

APPENDIX I

Wetland Restoration Re-soiling Specification Former Raytheon Facility Wayland, Massachusetts

MANUFACTURED WETLAND SOIL

1. DESCRIPTION

This work shall consist of preparing topsoil manufactured from compost and other soil constituents for use in establishing wetland vegetation. This material can be pre-blended and brought on site, or the compost can be blended with soils stockpiled at the construction site.

2. MATERIALS

- 2.1 Compost - Compost shall be derived from organic wastes such as leaf and yard residuals. Manure-based and biosolid-compost from wastewater treatment are not acceptable. The product shall be well composted, free of viable weed seeds and contain material of a generally humus nature capable of sustaining growth of vegetation, with no materials toxic to plant growth.

Compost shall have the following properties:

<i>Parameters</i>	<i>Range</i>
pH	6.5 - 7.5
Moisture content	35% - 55%
Soluble Salts	<2.0 mmhos (dS)
C:N ratio	< 25:1
Particle Size	< 1.0"
Organic Matter Content	> 20% *
Bulk Density	< 1200 lb/cubic yard
Foreign Matter	< 1% (dry weight)

* Organic matter to be determined by loss on ignition at 450 degrees C.

Compost generator shall also provide minimum available nitrogen and other macro and micro nutrients.

APPENDIX I (continued)

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MANUFACTURED WETLAND SOIL CONTINUED

2.2 *Soil* - Soil shall consist of loose, friable soil, free of ice, snow and rubbish with no admixture of refuse or material toxic to plant growth. Soil shall be reasonably free of stones, lumps, roots and weeds or similar objects larger than two inches in diameter. Manufactured wetland soil will be uniformly mixed to meet the final requirements listed below:

A. Soil shall meet additional parameters:

<i>Parameters</i>	<i>Range</i>
pH	5.5 - 7.5
Moisture Content	25% - 55%
Soluble Salts	2.5 mmhos (dS)
Organic Matter	>12% (dry weight)*
Stone and Debris	< 5% (by weight)
Foreign Matter	<.05% (by weight)

* Organic matter to be determined by loss on ignition at 450 degrees C.

B. Particle Size

- 100% by volume must pass a 1 inch screen.
- 95% by volume must pass a 3/4 inch screen.

Manufactured wetland soil shall meet the following mechanical analysis:

<i>Textural Class</i>	<i>% of Total Weight</i>	<i>Average %</i>
Sand (0.05 - 2.0 mm)	45-75	60
Silt (0.002-0.05 mm)	15-55	35
Clay (< 0.002 mm)	3-20	12

Product Information -All parameters listed above can be met by AGRESOIL LEAF COMPOST as distributed by: Agresource, 100 Main Street, Amesbury, MA 01913 Telephone 800-313-3320.