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4/5/2015

William Farley, P.E., CPESC
Construction Environmental Engineer
Vermont Agency of Transportation
One National Life Drive, Drawer 33
Montpelier, VT 05633-5001

**RE: Colchester STP 5600 (12)
Bridge 12 Replacement on Mill Pond Rd over Indian Brook
Contractor Erosion Prevention & Sediment Control Plan**

Dear Bill:

On the behalf of A. L. St Onge Construction, Inc. and their above referenced project in Colchester I am submitting additional Erosion Prevention & Sediment Control (EPSC) details for your review and project files. These additional narrative sections and plan sheets should satisfy contract provision item 652.10. The supplemental measures described also comply with VT ANR specifications for EPSC but since the project has such a small disturbance area it does not require coverage under the state construction permit.

Project Summary

The project involves the replacement of Bridge number 12 on Mill Pond Road (Town Highway 27) where it crosses Indian Brook in Colchester. The project area is adjacent to a historic dam and former mill pond. Much of the surrounding land is also considered sensitive for archeological resources and has been identified as VT Class II wetland. A single private residence exists in the northeastern quad of the project area. Indian Brook is surrounded by forestland and wetlands both up and downstream of the project area.

The new bridge is to be constructed on the existing alignment and Mill Pond Road will be closed to through traffic during the work. No temporary bridge will be necessary to minimize impacts to surrounding resources and project costs. The town will be responsible for any signage related to a detour route. The replacement bridge will be 74' long, nearly three times the length of the existing structure, and will result in a substantial increase in the hydraulic opening at the crossing location.

1. Supplemental EPSCP Narrative Sections

Most EPSC measures described in the contract narrative are appropriate to the site and will be implemented per the plan by St. Onge. The contractor's primary deviation from the measures outlined in the approved EPSCP relates to how in-stream work is isolated from the rest of the active channel. The contract specifies the use of a floating turbidity curtain and extensive lengths are shown in the

channel on the EPSCP sheets (sheet 48 of 53 'EPSC Construction Conditions').

1.4 EPSC Practices and Measures

1.4.4 Install Sediment Barriers

The channel at the site is narrow and shallow with an irregular bottom and a swift current. Installing a floating sediment barrier would be impractical and largely ineffective. The contractor's construction approach makes the measure unnecessary. While excavating for the new abutments, St. Onge intends to use the existing central pier combined with poly sheeting and 1-CY sand bags to divert flow away from the active work area. Since the new bridge is much longer than the existing structure, nearly all of the earth disturbance will be isolated from surface water behind the existing abutments before they are removed.



1.4.5 Divert Upland Runoff

The construction site is not flat as indicated by the contract EPSCP but occurs in the bottom of a narrow valley. Shallow swales or berms will be used as necessary along with the existing roadside ditches to intercept, divert, and convey over-land flow from upland areas around disturbed areas during construction. There is evidence of substantial upland stormwater runoff flowing through the project area.

1.4.9 Winter Stabilization

All project related earth disturbances will be stabilized by October 15th. No winter-specific EPSC measures are anticipated. The VAOT CEE will be notified in writing should winter-time construction become necessary due to unforeseen circumstances.

1.4.11 De-watering Activities

Construction activities requiring in-stream work include the installation of stone armoring, the removal of the old central support pier, and the removal of the old eastern abutment. As discussed above, St. Onge proposes to use sand bags, poly sheeting, and the existing central support pier to temporarily divert channel flow away from active excavations. This should limit water handling requirements but ground water may be encountered since excavation to bedrock is required for the new substructure footings.

If de-watering becomes required, pumped water will be directed into a filter bag situated on a bed of crushed stone located in the gravel pull-off

found in the southeast quadrant of the project area (see location on the attached modified EPSCP sheet 48 of 53). Additional measures may be installed if necessary to further treat the discharge from the filter bag such hay bales or filter stone berms.

1.5 Sequence and Staging

1.5.1 Construction Sequence and related EPSC measures

- Mobilize
 - a. Install field offices and establish material staging area with stabilized construction entrance.
 - b. Install PDF and sediment barriers as required, utilizing pre-existing sections where ever possible.
- Clearing and grubbing
 - a. Minimizing the area of exposed earth open at any given time to active work, and
 - b. Utilize hay mulch for temporary stabilization during construction
- Install permanent Stormwater control structures
 - a. Determine if the western outfall design location is in conflict with the new waterline
 - b. Install stone in ditch lines leading to and from these structures per the plans
 - c. Install stone check dams if concentrated flows discharging from these structures are observed to cause erosion downslope in the poorly stabilized earth from the waterline work (see 'Pre-existing Site Conditions on page 8)
- Demolish existing bridge
 - a. Demo deck
 - b. Collect concrete demolition debris
 - c. Isolate active excavation using the existing central pier to divert flow
 - d. Excavate behind abutments for new substructure components
 - e. Remove old abutments and wing walls
 - f. No in-stream excavation is required until after June 1. The diversion of flow using the existing central pier and sand bags may be required prior to June 1. If so, this minor in-stream work will be vetted through VT DEC Stream Alterations Engineer Chris Brunelle per the project's Title 19 approval
- Construct new bridge
 - a. Install stone armoring along banks in front of new abutments per the plan, using part of the old abutment to key in and retain permanent fill on the abutment 1 side
 - b. Form, and pour the new abutments
 - c. Install deck beams then form and pour bridge deck
- Demobilize
 - a. Restore disturbed areas and contour to final design grades and establish permanent vegetative cover
 - b. Remove PDF, silt fencing, and any other temporary EPSC measures

1.5.2 Off-Site Activities

Field offices and Staging

St. Onge plans to utilize state-owned property found approximately one mile south of the project area, near 150 Mill Pond Road, for field offices and staging. The property was acquired as part of the proposed Circumferential Highway ROW. St. Onge has coordinated this use with VT Gas, who is actively installing gas line in the corridor, and the VAOT Environmental Unit who approved it for use with no special conditions on March 30, 2015.

