MODIFICATIONS TO

CONTRACT EROSION PREVENTION

AND

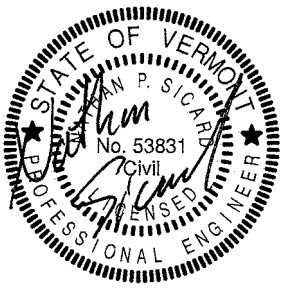
SEDIMENT CONTROL (EPSC) PLAN

FOR

MONTGOMERY 1448(27)

FOR

A.L. St. Onge Contractor, Inc.
PO BOX 65
MONTGOMERY, VT 05470



MAY, 2014

RUGGLES ENGINEERING SERVICES INC.

Ruggles Engineering Services, 1667 Shadow Lake Road, Glover, VT 05839
www.rugglesengineeringservices.com

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT IS LOCATED ON BLACK FALLS ROAD EXTENSION (TH 10), APPROXIMATELY 0.3 MILES FROM THE INTERSECTION OF BLACK FALLS ROAD EXTENSION (TH 10) AND BLACK FALLS ROAD (TH 6) OVER THE BLACK FALLS BROOK. IT INVOLVES THE REPLACEMENT OF THE EXISTING SUPERSTRUCTURE WITH MINIMAL APPROACH ROADWAY AND CHANNEL WORK. THE BRIDGE IS BEING REPLACED WITH A 51 FOOT PRECAST VOIDED SLAB BRIDGE. ROAD WILL BE CLOSED TO TRAFFIC. THE TOTAL LENGTH OF PROJECT IS 100 FEET.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.15 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY
THE TOPOGRAPHY OF THE AREA IS A SADDLE THAT IS WOODED AREA AND SOME RESIDENTIAL AREAS. BLACK FALLS ROAD EXTENSION (TH 10) IS WITHIN THE PROJECT SITE.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES
BLACK FALLS BROOK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS SHALLOW. THE STREAM BED CONSISTS OF COBBLES, GRAVEL AND LEDGE.

1.2.3 VEGETATION
THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE BRIDGE. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE IV AS SPECIFIED ON THE PLANS. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.4 SOILS
ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF FRANKLIN, VERMONT. SOILS ON THE PROJECT SITE ARE:
STOWE STONY, 25% TO 60% SLOPES, “K FACTOR” = 0.17
PERU EXTREMELY STONY SANDY LOAM, 3% TO 15% SLOPES, “K FACTOR” = 0.20.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:
0.0-0.23 = LOW EROSION POTENTIAL
0.24-0.36 = MODERATE EROSION POTENTIAL
0.37 AND HIGHER = HIGH EROSION POTENTIAL

1.2.5 SENSITIVE RESOURCE AREAS
CRITICAL HABITATS: NO
HISTORICAL OR ARCHAELOGICAL AREAS: YES, ARCHAELOGICAL ON SOUTH WEST AND EAST SIDES OF PROJECT.
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: BLACK FALLS BROOK
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES
SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES.

1.4.2 LIMIT DISTURBANCE AREA
PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

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.

1.4.3 SITE ENTRANCE/EXIT STABILIZATION
TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTOR’S PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

1.4.4 INSTALL SEDIMENT BARRIERS
SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE AND TURBIDITY CURTAIN SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

1.4.5 DIVERT UPLAND RUNOFF
DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

THE PROJECT AREA IS AT THE HIGH POINT. THERFORE IT IS ANTICPIATED THAT DIVERSION MEASURES WILL NOT BE NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF
CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

1.4.7 CONSTRUCT PERMANENT CONTROLS
PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

NO PERMANENT STORMWATER CONTROLS ANTICIPATED FOR THIS PROJECT.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION
ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

NO EROSION CONTROL MATTING ANTICIPATED FOR THIS PROJECT.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION
VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

1.4.10 STABILIZE SOIL AT FINAL GRADE
EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.11 DE-WATERING ACTIVITIES
DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

1.4.12 INSPECT YOUR SITE
INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES
IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SPECIFICATION 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

EPSC NARRATIVE AMENDED

Section 1.1 through 1.4 are available as part of the Contract Plans (Sheet 25 of 30, dated 11/21/2013). The following amendments are to be considered with the Project Narrative. The project narrative is in the appendix.

