

General Erosion-Control Requirements:

The primary intent of the erosion-control requirements and the construction sequence is to stage the project in a manner that will minimize the potential for erosion and sediment and the potential negative effects associated therewith. The Engineer shall be contacted and the plan shall be amended if the intent is not being achieved.

Realizing there is more than one method of achieving the intent, the contractor may submit an alternate erosion-control plan to the Engineer for consideration. The alternate plan may be implemented if, in the opinion of the Engineer, it will achieve the intent and it is in compliance with the associated permits.

1. Erosion-Control Definitions:
 - "Strip topsoil": Excavate topsoil, screen, and stockpile.
 - "Seed(ing)": Adjust pH, apply fertilizer, sow the seed mixture, apply mulch (or erosion-control matting), apply tackifier.
 - "Stabilize(d)": Apply treatment that will minimize erosion when subject to normal rainfall and wind events.
 - "Significant rainfall event": More than 1/2 inch of rain.
2. Install all erosion-control measures prior to earthwork operation and maintain all erosion-control measures and seeded embankments during construction. Erosion-control shall be removed only upon the establishment of all vegetated areas.
3. All drainage structure inlets shall be protected using inlet protection or catch basin inserts.
4. Erosion-control measures shall be implemented complying with Best Management Practices (BMPs) of the "Stormwater Management and Erosion- and Sediment-Control Handbook for Urban and Developing Areas in New Hampshire" by the NHDES, USDA SCS, and Rockingham County Conservation District, latest edition.
5. Do not disturb areas outside the limits of proposed work. Areas disturbed by the contractor's operations shall be restored to their original condition at the contractor's expense. All areas disturbed during construction not covered with buildings, structures or pavement shall receive four (4) inches of loam and seed.
6. The downhill side of all stockpiles shall be encircled with silt fence.
7. All ditches, swales, and other areas of concentrated flow shall be stabilized prior to directing flow to them. Catch basin inserts to be installed on all catch basins until the project is fully established.
8. Before weekends, and if a significant rainfall event is anticipated during the construction of the cut/fill embankments, a temporary berm shall be constructed along the top of the fill embankments, and temporary slope drains (pipes) with temporary stone outlet aprons shall be installed at the base of the slopes.
9. The maximum time that any disturbed areas shall be left unstabilized shall be 14 days.
10. The smallest practical area shall be disturbed to complete the required construction, but no more than 5 acres at any one time.
11. All cut and fill slopes shall be seeded and mulched within 72 hours after their construction.
12. An area shall be considered stable if one of the following has occurred:
 - A. Base course gravels have been installed in areas to be paved;
 - B. A minimum of 85% vegetated growth has been established;
 - C. A minimum of 3" of non-erosive material such as stone or rip rap has been installed; or
 - D. Erosion control blankets have been properly installed.
14. Throughout the construction period, all erosion-control measures shall be inspected at the end of each week and before anticipated significant rainfall events and repaired, if deficient. Extra attention shall be given to the critical areas listed separately.
15. All erosion control measures shall be inspected weekly and after every 0.5" or greater rainfall within a 24 hour period.
16. All roadways and cut and fill slopes shall be stabilized within 72 hours of achieving finished grade.

Seeding Notes:

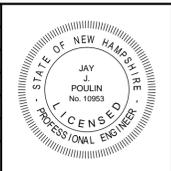
1. Seed mixture: Prior to construction, submit certification from seed supplier that the mixture complies with the requirements. Include the requirements on the certification.
2. Prepare subsoil by eliminating uneven areas; removing foreign materials, weeds, and other undesirable plants and their roots; scarifying subsoil to a depth of 3 inches.
3. Spread loam to yield a minimum depth of 4-inches after rolling. Rake smooth to remove stones and roots. Loam shall consist of loose friable topsoil with no admixture of refuse or material toxic to plant growth. Loam shall be generally free from stumps, lumps, subsoil, roots, and weeds or similar objects larger than 2 inches in greatest diameter. The term as used herein shall mean that portion of the soil profile defined technically as the "A" horizon by the Soil Science Society of America. The minimum and maximum pH value shall be from 5.5 to 7.6. Loam shall contain a minimum of 3 percent and a maximum of 10 percent of organic matter as determined by loss by ignition. Not more than 65 percent shall pass a No. 200 sieve as determined by the wash test in accordance with ASTM D 1140. In no instance shall more than 20 percent of that material passing the No. 4 sieve consist of clay size particles.
4. Apply agricultural limestone at a rate of 100 lbs. per 1000 sf.
5. Apply commercial grade 10-10-10 fertilizer at a rate of 10 lbs. per 1000 sf.
6. Sow uniformly with last year's crop of the local natural resource conservation service's "conservation mix" at a rate of 0.5lbs/1000 sf. Mixture is to have a germination rate of not less than 80% and a purity of not less than 85%.
7. Roll seeded area with hand roller.
8. Mulch with seedless hay, oak, or straw mulch at a rate of 2 bales per 1000 sf.
9. All ditches shall receive erosion control matting.

Temporary

1. Bedding: Remove stones and trash that will interfere with seeding the area. Where feasible, till the soil to a depth of about 3 inches to prepare a seedbed and mix fertilizer into the soil. The seedbed should be left in a firm and smooth condition. The last tillage operation should be performed across the slope wherever practical.
2. Fertilizers: Fertilizer should be uniformly spread over the area prior to being incorporated into the soil. A minimum of 300 pounds per acre (7 pounds per 1,000 square feet) of 10-10-10 fertilizer, or its equivalent, should be applied.
3. Where it is impracticable to incorporate fertilizer and seed into moist soil, the seeded area should be mulched to facilitate germination.
4. Seed Mixture: Use any of the following:

Species	Per Acre	Per 1,000 s.f.	Dates	Depth
Winter Rye	112 lbs.	2.5 lbs.	8/15-9/5	1 inch
Oats	80 lbs.	2.0 lbs.	Spring-5/15	1 inch
Annual Ryegrass	40 lbs.	1.0 lb.	4/15-9/15	1/2 inch
Perennial Ryegrass	30 lbs.	0.7 lbs.	4/1-6/1 or 8/15-9/15	1/2 inch
5. Maintenance: If seeding fails to grow, it may need to be re-established to provide adequate erosion control. If weeds become a problem, they may need to be controlled by mowing.

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SURVEYED BY	KLT/JLT
DESIGNED BY	DBH/EJG
DRAWN BY	DBH/EJG
CHECKED BY	JJP
FIELD BOOK	339
SCALE	AS NOTED
DATE	04/18/2011

Construction Details - Erosion & Sediment Control
for the
Randolph Hill Road Reconstruction
located in and prepared for the
Town of Randolph, New Hampshire

2010-062
C5.11
SHEET 42 OF 43