-emergent program is restricted to highly problematic sections of the roadbed. Pre-emergent herbicides selected will be highly immobile and have moderate residual presence in the soil after application. Only those herbicides that are on the DAR's approved list for pre-emergent application shall be utilized.

Problematic roadbed areas that are scheduled for treatment shall be inspected in the late summer or fall of the preceding year. The inspection shall estimate the density of the vegetation and identification of the target species. Herbicide selections shall be based on this inspection. The pre-emergent program will be scheduled for the spring. Herbicide application will not take place under frozen ground conditions.

7.5.2 Post-Emergent Herbicide Program

The post-emergent herbicide program involves the application of herbicides to the roadbed from a hy-rail truck after the target vegetation has emerged from the ballast. A selective application to areas adjacent to the roadbed shall be manually applied by the licensed applicator using a hose and spray nozzle attached to the hy-rail vehicle. Herbicides that are absorbed through the roots, stems, or leaves of the target vegetation

may be used. The post-emergent program shall be performed after mid-May. No-post emergent herbicide applications shall occur after the end of the regional growing season. Ideally, the post-emergent program is most effective when performed within the time period from June through August, as most nuisance plant species have reached full emergence and can be readily targeted by the herbicide applicator.

7.6 TOUCH-UP APPLICATIONS

Following a post-application survey of ROW conditions, it may be necessary to perform touch-up applications of herbicides to densely vegetated areas during the same growing season. No more than 10% of the initially identified target vegetation on the ROW in any municipality may be treated during touch-up application and the total amount of herbicide in any year shall not exceed the limits specified on the label or the YOP (per 11.03 (8)(c)). Touch-up applications shall be performed using low pressure foliar or stem application methods. Touch-up applications will be performed within 12 months of initial treatment to a designated sensitive area.

8.0 METHODS FOR IDENTIFICATION OF SENSITIVE AREAS AND CONTROL STRATEGIES PROPOSED FOR SENSITIVE AREAS

8.1-REGULATORY DEFINITIONS OF SENSITIVE AREAS AND ASSOCIATED RESTRICTIONS

The Massachusetts Pesticide Board Regulations 333 CMR 11.00, defines sensitive areas for the purpose of implementing a vegetation management program involving the application of herbicides in any area within the ROW, including but not limited to the following, in which public health, environmental or agricultural concerns warrant special protection to further minimize risk of unreasonable adverse effects (See Appendices B, C, and the table below for “Sensitive Area Restriction Guide”):

- (a) within the primary recharge zone of a public drinking water supply well;
- (b) within 400 feet of any surface water used as a public water supply;
- (c) within 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 200 feet, for 400 feet upstream, on both sides of the river, of a Class B drinking water intake;
- (e) within 100 ft of any identified private drinking water supply well;
- (f) within 100 feet of any standing or flowing water;
- (g) within 100 feet of any wetland;
- (h) within 100 feet of any agricultural or inhabited area;
- (i) within a riverfront area;
- (j) within certified vernal pool habitat.

The Massachusetts Pesticide Board Regulations establish restrictions pertaining to herbicide applications within designated sensitive area boundaries. The regulations further require the ROW owner to identify and delineate sensitive areas, which are not readily identifiable in the field, and to affix permanent markings to identify appropriate no spray and restricted spray setbacks. Those areas that are not considered to be readily identifiable in the field are (a) through (j) above. Agricultural and inhabited areas are generally readily visible from the ROW; therefore no permanent markings are required. It is important to note that “agricultural areas” includes, but is not limited to, actively grazed pastures, private gardens, animal pens and corrals, as well as active commercial food crop and non-food crop fields.

Each year that a YOP is prepared a copy shall be sent to the Natural Heritage and Endangered Species Program (NHESP) for their review. Any recommendations made by NHESP with respect to avoidance, minimization, or mitigation of impacts to endangered, threatened, or special concern species will be incorporated into the program.

Pursuant to 333 CMR 11.00, no herbicides shall be applied on or within 10 feet of standing or flowing surface water (other than surface water supplies), or within 10 feet of a wetland or certified vernal pool. Herbicides can be applied between 10 feet and 100 feet of the aforementioned areas and riverfront areas provided that 12 months has elapsed between applications. The herbicide must be applied selectively by low-pressure foliar techniques or stem application and the DAR must have approved the herbicide for use in sensitive areas.

See “Sensitive Area Restriction Guide” below. No herbicides shall be applied within a Zone I of a public groundwater source, within 100’ of any Class A public surface water source, within 100’ of any tributary or associated surface water body where the tributary or associated surface water body runs within 400’ of a Class A surface water source, or within 10’ of any tributary or associated surface water body where the tributary or associated surface water body is at a distance greater than 400’ from a Class A surface water source, within a lateral distance of 100’ for 400’ upstream, on both sides of the river, of any Class B drinking water intake, and a 50-foot radius around a private well. Herbicides may be applied between 100 and 400 feet of a surface water supply or its tributaries provided that the herbicides are applied selectively by low-pressure foliar techniques. The herbicide used must be approved by the DAR for use in sensitive areas and the application can only occur once every 24 months. Also, herbicides may be applied within the primary recharge area of a public well (Zone II) provided that the herbicide is applied selectively by low-pressure foliar techniques. This herbicide must be approved by the DAR for use in sensitive areas at least 24 months must have elapsed from the last application.

No herbicides shall be applied within 100 feet of an agricultural or inhabited area unless the herbicide is approved for use in sensitive areas using low-pressure foliar techniques and a minimum of 12 months has lapsed since the last application.

Sensitive Area Restriction Guide (333 CMR 11.04)

Sensitive Area	No Spray Zone	Limited Use Zone	Where Identified
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	YOP Maps and identify on site
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	YOP Maps and identify on site
Riverfront	Within 10 feet of	10 – 200 feet;	YOP Maps

Sensitive Area	No Spray Zone	Limited Use Zone	Where Identified
area	mean annual high water mark.	12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	and identity on site
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	YOP Maps
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	YOP Maps
	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	

8.2- IDENTIFICATION, DELINEATION AND MARKING OF SENSITIVE AREAS

8.2.1- Wetlands, Waterbodies, and Watercourses

The Massachusetts Wetlands Protection Act Regulation 310 CMR 10.02 (1) (a) – (f) define resource areas subject to protection under the acts as:

- | | | | |
|-----|--|-----------------|---|
| (a) | Any bank,
any freshwater wetland,
any coastal wetland,
any beach,
any dune,
any flat,
any marsh,
any swamp
any certified vernal pool | bordering
on | The ocean
any estuary
any creek
any river
any stream
any pond
or any lake |
| (b) | Land under any of the waterbodies listed above | | |
| (c) | Land subject to tidal action | | |
| (d) | Land subject to costal storm flowage | | |
| (e) | Land subject to flooding | | |
| (f) | Riverfront area | | |

For the purposes of managing the Railroad’s ROW, (a) through (c) above shall be afforded the same degree of protection and considered sensitive areas under Rights of Way Management Regulations 333 CMR 11.00.

The following are brief definitions of (a) through (c) above as defined in 310 CMR 10.00:

- (a) Bordering Vegetated Wetlands- are freshwater wetlands, which border on creeks, rivers, streams, ponds and lakes. Types of freshwater wetlands include wet meadows, marshes, swamps, certified vernal pools, and bogs.
- (b) Land Under Waterbodies and Waterways- consists of the land beneath any creek, river, stream, pond or lake.
- (c) Land Subject to Tidal Action- means land subject to the periodic rise and fall or a coastal waterbody, including spring tides.

Land subject to coastal storm flowage (d) and land subject to flooding (e) are not defined as wetlands under 333 CMR 11.02.

Floodplains or Bordering Land Subject to Flooding are defined as “an area with low, flat topography adjacent to and inundated by floodwater rising from creeks, rivers, streams,

ponds or lakes. It extends from the banks of their waterways and waterbodies; where a bordering vegetated wetland occurs, it extends from said wetland". Floodplains may or may not meet the defining characteristic of a wetland and therefore may not be subjected to the herbicide application restrictions established in 333 CMR 11.00; unless standing water is present at the time of herbicide application.

Riverfront area (f) is defined as the area of land between a river's mean annual high water line measured horizontally outward from the river and a parallel line located 200 feet away. Riverfront areas shall also be treated as sensitive areas under 310 CMR 11.00.

For each community in which the Railroad ROW is scheduled for treatment with herbicides, the wetlands, watercourses, and waterbodies within 100 feet of the ROW were located in the field by wetland specialists. Wetland boundaries were determined as described in 310 CMR 10.00.

The limits of the 10 foot no spray and the 100 foot "limited application" buffer zones were measured and marked on the roadbed with a color-coded marking system approved by the DAR. This marking system will be discussed in section 8.3. The locations of these markings were drawn on a map of the ROWs, which is carried in both the spotter vehicle and the spray vehicle.

Upon completion of the mapping a Request for Determination for approval of the wetland boundary was filed with each affected community. Determinations issued by the conservation commissions are valid for 5 years or the life of the VMP. See Appendix D and E.

8.2.2- Public Water Supplies and Aquifer Recharge Areas

Public water supplies for each of the affected communities are identified on a yearly basis by reviewing Groundwater Protection Atlas Overlays and Resource Priority Maps available at the Massachusetts DEP regional offices or online. Public water supply information is also available from local health officials and water departments. Aquifer protection zone maps identify Zone II for public water supply wells. For those communities that have not delineated the Zone II recharge areas for their water supplies, the Zone II boundaries shall be considered the area within a one half mile radius of the well head.

For each public water supply well identified within 400 feet of the ROW the well head was located in the field and a 400 ft. no spray zone was marked on the rail bed utilizing the approved color coded marking system identified in section 8.3.

Public surface water supplies and their tributaries identified within 400 feet of the ROW were located in the field, and the 100-foot no spray and 400-foot restricted spray zones marked on the rail bed.

The 200 foot restricted spray areas of any tributary or associated surface water body which runs outside the Zone A of a Class A water source were also marked in the field, and the 200 foot restricted spray zone for 400 feet upstream of a Class B drinking water intake are also marked on the rail bed.

The location of no spray and limited spray areas are depicted on the Sensitive Area Maps (scale 1" = 24,000") showing the locations of sensitive areas.

8.2.3 – Private Water Supply Wells

Pursuant to 333 CMR 11.00e, the DAR shall request locations of private drinking water supplies located along the ROW from the Department of Conservation and Recreation and local Boards of Health. The Railroads shall consult with the DAR with regard to private well locations and accordingly locate any registered private wells in the field. The railbed was marked in the field as described in section 8.3 and the location of these wells referenced on ROW maps indicating sensitive areas.

8.2.4 – Sensitive Areas Readily Identifiable in the Field

Sensitive areas readily identifiable in the field include agricultural areas and inhabited areas as described in Section 8.1. Due to their visibility, these areas are not depicted on the maps of sensitive areas. During herbicide application, a sensitive area spotter vehicle will proceed along the ROW in front of the spray vehicle and provide warning via radio of any upcoming sensitive areas. The applicator shall abide by all spray restrictions established in 333 CMR 11.04(5) and incorporated into this plan.

8.3- SENSITIVE AREA MARKING SYSTEM

No spray areas are those in which herbicide spraying is prohibited. It includes track within 400 feet of a public water supply wetland, 100 feet from a public surface water supply, within 100 feet of any tributary or associated surface water body which runs within 400 feet of a Class A surface water source, within 10 feet of any tributary or associated surface water body which is at a distance greater than 400 feet from a Class A surface water source, a lateral distance of 100 feet, for 400 feet upstream, on both sides of the river, of a Class B drinking water intake, a 50-foot radius around a private well, and 10 feet from the edge of standing or flowing water, or wetlands, and within 10 feet of certified vernal pools and mean annual high water line of rivers.

Limited-spray areas are those in which spraying is restricted to one annual application of herbicides through a low-pressure foliar techniques. This includes track between 10 and 100 feet from the edge of standing or flowing water, or wetlands, between 10 feet of the mean annual high water line and the outer boundary of the Riverfront Area, between 10 feet and the limit of the outer boundary of Certified Vernal Pool Habitat, lengths of track within the primary recharge area around a public water supply wellhead, between 100-400 feet from the edge of a public surface water supply, a lateral distance of between

100-200 feet for 400 feet upstream, on both sides of the river, of a Class B drinking water intake, a distance of between 10-200 feet of any tributary or associated surface water body which runs outside the Zone A for a Class A water source, and between 50 and 100-foot radius around a private well. For water supply areas only, spraying is restricted to one application every other year of a herbicide approved by the DAR through low-pressure foliar techniques.

Only herbicides on the DAR's "Sensitive Area Material List" shall be used for application within sensitive areas.

Non-sensitive areas, which are upland areas and/or lengths of track without proximate sensitive areas do not require specific precautions or herbicide restrictions.

The limits of sensitive areas, no-spray areas, limited-spray areas and non-sensitive areas are marked in the field with permanent color-coded markers. These markers are reviewed yearly to insure visibility during spraying operations. 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 railroad ties
- color-coded painted rail sections.

8.3.1 Wetland, Watercourses and Waterbodies

Yellow - No Spray Zone. Represents a point on the railroad tracks that is a minimum of 10 feet away from an area subject to protection under Massachusetts Wetlands Protection Act (MWPA) 310 CMR 10.02 (1) (a)-(f) (bordering vegetated wetlands, streams, ponds, certified vernal pools, etc.)

Blue – Limited Spray Zone. Represents a 100-foot buffer zone from a resource area, or the limit of a 200 foot riverfront area. In restricted spray zones, only DAR recommended herbicides can be applied selectively by a low pressure (60 psi) foliar or stem application.

White – Sensitive area warning marker. This color indicates that the applicator is either entering or leaving a limited spray zone. For wetland areas, white markers are always adjacent to a blue tie.

See Appendix B of this document for clarification. It should be noted that a blue and yellow marker on the outside of the tie represents a no spray zone on that side only.