1.1 Project Description (Revised)

Site disturbance will include approximately 0.25 acres which includes 200' of 12' wide roadway.

Add. – 1.1.1: The Project will also include a field office site, waste and borrow.

Site staging will be located approximately 3 miles west of the project in Montgomery Village at the A.L. St. Onge Construction Shop and Office. No additional disturbance is proposed.

The waste area will be in the A.L. St. Onge quarry and gravel pit site and will be stabilized on the site in accordance with the site permits. Site information has been provided in the appendix.

Borrow for the project will be from an approved pit with an active 3-9003 MSGP for industrial activity.

1.4 Erosion Prevention and Sediment Control

1.4.3. Site Entrance/Exit Stabilization (Revised)

No stabilized entrances will be used. The road must remain open for the project except for a consecutive closing for 60 hours to set the new bridge. All excavation and soil placement will be performed from the existing road. No off-road tracking will be present.

1.4.4. Installation of Sediment Barriers (Revised)

Sediment barriers will include silt fence with wire mesh, stone check dams and erosion logs. Runoff flow lengths are generally 20' or less. The intent of the erosion logs is for installation after the stone fill is installed and covered with grubbings. Off-site flows will enter the new ditch line along station 20+25 to 21+25 which will require temporary sediment barriers until vegetation is established.

1.4.5. Divert Upland Runoff (Revised)

Upland runoff cannot be diverted on the site.

1.4.8. Stabilize Exposed Soils During Construction (Revised)

Slopes around the guardrail ends are shown as 1:3 and erosion matting will be installed. Work will be within 50' of the stream.

1.4.11. De-watering activities (Revised)

No Dewatering activities are proposed.

1.5 Sequence and Staging

1.5.1 Construction Sequence and Implementation of EPSC Measures.

The construction sequence will be coordinated with the CPM schedule.

1.5.1.1. Initial EPSC Measures

Initial EPSC measures will be installed when the EPSC plan has been approved by the Agency. Project Delineation Fence will be installed to identify the project area. Silt Fence with wire will be installed in areas within 100' of the stream and along the limits of disturbance shown on the EPSC Plan. The stabilized construction entrances will not be installed since the first phase of the site will only include footing and pile excavation. The self-contained excavation will not have equipment tracking out of the site and all excavated material will be moved out of the work area to the waste area by trucking.

Silt Fence will also be installed at the toe of the filling at the waste area site.

1.5.1.2. Bridge Construction (Removal of old structure, footing installation and deck installation)

The bridge construction activity will be completed during a 60 hour closure period. The structure is precast. Silt fence will be installed during the preparation of the footing.

1.5.1.3. Roadway Approach Excavation

Roadway approaches will be box cut and stabilized as work progresses approach construction will be in a self-contained excavation.

1.5.1.4 Final Stabilization

Final stabilization on all slopes will occur after the bridge and roadway are reconstructed. Stone riprap, topsoil and erosion matting will be installed as shown on the plans. Areas of stone fill located within the stream channel will be installed during ordinary low water periods in August.

All temporary EPSC measures will be removed. The project is slated for stabilization prior to September 15.

1.5.2 Off-site Activities.

Off-site activities will include mobilization and demobilization of the office trailer. The waste site activities have been included in the amended section 1.1 and 1.2. EPSC measures at the waste site will occur as required for the gravel pit operation.

1.5.3 Updates

When updates are necessary A.L. St. Onge will contact Ruggles Engineering Services to submit a revised narrative.

1.6 Contact Information

1.6.1 On-Site Plan Coordinator:

Carl Gleason
A.L. St. Onge
PO Box 65
Montgomery, VT 05470
(802) 782-3978
gleason.cardl@gmail.com

Carl has over 30 years' experience in highway construction. Carl was previously a project resident engineer for VTrans highway projects. Carl is familiar with the EPSC contractor requirements, installation and maintenance methods. Carl will be onsite to implement the phases of EPSC and to coordinate the monitoring and inspections.

Carl will have the authority to hault construction and he is capable of ensuring the project will be constructed in accordance with the Plan and the terms of the project permits.

