

Temporary Erosion/Sediment Control Filter Berm

1.0 Description: This work shall consist of furnishing, constructing, and dispersing (if necessary) an EcoBerm™ to Rexius specifications. EcoBerm is a water permeable windrow (berm) of the Rexius specified compost/mulch (Erosion Blend) combined with a special additive (Microblend™) constructed with a berm forming machine (BermBuilder™) and pneumatic blower to control sediment by removing suspended soil particles and contaminants from water moving off the site and into adjacent waterways or storm water conveyance systems.

1.1. This berm must be applied by a certified EcoBerm installer.

1.2. Materials must be applied using a pneumatic blower unit complete with a supplemental granular injection system and a berm extruding device capable of installing at least 100 lineal meters per hour.

1.3. Contractor must have at least 3 years of proven experience in successfully installing EcoBerms™.

2.0 Material: The EcoBerm filtering material consists of the Rexius Erosion Blend of compost and mulch materials, according to the Rexius particle sizing specifications, in combination with the Rexius Microblend additive.

2.1. Particle size must meet exact specifications of the Rexius EcoBerm Erosion Blend material supplied by a certified supplier/installer.

2.2 The compost portion of EcoBerm shall be derived from well-decomposed organic matter source produced by controlled aerobic (biological) decomposition that has been sanitized through the generation of heat and stabilized to the point that it is appropriate for this particular application. Compost material shall be processed through proper thermophilic composting, meeting the Canadian Council of Ministers of the Environment (CCME) definition for a 'process to further reduce pathogens' (PFRP). The compost portion shall meet the chemical, physical and biological properties outlined below. These and all other required properties for the performance of the EcoBerm are included in the Rexius EcoBerm Manufacture Guidelines followed by certified suppliers/installers.

| Parameters ^{1,4} | Reported as (units of measure) | EcoBerm to be Vegetated | EcoBerm to be left Un-vegetated |
|--|---|----------------------------|------------------------------------|
| PH ² | pH units | 5.0 - 8.5 | N/A |
| Soluble Salt Concentration ² (electrical conductivity) | mmhos/cm | Maximum 5 | N/A |
| Stability ³ Carbon Dioxide Evolution Rate | mg CO ₂ -C per g OM per day | < 8 | N/A |
| Physical Contaminants (man- made inerts) | %, dry weight basis | < 1 | < 1 |

- ¹ Recommended test methodologies are provided in Test Methods for the Examination of Composting and Compost (SCC through BNQ)
 - ² Each specific plant species requires a specific pH range. Each plant also has a salinity tolerance rating, and maximum tolerable quantities are known. When specifying the establishment of any plant or turf species, it is important to understand their pH and soluble salt requirements, and how they relate to the compost in use.
 - ³ Stability/Maturity rating is an area of compost science that is still evolving, and as such, other various test methods could be considered. Also, never base compost quality conclusions on the result of a single stability/maturity test.
 - ⁴ Landscape architects and project (field) engineers may modify the allowable compost specification ranges based on specific field conditions and plant requirements.
- 2.3.** Rexus Microblend additive shall be injected into Erosion Blend material at time of EcoBerm construction.
- 2.4.** A proof of certification as an EcoBerm supplier shall be submitted to the Engineer/Landscape architect for approval prior to installation. Test results for EcoBerm performance shall be made available upon request.
- 2.5.** Where seeding or planting is planned, Erosion Blend material must meet Rexus' minimum specification requirements for seeding purposes.

3.0 Construction:

- 3.1.** The EcoBerm shall be placed as shown on the plans or as directed by the Engineer.
- 3.2.** Parallel to the base of the slope, and/or around the parameter of affected areas with slopes of 1:3 or less, construct a minimum of 30 cm high by 60 cm wide EcoBerm (Exhibit 1.0). For maximum water filtration ability or for steeper slopes, construct a minimum of 45 cm high by 60 cm wide EcoBerm in combination with an EcoBlanket™. In general, the base of the berm should be twice the height of the berm. In extreme conditions and where specified by the Engineer, additional EcoBerms shall be constructed at the top of the slope and in parallel intervals down the profile of the slope (6 metres to 9 metres apart) and/or in combination with an EcoBlanket where deemed necessary. **(The Engineer shall specify berm requirements)** The minimum dimensions of the EcoBerm shall be 30 cm by 60 cm.
- 3.3. Rexus Microblend shall be applied/injected at a minimum rate of 1.5 kgs. per 10 lineal metres (30 cm x 60 cm berm) or 3.25 kgs. per 10 lineal metres (45 cm x 60 cm berm) (or as specified by Rexus) to be confirmed by inspector/project manager.**
- 3.3.** EcoBerm dimensions should be modified based on specific site (e.g., soil characteristics, existing vegetation) and climatic conditions, as well as particular project related requirements. The severity of slope grade, as well as slope length will also influence the size and location of the EcoBerm and number of EcoBerm placements.
- 3.4.** If EcoBerm is to be left as a permanent filter or part of the natural landscape, it may be seeded during application for permanent vegetation. The Engineer/Landscape Architect shall specify seed requirements and the compost/mulch component shall abide by the minimum standards set by Rexus for seeding.
- 3.5.** Do not use EcoBerms in areas of concentrated flow (ie. ditches, streams, etc.)

4.0 Maintenance:

- 4.1.** The Contractor shall maintain the EcoBerm in a functional condition at all times and it shall be routinely inspected. The Contractor shall immediately correct all deficiencies. The Contractor shall make a daily review of the location of the EcoBerm in areas where construction activity causes drainage runoff to

ensure that the berm is properly located for effectiveness. Where deficiencies exist, additional berm material or EcoBerms shall be installed immediately.

4.2. The Contractor shall remove sediment retained by the EcoBerm once it has reached 1/3 to 1/2 of the exposed height of the berm, as directed by the Engineer. At the Engineer's discretion, an additional EcoBerm may be placed immediately uphill from existing berm as an alternative maintenance measure.

4.3. The EcoBerm shall be dispersed when no longer required, only if required by the Engineer. At the Engineer/Landscape Architect's discretion, EcoBerm material may be left to decompose naturally, or distributed over an adjacent area for additional use as a soil amendment or ground cover.

5.0 Method of Measurement: EcoBerm shall be measured by the linear meter, complete in place.

6.0 Performance:

6.1. Place EcoBerms on denuded areas immediately or as directed by Engineer. EcoBlankets and/or temporary or permanent vegetation shall be applied/established above the EcoBerms when necessary for additional erosion control.

6.2. On highly unstable soils, use EcoBerms in conjunction with other appropriate structural measures and controls. EcoBerm is intended as a sediment control device for sheet flow only, under tested parameters.

6.3. The work specified in this **Section** consists of designing, providing, and maintaining sedimentation controls as necessary. All existing and foreseeable future conditions that affect the work inside and outside the site limits must be acknowledged as the Contractor's complete responsibility.

6.4. Contractor is responsible for providing effective sediment control measures based on performance. Contractor may, with approval from the Engineer, work outside the minimum construction requirements to establish a working erosion control system.