Since the road will be closed during construction, the bridge approaches will also be utilized for equipment and material staging.

Waste

St Onge anticipates that the construction will generate approximately 1800 CYs of waste earth and concrete. Woody and cementitious wastes will be trucked to the Ranger Concrete and Asphalt reprocessing facility at 1607 Malletts Bay Avenue in Colchester for recycling. Ranger is owned and operated by Rob Mazza of All Seasons Excavating who will be working on the Mill Pond Road Reconstruction project in parallel to St. Onge's bridge project. The facility is an active sand pit, holds a solid waste disposal permit, and an Act 250 permitted materials recycling center. It would be exempt from the Off-site Activity review process and will be documented on the VAOT 'Off-site Activity Exemption Record'.

Waste areas for the earthen materials have not been determined yet. St. Onge will submit an 'Off-Site Activity Form' to the VAOT Environmental Unit prior to using any proposed off-site waste area.

Borrow

St. Onge plans to source structural fill materials used on the project from locally operating gravel pits that would be exempted from the AOT off-site review process.

1.6 Contact Information

1.6.1 OSPC

The On-Site Plan Coordinator for this project will be Artie St. Onge of A. L. St. Onge Contractor, Inc. Mr. St. Onge will be on-site on a daily basis, has extensive experience working on transportation projects in Vermont and has successfully completed the duties of an on-site coordinator on numerous VT AOT projects. He can be reached at 802-782-2415.

1.6.2 Plan Preparer

Matt Montgomery, CPESC, of VT Compliance has reviewed and modified this project-specific EPSC plan. He is familiar with the VT Standards and Specifications for Erosion Prevention and Sediment Control, working within the context of VT AOT projects, and project specific permitting requirements. He can be reached at 802-363-6288.

1.7 Construction Schedule

The disturbance footprint of the project is very small so the potential for erosion from exposed soil is already minimal. Individual tasks items in the St. Onge schedule are sequenced to minimize earth disturbances at any one time as much as possible during construction. The contractor's anticipated sequence for the project is as follows:

Mid-April 2015

- Mobilize,
- Install construction signage,
- Establish office trailer and staging area,
- Install PDF and temporary sediment control measures,

Late-April 2015

- Install permanent stormwater treatment catch basins.

Early-Mid May 2015

- Remove old bridge deck,
- Divert flow as needed using the central support pier (pending coordination with DEC Stream alteration's engineer)
- Excavate for new abutment 2 substructure.

Late-May 2015

- Expose, prepare, and inspect bedrock,
- Drill and grout abutment 2 footing dowels,
- Form and pour new abutment 2 footing.

June 2015

- Construct abutment 2 stem and wing wall,
- Backfill abutment 2
- Excavate for abutment 1

July 2015

- Remove old abutment 1 and central pier
- Install stone armoring,
- Expose, prepare, and inspect bedrock,
- Drill and grout abutment 1 footing dowels,
- Form and pour new abutment 1 footing

Late-July 2015

- Construct abutment 2 stem and wing wall,
- Backfill abutment 2

August 2015

- Set girders and build bridge deck

September 2015

- Construct abutment back walls,
- Install subbase and approach slabs

Early-October 2015

- Curbing, guard rail and paving work,
- Final grading, seeding & mulching/all stabilization measures,
- Remove all temporary EPSC measures.

St. Onge anticipates that the project will not require working outside the normal summer construction season of April 15th–October 15th. You will be notified in writing should construction become necessary at the site after October 15th and winter-specific EPSC measures will be developed and implemented at the site. The contractor's Construction Schedule is attached for your review.

1.8 EPSCP Inspection Form

VT compliance will be responsible for the weekly EPSCP inspections during construction. Inspections will be documented on the attached VT AOT inspection report for Non-Jurisdictional/Low Risk Projects. The EPSCP, inspection record, and the Low Risk Site Handbook will be kept on-site at all times.

2. Erosion Prevention and Sediment Control Plan Modifications

St. Onge's construction approach does not require substantial changes to the contract EPSCP to effectively minimize risks to surface-waters at the site. All of the project's major excavations will be isolated behind the old bridge's abutments and wing walls. The attached plan sheets were modified from what was included in the contract plan set (sheets 46-51 of the original 53 sheets) to illustrate specific measures discussed in section 1.4 above.

To summarize, the modifications to the Contract Plan are minimal and include the following:

- One-yard sandbags and poly sheeting are proposed to divert and isolate channel flow from abutment excavations instead of a floating sediment barrier,
- The location of the proposed dewatering area, if needed, has been identified,
- The ability for the contractor to utilize pre-existing sediment control measures in good working order is indicated,
- The approximation location of diversion berms or swales is indicated to intercept upland storm water around open excavations, and
- St. Onge's 'On-Site Coordinator' contact information has been added.

Temporary and Permanent EPSC Measures

St. Onge will implement the temporary and permanent EPSC measures discussed in this narrative and shown on the contract EPSCP Sheets. Temporary measures during construction will include the following as necessary:

- Project Demarcation Fencing,
- Woven Wire Sediment barrier,
- Pipe inlet protection
- Seed, hay mulch, biodegradable rolled erosion control products,
- Stone check dams,
- 1-yard sandbags,
- Diversion swales or berms, and
- Stabilized construction entrances.

Permanent Measures are to include the following:

- Stone-lined roadside ditching,
- Stormwater treatment structures,
- Type I and Type III stone over geotextile fabric at culvert outfalls, ditch lines, and on the embankments of Indian Brook respectively,
- Seed, fertilizer, mulch/matting used to establish perennial ground cover.

Updates

As construction progresses unforeseen events may require additional EPSC measures not discussed here or shown on the plan. Any proposed changes to the EPSCP will be coordinated with the AOT resident engineer, documented on the plan, and communicated to appropriate regulatory agencies as necessary.

