

## **Section 10 Buffers**

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## ATTACHMENT

Attachment 10-1 Spruce Mountain Wind Project Vegetation Management Plan

## 10.0 INTRODUCTION

Vegetated buffers play an important role in mitigating impacts of development through their ability to provide important functions such as stormwater treatment, visual screening, separation of incompatible land uses, and wildlife habitat.

The "no adverse effect on the natural environment" standards of the Site Location Act (38 M.R.S.A. Section 484(3)), specify criteria for evaluating (1) whether or not a developer has made adequate provisions to fit a proposed development harmoniously into the existing natural environment and (2) whether or not the development will adversely affect existing land uses, scenic character, or natural resources in the municipality or in neighboring municipalities.

The following sections describe how Spruce Mountain Wind, LLC (SMW) has incorporated vegetated buffers into the Spruce Mountain Wind Project (Project) design and how these buffers will function to comply with the buffer strip standards of the Site Law, the Stormwater Law's Chapter 500 buffer standards, and other regulatory guidance including Maine DEP's interim performance standards for maintenance of electric utility corridors.

### 10.1 Basis for SMW Buffer Designs

SMW prioritized avoidance and minimization of impacts to the natural and human environment when designing the Project. SMW established a minimum 2,000-foot setback between any proposed turbine and any existing residence during the early planning and design phases of the Project. The closest residence to the Project is about 2,150 feet from the nearest turbine; the next-closest residence is about 2,600 feet from the nearest turbine. A number of facility design scenarios were considered throughout an iterative design process; the final layout was chosen based on a combination of factors including avoiding and minimizing impacts to the natural environment, design and construction of best management practices (BMPs), and feasibility of safely implementing the design, particularly on steep slopes and at high elevations.

Maintaining vegetated buffers played a key role in the Project's impact avoidance and minimization strategy. The Project, as currently designed, is proposed on approximately 2,879 acres of land located in Woodstock, Oxford County, Maine. SMW will own approximately 1,200 acres of the project site in fee, with the rights for the remaining 1,679 acres being secured by lease agreements with landowners. Approximately 50.82 acres of land will be cleared for construction, and only areas requiring grading (35.56 acres) will be grubbed. Following construction, approximately 40.2 acres of previously cleared land will be restored to vegetated conditions for operations of the Project. The Project will include approximately 24.30 acres of impervious area during construction to accommodate the large equipment needed to transport and install the turbines on the ridgeline. Following turbine installation, road widths will be reduced from 20 feet (access road from Shagg Pong Road to the ridgeline) and 32 feet (ridgeline access road) to 12 feet, resulting in only 6.6 acres of impervious area following the construction phase of the Project. In addition, approximately 18.6 acres of land will be preserved as permanent vegetated buffers associated with the stormwater management plan for the Project.

## 10.2 SMW Project Buffers

The following sections describe how SMW has incorporated vegetated buffers into specific components of the Project.

### 10.2.1 Wind Turbine Buffers

SMW designed the workspace required to construct the wind turbines to maximize efficient use of the ridgeline and minimize the need for tree clearing. Typically, a 250- to 300-foot radius around each turbine is completely cleared, resulting in a circular impact area. SMW's efficient design, however, results in a smaller, irregularly shaped impact area that minimizes tree clearing without affecting feasibility of construction. As depicted on the project design drawings (Exhibit 1), the design for each turbine site includes space to access the turbine foundation, a crane pad for the crane that will lift the rotor onto the towers, and the minimum area necessary for additional construction workspace and rotor assembly. SMW has maximized use of relatively level terrain on the ridge to minimize cut-and-fill slopes on road shoulders (and therefore area of disturbance). In addition, all workspace in the vicinity of the towers, up to the turbine foundations, will be loamed, seeded, and re-vegetated following construction. SMW will place at least 1,000 acres of their controlled land into conservation, which will allow for sustainable timber harvest but prevent further development. This land will allow for a significantly larger buffer strip that will create a visual screen and provide stormwater runoff treatment.

