

**Redington Wind Farm Project**  
**Solid Waste**

**Prepared by:**  
**DeLuca-Hoffman Associates, Inc.**  
**South Portland, Maine**

## Table of Contents

1.0	Overview.....	1
2.0	Stumps and Grubbing Debris.....	2
3.0	Construction and Demolition Debris .....	5
4.0	Grit/Sediment Removal .....	5
5.0	Commercial Waste.....	5
6.0	Closure .....	6

**Solid Waste**

---

**1.0 Overview**

DeLuca-Hoffman Associates, Inc. has prepared the following Solid Waste narrative. Redington Mountain Windpower, LLC has retained DeLuca-Hoffman Associates, Inc. to prepare a number of reports for the Redington Wind Farm Project. The work of DeLuca-Hoffman Associates, Inc. is summarized in seven reports, which accompany the Maine Department of Environmental Protection (MeDEP) and LURC applications and are titled:

- ❑ Erosion and Sedimentation Control Plan for Roadway Construction;
- ❑ Basis of Design for the Roadways to Access Wind Turbines;
- ❑ Basis of Stormwater Management for Access Roadways;
- ❑ Access Road Maintenance;
- ❑ Blasting;
- ❑ Erosion and Sedimentation Control Plan for Transmission Line Corridor Construction; and
- ❑ Solid Waste

This section of the application provides estimates of solid waste generation. The section considers the reductions of solid waste through the use of recycling, and outlines the planned procedures for the transport and disposal of solid wastes that will be generated by the proposed Redington Wind Farm Project. The most significant solid waste item generated in the construction of this project will be tree stumps from clearing for roadways, the maintenance building, turbine pads and the substation interconnect.

The following volumes of solid waste associated with the construction and operation of the development have been estimated:

- 45,000 cubic yards of stumps, grubblings and brush from the construction of the proposed roadways, wind turbines, substation and associated work.
- 400 cubic yards of construction debris from the construction of the proposed project.

**Solid Waste**

---

- A limited volume of solid waste will be generated by the operations of the proposed wind farm. It is estimated that the facility will be maintained by 5 to 10 maintenance personnel who will generate 5 cubic yards/month of recyclable waste and 10 cubic yards/month of non-recyclable waste.

Redington Mountain Windpower, LLC has made contact with Waste Management in Norridgewock with regard to construction solid waste disposal. No formal agreement has been made, but Redington Mountain Windpower, LLC intends to engage a contractor for this service.

Stump dump locations have been determined and are shown on the project Base Map. Permission from abutting landowners for the dumping of stumps is included in the Black Nubble Expansion Deed in Section 2 of this application.

**2.0 Stumps and Grubbing Debris**

Redington Mountain Windpower, LLC will retain a general contractor to perform earthwork and land clearing onsite. Land clearing will include cutting of trees and stump removal. Redington Mountain Windpower, LLC proposes to grind a portion of the stumps and brush and use the grindings behind silt fences, and to bury the remaining stumps at the two stump dump locations each 2 acres in size.

The volume of stumps, grubblings, and chipped vegetation, which will be generated by the project, is directly related to the disturbed area of the project.

## Solid Waste

The following table shows the disturbed area based upon various average disturbed area widths:

<b>Disturbed Areas for Access Road Construction (Acres)</b>					
<b>Roadway Segment</b>	<b>Length (feet)</b>	<b>Average Cleared Width (feet) and Associated Disturbed Areas (acres)</b>			
		<b>50</b>	<b>60</b>	<b>80</b>	<b>90</b>
Redington Summit Principal Roadway	10,679			19.6	22.1
Redington Summit Turbine Spurs	8,320			15.3	17.2
Lower Black Nubble Summit Principal Roadway	8,700			16.0	18.0
Lower Black Nubble Summit Turbine Spurs	7,600			14.0	15.7
Upper Black Nubble Summit Principal Roadway	4,423			8.1	9.1
Upper Black Nubble Summit Turbine Spurs	4,905			9.0	10.1
Access Roadway to Redington Range	9,596	11.0	13.2		
Access Roadway to Upper Black Nubble Mountain	6,276	7.2	8.6		
Access Roadway to Lower Black Nubble Mountain	480	0.6	0.7		
Transmission Line Access Routes	4,000	4.6	5.5		
Substation Access Road (I-3)	450	0.5	0.6		
<b>DISTURBED AREA (Acres)</b>	<b>65,429 (feet)</b>	<b>23.9</b>	<b>28.7</b>	<b>82.0</b>	<b>92.2</b>

With access roads at an average 50 foot cleared width and summit roads at an average 80 foot cleared width, the total roadway clearing would be approximately 106 acres.