Regulatory Coordination

Per the project's Title 19 approval, the work needs to be reviewed in the field by the district DEC Stream Alterations Engineer Chris Brunelle. Isolating flow from excavation activity using the existing central pier and sandbags is a simple solution that should help keep Indian Brook clear and excavations dry. The concept should be vetted by Chris, especially if the activity is required prior to June 1st. Any temporary fills proposed in Indian Brook outside of those approved by the project's ACOE General Permit will be depicted on a plan and submitted to the VT ACOE for review.

Pre-existing Site Conditions

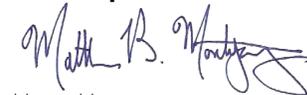
Much sediment has recently washed into the channel of the Indian Brook in the project area. This appears to be due to water-line installation work that took place along the west side of Mill Pond Road last fall. Erosion control matting and extensive silt fencing was used in the corridor but no vegetation became established prior to winter conditions. Significant sediment loss occurred in the northwestern quadrant of the project area in particular. This water line installation resulted in subsurface disturbances in areas designated as archaeologically sensitive.



Stabilizing the site, especially areas where no construction disturbances are required or anticipated, should be a high priority to limit continued sediment discharges to the brook. Accumulated sediments behind the existing silt fencing need to be collected, stockpiled for later use, and the area seeded and mulched as soon as possible. This work is outside the contractual obligations for the bridge project but it is needed.

Please contact me with any questions or concerns.

Sincerely,
VT Compliance Monitoring, LLC



Matt Montgomery

Enclosures:

1. Modified EPSC Plan Sheets 46 to 51 of 53
2. St. Onge Construction Schedule
3. VT AOT EPSCP Inspection Report for Non-jurisdictional projects
4. VT AOT Filter Bag Detail sheet

Original: Bill Farley, VAOT
Cc: Josh Hulett, VAOT Artie St. Onge, A. L. St. Onge Contractor, Inc
Carl Gleason, A. L. St. Onge Contractor, Inc

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF A TWO SPAN CONCRETE BRIDGE OVER THE INDIAN BROOK. THE PROJECT IS ON TH 27 (MILL POND ROAD) A PAVED, RURAL COLLECTOR IN THE TOWN OF COLCHESTER. NO TEMPORARY BRIDGE WILL BE CONSTRUCTED. A DETOUR WILL BE SIGNED TO ROUTE TRAFFIC ONTO US ROUTE 7 AND TH 7 (SEVERANCE ROAD). THE DETOUR ROUTE WILL BE APPROXIMATELY 3.4 MILES IN LENGTH. WORK INCLUDING BOTH APPROACHES IS APPROXIMATELY 500.00 FEET. THE LIMITS OF CONSTRUCTION APPROACH BUILDINGS AND OTHER STRUCTURES. AN EXISTING ABUTMENT RESTS AGAINST A HISTORIC DAM, THE HISTORIC DAM IS SHOWN IN THE EPSC FINAL CONDITIONS SHEET.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.57 ACRES.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE PROJECT SITE IS RELATIVELY FLAT. AFTER THE BRIDGE AT APPROXIMATELY STA. 16+00 THERE ARE THREE DRIVES, ONE ON THE LEFT AND TWO ON THE RIGHT. THERE IS A RESIDENCE LOCATED APPROXIMATELY 160 FEET TO THE NORTHEAST OF THE BRIDGE. THERE IS A SLIGHT HORIZONTAL CURVE OVER THE BRIDGE AND A SIGNIFICANT VERTICAL SAG CURVE OVER THE BRIDGE. THERE ARE UTILITY POLES ON THE WEST SIDE OF THE ROAD, BOTH NORTH AND SOUTH OF THE BRIDGE WITH OVERHEAD LINES PASSING DIRECTLY OVER THE BRIDGE. IMMEDIATELY ADJACENT TO THE BRIDGE IS THE MILL POND DAM.

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

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 MILL POND ROAD ALONG THE GRADE AT THE END OF THE PROJECT LIMITS. THE CURRENT ROADWAY DITCHES ARE NOT WELL DEFINED AND ARE LINED WITH STONE IN SOME AREAS.

INDIAN BROOK IS LOCATED IN THE PROJECT AREA. THE ONLY OTHER WATER BODY NEAR THE PROJECT AREA IS MILL POND. THE INDIAN BROOK 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 10.3 SQ. MI.

DISTURBANCE OF SOILS NEAR NATURAL OR MAN-MADE WATERWAYS CONSISTS OF THAT WHICH IS NECESSARY TO CONSTRUCT TWO NEW CONCRETE BRIDGE ABUTMENTS 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 I AND TYPE III.

1.2.3 VEGETATION

A MIX OF HARDWOOD AND SOFTWOOD TREES OF ALL SIZES EXIST ALONG TH27. THE RESIDENCE NEAR THE BRIDGE SITE HAS SMALL AREAS OF LAWN. IMPACTS TO VEGETATION WILL BE LIMITED TO THOSE WHICH ARE EFFECTED BY THE CONSTRUCTION OF THE NEW BRIDGE.

FOLLOWING REMOVAL OF THE EXISTING BRIDGE, ROADWAY APPROACHES WILL BE REBUILT AND THE SLOPES STABILIZED WITH STONE FILL AND VEGETATION REESTABLISHED WITH STANDARD SEED & MULCH PRACTICES.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF CHITTENDEN, VERMONT. SOILS ON THE PROJECT SITE ARE UDORTHENTS N/A SLOPES, "K FACTOR" = N/A; THE SOIL IS CONSIDERED UNKNOWN FOR ERODIBILITY. ADAMS/WINDSOR 12% TO 30% SLOPES, "K FACTOR" = 0.17; THE SOIL IS CONSIDERED LOW ERODIBLE. LIMERICK 0% TO 3% SLOPES, "K FACTOR" = 0.49; THE SOIL IS CONSIDERED HIGHLY ERODIBLE. AND SCANTIC 2% TO 6% SLOPES, "K FACTOR" = 0.32; THE SOIL IS CONSIDERED MODERATELY ERODIBLE.