### 10.2.2 Access Road Buffers

Access to the proposed Project will be via a gravel access road that will intersect with the existing, gravel Shagg Pond Road located north of the project site. The portion of the access road connecting Shagg Pond Road and the ridgeline will be 24 feet wide during construction; the road that runs along the ridgeline will be 32 feet wide during construction. Both roads will be reduced to only 12 feet wide following construction of the Project and will remain 12 feet wide during operations, although there will periodically be wider turn-offs to accommodate passing vehicles. SMW will maintain an approximately 20-foot-wide permanent, vegetated meadow buffer along the downstream side of the ridgeline road, abutted by another, forested buffer of at least 35 feet in width. These vegetated buffers were designed based on the stormwater analyses prepared for the Project (see Section 12) to remove sediment and associated pollutants from stormwater runoff and to protect water quality in down-gradient water resources. These vegetated buffers, totaling approximately 18.6 acres, will be preserved with a deed restriction. Furthermore, the additional conservation land will provide an even greater benefit than these designated buffer strips.

### 10.2.3 Electric Transmission Line Buffers

Construction and maintenance of the proposed electric transmission line extending from the ridgeline to Cushman Road will be in accordance with Maine DEP's *Minimum Performance Standards for Transmission Line Corridors* and ISO-New England's safety standards. These standards specify BMPs for development of transmission line corridors before, during, and after construction. These standards require selective clearing of "capable" vegetation within protected natural resources and critical habitats. Capable vegetation is defined as those species of vegetation capable of growing to a height that would reach the conductor safety zone (maximum sag elevation of the transmission lines). Most trees in Maine would qualify as capable vegetation in accordance with these standards. The standards also specify the promotion of non-capable vegetation (species unlikely to grow to heights that interfere with power lines

i.e., shrubs and herbaceous plants) during the natural regeneration of resource areas that require tree removal during construction.

SMW's compliance with Maine DEP's transmission line performance standards before, during, and after construction will promote preservation of vegetated buffers. These standards promote the retention of low growing species and ground covers to the maximum extent practicable, resulting in a utility corridor that provides a diversity of riparian, wetland, and upland habitats that provide cover for small animals and birds and browsing habitat for larger mammals. In addition, these vegetated buffers will function to mitigate impacts of stormwater runoff and preserve water quality in down-gradient water resources.

SMW will prepare an invasive species control plan for the transmission line corridor prior to construction to ensure construction methods do not encourage the spread of invasive species and, therefore, create greater challenges for control of these species during operations. Invasive species management both prior to and following construction may include mechanical and chemical control methods.

#### **10.2.4 Typical Stream Buffers**

Fifty-one waterbodies were identified in the project area during field surveys, including seven perennial streams, 15 intermittent streams, and 29 ephemeral drainages (see Section 7). Of these 51 resources, only three (two perennial and one intermittent) will be permanently impacted by the Project, and an additional 10 (two perennial and eight intermittent) will be temporarily impacted during construction. SMW prepared several iterations of the project layout with the specific objective of avoiding and minimizing impacts to state and federal jurisdictional streams. In all instances where streams are impacted by the Project, removal of vegetation was minimized to the greatest extent practicable.

Additionally, SMW will comply with Maine DEP's *Minimum Performance Standards for Transmission Line Corridors* before, during, and following construction of the transmission line. SMW will maintain a minimum 25-foot riparian buffer from Maine DEP-regulated rivers, streams, and brooks. In addition, the transmission line was designed to maintain a 100-foot setback from waterbodies for power pole installation, thereby minimizing soil disturbance in the vicinity of streams. SMW is proposing to construct the electric transmission line in the winter in an effort to substantively reduce impacts to vegetation and protected resources, including valuable vegetated riparian buffers.

The contractor will oversee the construction phase of the Project and be responsible for ensuring that protective measures identified in this application are employed effectively in the field. Erosion and sedimentation control measures will be installed, inspected regularly by construction inspectors, and maintained throughout construction to prevent adverse impacts to waterbodies and other resources. Details regarding protection of stream buffers after construction are presented in Section 10.3, Post-construction Vegetation Management Plan, and in Attachment 10-1.

#### **10.2.5 Wetland Buffers**

Fifty-one freshwater wetlands were delineated on the project site including 16 palustrine forested, nine palustrine scrub-shrub, and 26 palustrine emergent wetlands. Of these 51 resources, only five will be permanently impacted by the Project and an additional eight will be temporarily impacted during construction and then restored. In all cases where wetlands are impacted by the Project, vegetation clearing has been minimized to the greatest extent practicable. In addition, the Maine DEP's transmission line standards require that all work in wetlands be conducted during frozen ground conditions when

practicable, to minimize impacts to wetlands. SMW will employ an environmental inspector that will assist with locating construction access roads through wetlands to maximize preservation of non-capable species.

