

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF A TRUSS BRIDGE OVER THE MAD RIVER. THE PROJECT IS ON VT 100, A PAVED MINOR ARTERIAL IN THE TOWN OF WARREN. A TWO LANE TEMPORARY BRIDGE WILL BE ERECTED DOWNSTREAM OF THE EXISTING STRUCTURE. ONCE THE TEMPORARY BRIDGE IS IN PLACE, THE EXISTING TRUSS AND ABUTMENTS CAN BE REMOVED. UPON THE COMPLETION OF THE NEW STRUCTURE THE TEMPORARY BRIDGE WILL BE REMOVED. WORK INCLUDING BOTH APPROACHES IS APPROXIMATELY 1,055 FEET. THERE IS A RECREATIONAL PATH UNDER THE BRIDGE IN FRONT OF ABUTMENT 1.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 2.74 ACRES EXCLUDING ANY WASTE, BORROW OR STAGING AREAS.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY CAN BE DESCRIBED AS MODERATELY STEEP OR MOUNTAINOUS WITH ROLLING FIELDS. THE PROJECT AREA CONSISTS OF WELL ESTABLISHED VEGETATION AND MIXED SOFTWOOD AND HARDWOOD FOREST WITH WELL DEFINED DRAINAGE WAYS. THERE ARE THREE EXISTING SIDE ROADS ON THE PROJECT, ONE IS A DRIVE BEFORE THE BRIDGE AT STATION 203+91.65 AND THE OTHER TWO ARE AFTER THE BRIDGE, TH9 AND TH41. THE ONLY BUILDING WITHIN THE PROJECT LIMITS IS A SMALL BUS STOP SHELTER ON TH41 ON THE RIGHT SIDE OF THE ROAD AT APPROXIMATELY STATION 400+80.00. THE ONLY UTILITIES LOCATED WITHIN THE PROJECT ARE AERIAL ELECTRICAL AND TELEPHONE LINES.

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

THE MAD RIVER IS LOCATED IN THE PROJECT AREA. THERE ARE NO OTHER WATER BODIES WITHIN THE PROJECT AREA. THERE ARE CLASS II AND CLASS III WETLANDS LOCATED IN THE PROJECT LIMITS THAT WILL BE MINIMALLY AFFECTED. THE MAD RIVER IS CLASSIFIED AS PERENNIAL, SINUOUS, NOT BRAIDED AND EQUIWIDTH CONTAINING A STREAMBED OF SOME LEDGE WITH SOME BOULDERS, COBBLES AND GRAVEL. DISTURBANCE OF SOILS NEAR NATURAL OR MAN-MADE WATERWAYS CONSISTS OF THAT WHICH IS NECESSARY TO CONSTRUCT TWO NEW CONCRETE BRIDGE ABUTMENTS, RECREATION PATH AND APPLICABLE ROADWAY APPROACHES AS WELL AS REMOVAL OF THE EXISTING CROSSING. STABILIZATION OF DISTURBANCES TO STREAM BANKS WILL BE ACCOMPLISHED WITH STONE FILL, TYPE IV. 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 FROM THE BANK LOCATED ON THE RIGHT SIDE OF THE PROJECT AFTER TH9 INTERSECTS WITH VT 100. THE CURRENT ROADWAY DITCHES ARE NOT WELL DEFINED AND ARE NOT LINED WITH STONE.

1.2.3 VEGETATION

A MIX OF HARDWOOD AND SOFTWOOD TREES OF ALL SIZES EXIST ALONG VT 100. THERE ARE FIELDS ON THE LEFT OF THE PROJECT BEFORE AND AFTER THE BRIDGE WHICH GET FLOODED DURING STORM EVENTS. IMPACTS TO VEGETATION WILL BE LIMITED TO THAT WHICH ARE AFFECTED BY THE CONSTRUCTION OF THE NEW BRIDGE AND THE CONSTRUCTION OF THE DITCH AFTER TH9 ON THE RIGHT SIDE OF VT 100.

UPON PROJECT COMPLETION, TEMPORARY BRIDGE AND ASSOCIATED APPROACHES WILL BE REMOVED THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE IV AS SPECIFIED ON THE PLANS 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 WASHINGTON, VERMONT. ONE SOIL TYPE IDENTIFIED FOR THIS PROJECT SITE IS WAITSFIELD SILT LOAM, 0% TO 3% SLOPES. THE LISTED SOIL ERODIBILITY COEFFICIENT (K-VALUE) FOR THIS SOIL TYPE IS 0.32.

THE SECOND SOIL TYPE IDENTIFIED ON THIS PROJECT IS TUNBRIDGE LYMAN COMPLEX, 35% TO 60% SLOPES. THE LISTED SOIL ERODIBILITY COEFFICIENT (K-VALUE) FOR THIS SOIL TYPE IS 0.20. THE SOIL IS CONSIDERED HIGHLY ERODIBLE DUE TO SIGNIFICANT SLOPES.

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

WATER RESOURCE: MAD RIVER

THE EXISTING TRUSS HAS BEEN IDENTIFIED AS HISTORIC AND WILL BE DOCUMENTED AND THEN REMOVED. THE TRUSS WILL BE REPLACED WITH A PREFABRICATED TRUSS.

CLASS II WETLANDS ARE LOCATED ON THE LEFT SIDE OF THE ROAD AT THE BEGINNING OF THE PROJECT AND ALONG THE LEFT BANK OF THE MAD RIVER. APPLICABLE PERMITS ARE INCLUDED IN THE CONTRACT DOCUMENTS

ARCHEOLOGICALLY SENSITIVE AREAS HAVE BEEN TESTED AND CLEARED AND ARE NOTED ON THE PLANS.

PRIME AGRICULTURAL LAND HAS BEEN IDENTIFIED WITHIN THE PROJECT AREA; EVERY ATTEMPT SHALL BE MADE TO MINIMIZE OR ELIMINATE ANY IMPACTS WITHIN THE PROJECT AREA.

CRITICAL HABITATS: NO

NO THREATENED AND ENDANGERED SPECIES HAVE BEEN IDENTIFIED WITHIN THIS PROJECT AREA.

1.3 RISK EVALUATION

THIS PROJECT FALLS UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES FOR LOW RISK PROJECTS. ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. 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, BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, BARRIER FENCE SHALL BE USED INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 100 FEET OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC).

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 PROPOSED ON THE EPSC PLAN. BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, WOVEN WIRE REINFORCED SILT FENCE SHALL BE USED INSTEAD OF SILT FENCE WITHIN 100 FEET UPSLOPE OF RECEIVING WATERS.

FILTER CURTAIN WILL BE INSTALLED SURROUNDING THE SUBSTRUCTURE CONSTRUCTION AREAS TO CONTAIN SEDIMENT.

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 SHOWN ON THE EPSC PLANS AND AS DIRECTED BY THE ENGINEER.

1.4.7 CONSTRUCT PERMANENT CONTROLS

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

PERMANENT CONTROLS CONSIST OF A STONE LINED SWALE AND A GRASS LINED SWALE.

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.

TREATMENT OF DEWATERING COFFERDAM 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 CONSTRUCTION SEQUENCE

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.

1.5.3 UPDATES

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EROSION CONTROL PLAN

PROJECT NAME:	WARREN
PROJECT NUMBER:	BRF 013-4 (14)
FILE NAME:	s78f242er0n0rr.dgn
PROJECT LEADER:	J. LACROIX
DESIGNED BY:	U. STANLEY
EPSC NARRATIVE SHEET	
PLOT DATE:	27-JUL-2012
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CHECKED BY:	EVANS-MONGEON
SHEET	27 OF 83