With access roads at an average 60 foot cleared width and summit roads at an average 90 foot cleared width, the total roadway clearing would be approximately 121 acres.

If it is assumed that the construction generates 300 cubic yards of stumps per acre, the average cleared width is 60 feet for access roads and 90 feet for summit roads, and the stumps are disposed of by burial in areas with an average depth of 6 feet, there will be an additional 4 acres of disturbance for stump disposal.

**Solid Waste**

---

If the material for the roadway gravel or crushed rock is obtained from borrow pits at an average depth of 15 feet, there will be approximately 3.3 acres of disturbance to generate the approximately 80,000 cubic yards of material needed for the surface of the roadway, based upon an average width of 22 feet for the travel way and shoulders for the access roads and an average width of 38 feet for the travel way and the shoulders for the summit roads, and the 12-inch gravel thickness recommended by S. W. Cole to provide the required structural strength needed for the roadway. Additional gravel will be needed to repair the gravel surface after construction and construction of assembly pad areas.

The above disturbance totals 113.2 to 128.2 acres for the new roadway construction only.

There will also be some disturbance attendant with improving and widening existing roadways.

The length of the existing roadways to be improved is as follows:

<b>Lengths of Existing Roadways to be Improved</b>	
<b>Description</b>	<b>Approximate Length (ft)</b>
C-1 Intersection of IP Road & Route 16	50
C-2 After 2 <sup>nd</sup> Bridge Crossing on IP Road	400
C-3 After 3 <sup>rd</sup> Bridge Crossing on IP Road	400
C-4 Just Before the Maintenance Building Lot	200
C-5 Tee Intersection After Maintenance Building Lot	400
C-6 and C-8 Approx. 2,000 ft. Each Side of C-5	600
C-7 After Bridge Crossing #1 Near Lower Black Nubble	400
<b>TOTAL</b>	<b>2,450</b>

- Based upon a widening width of 30 feet, this adds approximately 1.7 acres.
- 50' x 160' wind turbine pads will also create disturbance. Each turbine pad will disturb an area of approximately 0.41 acres (based on the turbine pad area +20 feet around perimeter for grading). The 30 turbine pads and 3 crane assembly pads will disturb a total of approximately 13.1 acres.
- The substation will disturb approximately 1.0 acre.
- Wideouts for existing and proposed roads will add approximately 1.0 acre of disturbed area.

**Solid Waste**

---

Therefore, the total disturbed area for the areas above plus the roadways will be between 130 and 145 acres. Assuming an average access road width of 60 feet and an average summit road width of 90 feet, the cleared area would be approximately 145 acres.

As noted, this is for the work attendant with the roadways, turbine pads and substation only. Additional clearing and disturbances for transmission lines and the maintenance lot are described in other sections of the application.

**3.0 Construction and Demolition Debris**

The general contractor selected by Redington Mountain Windpower LLC to construct the project will be required to enter into a contract with a licensed solid waste disposal firm for the legal disposal of all construction and demolition debris related to the project as required by LURC Standards. Mixed construction material waste, will be transported to a Transfer Station, Waste Facility, or Commercial Recycling Facility with a MeDEP license.

Concrete will either be processed onsite or hauled back to the supplier's plant.

**4.0 Grit/Sediment Removal**

Redington Mountain Windpower, LLC will enter into a maintenance contract for grit/sediment removal. It is anticipated that grit/sediments will be removed from the ditches and culverts and disposed of by the contractor. A copy of the contract and disposal location will be available for review by the LURC when a fully executed contract is available.

**5.0 Commercial Waste**

The commercial waste resulting from operation of the development will be transported by a commercial trash company and disposed in a designated landfill. During construction, "roll-offs" will be available at multiple locations for disposal of non-biological construction debris.

The volume of solid waste, which will be generated by the 5 to 10 maintenance personnel, has been estimated at 5 cubic yards of recyclable waste and 10 cubic yards of non-recyclable waste per month.

**Solid Waste**

---

**6.0 Closure**

The solid waste provisions for this project are similar to methods employed for construction of access roads and construction sites in this area. The computations of waste volumes are estimates only. Contractors should compute the waste volumes separately and not rely on estimates provided in this section. This solid waste plan conforms with the solid waste disposal guidelines set forth by section 10.25H of LURC standards.