1.6.2 Plan Preparer:

Ruggles Engineering Services, Inc.
Nathan P. Sicard, P.E., VT License # 53831
1667 Shadow Lake Road
Glover, VT 05839
(802)-525-9130
nate.res@myfairpoint.net

Ruggles Engineering is familiar with the VT Standards and Specifications for Erosion Prevention and Sediment Control, relative sections of the VT Agency of Transportation Standard Specifications for Construction and Contract Special Provisions, and project specific permits.

1.7 Schedule

The contractor is attaching their proposed schedule to this plan. See Appendix A - SCHEDULES.

1.8 Inspection Form

See Appendix B - FORMS.

1 Erosion Prevention and Sediment Control Plan

See Appendix C – PLANS.

APPENDIX A – SCHEDULES

1. Contractor CPM Schedule – PREPARED BY CONTRACTOR.

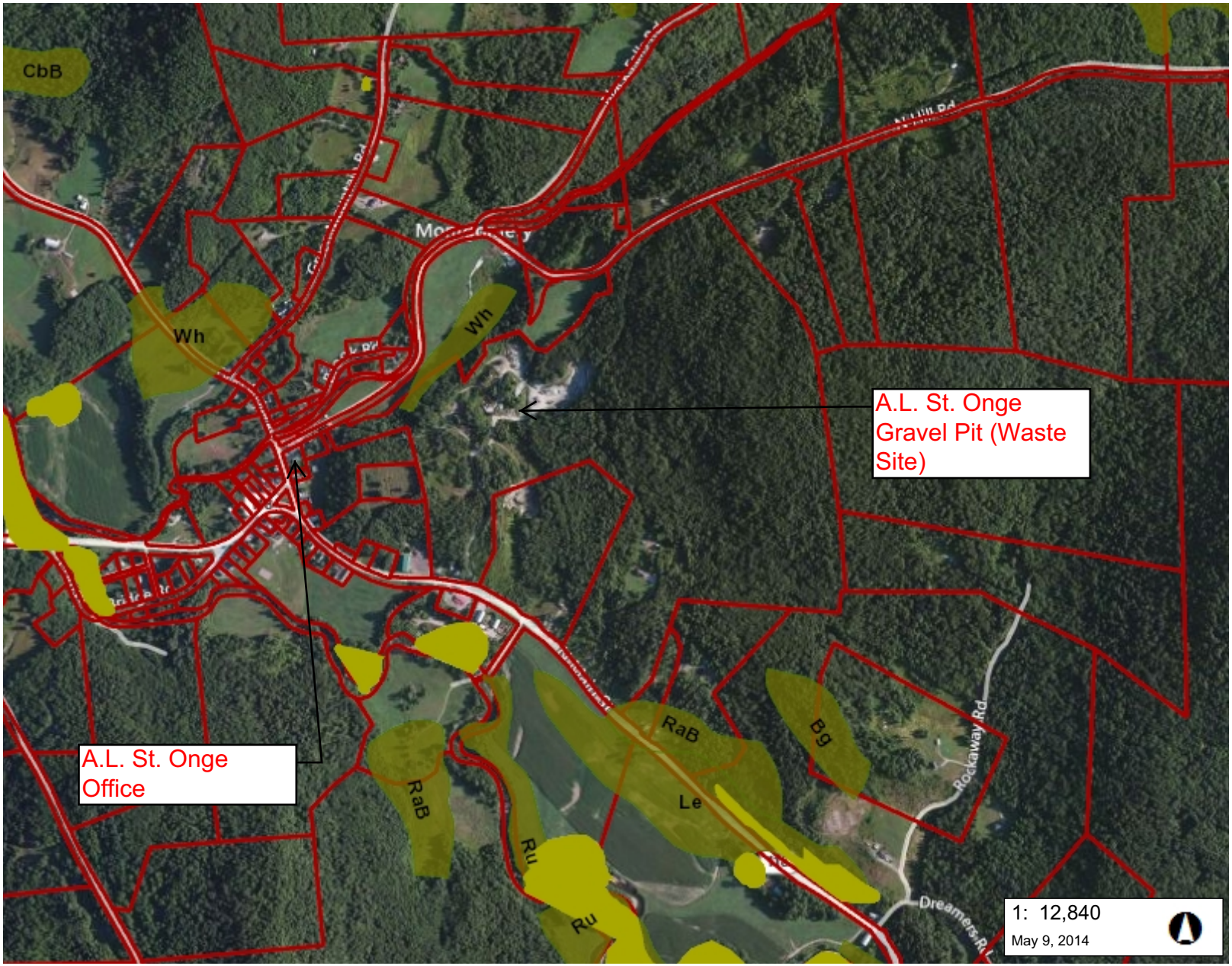
APPENDIX B – FORMS

1. Off-Site Activity Location Plan (Contractor Yard).
2. Inspection Form.

Vermont Agency of Natural Resources

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- Stormwater Permits (Issued)
- Wetlands - VSWI
  - Class 1 Wetland
  - Class 2 Wetland
- Soils - Hydric
- Parcels (where available)
- Town Boundary

