

# EROSION CONTROL NARRATIVE

## DESCRIPTION OF PROJECT

This project involves the reconstruction of a bridge over the Black River. The project is on TH#66, Paddock Road, a paved town highway, in the Town of Springfield. An existing, single span, steel truss bridge will be rehabilitated on the existing alignment while traffic is maintained by a detour. The existing abutments will remain in place with repairs being made to the bridge seats and facing.

Total roadway approach work, including three approaches, is approximately 580 feet.

No 'Threatened & Endangered Species,' or Wetlands, have been identified in the project area.

Archeological and historic resources have been identified in the project area, including the bridge.

It is anticipated that this project will last approximately two construction seasons.

Total disturbed area (including both on-site and contiguous waste, borrow, staging and haul roads) is equal to 0.36 acres. Should the area of disturbance change and result in 1 or more acres of earth disturbance, or should the project become part of a common plan of development, then the contractor will be responsible for additional permitting with the Agency of Natural Resources.

## SITE INVENTORY & ANALYSIS

### OFF SITE DRAINAGE CHARACTERISTICS:

The property surrounding the project site consists of well established vegetation, gently to steeply sloping land. The project lies close to the intersection of T.H. 66, T.H. 68 and VT 11. Due to the nature of the surrounding terrain, runoff water entering the project site will be primarily limited to that which is conveyed along roadway ditches and curbing.

### DRAINAGE, WATERWAYS, BODIES OF WATER:

The area surrounding the project site is very flat with the exception of the river banks. There are no obvious natural drainage ways within the project area except for the Black River. The Black River bisects the project site. There are no other water bodies or wetlands within the project area. The Black River is straight, non braided and non anabranching.

### TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:

The topography of the project site is flat and open along the western side of the project and flat and wooded to the east. Development along Paddock Road consists of residential zoning. There is a residence on the eastern side of the project but the house is set well back from the construction limits. The project is intersected by T.H. 68 a paved town highway and VT 11 a paved state highway. The project will include approach work on T.H. 68. VT 11 will not be affected by the project. Overhead utility service is present at the site but will not be affected by the project. There is an old abutment on the project site from a past bridge that consists of laid up stone.

### VEGETATION:

Vegetation within the project limits consists of a mix of brush, small trees and mature trees along the river bank. No fields or agricultural crops exist near the project. Impacts to vegetation will be limited to the south eastern quadrant of the project where minimal clearing and grubbing will occur.

### SOILS:

The Soil Conservation Service has mapped the soils throughout Windsor County. There are several soil types identified within the project site.

The soil type identified on the southern river bank is Macomber-Taconic complex. It is present in 25-70% slopes and very rocky. The soil is considered to be highly erodible with a K-factor of 0.39.

The soil type identified on the northern river bank is Hinckley Loamy Fine Sand. It is present in 0-5% slopes. The soil is considered to be potentially highly erodible with a K-factor of 0.30.

Generally, K-values indicate the following: 0.0 - 0.23 = low erodibility; 0.24 - 0.36 = moderate erodibility; 0.37 and higher = higher erodibility.

### SENSITIVE RESOURCE AREAS:

No 'Threatened & Endangered Species' have been identified within the project limits. There will be no adverse effect to Historic features. Two archaeological areas have been identified: one site to the west of wingwall 3 and one site to the east of Wingwall 4. See sheet 16 for the exact location of these two sites. There are no wetlands within the vicinity of the project.

### PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES:

The bridge crosses the Black River. No adverse effects are expected to the river during construction and rehabilitation of the bridge.

### TEMPORARY EROSION PREVENTION & SEDIMENT CONTROL

Temporary erosion prevention measures to be utilized include:

Project Demarcation Fencing, denoted -PDF- on the plans, to delineate the limits the contractor can access with construction equipment. This measure limits the area that can be disturbed and exposed to erosion.

