

EROSION CONTROL NARRATIVE

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1.1 PROJECT DESCRIPTION

This project involves the replacement of a truss bridge over the White River. The project is on VT 107 (River Street) a paved, minor arterial in the Town of Bethel. A temporary two lane bridge will be erected downstream of the existing structure. This temporary bridge will be a continuous span with a temporary pier at mid point by the south river edge. The approach work to the temporary bridge will come close to two property owners. Extra caution will be exercised to prevent erosion from the project to cause damage or adversely affect these property owners. Once the temporary bridge is in place, the existing truss, abutments approach spans, and piers can be removed. Upon the completion of the new structure the temporary bridge will be removed. Work including both approaches, is approximately 762.00 feet. The limits of construction approach buildings and other structures. Historic Resources have been identified in the project area. The existing structure has been cleared for removal as it has been photo-documented for historical purposes. The site is located, based upon MAD 83/92 at 258776.257 N, 491595.522 E.

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

Total disturbed area (excluding waste, borrow and staging areas):
1.02 ac.

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS:

The property surrounding the project site consists of well established vegetation, moderate to steeply sloping, mixed softwood and hardwood forest with well defined drainage ways. 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 that which follows River Street along the 14th grade at the end of the project limits. The current roadway ditches are not well defined and are not lined with stone.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

White River is located in the project area. There are no other water bodies or wetlands within the project area. The White River is classified as perennial, sinuous, not braided and equiwidth containing a streambed of some ledge with some boulders, cobbles and gravel. The contributing drainage area at the bridge crossing is 408 sq. mi.

Disturbance of soils near natural or man-made waterways consists of that which is necessary to construct two new concrete bridge abutments, a pier and applicable roadway approaches as well as the removal of the existing crossing. Stabilization of disturbances to stream banks will be accomplished with Stone Fill, Type IV.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:

The topography of the project site is relatively flat. Before the bridge at around STA. 122+90 there is a gravel access road that goes underneath the bridge to a gravel parking lot. After the bridge at approximately STA. 129+80 TR 5 runs parallel with the train tracks before coming to a bridge. Development along VT 107 consists of permanent residences two of which exist near the project limits. Underground utilities run throughout the entire project on both sides of VT 107. There is also a sewage pumping station after the bridge at STA. 128+25

1.2.4 VEGETATION:

A mix of hardwood and softwood trees of all sizes exist along VT 107. The residences near the bridge site have small areas of lawn and stone walls with plantings. One field exists near the project. Impacts to vegetation will be limited to that which are effected by the construction of the new bridge.

Following construction of the temporary bridge, the existing bridge and roadway approaches will be removed, the slopes stabilized with stone fill and vegetation reestablished with standard seed & mulch practices.

1.2.5 SOILS:

The Soil Conservation Service has mapped the soils throughout Windsor County. One of the soil type identified for this project site is Urban Land-Windsor-Agawan complex. This soil type is described as "...Moderately steep and hilly, shallow, somewhat excessively drained and excessively drained

soils and rock outcrop in irregularly shaped areas on bedrock ridges... they have a surface layer of very dark grayish brown fine sandy loam 2 inches thick. The subsoil is friable, brown to dark brown gravelly fine sandy loam 10 inches thick. Hard, massive schist bedrock is at a depth of 12 inches.... Permeability is moderately rapid... The hazard of erosion is moderate. Runoff is rapid on the rock outcrop part of this complex.

The listed Soil Erodibility Coefficient (K-value) for this soil type is 0.20. Generally, K-values indicate the following: 0.0 - 0.23 = low erodibility; 0.24 - 0.36 = moderate erodibility; 0.37 and higher = high erodibility.

Another soil type identified on this project is Ondawa fine sandy loam, this soil type is described as "...Moderately sloped with slopes ranging from 0 to 3 percent. The soil is considered to be not erodible and is occasionally flooded. It is identified as not a hydric soil. It's in hydraulic group B and its soil depth will be moderately deep to very deep/ bedrock that is either sandy/sandy-skeletal to loamy/loamy-skeletal.

1.2.6 SENSITIVE RESOURCE AREAS:

No 'Threatened & Endangered Species' have been identified within the project limits and there will be no adverse effect to Historic or Archaeological features. The White River is the only identified resource and being a steep, high gradient stream, there are no wetlands within the vicinity of the project.

1.3 RISK EVALUATION

Low Risk Evaluation

The project has been determined to be low risk and as such the low risk site hand book must be on site and complied with. No changes to the project limits or soil stabilization techniques that may affect the risk level at this point. Any modifications to the project shall result in a re-evaluation of the risk and the contractor is responsible for re-filing should the risk change.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

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 minimizing sediment transport to the receiving waters. The measures include stabilization and structural practices, storm water controls and other pollution prevention controls.

Preventing initial soil erosion is much more effective than treating eroded sediment. 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.

All measures shall be regularly maintained and shall be checked for sediment build-up. Sediment shall be disposed at an approved site where it will not be subject to erosion.

(Refer to the low risk site handbook and appropriate detail sheets for each practice required on the project to include but not limited to the following.)

1.4.1 MARK SITE BOUNDARIES

Project demarcation fencing, denoted -pdf- on the plans, is used to delineate the limits the contractor can access with construction equipment. This measure limits the area that can be disturbed and exposed to erosion.

1.4.2 LIMIT DISTURBANCE AREA

Employ temporary stabilization practices in incremental stages (PHASING) as construction proceeds. Turbidity curtain shall be used when work is being done for the pier. Additional measures may be needed due to the phasing of the project and as directed by the engineer.

1.4.3 STABILIZE CONSTRUCTION EXIT

Stabilized construction entrance shall be utilized by the direction of the RE.

1.4.4 INSTALL SILT FENCE

Silt fence shall be installed prior to any up slope work as shown on the plans or as necessary.

1.4.5 DIVERT UPLAND RUNOFF

Swale grass lined (Storm water from street collection drainage system)

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

Check dams shall be utilized by the direction of the Resident Engineer.

1.4.7 CONSTRUCT PERMANENT CONTROLS

Type IV stone for slope lining and channel protection
Seed and mulch
Drainage inlets and piping
Soil retention walls

Stream bank vegetation will be introduced in the grubbing material that is to be placed over the stream bank stone fill.

1.4.8 STABILIZED EXPOSED SOILS

Seed and mulch
Erosion matting

Tracking of all exposed slopes, combined with temporary mulching, will be utilized on a regular basis. Slopes shall be stabilized with 48 hours of forecasted rain. Seeding, mulching and biodegradable erosion control matting or an equivalent shall be used to stabilize all slopes steeper than 1:3. These slopes shall be stabilized within 48 hours of reaching intermittent phases of construction.

1.4.9 WINTER STABILIZATION

Various measures specific to winter (See low risk handbook)

1.4.10 STABILIZE SOIL AT FINAL GRADE

Seed and mulch
Erosion matting

Seeding, mulching and biodegradable erosion matting or an equivalent shall be used to stabilize all slopes steeper than 1:3. These slopes shall be stabilized within 48 hours of reaching final grade.

1.4.11 DE-WATERING ACTIVITIES

Sediment basins for pier work shall be used as directed by the Resident Engineer.

1.4.12 INSPECT YOUR SITE

Inspect site based on permit authorization or special provision requirements.

% WT.	LBS./A.	NAME	PUR %	GERM %
37.5	22.5	CREEPING RED FESCUE	98	85
37.5	22.5	TALL FESCUE	95	90
5.0	3.0	RED TOP	95	90
15.0	9.0	BIRDSFOOT TREFOIL	98	85
5.0	3.0	ANNUAL RYEGRASS	95	85
100.0	60.0			

General Notes

Seed mixture shall not have a weed content exceeding 0.40% by weight and shall be free of all noxious seeds.

Seed to be applied per seeding formulas or as directed by the engineer

Fertilizer formula 10-20-10, to be used with seed, applied at the rate of 500 lbs./acre (Hydro seeders may use 19-19-19 formula.)

Agricultural limestone to be applied at the rate of 2 tons/acre, or as directed by the engineer

Hay mulch to be placed on earth slopes at the rate of 2 tons/acre or as directed by the engineer.

Topsoil to be used with seed as indicated on the plans, or as directed by the engineer.

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PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 022-1(14)
FILE NAME:	78f161Structures1f161forms.r
PROJECT LEADER:	M. Evans-Monjeon
DESIGNED BY:	G. Colgrove
EROSION CONTROL NARRATIVE	ROW SHEET 13 OF 27
PLOT DATE:	5/5/2008
DRAWN BY:	G. Rokes
CHECKED BY:	S. Scribner