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 ARCHEOLOGICAL AREAS: YES
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: YES
WATER RESOURCE: INDIAN BROOK
WETLANDS: YES, CLASS II WETLANDS ARE LOCATED ON ALL SIDES OF THE PROJECT SLOPES.

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.

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.

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 RELATIVELY FLAT. THEREFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSION POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

STONE CHECK DAMS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN, AT A MINIMUM.

1.4.7 CONSTRUCT PERMANENT CONTROLS

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

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 MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

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 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.

TREATMENT OF DEWATERING IS ANTICIPATED. A LOCATION FOR TREATMENT HAS BEEN PROPOSED AND IS SHOWN ON THE PLANS. HOWEVER THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR.

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

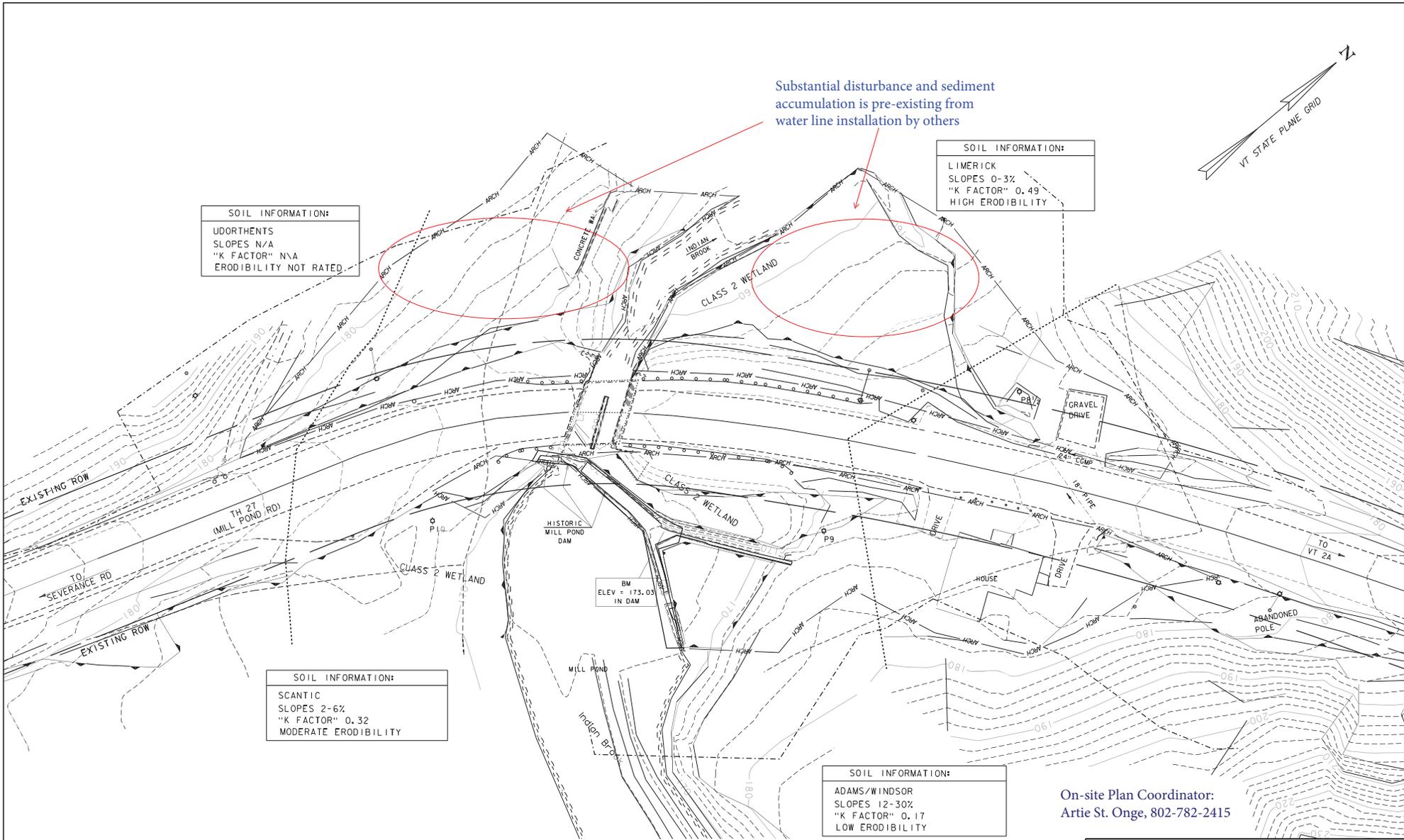
THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 OFF-SITE ACTIVITIES

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

On-site Plan Coordinator:
Artie St. Onge, 802-782-2415

PROJECT NAME:	COLCHESTER	PLOT DATE:	12-JAN-2015
PROJECT NUMBER:	STP 5600 (12)	DRAWN BY:	G. ROKES
FILE NAME:	s95j298e0narr.dgn	CHECKED BY:	N. VANDENBERG
PROJECT LEADER:	C. CARLSON	SHEET	46 OF 53
DESIGNED BY:	N. VANDENBERG		
EPSC NARRATIVE			



Contractor EPSCP Modifications
2015.04.05 by M.Montgomery of VT Compliance

On-site Plan Coordinator:
Artie St. Onge, 802-782-2415

PROJECT NAME:	COLCHESTER	PLOT DATE:	12-JAN-2015
PROJECT NUMBER:	STP 5600 (I2)	DRAWN BY:	G. ROKES
FILE NAME:	s95j298er0Exst.dgn	CHECKED BY:	N. VANDENBERG
PROJECT LEADER:	C. CARLSON	SHEET	47 OF 53
DESIGNED BY:	N. VANDENBERG		
EPSC EXISTING CONDITIONS			

Silt fencing from the water line work may be left in place in these areas if in good working condition instead of installing redundant sections.