8.3.2 Public and Private Water Supplies

Red- Limited spray area of Zone II of a public groundwater supply well or private well recharge zone or buffer zone of a public surface water supply. This color indicates that the applicator is in an aquifer recharge zone of a public groundwater well or the buffer zone of a public surface water supply as defined in 8.2.2 above. In this zone only DAR recommended herbicides can be applied by low pressure foliar or stem applications, with a minimum of 24 months between applications.

Yellow – No Spray Zone. Represents a point on the railroad tracks that is a minimum of 400 feet from public groundwater supply wellhead; 100 feet from surface water supplies; or 50 feet from a private drinking well.

White – Sensitive area warning marker. This color indicates that the applicator is either entering or leaving a restricted spray zone.

See Appendix B of this document for clarification. For public and private water supply herbicide application, white and yellow markers are always adjacent to a red marker. Red zones can only be sprayed once every 24 months.

9.0 – OPERATIONAL REQUIREMENTS OF APPLICATORS

9.1 – Licensing Requirements

No railroad personnel or contractor may apply or supervise the application of herbicides to the ROW unless they are certified by the DAR in the category of Rights-of-Way Pest Control, pursuant to Massachusetts Pesticide Board Regulations 333 CMR 11.00.

9.2 – Inspections and Record Keeping

Several weeks prior to the application of herbicides the vegetation control engineer or other qualified personnel shall perform a review of the ROW in order to evaluate the need for herbicide treatment, and identify target vegetation. Conditions shall be noted on a form that asks for the following information:

The date and time of the review and the person conducting the review.

Location of the ROW, which includes the town the ROW is located in and the mile post where the vegetation is located.

A description of the density of the vegetation within the problem area and identification of nuisance species.

Type of herbicide previously applied and the date it was applied.

General condition of the area where the nuisance vegetation occurs.

All evaluation forms will be kept by the railroad and utilized in the development of the YOP.

For each day of herbicide application, the applicator shall complete a daily field report which shall include as a minimum, the location of the areas sprayed, date of application, weather conditions, equipment used, herbicides, carriers, and adjuvants used, quantities used, people on site, and the starting and completion time. Sample copies of a typical field report and spray log are included in Appendix F, courtesy of Railroad Weed Control, Inc. of Westfield, Massachusetts.

9.3 – Conformance with Regulatory Notification Requirements

The railroad shall comply with all regulatory requirements concerning notification to affected municipal agencies. At least twenty-one (21) days prior to commencing herbicide applications, the railroad, or its designated representative, shall submit written notification of the intended spray program and application date, to the senior ranking town or city official (Mayor, Town Manager, First Selectman, or Board of Selectman),

board of health, and conservation commission of each municipality. Formal notification shall be made by registered mail (as per Chapter 85 of Act of 2000), and include the approximate date and time of application. A copy of the DAR approved YOP, or a website address which it can be viewed, and Environmental Monitor notice will be sent under separate cover (via certified mail) to the senior ranking town or city official, board of health, and conservation commission in each community.

Notification may coincide with the last 21 days of the YOP review and comment period, provided that all changes to the YOP, as requested by the DAR, are made and that each municipality receives the revised YOP and sensitive area maps prior to commencing with the spray program. In addition a public notice shall be printed in a widely circulated newspaper 48 hours prior to pesticide application. Appendix E includes reproduction of 333 CMR 10.00, Wetland Regulations pertaining to Rights-of-Way management.

9.4 – Applicators’ Compliance Guidelines

Any applicators contracted to implement the herbicide management program to the ROW shall so do in accordance with all applicable state, federal, and local by-laws and will abide by the standards set forth in this plan and the YOP. The applicator will be thoroughly familiar with the contents of the VMP and YOP and shall carry a copy of the VMP and YOP at all times while performing herbicide application on the ROW.

The herbicide applicator shall abide by the sensitive area restrictions set forth in 333 CMR 11.00. During herbicide application, a railroad spotter vehicle shall proceed ahead of the spray truck and alert the applicator of any upcoming sensitive areas.

The herbicide applicator shall not handle, mix, or load herbicide concentrate on a ROW within 100 feet of any sensitive area. Water for mixing the herbicide may be obtained, subject to local ordinances, from ponds, lakes, or streams adjacent to the ROW, provided that tanks and hoses are equipped with DEP approved anti-siphon devices to prevent backflow or herbicides into the water source. Hoses and pumps utilized for filling the dispensing tank with water shall not be used for any purpose that could result in contact of the equipment with the herbicide concentrate or solution. Herbicide concentrate shall only be added to the dispensing tank after the tank is filled with water, at a location at least 100 feet from any sensitive areas. No cleaning or rinsing of tanks, nozzles or other equipment shall be performed within 100 feet of a sensitive area. Rinse water or excess herbicide mixture shall be disposed at an approved waste disposal facility.

Mixing and use of herbicides shall be consistent with the label instructions included on the packaging. Copies of sampling labels for herbicides and associated carriers and adjuvants shall be included as Appendices to each YOP. The herbicide applicator shall wear protective clothing and personal safety equipment when mixing, handling, loading or applying herbicides. Latex or nitrile rubber gloves as well as eye goggles should be worn during the mixing of herbicide concentrate.

10.0 EMERGENCY AND CONTINGENCY PLANNING AND RESPONSE

The herbicide applicator is experienced in the containment, cleanup, and reporting of any herbicide spills or related accidents. Application crews must carry with them at all times the following materials; a broom, shovel, heavy duty plastic bags, absorbent clay, activated charcoal, a suction system equipped with a hose adequate for picking up liquids, Material Safety Data Sheets and a list of emergency contact people and their phone numbers.

In the event of a spill, the applicator shall contain the release, as well as possible using the equipment and materials previously mentioned. Soil berms will be dug if necessary to contain the flow of the release. Absorbent materials and the suction hose will be used to pick up the released materials. Although the containment of the release is the first priority of the application crew, notification of the release to the Massachusetts Department of Environmental Protection Emergency Response Unit may be required within two (2) hours of the occurrence. Notification is dependent on the type and quantity of material released (e.g. reportable release of non-herbicide). The YOP shall include a complete list of federal, state, and local emergency contacts and telephone numbers.

Most commercial application contractors have developed guidelines of emergency procedures that must be followed by the application crew in the event of a release or related emergency. The applicators spill response and cleanup guidelines will be appended to the YOP.

In addition the Railroad has developed its own emergency response procedures to be followed in the event of any oil or hazardous materials release on Railroad property and ROW. A copy of this document is included in Appendix H and will be attached to each YOP.

11.0 ALTERNATIVE LAND USE PROVISIONS OR AGREEMENTS

The Railroad will take into consideration any requests by state or local officials and private citizens concerning protection of areas not already protected under 333 CMR 11.00. Such requests may include provisions for additional no spray setbacks for certain sensitive areas, or avoidance of vegetation removal in areas adjacent to the roadbed where vegetation may provide an aesthetic barrier between the ROW and abutting residences. Other examples may include the avoidance of herbicide applications at heavily used crossings, or near parks and recreation areas. Any such requests will be considered on a case by case basis. The requesting party must provide to the railroad evidence that:

- Herbicide applications or other means of vegetation control within the area of concern could reasonably jeopardize the welfare and/or safety of the public, or otherwise would create an unreasonable hardship to the concerned party.
- The vegetative conditions in the area of concern do not significantly interfere with railroad operations or present a safety hazard to railroad personnel or to the general public.

Any requests for special consideration should be made in writing and sent to:

Pan Am Railways
1700 Iron Horse Park
North Billerica, Massachusetts 01862
Attention: Bill Wallace

12.0 QUALIFICATIONS OF PERSONS DEVELOPING THE PLAN

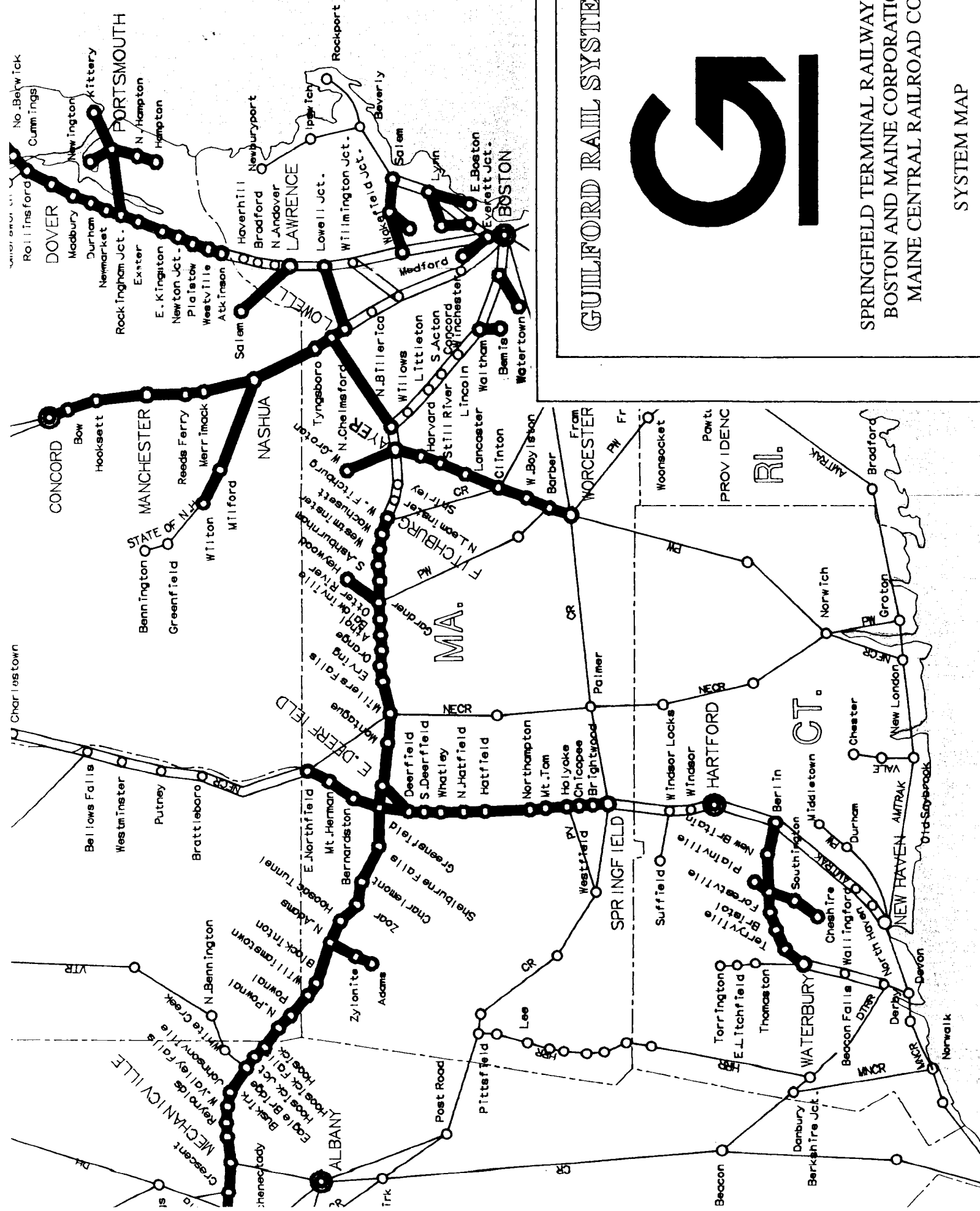
The Springfield Terminal Railway Company/Pan Am Railways Vegetation Management Plan was prepared by environmental consultant Keith L. Morris of Leeds, Massachusetts. Mr. Morris was part of the team that developed the previous VMPs that were approved in July 1992, June 1999, January 2005, April 2011, and March 2016. Since the approval of those VMPs, he has been responsible for the preparation and administration of the YOP for Pan Am Railways. His professional resume is included as Appendix I.

Railroad personnel Bill Wallace provided the operational methods that have been incorporated into this plan for Pan Am Railways.

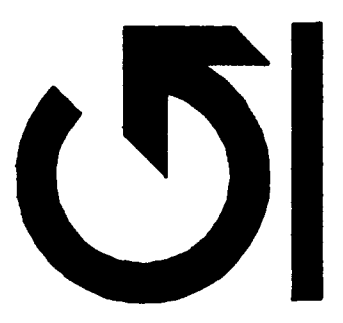
Herbicide handling, application, and record keeping requirement information for this plan were provided by RWC, INC. of Westfield, Massachusetts.

APPENDIX A

Track Map



GUILFORD RAIL SYSTEM

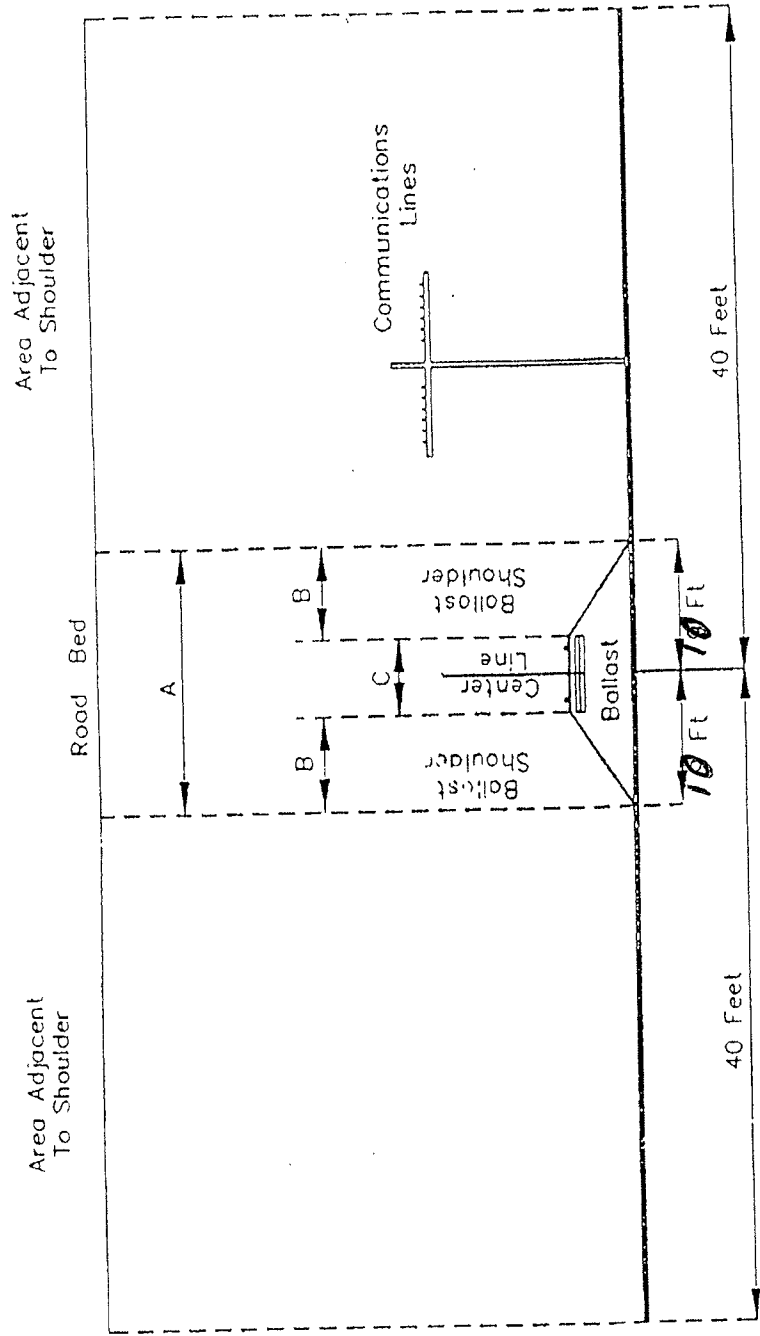


SPRINGFIELD TERMINAL RAILWAY CO.
BOSTON AND MAINE CORPORATION
MAINE CENTRAL RAILROAD CO.

