

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF BRIDGE #5, RELATED CHANNEL WORK AND INCIDENTALS. BRIDGE #5 IS AN EXISTING 84" CORRUGATED METAL PIPE CULVERT, WHICH WILL BE REPLACED WITH A 12' SPAN PRECAST CONCRETE CULVERT TO CONVEY AN UNNAMED TRIBUTARY TO THE LEMON FAIR RIVER BENEATH VT ROUTE 125. BRIDGE #5 IS LOCATED IN THE TOWN OF BRIDPORT ON VT ROUTE 125, 1.6 MILES EAST OF THE JUNCTION WITH VERMONT ROUTE 22A.

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 0.43 ACRES.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF PROJECT SITE IS A LOW LYING WETLAND / MARSHY AREA WITH GRASSY UNDERGROWTH. THE SURROUNDING LAND IS MOSTLY LOW LYING AGRICULTURAL LANDS WITH SOME WOODED AREAS. VT ROUTE 125 AND THE INTERSECTION OF TH-32 PAYNE ROAD ARE WITHIN THE PROJECT SITE. THERE IS A CULVERT BENEATH TH-32 PAYNE ROAD 950' DOWNSTREAM OF BRIDGE #5. THE LOW AREA BETWEEN THE CULVERTS HAS STANDING WATER IN NORMAL CONDITIONS.

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

THE WATER SOURCE ON THE PROJECT SITE IS AN UNNAMED TRIBUTARY TO THE LEMON FAIR RIVER. THE PROJECT IS IN THE OTTER CREEK DRAINAGE BASIN. THE TOTAL CONTRIBUTING DRAINAGE AREA IS 0.76 SQ. MI. DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE COULD RECEIVE RUNOFF FROM THE SURROUNDING SLOPES, ROADWAY DITCHES, AND THE ROADWAY OVERTOP THE CULVERT. THERE ARE CLASS II WETLANDS ON THE NORTH AND SOUTH SIDES OF THE PROJECT. SEE THE PROJECT IMPACTS PLANS.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF GRASSY FARMLAND AND MARSHY AREA. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS RELATED TO THE EXCAVATION REQUIRED FOR THE INSTALLATION OF THE CULVERT, HEADWALLS, WINGWALLS, STONE FILL, AND TEMPORARY ACCESS. UPON PROJECT COMPLETION, THE CHANNEL AND DISTURBED AREAS WITH SLOPES GREATER THAN 2:1 WILL BE ARMORED WITH STONE FILL TYPE II 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 ORLEANS, VERMONT. SOILS ON THE PROJECT SITE ARE LIVINGSTON CLAY, "K FACTOR" = 0.49. THE SOIL IS CONSIDERED HIGHLY ERODIBLE DUE TO K-VALUE.

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: YES, FRESHWATER MUSSELS PRESENT, AOP REQUESTED, INDIANA BAT TERRITORY
HISTORICAL OR ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: YES, FRESHWATER MUSSELS PRESENT, AOP REQUESTED, INDIANA BAT TERRITORY
WATER RESOURCE: UNNAMED TRIBUTARY TO THE LEMON FAIR RIVER
WETLANDS: YES, THERE ARE WETLANDS AT THE INLET AND OUTLET OF THE STRUCTURE. SEE THE PROJECT IMPACTS PLANS.

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. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND SUBMITTING AN EPSC PLAN IN ACCORDANCE WITH SECTION 105 OF THE STANDARD SPECIFICATIONS.

IN ADDITION, THE CONTRACTOR SHALL DESIGN AND IMPLEMENT A TEMPORARY STREAM DIVERSION, INCLUDING EPSC MEASURES IN ACCORDANCE WITH ITEM 900.645, SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM).

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 WILL BE INSTALLED AS SHOWN 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 RELATIVELY FLAT WITH MINIMAL OFF-SITE RUNOFF FLOWING THROUGH THE SITE. THEREFORE 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 EROSION POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

1.4.7 CONSTRUCT PERMANENT CONTROLS

THERE ARE NO PERMANENT STORMWATER TREATMENT DEVICES TO BE INSTALLED WITH 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.

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.

SEDIMENT CONTAINMENT BAGS (FILTER BAGS) FOR HEADWALL WORK WILL BE USED AS NECESSARY AND AS DIRECTED BY THE ENGINEER. SEE SHEET 55 FOR DETAIL.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS.

1.5 SEQUENCE AND STAGING

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

1.5.2 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.



PROJECT NAME: BRIDPORT
PROJECT NUMBER: STP CULV(29)

FILE NAME: zllc264epsc nar_br5.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
EPSC NARRATIVE - ECN 1 - BR5

PLOT DATE: 8/22/2014
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SHEET 52 OF 57