### **10.2.6 Vernal Pool Buffers**

Spring 2009 vernal pool surveys identified no significant vernal pools, three potential vernal pools (PVP), and seven amphibian breeding areas (ABA) within the project survey limits (see Section 7). SMW made every effort to avoid these resources with the result that none are directly impacted by the Project. ABA7 and 8 and PVP 1 are within 75 feet of the proposed construction work limits. SMW will maintain as much vegetative buffer between these resources and the construction work limits as practicable and will employ erosion and sedimentation controls during construction to ensure protection of these resources. In addition, construction of the Project is not anticipated to have a substantive impact on adjacent terrestrial habitat to these ABAs and the PVP; with less than 10 percent of the ABA, and 11 percent of the PVP adjacent terrestrial habitat being impacted as the result of construction.

### **10.3 Post-construction Vegetation Management Plan**

The Maine DEP's *Minimum Performance Standards for Transmission Line Corridors* requires preparation of a Vegetation Management Plan (VMP) for maintenance of transmission line corridors following construction.

In addition, SMW will need to comply with ISO New England Right-of-way Vegetation Maintenance Standards (ISO-NE Vegetation Maintenance Standard) to maintain the integrity and functionality of the transmission lines, to maintain access in case of emergency repairs, and to facilitate safety inspections. These standards establish vegetation clearances, inspection schedules, and BMPs to limit tree-caused risk to the transmission lines.

SMW's VMP for operations is provided in Attachment 10-1.

**Attachment 10-1**  
**Spruce Mountain Wind Project**  
**Post-Construction Vegetation Management Plan**

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## 1.0 INTRODUCTION

Post-construction vegetation management (VM) in utility line corridors is critical to ensure the reliability of electric transmission during operations of wind energy projects. This Post-Construction Vegetation Management Plan (VMP) was prepared in compliance with the Maine Department of Environmental Protection's (Maine DEP's) *Minimum Performance Standards for Transmission Line Corridors* and ISO New England (ISO-NE) Right-of-Way Vegetation Maintenance Standards (ISO-NE Vegetation Maintenance Standards<sup>1</sup>). These standards are intended to help operators maintain integrity and functionality of the transmission lines, avoid and minimize impacts to the environment, maintain access in case of emergency repairs, and facilitate safety inspections. These standards establish vegetation clearances, inspection cycles, and best management practices to limit tree caused risk to the transmission lines.

## 2.0 REQUIRED PRE-VEGETATION MANAGEMENT ACTIVITIES

The following sections describe activities that should be completed in advance of field mobilization for VM activities. Because there are time-of-year restrictions for certain activities within and adjacent to protected resources, and certain herbicides must be used during specific climatic conditions, advanced planning is recommended. Some of the following activities can be performed just prior to field mobilizations for VM; others should be performed well in advance of field VM activities.

### 2.1 Pre-Vegetation Management Planning

It is appropriate to plan for VM during the first year after construction of the Project. SMW will define a schedule for right-of-way vegetation inspections based on the species present in the right-of-way, their anticipated rate of growth, along with any other applicable environmental and operational factors that could impact the relationship between vegetation and the transmission lines.

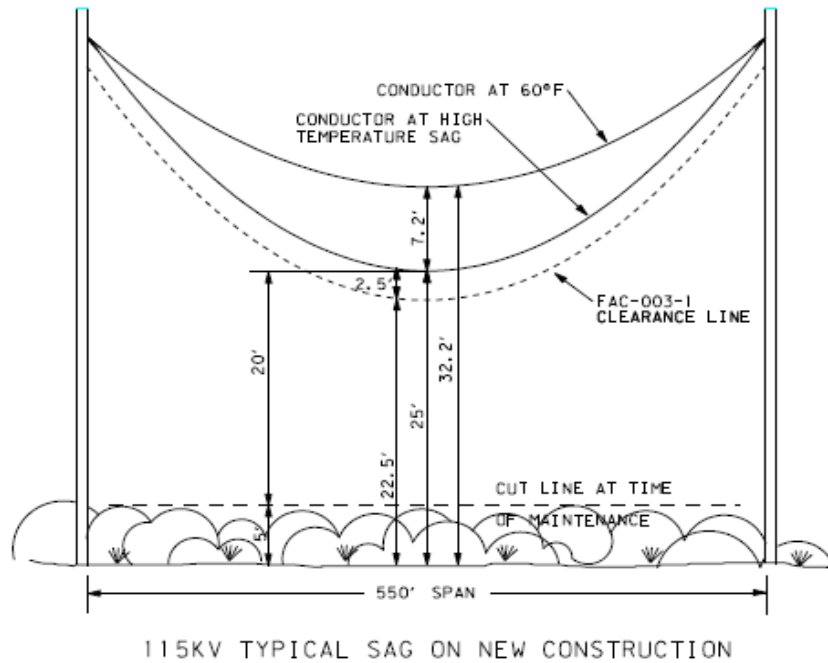
Growth rates of vegetation vary due to species, soil, site and climatic conditions. Therefore, inspections of the transmission lines shall be performed at least once a year to determine where vegetation is not in compliance with ISO-NE and Maine DEP standard clearances. The objective of the vegetation inspection will be to observe and record vegetation conditions which might immediately affect the operation or maintenance of the transmission lines. The following list is representative of observations that should be made during inspections:

- Heights of vegetation in the transmission corridor
- Clearance of road crossing screens/buffers
- Vegetation which is not in compliance with standard clearances
- Evidence of vegetation-conductor contact or burning caused by contact
- Trees which, because of their condition, are an immediate threat to the lines

When vegetation is not in compliance with the standards, action shall be initiated within a reasonable time frame to obtain the conductor to vegetation clearances shown in Figure 1.

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<sup>1</sup> ISO New England Operating Procedure No. 3, Transmission Outage Scheduling – Appendix C – ISO New England Right-of-Way Vegetation Management Standard, February 1, 2005.



**ASSUMPTIONS**  
 1113Kcmil BlueJay ACSR  
 8,000\* tension @ NESC Heavy  
 60° Sag @ Initial  
 High Temp Sag @ 248°F final

**Figure 1**

## 2.2 Training

SMW’s personnel and contractors who will be participating in VM activities on the rights-of-way will receive appropriate environmental training before being allowed access to the rights-of-way. Prior to training sessions, SMW personnel and contractors will be required to review this VMP. Training sessions will consist of a review of all sections of the VMP with specific attention to the restrictions in protected resources and associated buffers. Training will also include a thorough review of as-built plan and profile drawings, specifically the locations of all protected resources along the utility corridor. Personnel will be informed of the number of protected resources located between each set of utility poles and will be responsible for ensuring this number is also flagged in the field prior to the start of VM activities. Personnel responsible for field location of protected resources will be trained in the use of Global Positioning System (GPS) equipment. Training will also include an overview of safety protocols, a list of emergency contacts, restrictions on fueling equipment in the vicinity of resources, best management practices for erosion and sedimentation control, and appropriate protocols (including clean up, monitoring, and reporting) if there is an inadvertent release of hazardous materials (i.e., fuel, hydraulic oils, herbicides) during VM activities.

### 2.3 Protected Resource Identification

All wetlands, streams, and riparian buffers will be flagged in the field prior to initial line clearing and flagged or located with GPS equipment prior to VM activities. SMW or its consultant will be responsible for ensuring that protected resources are accurately located and flagged in the field prior to the start of VM activities.

### 2.4 Invasive Species Vegetation Monitoring

The objectives of SMW’s invasive species vegetation monitoring measures are to prevent the introduction and spread of invasive species as a result of construction and maintenance of the utility lines. Locations within the electric utility transmission line corridor that contain invasive plant species, as identified in Table 1, will be identified prior to construction of the Project.

**Table 1. Maine Invasive Plant Species**

<b>Scientific Name</b>	<b>Common Name</b>
<i>Acer platanoides</i>	Norway maple
<i>Alliaria petiolata</i>	Garlic mustard
<i>Berberis thunbergii</i>	Japanese barberry
<i>Celastrus orbiculatus</i>	Oriental bittersweet
<i>Cynanchum louiseae</i>	Black swallowwort
<i>Elaeagnus umbellata</i>	autumn olive
<i>Fallopia japonica</i>	Japanese knotweed
<i>Frangula alnus</i>	glossy buckthorn
<i>Lonicera morrowii</i>	Morrow’s honeysuckle
<i>Lonicera tatarica</i>	tatarian honeysuckle
<i>Lythrum salicaria</i>	purple loosestrife
<i>Phragmites australis</i>	common reed
<i>Rhamnus cathartica</i>	common buckthorn
<i>Rosa multiflora</i>	multiflora rose

SMW will prepare an invasive species control plan (ISCP) to be implemented both during and following construction. The objective of the ISCP will be to identify the extent of invasive species present and to develop control measures based on the specific propagation characteristics of those species. This should be prepared prior to construction to ensure construction methods employed do not encourage the spread of invasive species and, therefore, create greater challenges for control of these species during operations. Invasive species management both prior to and following construction may include mechanical and chemical control methods.