SYSTEM MAP

APPENDIX B

Figures



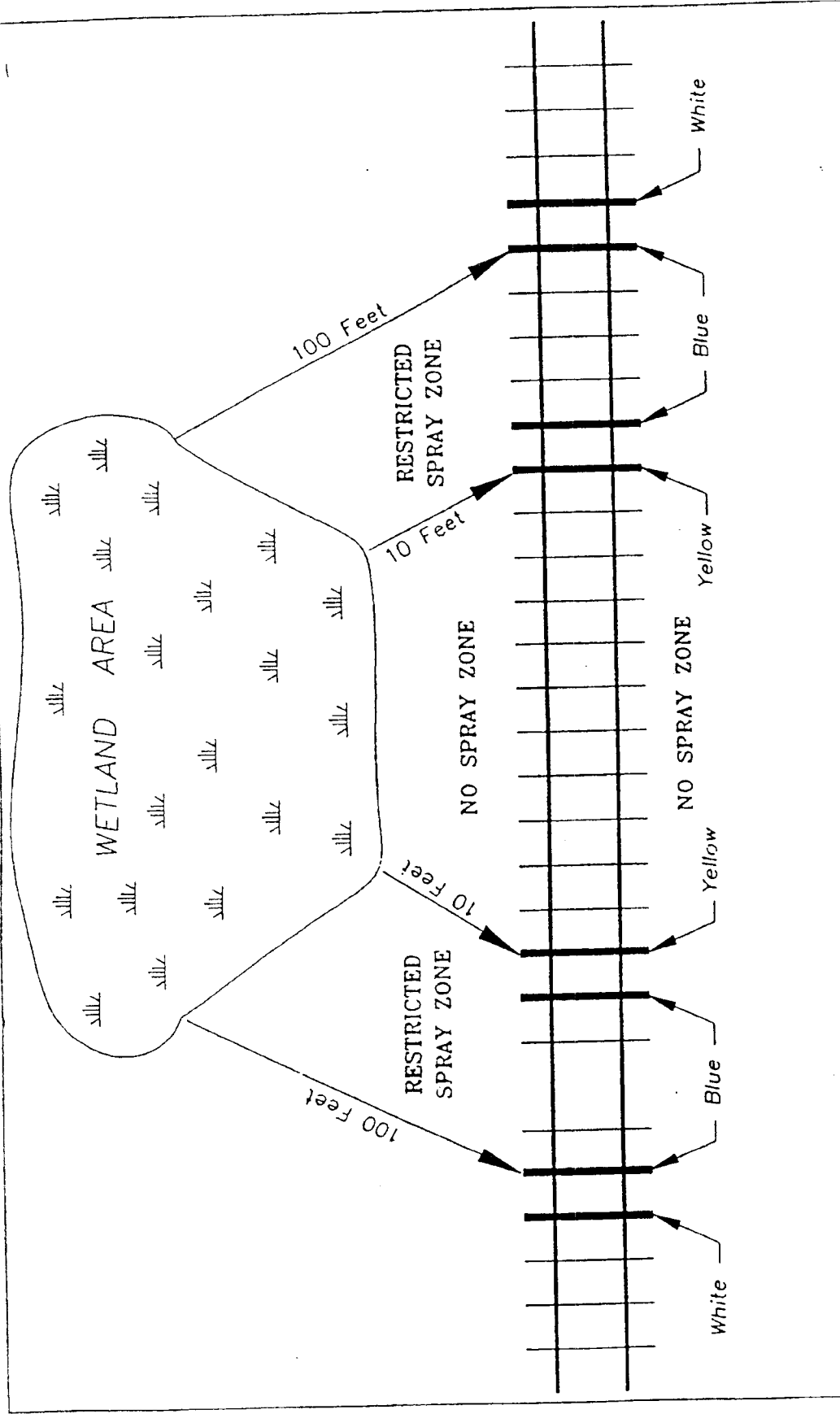
Spray Pattern

- A = 18 Feet
- B = 6.5 Feet
- C = 5 Feet

Figure 1

CROSS SECTION OF ROADBED

N. T. S.



Tie Marker Key

Yellow = Limits of No Spray Zone
 Blue = Limits of Buffer / Restricted Spray Zone
 White = Sensitive Area Warning Marker
 Z = Wetland Area

Figure 2
SPRAY ZONES
 N. T. S.

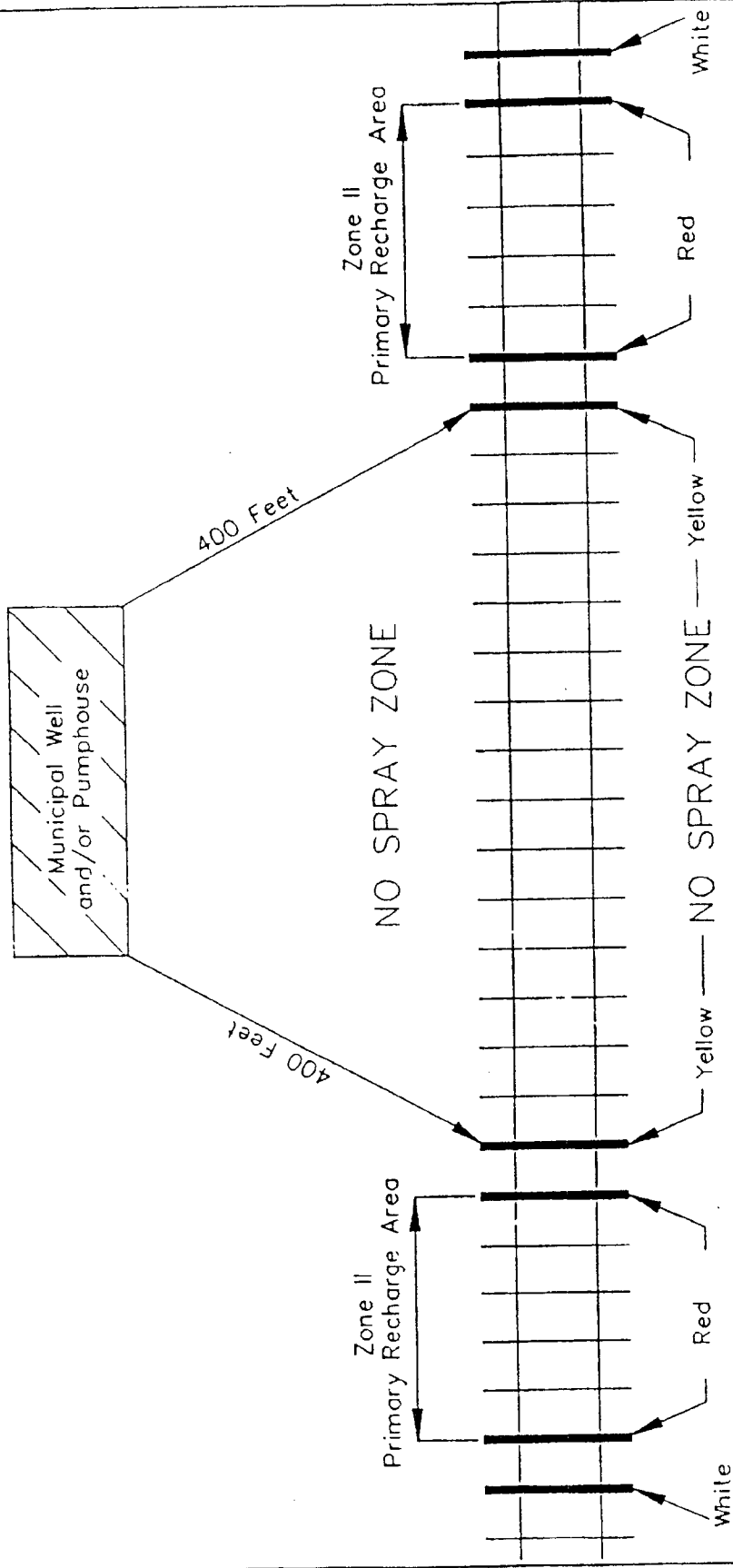


Figure 3
400 FOOT SETBACK
 N.T.S.

Tie Marker Key

- Yellow = Limits of NO SPRAY Zone
- Red = Limits of Aquifer Recharge Zone
- White = Sensitive Area Warning Marker

AQUIFER

Limits of Primary
Zone II Recharge Area

Herbicide Application Restrictions:
- 24 month time lapse between herbicide applications
- use of herbicides approved for sensitive areas

AQUIFER

White

Red

Red

White

Tie Marker Key

- Red = Limits of Aquifer Recharge Zone
- White = Sensitive Area Warning Marker

Figure 4
PRIMARY AQUIFER RECHARGE ZONE
N. T. S.

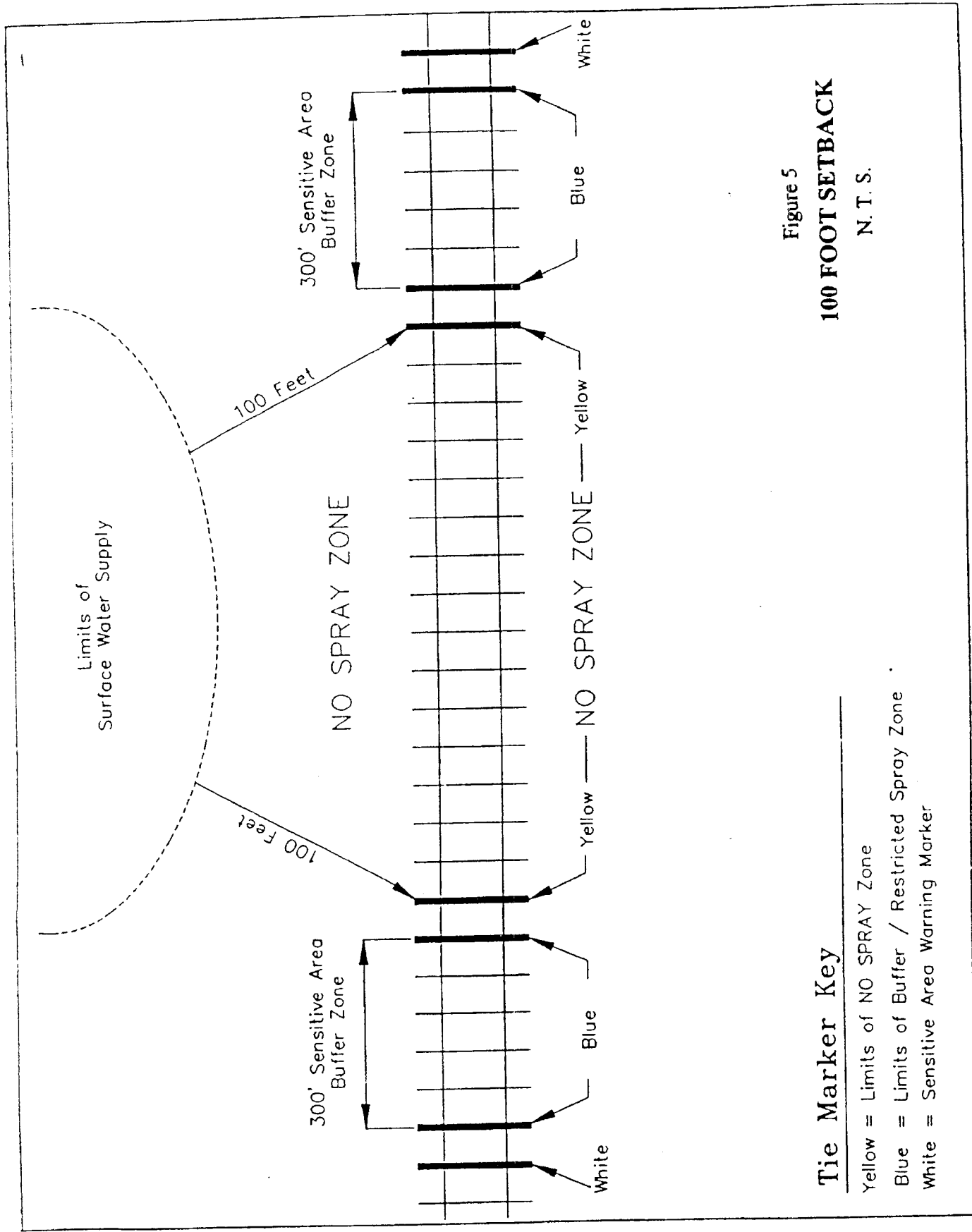


Figure 5

100 FOOT SETBACK

N. T. S.

Tie Marker Key

- Yellow = Limits of NO SPRAY Zone
- Blue = Limits of Buffer / Restricted Spray Zone
- White = Sensitive Area Warning Marker

APPENDIX C

Sensitive Area Restriction Guide

Sensitive Area Restriction Guide (333 CMR 11.04)

Sensitive Area	No Spray Zone	Limited Use Zone	Where Identified
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	YOP Maps and identify on site
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	YOP Maps and identify on site
Riverfront area	Within 10 feet of mean annual high water mark.	10 – 200 feet; 12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps and identity on site
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	YOP Maps
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	YOP Maps
	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		

Sensitive Area	No Spray Zone	Limited Use Zone	Where Identified
	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	In YOP well list and identify on site
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	YOP Maps and identify on site
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.	Identify on site
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		YOP Maps

APPENDIX D

Request For A Determination of Applicability (Form 1)

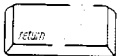


WPA Form 1- Request for Determination of Applicability
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

City/Town _____

A. General Information

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Applicant:

Name _____ E-Mail Address _____

Mailing Address _____

City/Town _____ State _____ Zip Code _____

Phone Number _____ Fax Number (if applicable) _____

2. Representative (if any):

Firm _____

Contact Name _____ E-Mail Address _____

Mailing Address _____

City/Town _____ State _____ Zip Code _____

Phone Number _____ Fax Number (if applicable) _____

B. Determinations

1. I request the _____ make the following determination(s). Check any that apply:

Conservation Commission

☐ a. whether the **area** depicted on plan(s) and/or map(s) referenced below is an area subject to jurisdiction of the Wetlands Protection Act.