NOTES

Map created using ANR's Natural Resources Atlas

2,140.0 0 1,070.00 2,140.0 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 1070 Ft. 1cm = 128 Meters

© Vermont Agency of Natural Resources

THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

Vermont Agency of Transportation	EPSC Plan Inspection Report (Non-Jurisdictional and Low Risk Projects)	
Project Name:	**Date:**	**Time Since Last Storm:**
Inspector:	**On-Site Coordinator:** (signature required)	

Measure Inspected	Y	N	STA/Off	Corrective Action (CA) Required	Date CA Occurred
Boundary Limits					
Site boundary markers are up and visible					
Disturbance is only occurring within marked boundaries					
Disturbance Area Limit					
Only acreage listed on *Authorization to Discharge* is disturbed at one time					
Stabilized Construction Entrance/Exit					
Off site tracking of sediment prevented					
Sediment Barriers					
Measure has been installed properly and is functioning as designed					
Accumulated sediment < ½ height of measure					
Diversion					
Upland stormwater is diverted around the work area					
Channelized Runoff					
Check structures are in place, extend the width of the channel, and have capacity to retain sediment in the next storm event					
Channels are stable with no erosion					
Exposed Soils Stabilization					
Seed and mulch, and/or matting placed in accordance w/ permit requirements and/or Specifications					
Soil is seeded and mulched or covered in erosion matting within 48 hours of final grade					
Winter Stabilization					
After Sept. 15, all disturbed areas are seeded & mulched to 3" deep or covered w/ matting					
For ongoing construction, exposed soil is mulched prior to forecasted events					
Dewatering Treatment					
Measure is preventing a discharge of turbid water from leaving the site					
Accumulated sediment is removed to allow sufficient treatment					

* Additional Measures and Discharges shall be reported on the back side of this form.