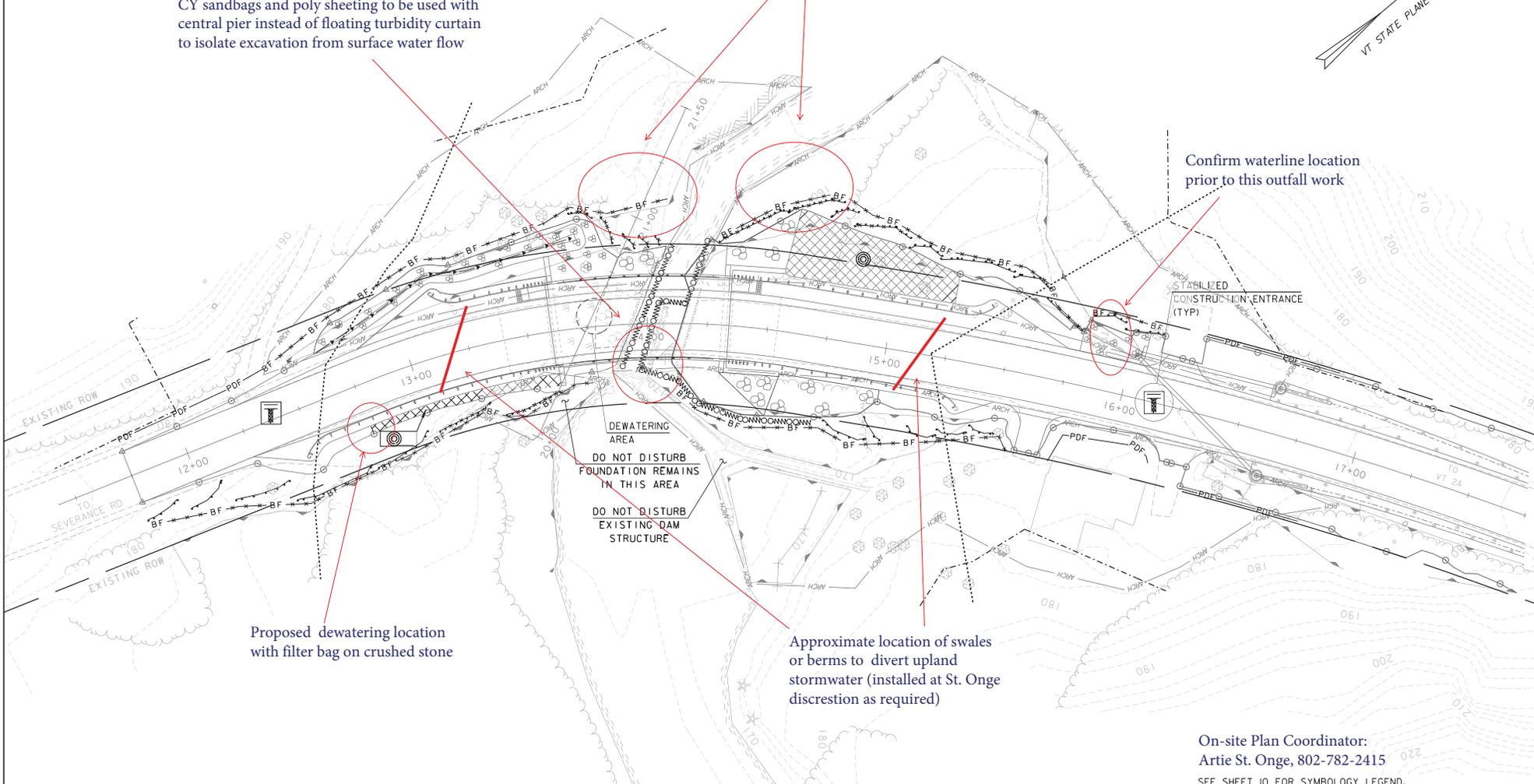
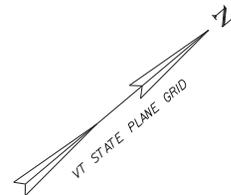
CY sandbags and poly sheeting to be used with central pier instead of floating turbidity curtain to isolate excavation from surface water flow

Confirm waterline location prior to this outfall work

Proposed dewatering location with filter bag on crushed stone

DEWATERING AREA
DO NOT DISTURB FOUNDATION REMAINS IN THIS AREA
DO NOT DISTURB EXISTING DAM STRUCTURE

Approximate location of swales or berms to divert upland stormwater (installed at St. Onge discretion as required)