☐ b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced below are accurately delineated.

☐ c. whether the **work** depicted on plan(s) referenced below is subject to the Wetlands Protection Act.

☐ d. whether the area and/or work depicted on plan(s) referenced below is subject to the jurisdiction of any **municipal wetlands ordinance** or **bylaw** of:

Name of Municipality _____

☐ e. whether the following **scope of alternatives** is adequate for work in the Riverfront Area as depicted on referenced plan(s).



WPA Form 1- Request for Determination of Applicability
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

City/Town _____

C. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

Street Address _____	City/Town _____
Assessors Map/Plat Number _____	Parcel/Lot Number _____

b. Area Description (use additional paper, if necessary):

c. Plan and/or Map Reference(s):

Title _____	Date _____
Title _____	Date _____
Title _____	Date _____

2. a. Work Description (use additional paper and/or provide plan(s) of work, if necessary):



WPA Form 1- Request for Determination of Applicability
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

City/Town _____

C. Project Description (cont.)

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- ☐ Single family house on a lot recorded on or before 8/1/96
- ☐ Single family house on a lot recorded after 8/1/96
- ☐ Expansion of an existing structure on a lot recorded after 8/1/96
- ☐ Project, other than a single-family house or public project, where the applicant owned the lot before 8/7/96
- ☐ New agriculture or aquaculture project
- ☐ Public project where funds were appropriated prior to 8/7/96
- ☐ Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- ☐ Residential subdivision; institutional, industrial, or commercial project
- ☐ Municipal project
- ☐ District, county, state, or federal government project
- ☐ Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)



WPA Form 1- Request for Determination of Applicability
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

City/Town _____

D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Name and address of the property owner:

Name

Mailing Address

City/Town

State

Zip Code

Signatures:

I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

Signature of Applicant

Date

Signature of Representative (if any)

Date

APPENDIX E

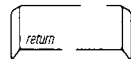
Official Wetland Boundary Determination (Form 2)



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 2 – Determination of Applicability
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. General Information

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



From: _____
Conservation Commission

To: Applicant _____ Property Owner (if different from applicant): _____

Name _____ Name _____

Mailing Address _____ Mailing Address _____

City/Town _____ State _____ Zip Code _____ City/Town _____ State _____ Zip Code _____

1. Title and Date (or Revised Date if applicable) of Final Plans and Other Documents:

Title _____	Date _____
Title _____	Date _____
Title _____	Date _____

2. Date Request Filed:

B. Determination

Pursuant to the authority of M.G.L. c. 131, § 40, the Conservation Commission considered your Request for Determination of Applicability, with its supporting documentation, and made the following Determination.

Project Description (if applicable):

Project Location:

Street Address _____	City/Town _____
Assessors Map/Plat Number _____	Parcel/Lot Number _____



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 2 – Determination of Applicability
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Determination (cont.)

The following Determination(s) is/are applicable to the proposed site and/or project relative to the Wetlands Protection Act and regulations:

Positive Determination
Note: No work within the jurisdiction of the Wetlands Protection Act may proceed until a final Order of Conditions (issued following submittal of a Notice of Intent or Abbreviated Notice of Intent) or Order of Resource Area Delineation (issued following submittal of Simplified Review ANRAD) has been received from the issuing authority (i.e., Conservation Commission or the Department of Environmental Protection).

- ☐ 1. The area described on the referenced plan(s) is an area subject to protection under the Act. Removing, filling, dredging, or altering of the area requires the filing of a Notice of Intent.
- ☐ 2a. The boundary delineations of the following resource areas described on the referenced plan(s) are confirmed as accurate. Therefore, the resource area boundaries confirmed in this Determination are binding as to all decisions rendered pursuant to the Wetlands Protection Act and its regulations regarding such boundaries for as long as this Determination is valid.
-
-
-

- ☐ 2b. The boundaries of resource areas listed below are not confirmed by this Determination, regardless of whether such boundaries are contained on the plans attached to this Determination or to the Request for Determination.
-
-
-

- ☐ 3. The work described on referenced plan(s) and document(s) is within an area subject to protection under the Act and will remove, fill, dredge, or alter that area. Therefore, said work requires the filing of a Notice of Intent.
- ☐ 4. The work described on referenced plan(s) and document(s) is within the Buffer Zone and will alter an Area subject to protection under the Act. Therefore, said work requires the filing of a Notice of Intent or ANRAD Simplified Review (if work is limited to the Buffer Zone).
- ☐ 5. The area and/or work described on referenced plan(s) and document(s) is subject to review and approval by:

Name of Municipality

Pursuant to the following municipal wetland ordinance or bylaw:

Name	Ordinance or Bylaw Citation
------	-----------------------------



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 2 – Determination of Applicability
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Determination (cont.)

- ☐ 6. The following area and/or work, if any, is subject to a municipal ordinance or bylaw but not subject to the Massachusetts Wetlands Protection Act:
-
- ☐ 7. If a Notice of Intent is filed for the work in the Riverfront Area described on referenced plan(s) and document(s), which includes all or part of the work described in the Request, the applicant must consider the following alternatives. (Refer to the wetland regulations at 10.58(4)c. for more information about the scope of alternatives requirements):
- ☐ Alternatives limited to the lot on which the project is located.

☐ Alternatives limited to the lot on which the project is located, the subdivided lots, and any adjacent lots formerly or presently owned by the same owner.

☐ Alternatives limited to the original parcel on which the project is located, the subdivided parcels, any adjacent parcels, and any other land which can reasonably be obtained within the municipality.

☐ Alternatives extend to any sites which can reasonably be obtained within the appropriate region of the state.

Negative Determination

Note: No further action under the Wetlands Protection Act is required by the applicant. However, if the Department is requested to issue a Superseding Determination of Applicability, work may not proceed on this project unless the Department fails to act on such request within 35 days of the date the request is post-marked for certified mail or hand delivered to the Department. Work may then proceed at the owner's risk only upon notice to the Department and to the Conservation Commission. Requirements for requests for Superseding Determinations are listed at the end of this document.

- ☐ 1. The area described in the Request is not an area subject to protection under the Act or the Buffer Zone.
- ☐ 2. The work described in the Request is within an area subject to protection under the Act, but will not remove, fill, dredge, or alter that area. Therefore, said work does not require the filing of a Notice of Intent.
- ☐ 3. The work described in the Request is within the Buffer Zone, as defined in the regulations, but will not alter an Area subject to protection under the Act. Therefore, said work does not require the filing of a Notice of Intent, subject to the following conditions (if any).
-
- ☐ 4. The work described in the Request is not within an Area subject to protection under the Act (including the Buffer Zone). Therefore, said work does not require the filing of a Notice of Intent, unless and until said work alters an Area subject to protection under the Act.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 2 – Determination of Applicability
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Determination (cont.)

- ☐ 5. The area described in the Request is subject to protection under the Act. Since the work described therein meets the requirements for the following exemption, as specified in the Act and the regulations, no Notice of Intent is required:

Exempt Activity (site applicable statutory/regulatory provisions)

- ☐ 6. The area and/or work described in the Request is not subject to review and approval by:

Name of Municipality

Pursuant to a municipal wetlands ordinance or bylaw.

Name

Ordinance or Bylaw Citation

C. Authorization

This Determination is issued to the applicant and delivered as follows:

- ☐ by hand delivery on ☐ by certified mail, return receipt requested on

Date

Date

This Determination is valid for **three years** from the date of issuance (except Determinations for Vegetation Management Plans which are valid for the duration of the Plan). This Determination does not relieve the applicant from complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.

This Determination must be signed by a majority of the Conservation Commission. A copy must be sent to the appropriate DEP Regional Office (see <https://www.mass.gov/service-details/massdep-regional-offices-by-community>) and the property owner (if different from the applicant).



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 2 – Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Authorization (cont.)

Signatures:

Signature	Printed Name
Signature	Printed Name
Signature	Printed Name
Signature	Printed Name
Signature	Printed Name
Signature	Printed Name
Signature	Printed Name
Signature	Printed Name

D. Appeals

The applicant, owner, any person aggrieved by this Determination, any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate Department of Environmental Protection Regional Office (see <https://www.mass.gov/service-details/massdep-regional-offices-by-community>) to issue a Superseding Determination of Applicability. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and Fee Transmittal Form (see Request for Departmental Action Fee Transmittal Form) as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Determination. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant if he/she is not the appellant. The request shall state clearly and concisely the objections to the Determination which is being appealed. To the extent that the Determination is based on a municipal ordinance or bylaw and not on the Massachusetts Wetlands Protection Act or regulations, the Department of Environmental Protection has no appellate jurisdiction.



Request for Departmental Action Fee
Transmittal Form

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. Request Information

1. Location of Project

a. Street Address	b. City/Town, Zip
c. Check number	d. Fee amount

2. Person or party making request (if appropriate, name the citizen group's representative):

Name		
Mailing Address		
City/Town	State	Zip Code
Phone Number	Fax Number (if applicable)	

3. Applicant (as shown on Determination of Applicability (Form 2), Order of Resource Area Delineation (Form 4B), Order of Conditions (Form 5), Restoration Order of Conditions (Form 5A), or Notice of Non-Significance (Form 6)):

Name		
Mailing Address		
City/Town	State	Zip Code
Phone Number	Fax Number (if applicable)	

4. DEP File Number:

--

B. Instructions

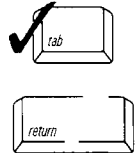
1. When the Departmental action request is for (check one):

- ☐ Superseding Order of Conditions – Fee: \$120.00 (single family house projects) or \$245 (all other projects)
- ☐ Superseding Determination of Applicability – Fee: \$120
- ☐ Superseding Order of Resource Area Delineation – Fee: \$120

Send this form and check or money order, payable to the *Commonwealth of Massachusetts*, to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





Request for Departmental Action Fee Transmittal Form

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Instructions (cont.)

2. On a separate sheet attached to this form, state clearly and concisely the objections to the Determination or Order which is being appealed. To the extent that the Determination or Order is based on a municipal bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.
3. Send a **copy** of this form and a **copy** of the check or money order with the Request for a Superseding Determination or Order by certified mail or hand delivery to the appropriate DEP Regional Office (see <https://www.mass.gov/service-details/massdep-regional-offices-by-community>).
4. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.



**Request for Departmental Action Fee
Transmittal Form**

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. Request Information

1. Location of Project

a. Street Address	b. City/Town, Zip
c. Check number	d. Fee amount

2. Person or party making request (if appropriate, name the citizen group's representative):

Name		
Mailing Address		
City/Town	State	Zip Code
Phone Number	Fax Number	Email Address

3. Applicant (as shown on Determination of Applicability (Form 2), Order of Resource Area Delineation (Form 4B), Order of Conditions (Form 5), Restoration Order of Conditions (Form 5A), or Notice of Non-Significance (Form 6)):

Name		
Mailing Address		
City/Town	State	Zip Code
Phone Number	Fax Number	Email Address

4. DEP File Number:

--

B. Instructions

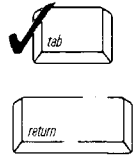
1. When the Departmental action request is for (check one):

<input type="checkbox"/> Superseding Order of Conditions – Fee: \$120.00 (single family house projects) or \$245 (all other projects)
<input type="checkbox"/> Superseding Determination of Applicability – Fee: \$120
<input type="checkbox"/> Superseding Order of Resource Area Delineation – Fee: \$120

Send this form and check or money order, payable to the *Commonwealth of Massachusetts*, to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





**Request for Departmental Action Fee
Transmittal Form**

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Instructions (cont.)

2. On a separate sheet attached to this form, state clearly and concisely the objections to the Determination or Order which is being appealed. To the extent that the Determination or Order is based on a municipal bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.
3. Send a **copy** of this form and a **copy** of the check or money order with the Request for a Superseding Determination or Order by certified mail or hand delivery to the appropriate DEP Regional Office (see <https://www.mass.gov/service-details/massdep-regional-offices-by-community>).
4. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

APPENDIX F

Applicator's Daily Report And Spraying Log

RAILROAD _____ DATE _____ 20 _____ TRUCK/TRAIN NO. _____ SHEET NO. _____ OF _____

FROM STATION _____ MP _____ TO STATION _____ MP _____ MILES _____

FROM STATION _____ MP _____ TO STATION _____ MP _____ MILES _____

FROM STATION _____ MP _____ TO STATION _____ MP _____ MILES _____

FROM STATION _____ MP _____ TO STATION _____ MP _____ MILES _____

DIVISION _____ SUBDIVISIONS _____ TOTAL MILES _____

WEATHER

N

W

Wind Velocity

6

9

12

3

6

Temperature

6

9

12

3

6

Wind Direction

6

9

12

3

6

Rain

6

9

12

3

6

(Indicate direction wind is blowing by arrow, wind velocity by mph, temperature by °F, rain by inches at times shown)

	Acres Sprayed	Hours Sprayed
Main Line		
Ballast		
Special		
Crossings		
Branch Lines		
Yards		
Bridges		
Off Track		
Signal Comm.		
TSF		
TOTAL		

CHEMICAL RECEIVED TODAY

From	CHEMICAL	No. Containers	Lbs./Gals.