Vermont Agency of Transportation

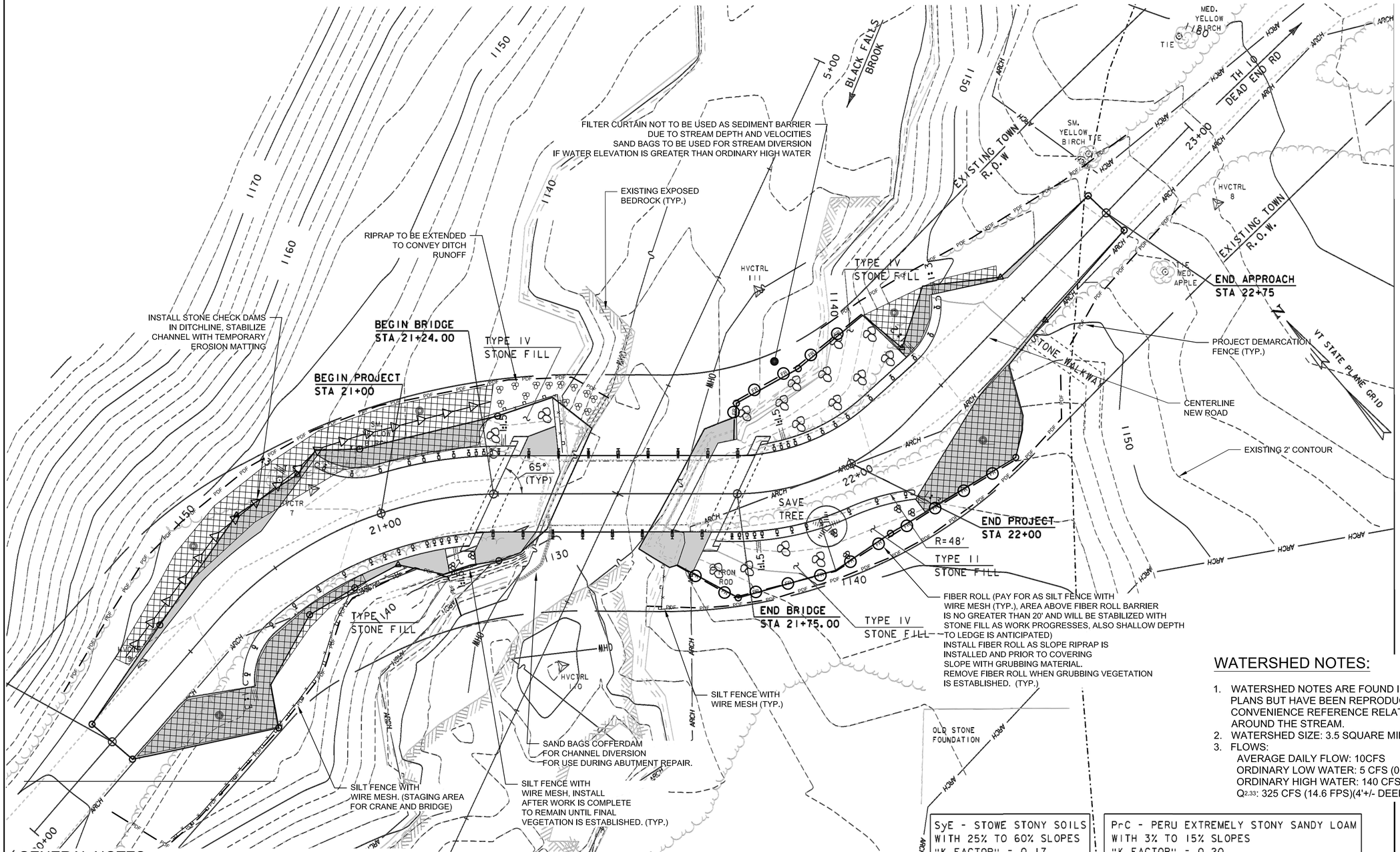
EPSC Plan Inspection Report (Non-Jurisdictional and Low Risk Projects)

Measure Inspected	Y	N	STA/Off	Corrective Action	Date Taken
Additional Measures					
Discharges Noted					

* If there is a discharge of visibly discolored stormwater from the construction site to waters of the state, the On-Site Plan Coordinator shall inform the Resident Engineer and take corrective action and report the discharge in accordance with Section 6.1 of Permit 3-9020.

APPENDIX C – PLANS

1. EPSC Narrative Section 1-4 (Contract Plans).
2. EPSC Plan and Detail Sheets (Modified Contract Plans).



GENERAL NOTES:

1. GENERAL NOTES APPLY TO ALL DRAWINGS FOR THE ENTIRE PROJECT. DRAWING NOTES APPLY ONLY TO THOSE DRAWINGS WHICH THEY APPEAR.
2. THIS PROJECT INCLUDES A SITE SPECIFIC EROSION CONTROL PLAN BASED ON THE CONTRACTORS INFORMATION.
3. ALL RELEVANT LINE TYPES HAVE BEEN LABELED ON THE PLAN RATHER THAN INCLUDING A LEGEND.
4. THIS PLAN IS A SUPPLEMENT TO THE CONTRACT PLANS. THIS PLAN WAS BASED ON AN OVERLAY OF THE CONTRACT PLANS. FOLLOW ALL GENERAL NOTES, SPECIAL PROVISIONS AND EPSC NARRATIVE DETAILS.
5. THE WASTE AREA SITE INCLUDES IMAGERY FROM THE VERMONT NATURAL RESOURCES ATLAS. CONDITIONS MAY VARY IN THE FIELD.

