



Green Mountain  
Water Environment  
Association



## Biosolids Based Manufactured Topsoil Approved for Use by State Agency

### THE MIX

In 2022 the Vermont Agency of Transportation (VTTrans) approved Manufactured Topsoil for use on VTTrans projects in conjunction with the Vermont Recycled Materials Group. Manufactured Topsoil complies with VTTrans topsoil specification 755.02. This allows for excavation companies to make a choice about which type of topsoil to use on construction projects. With the escalating cost of native topsoil, and the difficulty finding it in Vermont, an alternative has become necessary. Manufactured Topsoil is made from recycled products generated in Vermont and is a fantastic alternative to stripping native loam from farm fields.

- (a) **Natural Topsoil.** Natural topsoil shall conform to the requirements of *ASTM D5268*.
- (b) **Manufactured Topsoil.** Manufactured topsoil shall conform to the requirements of *ASTM D5268* for topsoil, except as modified below:
  - (1) **pH.** The pH shall be 5.5 to 8.5.
  - (2) **Organic Content.** Short paper fiber used for organic content shall be in accordance with the Vermont Agency of Natural Resources *Comprehensive Short Paper Fiber Management Procedure*.

Manufactured Topsoil is a combination of Class A biosolids (Slow-release nitrogen for good vegetative growth and biological activity), paper fiber (organic matter, moisture retention, improves soil fertility), sand or other aggregate (structural component, porosity). Wood Ash is an optional amendment added for color and additional nutrients. The biosolids are derived from sewage sludge and septage which are treated and analyzed to ensure the materials are pathogen free and meet state and national standards per the federal 503 Rule.

### BENEFITS OF RECYCLING RESIDUALS

Manufactured Topsoil has been used for landfill caps, gravel pit reclamation, and land restoration projects.

The benefits of Manufactured Topsoil:

- Uses renewable recycled resources
- Sustainable and locally sourced
- Increase nutrient cycling by adding valuable nutrients to the soil, and not landfills
- Provides economic benefit to the public and end-users
- Virtually no soil loss on 3:1 and steeper slopes
- High water-holding capacity
- Reduces erosion potential
- Creates a long-term nutrient-balanced vegetative medium
- Eliminates need to strip native topsoil
- Is designed to be a low phosphorous soil to protect water quality



### THE PROJECT

#### **Park and Ride Exit 12 in Williston, VT.**

Approval was granted by the Recycled Materials Group and VTrans to use Manufactured Topsoil (comprised of Biosolids from South Burlington, Paper fiber from Putney, Wood Ash – McNeill Power Plant in Burlington, and sand from the ECI pit in Essex Junction). ECI mixed the material using a 5 part paper fiber, 5 part sand, 1 part biosolids, and ½ part wood ash blend. The material was screened with a Royer screener and put in a windrow to mature for 3 months allowing microbial activity to create a homogenous topsoil product. The material was taken from the mixing site and trucked over to the job site where it was spread with conventional construction equipment and seeded. Within a few days the grass was sprouting as is shown in the first picture. Within a few weeks the site was green and the grass was establishing a robust vegetative cover to complete this site conversion.



**For questions or further inquiries contact Christina Adams, Industrial Sales Representative, at Resource Management, Inc. (RMI)**

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