Contractor EPSCP Modifications
2015.04.05 by M.Montgomery of VT Compliance

SCALE 1" = 20' - 0"
20 0 20

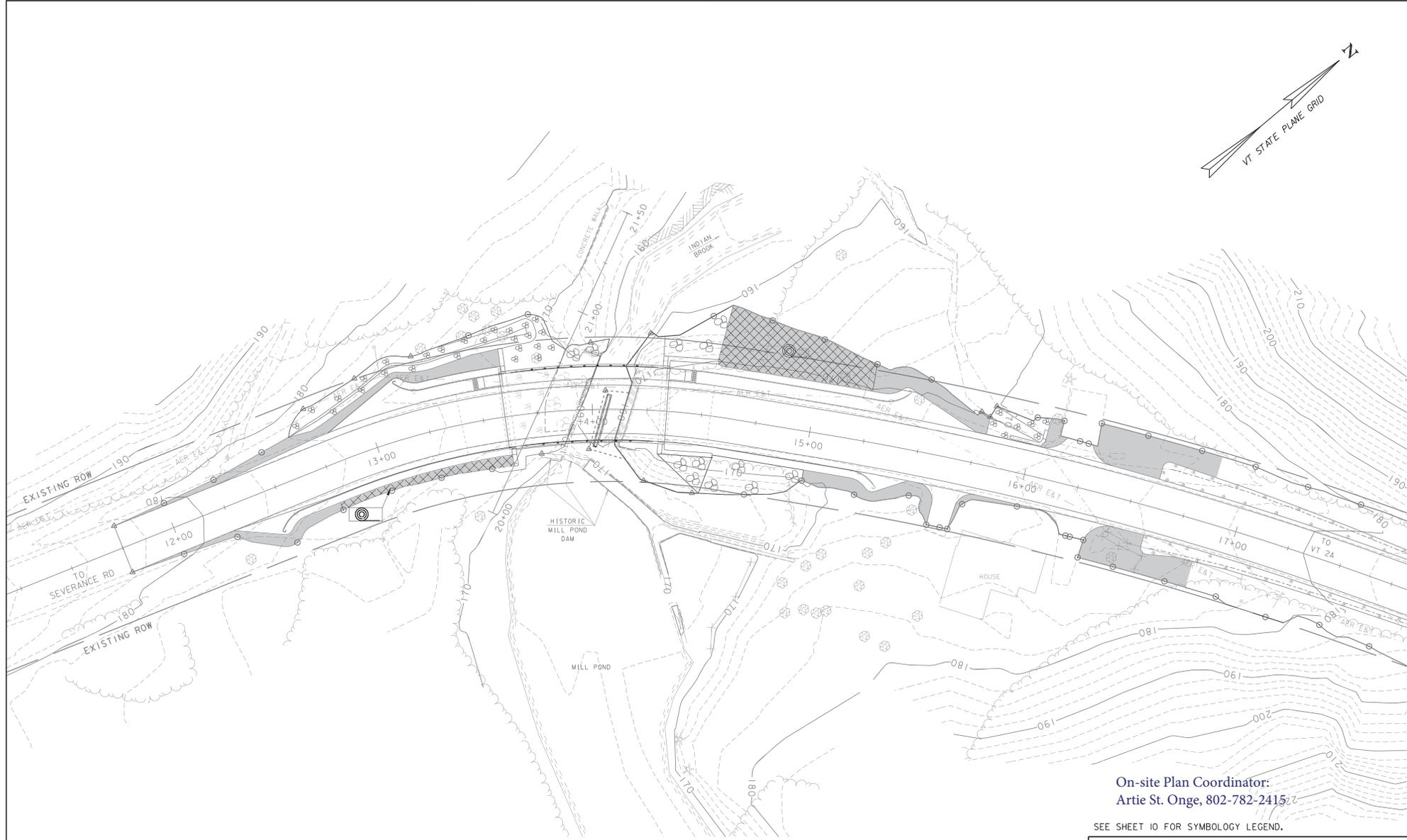
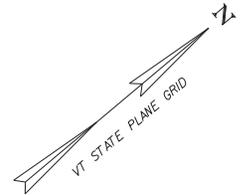
On-site Plan Coordinator:
Artie St. Onge, 802-782-2415

SEE SHEET 10 FOR SYMBOLOLOGY LEGEND.

PROJECT NAME: COLCHESTER
PROJECT NUMBER: STP 5600 (I2)

FILE NAME: s95j298eroConst.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: N. VANDENBERG
EPSC CONSTRUCTION CONDITIONS

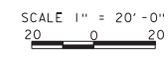
PLOT DATE: 30-JAN-2015
DRAWN BY: G. ROKES
CHECKED BY: D. PETERSON
SHEET 48 OF 53

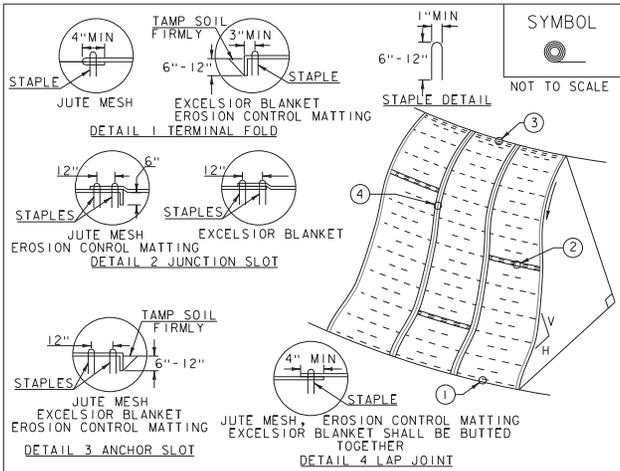


On-site Plan Coordinator:
Artie St. Onge, 802-782-2415

SEE SHEET 10 FOR SYMBOLOGY LEGEND.

PROJECT NAME:	COLCHESTER	PLOT DATE:	26-JAN-2015
PROJECT NUMBER:	STP 5600 (12)	DRAWN BY:	G. ROKES
FILE NAME:	s95j298e-final.dgn	CHECKED BY:	D. PETERSON
PROJECT LEADER:	C. CARLSON	DESIGNED BY:	N. VANDENBERG
EPSC FINAL CONDITIONS			SHEET 49 OF 53





CONSTRUCTION SPECIFICATIONS

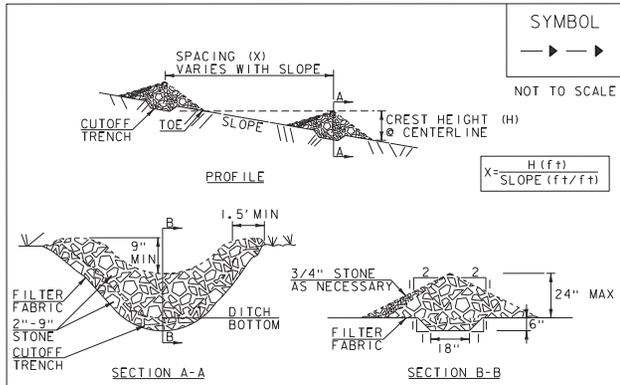
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4' X 225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4' X 150' 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



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 OF THE 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' 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 1(PAY ITEM 653.25)