EXISTING BRIDGE DATA
TIMBER DECK ON ROLLED BEAMS BUILT IN 1919
OVERALL LENGTH = 28'-6"
WATERWAY AREA = 119 SF

SyE - STOWE STONY SOILS WITH 25% TO 60% SLOPES "K FACTOR" = 0.17

PrC - PERU EXTREMELY STONY SANDY LOAM WITH 3% TO 15% SLOPES "K FACTOR" = 0.20

NOTE: SEE "EPSC DETAILS 1" & CONVENTIONAL SYMBOLOGY-LEGEND

WATERSHED NOTES:

1. WATERSHED NOTES ARE FOUND IN THE CONTRACT PLANS BUT HAVE BEEN REPRODUCED HERE FOR CONVENIENCE REFERENCE RELATED TO WORKING AROUND THE STREAM.
2. WATERSHED SIZE: 3.5 SQUARE MILES.
3. FLOWS:
   AVERAGE DAILY FLOW: 10CFS
   ORDINARY LOW WATER: 5 CFS (0.5' DEPTH)
   ORDINARY HIGH WATER: 140 CFS (2' DEPTH)
   $Q_{2.33}$: 325 CFS (14.6 FPS)(4'+/- DEEP).

RUGGLES ENGINEERING SERVICES, INC.
1607 SHADOW LAKE ROAD, GLOVER, VT 05839
Civil Engineering-Site Development
Septic System Design-Soils Analysis
802-525-9180

JOB No. 14006

STATE OF VERMONT
JAMES P. SIMON
No. 5383
PROFESSIONAL ENGINEER

PREPARED FOR: AL. ST. ONGE CONTRACTORS, INC.
P.O. BOX 65, MONTGOMERY, VT 05470
Address

SITE SPECIFIC EPSC PLAN
MONTGOMERY BHO 1448(27)

REVISIONS

No.	Description	Date

Designed: NPS
Drawn: NPS
Checked: -
DATE: 5/9/14

Sheet 1 of

C:\Users\Sicard\Desktop\Projects\St. Onge, Al\EPSC Plan, Montgomery\EPSC.dwg-2013/02/18

VAOT RURAL AREA MIX

	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
37.5%	22.5	45	CREEPING RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX

	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREEPING RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

SOIL AMENDMENT GUIDANCE

FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	*FOLLOW*	PELLETIZED	*FOLLOW*
500 LBS/AC	*MANUFACTURER*	2 TONS/AC	*MANUFACTURER*

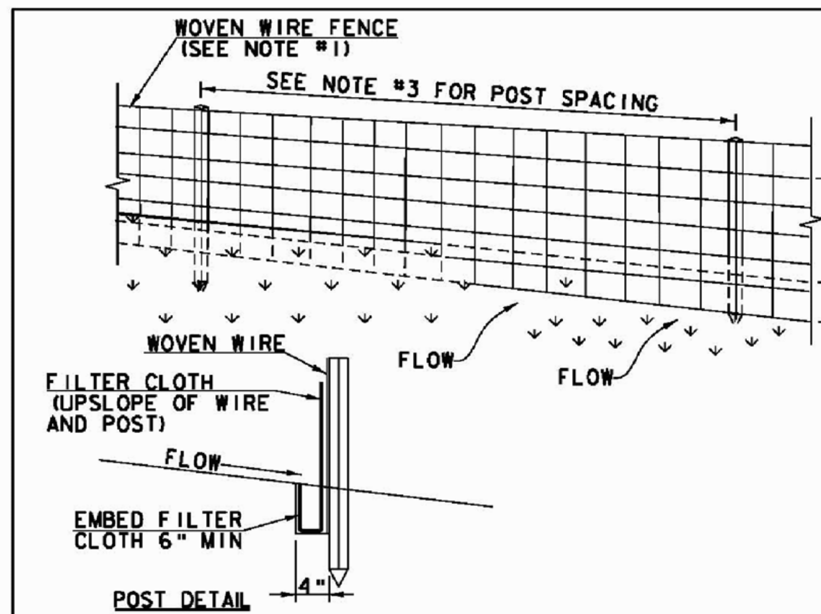
CONSTRUCTION GUIDANCE

1. RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
2. URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
7. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
8. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MAUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF
FEBRUARY 16, 2011	WHF



SYMBOL
SILT FENCE
SILT FENCE WOVEN WIRE
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