### 2.5 Use of Herbicides

Herbicide usage must comply with all label requirements and standards established by the Maine Board of Pesticides Control (MBPC), as amended, and Maine DEP standards. Herbicide restrictions and approvals governed by MBPC will be complied with during VM activities include the following:

1. Only trained applicators working under licensed supervisors will be used.
2. All applicators will receive training and will be aware of the impacts of climatic conditions prior to application.
3. Application will not take place when wind speed exceeds 15 mph as measured on-site at the time of application. The application must be administered in such a manner that drift will be minimized to the extent practicable.
4. The use of combinations of herbicides and surfactants/adjuvants will be in compliance with United States Environmental Protection Agency (EPA) and label requirements.
5. Products with low potential for mobility and low persistence in the environment must be selected for use in sensitive resource areas. When operating within riparian areas, significant vernal pools (SVPs), and inland waterfowl and wading bird habitats (IWWHs) the following herbicides are required unless otherwise authorized by Maine DEP prior to application:
  - (a) 2,4-D salt formulation, NOT the ester formulation
  - (b) Glyphosate
  - (c) Imazapyr
  - (d) Fosamine Ammonium
  - (e) Aminopyralid Triisopropanolammonium
  - (f) Metsulfuron methyl
6. Only surfactants approved by MBPC in consultation with Maine Department of Inland Fisheries & Wildlife (Maine DIFW) may be used within riparian areas, SVPs, and IWWHs.
7. Herbicides must be applied in accordance with EPA label requirements to minimize wash-off.
8. There will be no aerial or motorized application of herbicides.
9. SMW or its agent must closely supervise and inspect all protected natural resource areas during application.
10. Low-pressure, manual backpack sprayers, with appropriate nozzles to minimize drift, will be used.
11. Herbicide application must be specific to individual targeted species.
12. SMW or its consultants will conduct post-treatment inspections.
13. SMW or its consultants will not store, mix or load any herbicide within 50 feet of any surface water.
14. SMW or its consultants will not apply herbicide within 100 feet of a known well or spring.
15. SMW or its consultants will not apply herbicides within 25 feet of the following:
  - (a) Any surface waters of the State;
  - (b) Wetlands with open water at the time of application; and
  - (c) SVP depressions (whether there is standing water or not).

### **3.0 VEGETATION MANAGEMENT PRACTICES**

The objective of SMW's VMP is to control large, woody vegetative growth and encourage low-growing vegetation to ensure the integrity and safe operation of the transmission lines while minimizing impacts to the environment. This will be accomplished by practicing Integrated Vegetation Management (IVM), which uses a combination of hand-cutting and selective herbicide applications. Mechanical mowing may be used in unusual circumstances to regain control of vegetation should the typical procedures not be sufficient.

Large woody vegetation is referred to as "capable vegetation" pursuant to Maine DEP and ISO-NE standards. Capable vegetation is defined as species that are capable of growing to a height that would reach the conductor (transmission wires) safety zone as illustrated in Figure 1. The ISO-NE Vegetation Management Standard for a 115 kV transmission line requires that a minimum of 15 feet of vertical separation be maintained between vegetation and the conductors. This standard will also be used for SMW's 34.5 kV transmission line. Due to the sag of the electric transmission lines between the poles, which varies with the distance between poles, tension on the wire, electrical load, air temperature and other variable conditions, the required ISO-NE clearance is typically achieved by removing all capable species and topping other vegetation exceeding 8 to 10 feet tall. Most tree species in Maine are defined as capable vegetation.

When and if terrain conditions permit (e.g., certain ravines and narrow valleys) capable vegetation must be permitted to grow within and adjacent to protected natural resources or critical habitats where maximum growing height can be expected to remain below a safe level. Narrow valleys are those that are spanned by a single section of transmission line, pole-to-pole.