Company Person on Job

1. _____

2. _____

3. _____

4. _____

Railroad Person on Job

1. _____

2. _____

List all Cars in Train

Locomotive Number _____

Time Reported to Work _____

Time Finished Work _____

Total Hours _____

DAILY SUMMARY CHEMICALS APPLIED					
NAME	EPA ESTABLISHMENT	REGISTRATION NO.	CONCENTRATE: GALS./LBS.	RATIO TO SOLUTION/ACRE	STATE APPLIED IN

REMARKS: _____

Railroad Employee _____

Spray Operator _____

RWC OFFICE

Form 1

APPENDIX G

***Pesticide Board Regulation 333 CMR 11.00 And Massachusetts Wetlands
Protection Regulations Regarding Rights Of Way Management***

Section

- 11.01: Purpose
- 11.02: Definitions
- 11.03: General Provisions
- 11.04: Sensitive Area Restrictions
- 11.05: Vegetation Management Plan (VMP)
- 11.06: Yearly Operational Plan (YOP)
- 11.07: Public Notification
- 11.08: Notice of Modification and Revocation
- 11.09: Right-of-appeal
- 11.10: Penalties
- 11.11: Rights-of-way Advisory Panel

11.01: Purpose

The purpose of 333 CMR 11.00 is to establish a statewide and uniform regulatory process which will minimize the uses of, and potential impacts from herbicides in rights-of-way on human health and the environment while allowing for the benefits to public safety provided by the selective use of herbicides. Specific goals of 333 CMR 11.00 are to:

- (1) Ensure that an Integrated Pest Management (IPM) approach to vegetation management is utilized on all rights-of-way covered by 333 CMR 11.00.
- (2) Establish standards, requirements and procedures necessary to prevent unreasonable risks to humans or the environment, taking into account the economic, social and environmental costs and benefits of the use of any pesticide.
- (3) Ensure ample opportunity for public and municipal agency input on potential impacts of herbicide application to rights-of-way in environmentally sensitive areas.
- (4) Establish a mechanism for public and municipal review of rights-of-way maintenance plans.

11.02: Definitions

For the purposes of 333 CMR 11.00, unless the context clearly requires otherwise, the following definitions shall apply:

Agricultural Area includes, but is not limited to, actively cultivated gardens, greenhouses, orchards, fields, pastures, and other areas under cultivation or agricultural management.

Applicant, any person representing any federal, state or local government or agency, utility, railroad or pipeline, that intends to maintain a right-of-way in the Commonwealth by application of herbicides.

Associated Surface Water Body, as identified on the most current available maps prepared by the Department of Environmental Protection, any body of water that is hydrologically connected to a Class A surface water source.

Ballast, the coarse gravel or crushed rock on which the ties, tracks and switching, signaling and communication devices of a railroad are laid.

Broadcast, any non-selective herbicide application technique which results in application to all vegetation within a target area.

Certified Vernal Pool, a confined basin depression, certified and mapped by NHESP pursuant to the provisions of 310 CMR 10.57(2)(a)5. and 6., which, at least in most years, holds water for a minimum of two continuous months during the spring and/or summer, and which is free of adult fish populations.

Certified Vernal Pool Habitat, that vernal pool habitat which has been certified and mapped by NHESP pursuant to the provisions of 310 CMR 10.57(2)(a)5. and 6. or, in the event that such habitat has not been mapped, the area extending 100 feet horizontally outward from the boundary of any Certified Vernal Pool.

Class A Waters, waters which are designated as a source of public water supply, as defined in 314 CMR 4.05(3)(a).

Class B Drinking Water Intakes, intakes to Class B waters suitable as sources of public water supply with appropriate treatment, as defined at 314 CMR 4.05(3)(b) and as identified on the most current available maps prepared by the Department of Environmental Protection.

Department, the Department of Agricultural Resources.

FIFRA, the Federal Insecticide, Fungicide and Rodenticide Act, Public Law 92-516.

Foliar Treatment, any technique which applies herbicide to leaves of target vegetation.

Inhabited Area, any area where people generally live, work or gather, including, but not limited to, any residence, school, hospital, park or recreational facility.

Interim Wellhead Protection Area (IWPA), for public water systems using wells or well fields that lack a Department of Environmental Protection-approved Zone II, an interim wellhead protection area, as that term is defined in the Massachusetts drinking water regulations, 310 CMR 22.02, and as identified on the most current available maps prepared by the Department of Environmental Protection, shall apply. Generally, this is a ½- mile radius for sources whose approved pumping rate is 100,000 gallons per day or greater. For smaller sources, the radius in feet is determined by multiplying the approved pumping rate in gallons per minute by 32 and adding 400.

Limited Application Waiver, a waiver from the requirements of 333 CMR 11.05 and 11.06, granted at the Department's sole discretion pursuant to 333 CMR 11.03(14), when the reason for the application is emergency public health or safety or when the application is for one time only.

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 ten 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 ten feet from the mean annual high water line of any river and the outer boundary of the Riverfront Area;
- (h) a distance of between ten 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.

Low Pressure, pressure under 60 pounds per square inch (psi).

Maps, United States Geological Survey maps of scale 1:25,000 or other maps, as determined by the Department, which are of such accuracy and scale to provide sufficient detail so that sensitive areas can be delineated.

NHESP, the Natural Heritage and Endangered Species Program within the Massachusetts Division of Fisheries and Wildlife.

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) ten 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) ten feet of any Wetlands or Water Over Wetlands;
- (h) ten feet of the mean annual high-water line of any river; and
- (i) ten feet of any Certified Vernal Pool.

Person, an individual, association, partnership, corporation, company, business organization, trust, estate, the Commonwealth or its political subdivisions, administrative agencies, public or quasi-public corporation or body, or any other legal entity or its legal representatives, agent or assignee, or a group of persons.

Person Aggrieved, any person who, because of an act or failure to act by the Department may suffer an injury in fact which is different either in kind or magnitude from that suffered by the general public and which is within the scope of the interests identified in 333 CMR 11.00. Such person must specify in writing sufficient facts to allow the Department to determine whether or not the person is in fact aggrieved.

Private Well, any private drinking water supply identified by the local Board of Health, the well owner or the Department of Agricultural Resources.

Private Well Registry, a registry of private wells located within 100 feet of a right-of-way which is maintained by the Department of Agricultural Resources. Homeowners must notify the Department by completing a registration form which is available directly from the Department or online at the Department website.

Public Water Supplier, as defined at 310 CMR 22.02(1), any person who owns or operates a public water supply system.

Public Ground Water Source, a source of water for a Public Water Supply System, as that term is defined in the Massachusetts drinking water regulations at 310 CMR 22.02.

Right(s)-of-way (ROW), any roadway, or thoroughfare on which public passage is made and any corridor of land over which facilities such as railroads, powerlines, pipelines, conduits, channels or communication lines or bicycle paths are located.

Rights-of-way Advisory Panel, a panel established to advise the Department on issues relating to 333 CMR 11.00 and to fulfill specific functions as detailed within 333 CMR 11.05 and 11.11.

River, a river as defined at 310 CMR 10.04 and as identified on the most current available maps prepared by the Department of Environmental Protection.

Riverfront Area, a riverfront area as defined at 310 CMR 10.58(2) and as identified on the most current available maps prepared by the Department of Environmental Protection. In general, this term shall mean the area between the mean annual high-water line of a perennially flowing river and a parallel line 200 feet away.

Selective Application, any application of herbicides, in such a manner that the delivery to the target vegetation is optimized and delivery to non-target vegetation and the environment is minimized.

Sensitive Areas, as defined in 333 CMR 11.04, 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.

State-listed Species, any species on the Massachusetts list of Endangered, Threatened, and Special Concern Species as described in the Massachusetts Endangered Species Act (M.G.L c. 131A; 321 CMR 10.02).

State-listed Species Habitat, the Estimated Habitats of Rare Wildlife (310 CMR 10.59 and 10.37) and the Priority Habitats for State-listed Species (321 CMR 10.02) as shown on the most recent edition of the Massachusetts Natural Heritage Atlas prepared by NHESP.

Stem Treatment, any technique including, but not limited to, stump, basal, stem, injection, banding, frill, or girdle and any other technique which delivers herbicide at low pressure to the stump, base or stem of the target vegetation.

Surface Water Source, any lake, pond, reservoir, river, stream or impoundment designated as a public water supply in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00, as identified on the most current available maps prepared by the Department of Environmental Protection.

Target Vegetation, any plant species which has the potential to interfere with the operation and safety of the right-of-way.

Touch-up Application, any limited application of herbicides following an initial treatment, which is necessary to achieve the desired vegetation control.

Tributary, as identified on the most current available maps prepared by the Department of Environmental Protection, any body of running, or intermittently running, water which moves in a definite channel, naturally or artificially created, in the ground due to a hydraulic gradient, and which ultimately flows into a Class A surface water source, as defined in 314 CMR 4.05(3)(a).

Vegetation Management Plan (VMP), a long term management plan for the applicant's right-of-way system which describes the intended program for vegetation control over a five year period.

Vernal Pool, *see* Certified Vernal Pool.

Water Over Wetlands, the ocean or any estuary, lake or pond as defined at 310 CMR 10.04.

Wetlands, any of the following areas as defined in 310 CMR 10.02(1)(a), (b), (c) and (f):

- (a) Any bank, the ocean
- any freshwater wetland, any estuary
- any coastal wetland, any creek
- any beach, bordering any river
- any dune, on any stream
- any flat any pond
- any marsh, or any lake
- or any swamp;
- (b) Land under any of the water bodies listed in 333 CMR 11.02: Wetlands(a); and
- (c) Land subject to tidal action.

Wetlands Determination, a written determination of the boundaries of Wetlands and boundaries of areas within 100 feet of Wetlands in accordance with the regulations of the Department of Environmental Protection (DEP) at 310 CMR 10.05(3)(a)1. and 2. 310 CMR 10.03(6)(b) requires applicants not eligible for a public utility exemption to submit these determinations with their VMPs if they will apply herbicides within 100 feet of wetlands and will not submit a Notice of Intent under M.G.L. c. 131, § 40, the Wetlands Protection Act. In order to obtain a Wetlands Determination, the applicant should submit a request to the conservation commission on maps of a scale that will enable the conservation commission or Department of Environmental Protection to find and delineate the boundaries of Wetlands and buffer zones within the vicinity of the right-of-way herbicide management area. To be considered "valid", the Wetlands Determination should be made no sooner than six months immediately prior to the submission of the Vegetation Management Plan. The Wetlands Determination shall cover the period of the Vegetation Management Plan only and shall expire at the end of the five year period of that Vegetation Management Plan.

Yearly Operational Plan (YOP), the yearly operational plan which describes the detailed vegetation management operation for the calendar year consistent with the terms of the long term Vegetation Management Plan.

Zone A, as identified on the most current available maps prepared by the Department of Environmental Protection, the protective land area for a Surface Water Source, Class A water source, Tributary, or Associated Surface Water Body defined in 310 CMR 22.02 as:

- (a) the land area between the Class A surface water source and the upper boundary of the bank;
- (b) the land area within a 400 foot lateral distance from the upper boundary of the bank of a Class A surface water source, as defined in 314 CMR 4.05(3)(a); and
- (c) the land area within a 200 foot lateral distance from the upper boundary of the bank of a Tributary or Associated Surface Water Body.

Zone I, as identified on the most current available maps prepared by the Department of Environmental Protection and as defined at 310 CMR 22.02, the protective radius required around a public water supply well or wellfield. For public water system wells with approved yields of 100,000 gallons per day (gpd) or greater, the protective radius is 400 feet. Tubular wellfields require a 250 foot protective radius. Protective radii for all other public water system wells are determined by the following equation: Zone I radius in feet = $(150 \times \log \text{ of pumping rate in gpd}) - 350$.

Zone II, as identified on the most current available maps prepared by the Department of Environmental Protection and as defined at 310 CMR 22.02, the aquifer recharge area for a public water supply well or wellfield.