Seeding, mulching and biodegradable erosion control matting, or an equivalent product, will be utilized on all slopes steeper than 1V:3H that are not lined with stone fill. These slopes shall be stabilized within 48 hours after reaching final grade or during intermittent phases of construction activity.

### Temporary measures to control sediment transport include:

Silt fence will be installed a distance of 5' - 10' from the toe of slopes to prevent sediment transport to down gradient areas. Each line of silt fence will be placed along the contour with ends turned slightly uphill to create a ponding effect should water try to run along the fencing and around the ends. The maximum slope length between separate runs of silt fence is 100'. Silt fence shall be installed prior to any upslope earthwork.

Measures such as silt fence shall be checked regularly for accumulation of sediment. Sediment build-up shall be removed when the level of sediment reaches one-half the height of the control measure. Sediments shall be disposed of in an approved area such that they will not be subject to erosion.

Vehicle tracking pads to the project site, staging areas, as well as to waste and borrow areas shall be established. The minimum size of a vehicle tracking pad is 12' x 50'. All surface water flowing to or diverted towards a vehicle tracking pad shall be piped under the stone. Pipes shall be appropriately sized for the contributing area, however, no pipes smaller than 6" diameter shall be used.

Sandbags will be used to create a dry environment while pouring the new abutment facing. It is proposed that the sandbags will be placed on the existing toe. Creating a dry area will prevent any transport of concrete or sediment. Sandbags shall stay in place until concrete has cured and the forms are removed.

### PERMANENT EROSION CONTROL MEASURES

#### Permanent erosion control measures will be utilized:

Stone Fill, Type I will be utilized at both abutment wingwalls to dissipate water velocities and reduce erosion potential behind the walls.

Any area disturbed by construction shall be seeded and mulched to promote vegetation growth.

## GENERAL EROSION & SEDIMENT CONTROL GUIDELINES

The Erosion Control Plans are meant as a guideline for preventing erosion and controlling sediment transport. The work outlined in this narrative consists of applying measures throughout the life of the project to control erosion and minimize the sedimentation of receiving waters. The measures include stabilization and structural practices, stormwater controls and other pollution prevention controls.

Coordinate the installation, use, and removal of erosion and sediment control measures with construction activities to ensure economical, effective and continuous erosion and sediment control. Employ temporary stabilization practices in incremental stages as construction proceeds. The contractor will use additional erosion control measures as necessitated by the sequence of construction and as directed by the Engineer and On-site Coordinator. See subsection 105.23 of the Vermont ACT Standard Specifications for Construction, dated 2006.

Install all erosion and sediment control measures as shown in the Erosion Control Plan or as directed by the Engineer and On-site coordinator. Do not modify the type, size or location of any control or practice without approval of the Engineer and On-site coordinator. Any changes shall be noted on the plans, in the weekly inspection report, and reported to the appropriate authority in a timely manner. Inspect all control measures weekly and after each rainfall event. Repair measures promptly once damage is discovered.

Preventing initial soil erosion is much more effective than treating eroded sediment. Therefore, stabilize all disturbed areas promptly after construction activity has temporarily or permanently ceased. Temporary vegetation shall be established if the area is to be without construction activity for a period of 14 days. All exposed areas shall be appropriately stabilized prior to a significant rain event. Perimeter control measures shall be installed following clearing, but prior to the start of any grubbing or grading activity, install other temporary controls in incremental stages as construction proceeds.

Maintaining vegetated buffers along stream banks, wetlands or other sensitive areas is a crucial erosion and sediment control measure that should be established wherever possible.

Control only sediment-laden runoff generated by the project site. Collect and route clean offsite runoff around or through the project site using diversion berms, diversion channels, culverts and/or temporary pipes.

Do not allow construction equipment to operate on the down slope side of perimeter control measures.

PROJECT NAME:	<b>SPRINGFIELD</b>	PLOT DATE:	8/1/2005
PROJECT NUMBER:	<b>BHO 1442(30)</b>	DRAWN BY:	J. PERRIGO
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