#### **3.1 Mechanical Vegetation Management**

Mechanical VM practices that will be used following construction will include hand-cutting of capable vegetation, dead, or danger, trees using chain saws. Danger trees are those located either in or adjacent to utility corridors that are tall enough to pose a threat to the transmission wires should they fall. SMW or their contractors will cut capable, dead, and danger trees at ground level.

Cut vegetation will then be removed from the utility corridor and chipped, and slash will be removed in accordance with the Maine Slash Law. No accumulation of slash shall be left within 50 feet, horizontal distance, of the top of any stream bank. In all other areas slash shall either be removed or disposed of in such a manner that it lies on the ground and no part thereof extends more than 4 feet above the ground. Any debris that falls below the normal high-water line of a water body or tributary stream shall be removed.

#### **3.2 Herbicide Applications**

SMW will use herbicide vegetation control along with mechanical methods as part of its VMP. Herbicides will be used in accordance with standards listed in Section 2.5 of this VMP. Herbicide application will be specific to individual targeted species. The objective of targeted species control will be to discourage, and eventually eliminate, capable and invasive species while encouraging growth of low-growing plant communities consisting of grasses, forbs, and low-growing shrubs that will eventually become well established and out-compete capable species below the transmission lines. Aerial application of herbicides will not be used.

## 4.0 PROTECTED RESOURCES VEGETATION MANAGEMENT

### 4.1 Waterbodies and Riparian Buffers

The following conditions apply to streams and riparian buffers that occur along the electric transmission lines. Table 2 provides a list of streams and associated riparian buffers located along the transmission line right-of-way.

- Unless frozen, streams must be crossed using mats or bridges. Streams can not be forded.
- Riparian buffers on rivers, streams, or brooks must include all areas within 25 feet of the river, stream, or brook measured horizontally from the top of bank away from the stream channel on both sides of the resource.
- Riparian buffers must be retained within 100 feet of all Class A, AA, outstanding river segments, or rivers, streams, or brooks containing threatened or endangered species unless the Maine DEP determines that the functions and values of the riparian buffer will not be impacted by the removal of vegetation and approves an alternative minimum buffer.
- All riparian buffers must be flagged in the field prior to initial line clearing and flagged or located with a global positioning system (GPS) prior to any maintenance operations.
- No accumulation of slash shall be left within 50 feet, horizontal distance, of the top of the stream bank. In all other areas slash shall either be removed or disposed of in such a manner that it lies on the ground and no part thereof extends more than 4 feet above the ground.
- Any debris that falls below the normal high-water line of a water body or tributary stream shall be removed.
- No mechanized equipment except chain saws and All Terrain Vehicles (ATVs) (for maintenance and inspection) may be operated in any river, stream or brook or associated riparian buffers in order to minimize stream bank impacts.
- Impacts to scrub-shrub and herbaceous vegetation, and other non-capable species must be minimized to the maximum extent practicable in riparian buffers.

**Table 2. Spruce Mountain Wind Project – Streams Located Along the Transmission Line Right-of-way**

Stream Identification Numbers			Streams				USACE	Notes
Plan ID	Field ID	Type <sup>1</sup>	Width	Depth	Maine DEP <sup>2</sup>			
<b>Transmission Line</b>								
TS02	AW35b	I	3'	5"	X	X	Intermittent stream associated with wetland TW01 (field ID AW35).	
TS03	AW35a	I	4'	6"	X	X	Intermittent stream associated with wetland TW01 (field ID AW35).	
TS06	AW34	I	2'-3'	4"	X	X	Intermittent stream associated with wetland TW04 (field ID AW34a). Scoured steam bed with mineral base.	

Stream Identification Numbers		Streams					USACE	Notes
Plan ID	Field ID	Type <sup>1</sup>	Width	Depth	Maine DEP <sup>2</sup>			
TS10	AW30	I	2'-3'	4"-6"	X	X	Intermittent stream crosses the proposed transmission line, shallow and < 3 feet wide.	
TS12	AW29	P	8'		S	X	Eight foot wide perennial stream associated with wetland TW11 (field ID AW29). Stream appears altered by past construction. Northern Spring Salamander Habitat.	
TS15	AW28b	I	1'-3'			X	Intermittent stream that flow east out of wetland complex TW14 (field ID AW28).	
TS17	AW27	I	2'	3"		X	Shallow (< 6 inches), narrow < 2 ft stream that flows to the south through wetland TW16(field ID AW27).	
TS18	AW24	P	8'-15'	7"-24"	S	X	Perennial stream located within proposed transmission line right-of-way (ROW). Northern Spring Salamander Habitat.	