11.03: General Provisions

- (1) No person shall use an herbicide for the purpose of clearing or maintaining a right-of-way unless appropriately certified by the Department, or licensed by the Department and working under the on-site supervision of an appropriately certified applicator.
 - (2) No person shall use an herbicide for the purpose of clearing or maintaining a right-of-way except in accordance with a Vegetation Management Plan (VMP) and a Yearly Operational Plan (YOP) as approved by the Department. The YOP shall be available at the work site at all times during herbicide applications and be made available to the Department and municipal officials including the Conservation Commission and Board of Health upon reasonable request.
 - (3) No person shall handle, mix or load an herbicide concentrate on a right-of- way within 100 feet of a sensitive area.
 - (4) The perimeter of any sensitive areas which are not readily identifiable on the ROW shall be identified with a clearly visible marker system, consistent with the VMP, prior to any herbicide application.
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- (5) No foliar application of herbicides shall be used to control vegetation greater than 12 feet in height except for side trimming.
 - (6) No herbicide shall be applied when the wind velocity is such that there is a high propensity to drift off target and/or during measurable precipitation, and no person shall apply herbicides in such a manner that results in drift into any No-spray Area.
 - (7) No person shall apply herbicides by aircraft for the purpose of clearing or maintaining a right-of-way.
 - (8) No touch-up applications shall be carried out except under the following conditions:
 - (a) Touch-up applications must occur within 12 months of the initial application.
 - (b) All applicable public notification procedures of M.G.L. c. 132B, § 6B, as outlined in 333 CMR 11.07(1) and (3), are followed.
 - (c) No more than 10% of the initially identified target vegetation on the applicant's right-of-way in any municipality may be treated and the total amount of herbicide applied in any one year shall not exceed the limits specified by the label or Yearly Operational Plan.
 - (d) The Department may impose such additional restrictions or conditions on the use of herbicides as it deems necessary to protect public health and the environment.
 - (9) The Department will maintain mailing lists of individuals and groups desiring to obtain notices on various aspects of the Program.
 - (10) No person shall apply any herbicide identified as a Potential Ground Water Contaminant pursuant to 333 CMR 12.00 to a right-of-way.
 - (11) No person shall use an herbicide for the purpose of clearing or maintaining a right-of-way unless that person has obtained the most current available map of public ground water sources from the Department of Environmental Protection.
 - (12) No person shall use an herbicide for the purpose of clearing or maintaining a right-of-way unless that person has done one or more of the following:
 - (a) obtained a current list of identified Private Wells within 100 feet of the right-of-way from the Board of Health, or
 - (b) obtained a current list of all private wells, within 100 feet of the right of way from the Department of Agricultural Resources private well registry; or
 - (c) followed an alternative Private Well identification method outlined in an approved YOP.
 - (13) The applicator shall provide any employee of any state agency, or authority as defined in M.G.L. c. 3, § 39, when such employee is, within a right-of-way, using pesticides, supervising the use of pesticides, or present during the use of pesticides, with personal protective equipment and clothing. Applicators should note that other federal or state laws or regulations pertaining to pesticide applications may require this personal protective equipment to include protections according to Material Safety Data Sheets (MSDS's), the product label, and any other supporting technical data supplied by the manufacturer.
 - (14) Notwithstanding the provisions of 333 CMR 11.03(2) or other provisions of 333 CMR 11.00, the Department may, at its sole discretion, issue Limited Application Waivers to applicants wishing to apply herbicides to clear or maintain rights-of-way without VMPs or YOPs, but only under the following conditions:
 - (a) The applicant must demonstrate either:
 - 1. that the application will not occur more than once in a five-year period unless a VMP and a YOP are prepared and all other requirements of 333 CMR 11.00 are met; or
 - 2. that the application is necessary to protect public health or safety.
 - (b) The applicant must still adhere to all public notification requirements established at 333 CMR 11.07(1) and (3).
 - (c) The applicant must provide the Department with a letter establishing the concurrence of the chief elected official or board of selectmen of the municipality where the application is to be made.
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- (d) The applicant may only use herbicides on the Department's "Herbicides Recommended for Use in Sensitive Areas List."
- (e) If the application could impact Wetlands, the Department recommends that the applicant send a copy of its application for a Limited Application Waiver to the Department of Environmental Protection's Division of Wetlands and Waterways no less than 21 days before the proposed application.
- (f) It should be noted that, with certain exceptions for public utilities, wetlands regulations at 310 CMR 10.03(6)(b) currently require Wetlands Determinations prior to any application within 100 feet of a Wetland.

Limited Application Waivers shall be issued solely at the Department's discretion, and the Department may impose such additional restrictions or conditions on the use of herbicides as it deems necessary to protect public health and the environment.

11.04: Sensitive Area Restrictions

- (1) General. In any sensitive area:
 - (a) No more than the minimum labeled rate of herbicide for the appropriate site, pest, and application method shall be applied.
 - (b) Herbicides shall only be applied selectively by low pressure, using foliar techniques or basal or cut-stump applications, or other method approved for use by the Department.
 - (c) No person shall apply herbicides for the purpose of clearing or maintaining a right-of-way in such a manner that results in drift to any area within ten feet of standing or flowing water in a wetland; or area within 400 feet of a public drinking water supply well; or area within 100 feet of any Class A surface water used as a public water supply; or area within 50 feet of a Private Well.
 - (d) Only herbicides specified by the Department as acceptable for use in sensitive areas pursuant to the Cooperative Agreement executed between the Department of Agricultural Resources and the Department of Environmental Protection on July 1 and 2, 1987, or future amendments thereto, shall be used in sensitive areas. Applicants proposing to use an herbicide which has been registered for use on rights-of-way but has not yet been evaluated pursuant to the provisions of the Cooperative Agreement may request that such herbicides be evaluated pursuant to said provisions. For an herbicide that has been evaluated pursuant to the provisions of the Cooperative Agreement, applicants proposing to use such herbicide in a manner inconsistent with the terms and conditions of use imposed in the guidelines may request a modification or waiver of such terms or conditions. A request for such modification or waiver shall provide a detailed rationale for use, with all relevant data including but not limited to environmental fate, efficacy and human health effects of the proposed herbicide. Such herbicides and/or uses shall be subject to the evaluation standards adopted by the Departments of Agricultural Resources and Environmental Protection in the Cooperative Agreement.
Commentary. Applicants not eligible for the public utilities exemption from the Wetlands Protection Act outlined at 310 CMR 10.03(6)(a), who wish to apply pesticides registered for use in Massachusetts to rights-of-way, may choose to apply herbicides determined to be suitable for use in sensitive areas in accordance with the provisions of the Cooperative Agreement mentioned above or, alternatively, such applicants may proceed pursuant to the provisions of 310 CMR 10.00 as authorized by M.G.L. c. 131, § 40.
 - (e) The Department may impose such additional restrictions or conditions on the use of herbicides within or adjacent to sensitive areas as it determines necessary to protect human health or the environment. Such changes may be proposed by a municipal agency or individual during the public comment period.
 - (f) In the event of a question or dispute as to which setback applies to a sensitive area, the most restrictive setback shall apply.

- (2) Water Supplies.

- (a) Public Ground Water Sources.
 - 1. No herbicides shall be applied within a Zone I.
 - 2. No herbicides shall be applied within a Zone II or IWPA unless:

- a. A minimum of 24 months has elapsed since the last application to the site; and
 - b. Herbicides are applied selectively by low pressure, using foliar techniques or basal or cut-stump applications.
 - (b) Class A Public Surface Water Sources, Associated Surface Water Bodies, Tributaries and Class B Drinking Water Intakes.
 1. No herbicides shall be applied within 100 feet of any Class A public surface water source.
 2. No herbicides shall be applied within 100 feet of any tributary or associated surface water body located within the Zone A of a Class A public surface water source, or within ten feet of any tributary or associated surface water body located outside of the Zone A of the Class A public surface water source.
 3. No herbicides shall be applied within a lateral distance of 100 feet for 400 feet upstream of any Class B Drinking Water Intake.
 4. No herbicides shall be applied within a distance of between 100 feet from any Class A surface water source and the outer boundary of any Zone A, or within a distance of between ten feet and the outer boundary of the Zone A for any tributary or associated surface water body located outside of the Zone A of a Class A surface water source, or within a lateral distance of between 100 and 200 feet for 400 feet upstream of a Class B Drinking Water Intake, unless:
 - a. A minimum of 24 months has elapsed since the last application to the site; and
 - b. Herbicides are applied selectively by low pressure, using foliar techniques or basal or cut-stump applications.
 - (c) Private Wells.
 1. No herbicides shall be applied within 50 feet of an identified Private Well.
 2. No herbicides shall be applied within a distance of between 50 feet and 100 feet of an identified Private Well, unless:
 - a. A minimum of 24 months has elapsed since the last application to the site; and
 - b. Herbicides are applied selectively by low pressure, using foliar techniques or basal or cut-stump applications.
- (3) State-listed Species Habitat.
 - (a) Any person proposing to apply an herbicide within any State-listed Species Habitat who does not have a current Yearly Operational Plan approved in writing by the Division of Fisheries and Wildlife pursuant to 321 CMR 10.14(12), shall submit all necessary materials required for review pursuant to 321 CMR 10.18.
 - (b) The management of vegetation within existing utility rights-of-way shall be exempt from the requirements of 321 CMR 10.18 through 10.23, provided that the management is carried out in accordance with a Yearly Operational Plan approved in writing by the Division of Fisheries and Wildlife, pursuant to 321 CMR 10.14(12).
 - (c) No person shall apply an herbicide within State-listed Species Habitat unless the application is approved by the Division of Fisheries and Wildlife pursuant to 333 CMR 11.04(3)(a) and (3)(b), and such approval is submitted to the Department.
- (4) Wetlands, Waters Over Wetlands, Riverfront Areas, and Certified Vernal Pools.
 - (a) No herbicide shall be applied on or within ten feet of a Wetland or Water Over a Wetland, within ten feet of the mean annual high-water line of any River, or within ten feet of any Certified Vernal Pool.
 - (b) No herbicide shall be applied on or within a distance of between ten feet and 100 feet of any Wetland or Water Over a Wetland, within a distance of ten feet from the mean annual high-water line of any River and the outer boundary of any Riverfront Area, or within a distance of ten feet from any Certified Vernal Pool and the outer boundary of any Certified Vernal Pool Habitat unless:
 1. A minimum of 12 months has elapsed since the last application to the site; and
 2. Herbicides are applied selectively by low pressure, using foliar techniques or basal or cut-stump applications.
 - (c) Notwithstanding 333 CMR 11.04(4)(a) and (b), public utilities providing electric, gas, water, telephone, telegraph and other telecommunication services (and other applicants, if consistent with all relevant provisions of the Massachusetts Wetlands Protection Act and its regulations in effect at the time of application) may apply herbicides on or within ten feet of

1. Submission of a study, the design of which is subject to prior approval by the Departments of Agricultural Resources and Environmental Protection, evaluating impacts of the proposed vegetation management program utilizing herbicides on or within ten feet of Wetlands, and comparing those impacts to those which would result if only non-chemical control methods were used in these areas. The study must detail vegetation management practices and use patterns specific to those used by the type of entity submitting the study; and
 2. A finding by the Department, after consultation with the Rights-of-way Advisory Panel, that the proposed vegetation management program utilizing herbicides on or within ten feet of Wetlands will result in less impacts to the Wetlands than mechanical control.
 3. Notwithstanding the above, no herbicides shall be applied on or within ten feet of any standing or flowing water in a Wetland.
- (5) Inhabited and Agricultural Areas. No foliar herbicide shall be applied within 100 feet of any Inhabited Area or any Agricultural Area unless:
- (a) A minimum of 12 months has elapsed since the last application to the site; and
 - (b) Herbicides are applied selectively by low pressure, using foliar techniques or basal or cut-stump applications.

11.05: Vegetation Management Plan (VMP)

- (1) General.
- (a) Unless otherwise specified by the Department, all VMPs should be submitted by the applicant no later than September 1st prior to the calendar year of the proposed first year of maintenance. All approved VMPs shall be effective for a five year period unless otherwise modified, or revoked by the Department.
 - (b) The VMP shall be presented on forms and/or format approved by the Department.
- (2) Requirements. The VMP shall include, but not be limited to, the following:
- (a) General statement of goals and objectives of the VMP.
 - (b) Identification of target vegetation.
 - (c) Intended methods of vegetation management and rationale for use, including vegetation control techniques, equipment proposed for use, timing of applications and alternative control procedures.
 - (d) Discussion of justification for proposed herbicide applications, including a description of the alternative control methods considered and the reasons that they were rejected.
 - (e) Methods, references and sources for identifying sensitive areas and control strategies proposed for sensitive areas. Applicants should note that the Department of Environmental Protection regulations at 310 CMR 10.03(6)(b) require Wetlands Determinations for applicants that are not eligible for a public utility exemption.
 - (f) Operational guidelines for applicators relative to herbicide use.
 - (g) Identification and qualifications of individuals developing and submitting a plan.
 - (h) A detailed description of the IPM Program, showing how it will minimize the amount and frequency of herbicide application.
 - (i) Description of alternative land use provisions or agreements that may be established with individuals, state, federal or municipal agencies that would minimize the need for herbicides, including the rationale for accepting or denying any reasonable request made by any individual.
 - (j) Description of a remedial plan to address spills and related accidents.
 - (k) For state agencies and authorities as defined in M.G.L. c. 3, § 39, a description of the applicant's policy to eliminate or, if necessary, reduce the use of pesticides for any vegetation management purpose along roadways, and a demonstration that, for the proposed application, the costs of non-chemical vegetation control significantly outweigh the benefits.
- (3) Public Notice, Review and Comment.
- (a) Upon receipt of the proposed VMP, the Department shall schedule and hold appropriate regional public hearings affording all interested parties the opportunity to comment, both at the hearings and in writing to the Department, on the proposed plan.
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- (b) At least 21 days prior to the public hearings, the Department shall publish notice of the hearings in the *Environmental Monitor* and regionally located newspapers, and send notice to municipalities covered by the plan and to the appropriate mailing list. The notice will include locations where copies of the VMP can be reviewed.
 - (c) The public shall have no less than 45 days, starting from publication of the *Environmental Monitor* notice, to comment upon proposed VMPs, unless the Department extends the comment period for good cause.
 - (d) Wherever a chief elected official, Board of Health or Conservation Commission in a municipality covered by the proposed VMP requests a copy of the proposed plan, the applicant shall, at least 21 days prior to the end of the public comment period, respond to this request. The response must either include a copy of the proposed VMP, or an Internet address where the VMP may be viewed and a note that a hard copy will be provided promptly upon further request.
- (4) Disposition of VMP.
- (a) 25 copies of the proposed VMP shall be submitted to the Department. The Department shall distribute copies of the proposed VMP to each member of the Rights-of-way Advisory Panel. The Department may, at its sole discretion, allow electronic presentation of the VMP in lieu of some or all of the 25 copies that would otherwise be submitted pursuant to 333 CMR 11.05(4).
 - (b) Within 30 days of the end of the public comment period unless extended for good cause, the Rights-of-way Advisory Panel shall review the VMPs and recommend in writing to the Department approval, denial or modification of each VMP; if necessary, the Advisory Panel may request additional information from the applicant.
 - (c) Within 21 days of the end of the Rights-of-way Advisory Panel review period, unless extended by the Department for good cause, the Department will notify the applicant and the Advisory Panel in writing one of the following:
 - 1. request for additional information or modification;
 - 2. denial of VMP; or
 - 3. approval of VMP.
 - (d) The VMP may be modified, withdrawn or amended by the applicant through a written request sent by certified mail to the Department.
 - (e) Resubmission of a denied VMP, updating of a VMP, or a significant amendment to an approved VMP shall be processed according to 333 CMR 11.05.
 - (f) The applicant must send a copy of the approved VMP, or an Internet address where the VMP may be viewed and a note that a hard copy will be provided promptly upon further request, to the chief elected official, Board of Health, and Conservation Commission in each municipality covered by the plan.
- (5) Time for Action. Non-action by the Department on a VMP within the time specified in 333 CMR 11.05 does not constitute approval of the submitted plan. In the event that the Department fails to notify the applicant of a decision within the time specified in 333 CMR 11.05(4) and upon written request from the applicant, the Commissioner must issue a finding within ten days of receipt stating the reason for the delay and providing an estimated completion date.

11.06: Yearly Operational Plan (YOP)

- (1) General.
 - (a) The applicant is responsible for the accuracy and completeness of all information submitted with the YOP. The YOP shall be consistent with the objectives of the VMP and shall describe the intended operational program for that calendar year.
 - (b) The YOP shall be presented on forms and in a format approved by the Department.
 - (2) Requirements. The YOP shall include but not be limited to the following:
 - (a) Maps locating the rights-of-way and sensitive areas not readily identifiable in the field;
 - (b) Herbicides proposed including Environmental Protection Agency (EPA) Registration numbers, application rates, carriers and adjuvants;
 - (c) Herbicide application techniques and alternative control procedures proposed.
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- (e) Identification of target vegetation;
 - (f) The name, address and phone number of the individual representing the YOP applicant;
 - (g) Description of methods used to flag or otherwise designate sensitive areas on the right-of-way;
 - (h) Herbicide Fact Sheets as approved by the Department; and
 - (i) Procedures and locations for handling, mixing and loading of herbicide concentrates.
- (3) Public Notice, Review and Comment.
- (a) Upon submittal of the YOP for approval, the Department will publish a notice in the *Environmental Monitor*. Said notice shall be provided by the applicant and shall include the information on the municipalities through which the rights-of-way pass, a brief description of the intended program, and the procedure for public review and comment. The Department shall send notification of the publication to the applicant and the appropriate mailing list.
 - (b) Upon submittal of the YOP to the Department, the applicant shall provide by certified mail under separate cover to the Board of Health, Conservation Commission, chief elected municipal official, and where applicable, the Massachusetts Water Resources Authority and Massachusetts Department of Conservation and Recreation, a copy of the proposed YOP (or an Internet address where the proposed YOP may be viewed and a note that a hard copy will be provided promptly upon request) and the *Environmental Monitor* notice for the municipality or municipalities in which the herbicide treatment is proposed. Community water suppliers shall receive electronic information or a one page notification by mail which provides details about where to receive more information. The applicant shall maintain copies of the packet sent to municipalities and certified mail receipts. The applicant shall make copies of the packet, certified mail receipts, and any further correspondence regarding hard copies of YOPs in lieu of Internet viewing, available to the Department upon request.
 - (c) The Department shall allow a 45-day comment period on proposed YOPs, unless extended for good cause, commencing with the publication of the notice in the *Environmental Monitor* and receipt of the proposed YOP and *Environmental Monitor* notice by each municipality.
 - (d) The Department may approve, deny or modify YOPs after the 45-day comment period has expired.
- (4) Disposition of YOP.
- (a) The applicant shall submit the YOP to the Department at least 90 days prior to the proposed commencement of application to allow completion of the comment and review period.
 - (b) The Department shall review the YOP to ensure that the YOP is consistent with the approved VMP. Any inconsistencies or deficiencies will be noted by the Department and returned with the YOP to the applicant.
 - (c) Where practical, the Department shall approve or deny the YOP within 90 days of receipt. The Department will provide notice of the decision to the applicant, municipal agencies and commentators in writing.
 - (d) The approved YOP in conjunction with the VMP shall govern the application of herbicide for a period not to exceed 12 months in accordance with other laws and regulations of the State and Federal governments and impose such conditions as necessary to minimize the risk of adverse effects on human health and the environment.
- (5) Time for Action. Non-action by the Department on a YOP within the time specified in 333 CMR 11.06(4) does not constitute approval of the submitted plan. In the event that the Department fails to notify the applicant of a decision within the time specified and upon a written request from the applicant, the Commissioner must issue a finding within ten days of receipt stating the reason for the delay and providing an estimated completion date.
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11.07: Public Notification

(1) At least 21 days in advance of application of herbicide to a right-of-way in any city or town, the applicant shall notify the Department, the board of health, and the local public water supplier and, by registered mail, the Mayor, City Manager or Chairman of the Board of Selectman, and the conservation commission in the municipality where the right-of-way lies. The notice shall include the following information: the approximate dates on which such herbicide application shall commence and conclude, provided however, that said application shall not commence more than ten days before nor conclude more than ten days after said approximate dates; the method and locations of application; a Department-approved Herbicide Fact Sheet on the active ingredient(s) of the herbicide(s) used; the EPA registration number(s) for the herbicide(s) used; the name, title, business address and phone number of the certified commercial applicator or licensed applicator, or the contractor, employer or employees responsible for carrying out the application. Where specific information required for this notice is already contained in the current YOP that is on file with the local official, the applicant may incorporate the appropriate pages of the YOP by reference in its notice to that official, indicating that these pages are also directly available from the applicant upon request.

(2) This public notice may run concurrently with the public notice and comment period in 333 CMR 11.06(3), provided that the notice is distributed at least 21 days prior to the herbicide application, and that, prior to the herbicide application, the public notice and comment period has closed and the Department has granted YOP approval without modifications. When the Department's final approval requires modifications or application dates are selected after YOP approval, separate notice under 333 CMR 11.07(1) is required.

(3) At least 48 hours prior to the application referred to in 333 CMR 11.07(1), the applicant must publish a conspicuous notice in at least one newspaper of general circulation in the city or town where the right-of-way lies. The notice must appear in the local section of the newspaper and measure at least four by five inches in size. The notice shall contain the following information: the method and locations of pesticide application; the approximate dates on which the pesticide application shall commence and conclude, provided that the applications shall not commence more than ten days before nor conclude ten days after said approximate dates; a list of potential pesticides to be used; a description of the purpose of the application; and the name, title, business address and phone number of a designated contact person representing the applicant from whom any citizen may request further information. The notice should apply only to the calendar year in which the notice is published. Upon request the notice must be made available to the Department.

11.08: Notice of Modification and Revocation

(1) The Department may suspend approval of any VMP or YOP, by written notice to the applicant and applicator, halting the application of herbicide to that right-of-way of the YOP. After 21 days if the applicant does not request a hearing, the Department may revoke or modify the VMP and YOP, if it finds:

- (a) that the terms, conditions of restrictions thereof, are being violated or are inadequate to avoid unreasonable adverse effects on the environment or on human health; or
- (b) that the applicant has made a false or misleading statement or has not provided information requested by the Department or Rights-of-way Advisory Panel; or
- (c) that the applicant has violated any provision of the Massachusetts Pesticide Control Act or FIFRA, or any regulations, standards, orders or license issued under either.

(2) Upon notice of revocation or modification, the applicant may modify the YOP by written request to the Department. Applications to modify the YOP shall be submitted in the manner set forth in 333 CMR 11.06 and disposed of in the manner set forth in 333 CMR 11.06. The Department may waive all or part of the requirement if it determines that the proposed changes do not significantly change the terms of the approved YOP.

11.09: Right-of-appeal

Any person aggrieved by the decision of the Department to approve, deny, modify or revoke a VMP or YOP may request an adjudicatory hearing. The request for a hearing must be received by the Department within 21 calendar days after receipt of the decision. The request should state clearly and concisely the facts of the proceeding, the reasons the decision is alleged to be inconsistent with 333 CMR 11.00 and the relief sought by the adjudicatory hearing. The adjudicatory hearing before the Pesticide Board shall be conducted in accordance with the informal rules of adjudicatory proceeding as set forth in M.G.L. c. 30A.

11.10: Penalties

Any person who violates any provision of 333 CMR 11.00 shall be subject to the criminal and civil penalties set forth in M.G.L. c. 132B, § 14.

11.11: Rights-of-way Advisory Panel

(1) A Rights-of-way Advisory Panel shall be established to advise the Department on issues relating to 333 CMR 11.00 and to fulfill specific functions as detailed within 333 CMR 11.00.

(2) The Department shall request that the following members participate on the Rights-of-way Advisory Panel: the Commissioners/Secretaries or his/her designee of the Department of Environmental Protection, the Department of Public Health, and the Executive Office of Transportation; and a representative, respectively, from each of the following, all to be appointed by the Department Commissioner: the Massachusetts Association of Conservation Commissions, the Massachusetts Association of Health Boards, the Massachusetts Department of Conservation and Recreation, and an Environmental Advocacy Organization Representative, a member of the University of Massachusetts Extension who is well versed in weed science and Integrated Pest Management of weeds, a representative of the Massachusetts Railroad Association, a representative of a utility company and a commercial pesticide applicator.

(3) Non-agency representatives shall remain on the panel for a term of five years. Any member absent from two or more consecutive meetings may be removed from the Advisory Panel at the discretion of the Commissioner of the Department, and a replacement requested from the representative agency, industry group, or association.

(4) The Advisory Panel shall meet at least once each year, and shall hold further meetings upon the request of the Department of Agricultural Resources or at the request of any two members of the Advisory Panel.

(5) All Advisory Panel members shall serve without compensation.

REGULATORY AUTHORITY

333 CMR 11.00: M.G.L. c. 132B.

PREFACE TO WETLANDS REGULATIONS RELATIVE
TO RIGHTS OF WAY MANAGEMENT

1987 REGULATORY REVISION

In 1983, the Massachusetts Pesticide Control Act, M.G.L. c. 132B, was amended to require notification of conservation commissions prior to application of herbicides on rights of way. Many commissions became aware for the first time that application of herbicides on rights of way may result in alteration of wetlands and, with the exception of exempt utilities, may require action under the M.G.L. c. 131, § 40. On July 18, 1986, the Department issued a final decision after adjudicatory hearing in DEP Hearing Docket Nos. 83-28 and 83-35 (Clinton and Leverett) finding that the application of specific herbicides by the railroads to track and ballast within 100 feet of wetland areas would alter those wetlands and was therefore subject to jurisdiction under M.G.L. c. 131, § 40, requiring the filing of Notices of Intent with the local conservation commissions.

The Department of Food and Agriculture (DFA) initiated a Generic Environmental Impact Report (GEIR) evaluating alternatives for rights of way management. A technical advisory task force of environmentalists, agencies and rights of way managers assisted in the GEIR preparation and, based on results of the study, recommended to the Secretary of Environmental Affairs a framework for a coherent state-wide rights of way regulatory program. DFA published draft regulations to implement this program in 1986 and received extensive public commentary. Final regulations, 333 CMR 11.00, became effective on July 10, 1987.

The DFA regulations require persons proposing to apply herbicides to rights of way to first receive approval of a five year Vegetation Management Plan (VMP) and Yearly Operating Plan (YOP). These regulations identify certain "sensitive areas", including wetlands and public and private surface and groundwater supplies, where the application of herbicides is, in most instances, prohibited, and areas adjacent to the sensitive areas where use of herbicides is curtailed.

DEP worked closely with DFA to include provisions which give maximum protection for water supplies and provide protection for wetlands at least equal to that provided under the M.G.L. c. 131, § 40 and 310 CMR 10.00. To eliminate duplicate review under M.G.L. c. 131, § 40, DEP has adopted changes to the wetlands regulations which allow herbicide applications on rights of way in accordance with the DFA regulations without filing a Notice of Intent under the M.G.L. c. 131, § 40. However, non-exempt applicants will still be required to file a Request for Determination of Applicability to the appropriate conservation commission to establish boundaries of wetlands on or near the right of way. Specifically, these regulations presume that work performed in accordance with a VMP and YOP, as may be required under DFA regulations, will not alter an area subject to protection under M.G.L. c. 131, § 40.

During the public comment period on its proposed regulations, the Department identified several issues of major concern. After consideration of all comments, the Department has determined that, except for minor points of clarification and the addition of an automatic expiration date, no further changes in the regulations are warranted at this time. A discussion of these issues follows.

A. Presumption vs. Limited Project. Several commentators suggested that conservation commissions should retain the authority to review each herbicide application on rights of way through the usual Notice of Intent process. These regulations create a presumption that herbicide application carried out in accordance with an approved VMP and YOP under the DFA regulations will not alter wetlands and that the filing of a Notice of Intent is therefore not required. This procedure was established pursuant to the recommendation of the GEIR task force which states:

10.00: continued

wetland areas. In light of the strict controls placed on application of herbicides within the 100-foot buffer zone under the DFA regulations, the Department finds that adoptions of the proposed regulatory scheme is fully consistent with its previous adjudicatory hearing decision in the Clinton and Leverett cases.

C. Impacts of Herbicides Application on Wildlife Habitat. The Department is currently developing regulations under M.G.L. c. 131, § 40 to protect wildlife habitat. The effective date of these regulations is November 1, 1987. One commentator expressed concern regarding the impact of herbicide application on wildlife habitat in wetlands, and particularly on the habitat of rare, "state-listed" wildlife species. As discussed above, the Department has determined that the DFA regulations provide for protection of wetlands from alterations due to herbicide application. However, the DFA regulations do not include floodplains in their definition of wetlands, although those regulations do prohibit herbicide application within 10 feet of any standing or flowing surface water. Beyond that, there is no specific protection of wildlife habitat, including rare species, in floodplain areas.

The Department is concerned that the DFA regulations do not specifically address protection of wildlife habitat in floodplains, in particular those rare, "state-listed" wildlife species. Therefore, as a member of the VMP advisory panel, the Department will review VMPs for potential effect on wildlife habitat and specifically will recommend disapproval of any VMP that will have an adverse effect in areas mapped by the Natural Heritage and Endangered Species Program as habitat of any rare, "state-listed" wildlife species. Furthermore, the Department expects applicators to incorporate into the previously discussed two-year monitoring study a section detailing the effects of herbicide application on wildlife habitat in floodplains and on the habitat of rare, "state-listed" wildlife species. The Department will use the results of this study as the basis for recommending any amendments to the DFA regulations and a decision on reauthorization of these amendments to the Department's wetlands regulations.

APPENDIX H

Emergency Spill Response Plan

SPILL PLAN



**SPRINGFIELD TERMINAL RAILWAY COMPANY
BOSTON & MAINE CORPORATION
MAINE CENTRAL RAILROAD COMPANY**

Revised November 2020

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ATTACHMENT A – Pan Am Railways Emergency Contact List

1.0 PLAN PURPOSE AND SCOPE

This Spill Plan (the “Plan”) has been developed to provide Pan Am Railways (Pan Am) with a plan for emergency preparedness and response in the event of a spill or release or threat of a spill or release of hazardous material or oil. The purpose of this plan is to:

- Provide guidance during emergency situations;
- Minimize hazards to human health and the environment (e.g., air, soil, surface water, groundwater) from fires, explosions, or any unplanned sudden or non-sudden release of hazardous materials or oil; and
- Familiarize local emergency response personnel (*i.e.*, police, fire, and rescue departments, government agencies, and, emergency medical services) with Pan Am’s emergency response procedures.

Pan Am employees will not engage in emergency response operations other than incidental releases of hazardous materials. Outside emergency responders will be contacted for emergency response services for larger spills.

1.1 Procedures for Spill and/or Release of Hazardous Materials

1.1.1 Initial Notification Procedures

Any Pan Am employee who observes a condition that constitutes a release or threat of release of any hazardous material and/or oil shall contact the **Operations Center at 800-955-9208 or Channel 1.**

The following information should be provided when notifying Operations Center:

- The name and telephone number of the caller;
- The location of the release or threat of release;
- The date and time the release occurred;
- The name of the oil and/or hazardous material(s) released or of which there is a threat of release;
- The approximate quantity of the oil and/or hazardous material(s) which has been released or of which there is a threat of release;
- The source of the release or threat of release;
- A brief description of the release or threat of release;
- Whether the spill has been contained, or whether the flow has stopped;

- Any other information, such as potential impacts to human health or the environment, that is relevant to assessing the degree of hazard posed by the release or threat of release; and
- The extent of injuries, if any.

The Operations Center will immediately document the information provided by the caller and proceed to contact the appropriate District Primary and/or Alternate Emergency Coordinator and any other applicable personnel that could provide support to the incident.

1.1.2 District Primary and/or Alternate Emergency Coordinator

Determination of emergency procedures is the responsibility of the District Primary and/or Alternate Emergency Coordinator and has been summarized below:

1. The District Primary and/or Alternate Emergency Coordinator must identify the character, exact source, amount, and extent of any released hazardous materials or oil and assess possible hazards to human health or the environment.
2. If the District Primary and/or Alternate Emergency Coordinator determines there is a threat to human health or to the environment, he must report his findings immediately to the local authorities, especially if evacuation of local areas may be required;
 - If the District Primary and/or Alternate Emergency Coordinator determine that the spill or release exceeds a reportable quantity (RQ), then the District Primary and/or Alternate Emergency Coordinator must notify the appropriate state and/or federal agency(s).

1.1.3 Spill Response Procedures

For all spills or leaks, the following guidelines will be followed as closely as possible by individuals specified by the District Primary and/or Alternate Emergency Coordinator.

- Chemicals may not be employed in the cleanup of a spill or discharge without approval from the appropriate regulatory agency;
- The use of sorbents will be limited to the cleanup of small spills and the final cleanup of large spills;
- Disposal of all recovered petroleum products and oil-soaked debris will be in accordance with applicable state regulations;

- Pan Am will, at all times, maintain in good repair any equipment for the prevention and control of discharges and the containment and removal thereof when a discharge occurs;
- No major alterations in the structures or equipment that would materially affect the potential for a petroleum discharge, will occur except in accordance with approved plans by the applicable regulatory agency; and
- Any contractor that may be transporting and/or disposing of hazardous waste collected as a result of a spill must be properly licensed.

1.1.4 Small Spills

If the spill is small enough to be absorbed, neutralized or otherwise controlled at the time of release by employees in the immediate release area, does not pose an adverse exposure hazard to employees, and is within the scope of the employee's training, then the spill will be handled in the following manner:

- Make sure all unnecessary persons are removed from the hazard area;
- If flammable material is involved, remove all ignition sources, and use spark and explosion proof equipment and clothing during containment and clean up activities;
- If possible, try to stop the leak;
- If spilled materials are flowing from containers (*i.e.*, fuel tanks or tankers), try to stop the flow from the source. This may be accomplished by temporarily patching/plugging source or transferring material to another container;
- Use absorbent pads, booms, earth, sandbags, sand, and other inert materials to contain, divert, neutralize and clean up spilled material if it has not been contained. Contained spills can be pumped into compatible drums or tankers. If the released material is flammable, make sure that all electrical/mechanical equipment used during containment and clean up activities is explosion proof; and
- Place all recovered hazardous material or oil and containment and clean-up materials in compatible drums for proper disposal.

1.1.5 Large Spills

- Initiate evacuation of personnel as necessary;
- Contact emergency medical services (**911**) for any injured persons. To the extent possible, provide instructions for first aid procedures;

- Contact the local fire department (**911**) if a fire is involved. Keep heat exposed containers cooled with water spray and remove them from the area if possible. Note that fire emergencies generally supersede spill emergencies.
- If venting devices are activated (*i.e.*, they produce a hissing sound) or if a drum or tanker begins to bulge or discolor, withdraw from the area immediately;
- Contact the appropriate Emergency Response Contractor for emergency spill response. It should be noted that Pan Am personnel will not assist in handling hazardous materials spills, except minor spills which present limited risk to personnel and are within the scope of their training. For all other spills of hazardous materials, the District Primary and/or Alternate Emergency Coordinator will contact an Emergency Response Contractor.
- The District Primary and/or Alternate Emergency Coordinator will contact the proper local authorities, including water supply and wastewater treatment system operators, police, and fire department if necessary; and

1.2 Spill Response Equipment

The following sections list equipment available to facility personnel in the event of an emergency situation. Each of Pan Am's facilities is equipped with several spill control kits, and each kit contains the following equipment/material:

- Absorbent Pads;
- Absorbent Booms/Socks;
- Duct Tape;
- 55 gallons drums;
- Plastic Bags;
- Pallets of Spill Absorbent Material (*i.e.*, Speedi-Dri) at various locations in each facility; and
- Brooms, Mops, Buckets, Shovels, Squee-gees, etc.

Each Spill kit has enough material to handle a small to medium sized petroleum spill (generally defined as 55 gallons or less). Pan Am personnel would respond defensively to any large releases (*i.e.*, provide temporarily containment measures), but outside assistance would be called to perform response activities.

1.3 Personal Protective Equipment

Pan Am stores personal protective equipment (PPE) in each of their facilities. The majority of the emergency response equipment, including PPE, is contained in the Stores or Bridge and Building Departments but may be found in other locations at each facility. Pan Am stocks the following PPE for use by personnel during normal operations or in the event of an emergency situation:

- Chemical Resistant Clothing – Tyvek and/or Polycoated Tyvek suits;
- Hand Protection - gloves (i.e., work, chemical handling, heat resistant, cold resistant). Various types of gloves are supplied, including natural rubber, butyl, and neoprene;
- Head and Eye Protection - safety glasses, goggles, face shields, and hard hats;
- Foot Protection – safety shoes/boots and chemical resistant boots;
- Miscellaneous - aprons, arm protection, wet weather gear, cold weather gear, and heat resistant clothing.

1.4 Communications Equipment and Alarms

Telephones are located throughout Pan Am facilities, as well as near areas that contain hazardous materials. A list of emergency telephone numbers and a map showing the location of emergency response equipment is posted near the telephones located in hazardous waste storage areas.

Emergency response personnel have been issued cellular phones, beepers, and two-way radios. Additional two-way radio equipment is available for key personnel.

2.0 AMENDMENTS TO THE PLAN

Periodically, Pan Am will review the Plan. The plan will be immediately amended as necessary, whenever:

- The plan fails in an emergency;
- Changes in *KEY* personnel;
- There occurs any other circumstance which indicates the need for a change in the Plan.

If changes are made in the Plan, updated copies will be distributed to appropriate personnel.

ATTACHMENT A

Pan Am Railways

Contact List

24-Hour Spill Reporting Number (Oil or Hazardous Material)

1-800-955-9208
Or Channel 1

EMERGENCY COORDINATORS

WEST DISTRICT

PRIMARY		ALTERNATE
	<u>Environmental</u>	
Conar Myers Office (413) 774-6135 Cell (978) 987-3537		Dana Banks Office (978) 663-1218 Cell (978) 302-6140
	<u>Engineering</u>	
Todd Chessie Office (413) 774-6137 Cell (978) 408-5190		Shawn Atamaniuk Office (413) 774-6137 Cell (978) 505-6460
	<u>Mechanical</u>	
Jim Rae Office (413) 774-6136 Cell (978) 273-3783		Dan Truehart Office (413) 774-6172 Cell (978) 257-1747

CENTRAL DISTRICT

PRIMARY		ALTERNATE
	<u>Environmental</u>	
Dana Banks Office (978) 663-1218 Cell (978) 302-6140		Conar Myers Office (413) 774-6135 Cell (978) 987-3537
	<u>Engineering</u>	
Scott Arseneault Office (978) 663-1198 Cell (978) 888-4117		Tyler Wood Office (978) 302-6487 Cell (978) 302-6487
	<u>Mechanical</u>	
Russ St. Hillaire Office (978) 687-6223 Cell (508) 864-8530		Harold Dube Office (978) 590-0651 Cell (978) 590-0651

EAST DISTRICT

PRIMARY

Environmental

Dana Banks
Office (978) 663-1218
Cell (978) 302-6140

Engineering

Josh Slaney
Office (207) 873-6961
Cell (978) 408-3538

Mechanical

Mark Gray
Office (207) 873-6918
Cell (603) 498-4625

ALTERNATE

Conar Myers
Office (413) 774-6135
Cell (978) 987-3537

Mike Denham
Office (207) 620-4419
Cell (207) 620-4419

Scott Giguere
Office (207) 873-6920
Cell (978) 257-0415

PRIMARY ENVIRONMENTAL CONSULTANT

Environmental Resource Management

John Drobinski, LSP
Cell: (617) 833-3583
Office: (617) 646-7850
Home: (978) 443-3526

PRIMARY ENVIRONMENTAL CONTRACTORS

Western MA Environmental Services (West District)

(866) 662-2622
(413) 562-2622
(413) 315-0657

Miller Environmental Group, Inc. (New York)

(866) 662-2622
(413) 562-2622

US Ecology/NRC/ENPRO Services, Inc (West, Central & East Districts)

(800) 966-1102 – 24 Hour Response (MA)
(888) 795-1400 – 24 Hour Response (ME)

APPENDIX I

Resumes of Persons Preparing The Vegetation Management Plan

KEITH L. MORRIS
ENVIRONMENTAL CONSULTANT
622 Spring Street
Leeds, Massachusetts 01053
Tel/Fax 413 584-0633
Email: keithlmorris@comcast.net

PROFESSIONAL EXPERIENCE

Private Consultant, January 1996 to present
Principal

Agent, Town of Suffield Conservation Commission, April 1991 to July 2002, July 2008 to present

- Technical review of proposed applications for potential wetland impacts, alternatives, and possible mitigating measures.
- Administrative review of all applications for completeness and compliance with the Town of Suffield's Wetland Regulations.
- Technical input at all Commission meetings for each application.
- Advising the Commission on procedural requirements in complying with the State of Connecticut Inland Wetlands and Water Courses Act.
- Conduct site inspections of all ongoing projects for compliance with soil and erosion control regulations and permit conditions.

Environmental Compliance Services, Inc., March 1989 to December 1995

Project Manager/Wetlands Specialist

- Responsible for division marketing, cost estimates, and direct project management of all aspects of wetlands investigations.
 - Conduct federal and state wetland permitting and boundary determinations.
 - Responsible for preparation of technical reports and communication with federal, state, and local authorities.
 - Design and implication of wetland replacement and restoration areas, including on-site coordination and supervision.
 - Filing of Notices of Intent with local conservation commissions for both private and commercial properties, including single-family subdivisions, gas stations, bridge repair work, etc.
 - Client representation at public hearings and site inspections with local conservation commissions and state personnel.
 - Provide ongoing consulting services to local cities and towns, including file review, site inspections, recommendations, etc.
 - Conduct vegetative inventories, flood plain assessments, and wildlife habitat evaluations.
 - Utilization of the SCS TR-55 Macrocomputer program for stormwater drainage calculations.
 - Preparation of Environmental Notification Forms and input on Environmental Impact Statements in Accordance with the Massachusetts Environmental Policy Act.
 - Compliance with Massachusetts Contingency Plan Chapter 21E, including environmental site assessments and remediation.
-

Associated Environmental Scientists, Inc., April 1984 to March 1989

- Preparation and filing of various forms and reports in compliance with federal, state, and local wetland regulations.
- Flood plain management and assessment, client representation at public meetings, and supervision of technical staff.
- Massachusetts and federal wetland boundary delineation.
- Other responsibilities included design of erosion control measures, drainage analysis, conducting topographic surveys, and project management.
- Conducted air sampling and testing for various private and commercial clients.
- Participated in projects involving compliance with Massachusetts “Right To Know” regulations, including review of Product Material Safety Data Sheets (MSDS).

EDUCATION

University of Massachusetts
B.S. in Environmental Science, 1984
Holyoke Community College
A. S. in Environmental Science, 1982

GRADUATE STUDIES

University of Massachusetts, Department of Plant and Soil Sciences
“Wetland Identification and Delineation Course”

PROFESSIONAL SOCIETY MEMBERSHIP

Society of Wetland Scientists
Soil and Water Conservation Society

PROFESSIONAL ACTIVITIES

40 OSHA Training, updated March, 1995
Erosion and Sediment Control Site Plan Workshop, October 1994
Short course on the Environmental Impact Review Process in Massachusetts, 1990

References available upon request.