REVISIONS
MARCH 21, 2008 WHF
JANUARY 8, 2009 WHF

VAOT LOW GROW/FINE FESCUE MIX						
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
38%	57	95	CREeping RED FESCUE	FESTUCA RUBRA VAR. RUBRA	90%	98%
29%	43.5	72.5	HARD FESCUE	FESTUCA LONGIFOLIA	85%	95%
15%	22.5	37.5	CHewings FESCUE	FESTUCA RUBRA VAR. COMMUTATA	87%	95%
15%	22.5	37.5	ANNUAL RYEGRASS	LOLIUM MULTIFLORUM	90%	95%
3%	4.5	7.5	INERTS			
100%	150	250				

VAOT RURAL AREA MIX						
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
37.5%	22.5	45	CREeping RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
37.5%	22.5	45	TALL FESCUE	FESTUCA ARUNDINACEA	90%	95%
5.0%	3	6	RED TOP	AGROSTIS GIGANTEA	90%	95%
15.0%	9	18	WHITE FIELD CLOVER	TRIFOLIUM REPENS	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	60	120				

GENERAL AMENDMENT GUIDANCE	
FERTILIZER	LIME
10/20/10	AG LIME PELLITIZED
500 LBS/AC	2 TONS/AC
	1 TONS/AC

CONSTRUCTION GUIDANCE

1. SEED MIX: THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER ON WHICH SEED MIX TO USE.
2. SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) 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. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED PROPOSED FOR USE WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED.
7. 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 VTTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651

REVISIONS
JANUARY 12, 2015 WHF

On-site Plan Coordinator:
Artie St. Onge, 802-782-2415

PROJECT NAME: COLCHESTER	PLOT DATE: 26-JAN-2015
PROJECT NUMBER: STP 5600 (12)	DRAWN BY: G. ROKES
FILE NAME: s95j298erDetails.dgn	CHECKED BY: D. PETERSON
PROJECT LEADER: C. CARLSON	SHEET 50 OF 53
DESIGNED BY: N. VANDENBERG	
EPSC DETAILS 1	

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	March			April			May			June			July			August			September			October			November		
							E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M
0		Colchester STP	236 days	Thu 3/5/15	Mon 10/26/1																												
1		Contract Awarded	1 day	Thu 3/5/15	Thu 3/5/15																												
2		Develop Schedule	16 days	Fri 3/6/15	Fri 3/27/15	1																											
3		Develop EPSC Plan	21 days	Fri 3/6/15	Fri 4/3/15	1																											
4		Develop Traffic Control Plan	22 days	Fri 3/6/15	Mon 4/6/15	1																											
5		Develop Structural Steel Shop Drawings	46 days	Fri 3/6/15	Fri 5/1/15	1																											
6		Develop Bridge Rail Shop Drawings	30 days	Fri 3/6/15	Thu 4/16/15	1																											
7		Develop Bearing Device Shop Drawings	10 days	Fri 3/6/15	Thu 3/19/15	1																											
8		Submit Schedule For Review	14 days	Mon 3/30/15	Thu 4/16/15	2																											
9		Submit Catch Basin Shop Drawings	12 days	Fri 3/6/15	Mon 3/23/15	1																											
10		Submit EPSC Plan For review	14 days	Mon 4/6/15	Tue 4/21/15	3																											
11		Submit Traffic Control Plan For Review	10 days	Tue 4/7/15	Sat 4/18/15	4																											
12		Submit Structural Steel Shop Drawings For review	21 days	Fri 5/1/15	Thu 5/21/15	5																											
13		Submit Bridge Rail Shop Drawins For Review	21 days	Thu 4/16/15	Wed 5/6/15	6																											
14		Submit Bearing Device Shop Drawings For Review	21 days	Fri 3/20/15	Fri 4/17/15	7																											
15		Structural Steel Fabrication	80 days	Thu 5/21/15	Tue 8/4/15	12																											
16		Bridge Rail Fabrication Bearing Device Fabrication	45 days	Wed 5/6/15	Wed 6/17/15	13																											
17		Bearings Fabrication	30 days	Fri 4/17/15	Fri 5/15/15	14																											
18		Submit Off Site Activities	21 days	Fri 3/6/15	Fri 4/3/15	1																											

Project: Colchester STP Date: Wed 3/25/15	Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
	Split		External Tasks		Inactive Summary		Manual Summary		Critical	
	Milestone		External Milestone		Manual Task		Start-only		Critical Split	
	Summary		Inactive Task		Duration-only		Finish-only		Progress	

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	March			April			May			June			July			August			September			October			November			
							E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	
19		Install Field Office	14 days	Mon 4/6/15	Tue 4/21/15	18																												
20		Begin Construction Activities	0 days	Wed 4/15/15	Wed 4/15/15						4/15																							
21		Perform Building And Dam Inspection	1 day	Wed 4/15/15	Wed 4/15/15	20																												
22		Install Traffic Control Plan	7 days	Thu 4/16/15	Thu 4/23/15	20,8																												
23		Intall EPSC Plan	7 days	Wed 4/15/15	Tue 4/21/15	20																												
24		Clearing And grubbing	2 days	Tue 4/21/15	Thu 4/23/15	23,21,19																												
25		Install Catch Basins and Piping	8 days	Thu 4/23/15	Thu 4/30/15	23,22																												
26		Partial Removal Of Structure, (old Bridge Deck)	10 days	Thu 4/30/15	Sat 5/9/15	25																												
27		Abut 2 Structure Excavation	15 days	Sat 5/9/15	Sat 5/23/15	26																												
28		Abut 2 drill & Grout Dowels	2 days	Sat 5/23/15	Tue 5/26/15	27																												
29		Abut 2 Form Footing	7 days	Sat 5/23/15	Sat 5/30/15	27																												
30		Abut 2 Place Footing Concrete Class C	3 days	Sat 5/30/15	Tue 6/2/15	29																												
31		Abut 2 Place Footing Concrete Class B and cure	7 days	Tue 6/2/15	Tue 6/9/15	30																												
32		Abut 2 Form stem	10 days	Tue 6/9/15	Thu 6/18/15	31																												
33		Abut 2 Place Stem & Wing Wall Concrete	7 days	Thu 6/18/15	Wed 6/24/15	32																												
34		Abut 2 Backfill	3 days	Wed 6/24/15	Sat 6/27/15	33																												
35		Structure Excavation Drainage Headwall	7 days	Thu 4/30/15	Thu 5/7/15	25																												
36		Form Drainage Headwall	10 days	Thu 5/7/15	Sat 5/16/15	35																												
37		Place Headwall Concrete	7 days	Sat 5/16/15	Fri 5/22/15	36																												