- 1 P = Perennial, flows more than 6 month of the year  
 I = Intermittent, flows more than 3 months of the year  
 E = Ephemeral, flows less than 3 months of the year  
 2 S = Northern Spring Salamander Habitat

## 4.2 Wetlands

The wetlands vegetation management minimum performance standards apply to all delineated wetlands within the SMW transmission line right-of-way unless the Maine DEP determines that that the functions and values of the wetlands will not be impacted. The performance standards are as follows:

- All delineated freshwater wetlands must be flagged in the field prior to initial line clearing and flagged or located with GPS prior to any maintenance operations.
- If VM activities result in areas of bare soil or minimally vegetated cover, the areas of bare soil must be allowed to re-vegetate naturally, where practicable. If areas are sufficiently large to warrant planting, a native seed designed to provide short-term cover must be applied, and the area must be allowed to return to native woody and perennial herbaceous vegetation naturally.
- No accumulation of slash shall be left within 50 feet, horizontal distance, of the edge of the wetland. In all other areas slash shall either be removed or disposed of in such a manner that it lies on the ground and no part thereof extends more than 4 feet above the ground. Any debris that falls into the wetland shall be removed.
- Transmission line corridor clearing, slash removal, and non-emergency infrastructure maintenance within wetlands must be undertaken during frozen ground conditions whenever practicable. If not practicable, a third-party environmental inspector must be contracted to recommend appropriate techniques to minimize disturbance to the maximum extent practicable, such as the use of pre-established cutting lanes to accommodate mechanical equipment use within saturated or inundated wetlands.

- Within these freshwater wetlands impacts to scrub-shrub, herbaceous vegetation, and other non-capable species must be minimized to the maximum extent practicable.

**Table 3. Spruce Mountain Wind Project – Wetlands Located Along the Transmission Line Right-of-way**

Resource Identification		Wetlands <sup>2</sup>				Notes	
Plan ID	Field ID	PFO <sup>1</sup>	PSS	PEM	WSS <sup>3</sup>		
<b>Transmission Line</b>							
TW01	AW35	D		X		R	PFO-PEM wetland located on a terrace and dominated by a red maple and ash overstory and an understory dominated by fern species and associated with two streams (WSS).
TW05	AW34b	X		D		R	PEM wetland in right-of-way (ROW) and dominated by sedges and ferns and a minor component of young gray birch. Associated with stream AW34 (WSS).
TW08	AW32	D					PFO along the proposed transmission line. Similar to other PFO in this part of the survey area, the canopy is comprised of red maple, yellow birch, and American beech.
TW14	AW28	X		D			Wetland complex includes PEM ( <i>carex, juncus, scirpus</i> -dominated) areas located within the existing ROW and PFO (red maple, yellow birch) dominated areas located off the ROW.
TW16	AW27	X		D		R	Typical wetland complex found in and adjacent to the existing ROW. PEM dominated in the ROW and PFO dominates off ROW. Similar species as AW28. Stream AW27 bisects the complex (WSS).

<sup>1</sup> Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31, U.S. Fish and Wildlife Service, Office of Biological Services, Washington, D.C.

<sup>2</sup> PFO=Palustrine (freshwater) forested wetland PSS=Palustrine shrub-scrub wetland PEM=Palustrine emergent wetland

<sup>3</sup> D = Dominant Wetland Type; X = Present

Wetlands of Special Significance Designations:  
 R = within 25 feet of Maine DEP jurisdictional river, stream, or brook

### 4.3 Vernal Pools

Based on spring 2009 field surveys, no potential vernal pools or SVPs are located within the SMW utility right-of-way.

### 5.0 VEGETATION MANAGEMENT BMPS

The following additional Best Management Practices will be used during VM activities:

- If VM activities result in significant soil disturbance, these areas will be stabilized and reseeded immediately following VM activities.
- No refueling of equipment may occur in or within 50 feet of a protected natural resource (riparian buffer 25 feet beyond the back of any river stream or brook or edge of wetlands) or identified critical habitat area or other areas of special significance as identified by the Maine DEP, Maine DIFW or Maine NAP.
- Any spill or release of petroleum products or other hazardous material within the utility transmission right-of-way during VM activities will be managed in accordance with SMW’s spill response protocols.