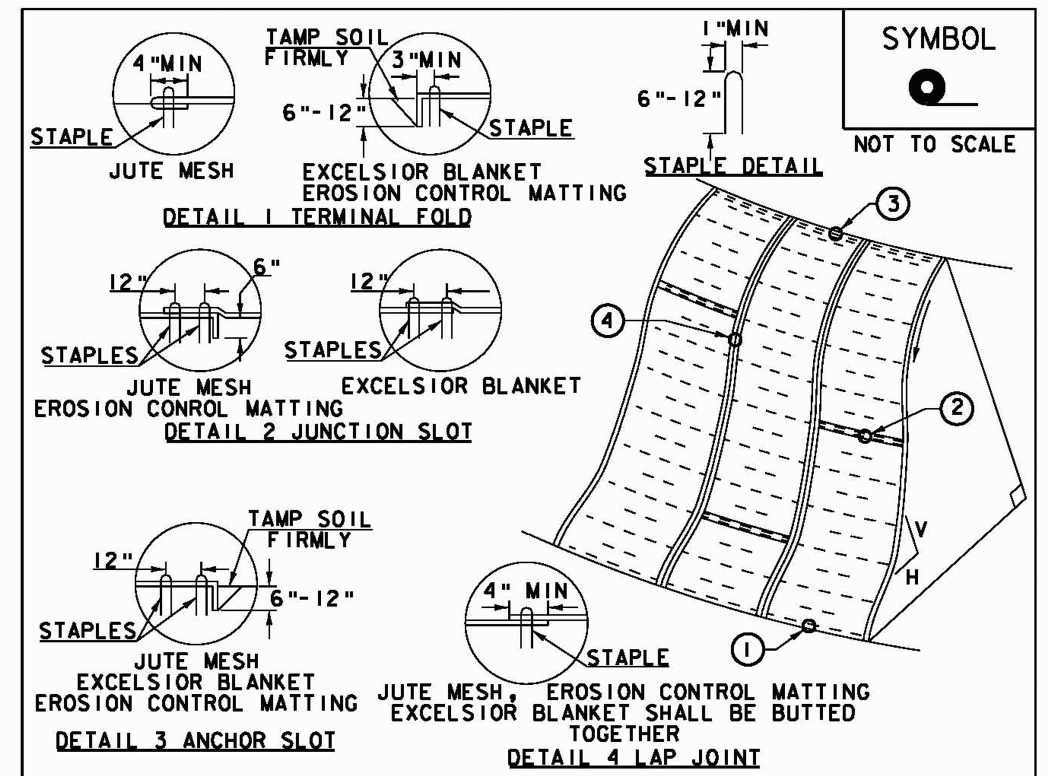
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF



SYMBOL
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H: 1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF

SYMBOL
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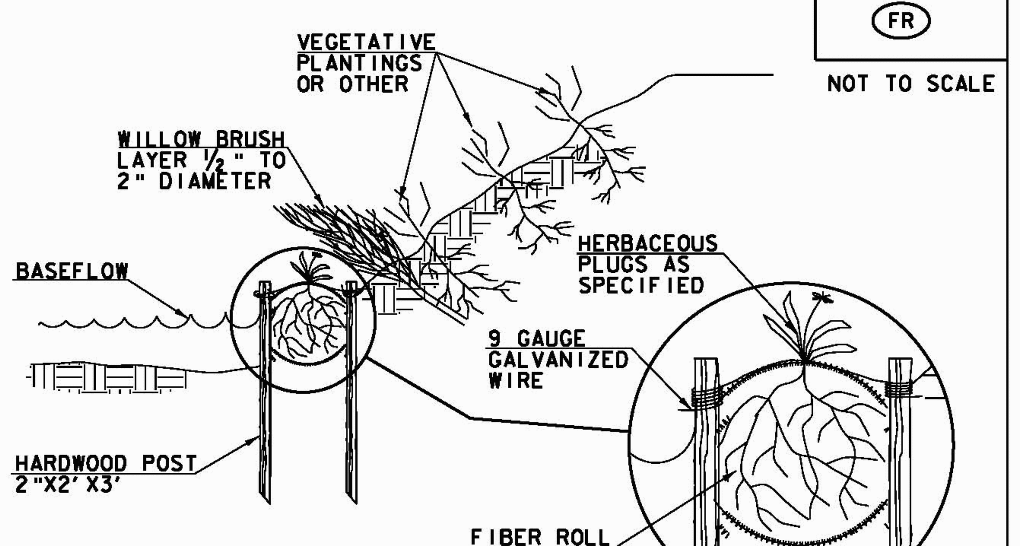
NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. EXCAVATE A SHALLOW TRENCH SLIGHTLY BELOW BASEFLOW OR A 4" TRENCH ON SLOPE CONTOURS
2. PLACE THE ROLL IN THE TRENCH AND ANCHOR WITH 2"X2" POSTS PLACED ON BOTH SIDES FO THE ROLL AND SPACED LATERALLY ON 2' TO 4' CENTERS. TRIM THE TOP OF THE POSTS EVEN WITH THE EDGE OF THE ROLL, IF NECESSARY.
3. NOTCH THE POSTS AND TIE TOGETHER, ACROSS THE ROLL, WITH 9 GAUGE GALVANIZED WIRE OR 1/8" DIAMETER BRAIDED NYLON ROPE.
4. PLACE SOIL EXCAVATED FROM THE TRENCH BEHIND THE ROLL AND HAND TAMP. PLANTWITH SUITABLE HERBACEOUS OR WOODY VEGETATION AS SPECIFIED ELSEWHERE IN THE CONTRACT DOCUMENTS. VEGETATION SHALL BE PLACED IMMEDIATELY ADJACENT TO THE ROLL TO PROMOTE ROOT GROWTH INTO THE FIBER. HERBACEOUS VEGETATION, IF SPECIFIED, SHALL BE PLANTED INTO THE FIBER ROLL.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FIBER ROLL (EROSION LOG)