Project: Colchester STP Date: Wed 3/25/15	Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
	Split		External Tasks		Inactive Summary		Manual Summary		Critical	
	Milestone		External Milestone		Manual Task		Start-only		Critical Split	
	Summary		Inactive Task		Duration-only		Finish-only		Progress	

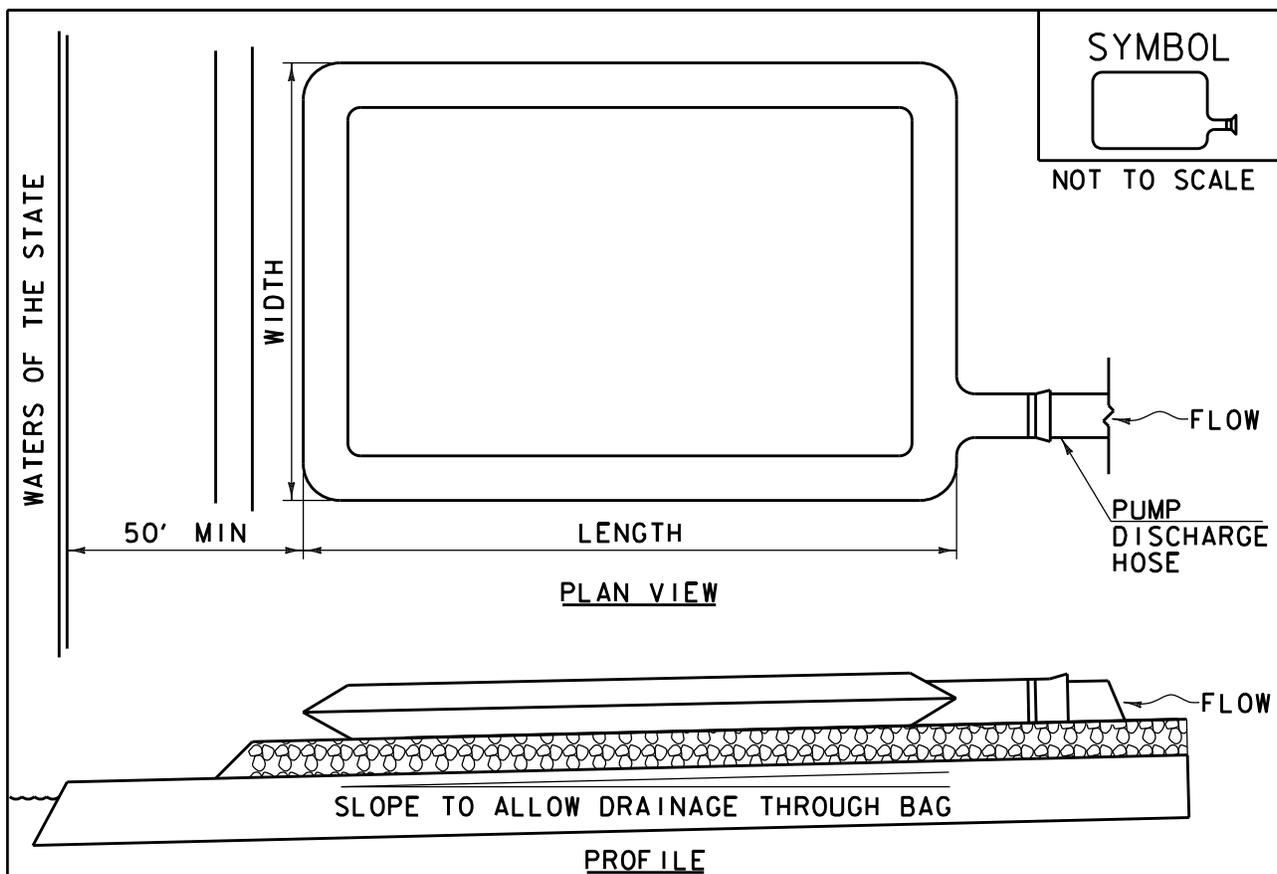
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	March			April			May			June			July			August			September			October			November					
							E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M			
78		Perform Building And Dam Inspection	1 day	Fri 10/23/15	Mon 10/26/15	77,21																														



Project: Colchester STP Date: Wed 3/25/15	Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
	Split		External Tasks		Inactive Summary		Manual Summary		Critical	
	Milestone		External Milestone		Manual Task		Start-only		Critical Split	
	Summary		Inactive Task		Duration-only		Finish-only		Progress	

Project Name: Colchester STP 5600 (12)			Date:		Time Since Last Storm:	
Inspector: Matt Montgomery, VCM			On-Site Coordinator: <small>(signature required)</small>			
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 <i>Authorization to Discharge</i> 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 < 1/2 height of measure						
Diversions						
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.



CONSTRUCTION SPECIFICATIONS

1. THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.
2. FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
3. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION EFFICIENCY.
4. FILTER BAGS SHALL BE LOCATED A MINIMUM OF 50' FROM WATERS OF THE STATE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. THE NECK OF THE FILTER BAG SHALL BE STRAPPED TIGHTLY TO THE DISCHARGE HOSE.
6. A FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A REASONABLE RATE.
7. FILTER BAG SHALL BE DISPOSED OF AS APPROVED IN THE EPSC PLAN OR AS DIRECTED BY THE ENGINEER.

FILTER BAG

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 FILTER BAG (PAY ITEM 653.45) AND AS SPECIFIED IN THE CONTRACT.

REVISIONS

MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF