

EROSION CONTROL NARRATIVE

1.1. PROJECT DESCRIPTION

This project involves reconstruction of an existing culvert on Interstate 89 in the City of South Burlington. The existing pipe will be removed to facilitate the construction of the proposed culvert. Work includes construction of a 6' X 6' concrete box culvert with headwalls. The length of roadway construction is approximately 250 feet. Traffic will be detoured with the use of crossovers in three phases during construction of the culvert. Total disturbed area (excluding waste, borrow, and contractor's off-site staging areas) equals 3.13 acres.

Disturbed area breakdown:

Median Crossovers - 2.70 acres
Roadway Reconstruction - 0.43 acres

It is anticipated that this will be a single season project.

1.2. SITE INVENTORY

1.2.1. OFF-SITE DRAINAGE CHARACTERISTICS:

The property surrounding the project site consists of well established vegetation, flat to moderately sloping. The east side of Interstate 89 consists of 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 within this unnamed stream of Potash Brook tributary.

1.2.2. DRAINAGE, WATERWAYS, BODIES OF WATER:

The stream is located in the project area. The stream flows east to west and is approximately 250 ft. from the UVM farm at its bend. There are no other waterways or bodies of water within the project area. Runoff water entering the project area will be primarily limited to that which is conveyed via roadway ditches along Interstate 89.

1.2.3. TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:

The topography of the project site consists of flat grasslands to the west of the interstate and a wooded area to the east. The project area does not encroach upon any buildings.

1.2.4. VEGETATION:

The vegetation in the project area consists of grasslands to the west of I-89 and a wooded fringe separating the project from commercial property to the east. The impact to the vegetation will be limited to that which is directly impacted by the replacement of the existing culvert. Upon completion the channel will be armored with stone fill as specified in the plans. Disturbed vegetation will be reestablished using standard seed and mulch practices.

1.2.5. SOILS:

The soil found west of Interstate 89 is primarily Covington silty clay (Cv), 0 to 2% slopes. The Covington series consists of deep, poorly drained soil and has an Erodibility Factor (K-Value) of 0.49. Typically Covington soil has a dark brown silty clay plow layer about 8" thick. The surface layer is hard and cloddy when dry and sticky when wet. The subsoil is dark grayish-brown or gray clay that is mottled with yellowish brown and approximately 20" thick. This layer is very sticky and plastic when wet and hard when dry. Under the subsoil is dark grayish-brown clay that is mottled with strong brown and is high in lime content. The soil to the east of Interstate 89 consists of Scarboro loam (Sd), 0 to 2% slopes. The Scarboro series consists of soils that are deep, very poorly drained (K-value = 0.17), and sandy throughout their profile. Typically Scarboro soils have a black loam surface about 10" thick. The soil layers underlying the surface layer are friable to very friable, dark-gray loamy fine sand and fine sand to a depth below 42".

Generally, K-Values indicate the following:

0.23 and lower - low erodibility
0.24 to 0.36 - moderate erodibility
0.37 and higher - high erodibility

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 agricultural or archaeological features. Both upstream and downstream of the proposed culvert replacement there are Class III wetlands. Disturbance of soils near waterway consists of that which is necessary to construct the headwalls on both the west and east side of the culvert.

Archeological resources have been identified outside the right-of-way on the UVM farm west of Interstate I-89. The west right of way line extends outside the highway fence line as shown on the plans. The area within the Right-of-way has been cleared for archeological resources, but a temporary orange fence shall be constructed along the right-of-way line to prevent resource impacts outside the area that has been cleared.

1.3. RISK EVALUATION:

This project is under the jurisdiction of Construction General Permit 3-9020 based upon the impact area. This project has been determined to be 'Low Risk' as long as disturbed areas are stabilized within 7 days. As a low risk project, the low risk site handbook must be on site with the project in compliance at all times. Should project changes occur prior to or during construction, then the contractor will be responsible for additional permitting with VANR via filing the appropriate Notice of Intent under the Construction General Permit Process.

1.4. EROSION PREVENTION & 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 fence, denoted -PDF- in the plans, is used to delineate the limits the contractor can access with construction equipment. This measure limits 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. Additional measures may be needed due to the phasing of the project and as directed by the engineer. Areas are to be mulched within seven days of disturbance.

1.4.3. Stabilize Construction Exit

Stabilized construction entrances to be utilized as necessary.

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 Flow

The existing stream will be diverted as described in the dewatering section below. No other upland flow diversion will be required.

1.4.6. Slow Down Channelized Runoff

Check dams to be utilized as necessary.

1.4.7. Construct Permanent Controls

Type II stone for slope lining and channel protection
Seed and Mulch
Drainage Inlet and Pipe

1.4.8. Stabilize Exposed Soils

Seed and Mulch

Tracking of all exposed slopes, combined with temporary mulching, will be utilized on a regular basis. Slopes shall be stabilized within 48 hours of forecasted rain. 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.

1.4.9. Winter Stabilization

Areas that can not be grassed due to weather conditions are to be stabilized using erosion matting and seeded as directed by the engineer.

1.4.10. Stabilize Soil at Final Grade

Seed and Mulch


Seeding, Mulching and Biodegradable erosion control matting or 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

The project will be constructed in three phases working east to west with the stream temporarily rerouted in the manner shown on the culvert phasing detail plans. Sediment basins for culvert work shall be used as necessary when transitioning between phases and where trenches need to be dewatered.

1.4.12. Site Inspection

Inspect site based on permit authorization or special provision requirements.

 MR FARLAND- JOHNSON, INC	PROJECT NAME: SOUTH BURLINGTON	
	PROJECT NUMBER: AC IM CULV (9)	
	FILE NAME: ec06.dgn	PLOT DATE: 21-SEP-2007
	PROJECT LEADER: LANDRY	DRAWN BY: MAL
	DESIGNED BY: MRP	CHECKED BY: DMB
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