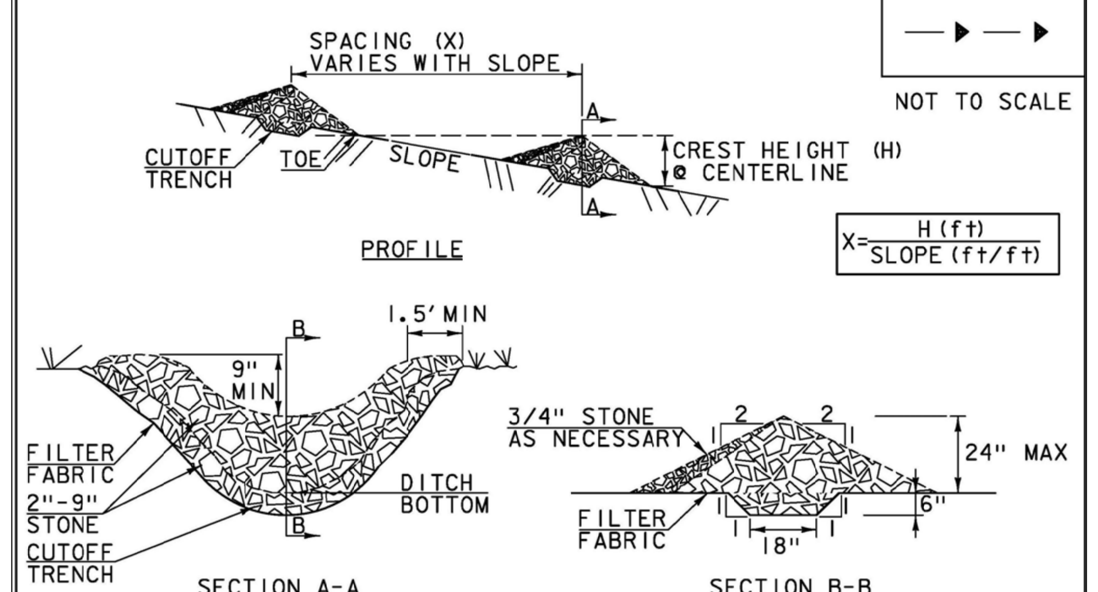
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR EROSION LOG (PAY ITEM 653.60)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 13, 2009	WHF

PAY AS SILT FENCE

SYMBOL
NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OFTHE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
4. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA 2 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CHECK DAM

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

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ENGINEERING SERVICES, INC.
1667 SHADOW LAKE ROAD, GLOVER, VT 05839
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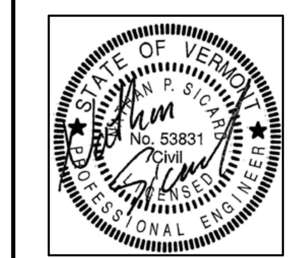

PREPARED FOR: A.L. ST. ONGE CONTRACTORS, INC.
P.O. BOX 65, MONTGOMERY, VT 05470
Address

EPSC DETAILS
MONTGOMERY BHO 1448(27)

REVISIONS

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