

## EPSC PLAN NARRATIVE

### 1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REMOVAL AND REPLACEMENT OF THE EXISTING CONCRETE SUPERSTRUCTURE AND ABUTMENTS WITH RELATED APPROACH AND CHANNEL WORK. DURING CONSTRUCTION TRAFFIC WILL BE MAINTAINED ON AN OFF-SITE DETOUR. THIS PROJECT IS LOCATED ON VT 73, OVER CORPORATION BROOK, APPROXIMATELY 2.5 MILES WEST OF THE INTERSECTION OF VT 73 AND VT 100 IN THE TOWN OF ROCHESTER. THE EXISTING BRIDGE IS APPROXIMATELY 28 FEET LONG AND HAS A 23.5 FOOT WIDE CONCRETE DECK. THE EXISTING SUBSTRUCTURE CONSISTS OF CAST-IN-PLACE CONCRETE ABUTMENTS ON SPREAD FOOTINGS.

THE BRIDGE REPLACEMENT INCLUDES THE REMOVAL OF THE EXISTING STRUCTURE IN ITS ENTIRETY AND THE CONSTRUCTION OF A NEW 62'-5" SINGLE SPAN BRIDGE WITH PRECAST PRESTRESSED CONCRETE NEXT BEAMS TO CREATE A NEW BRIDGE WIDTH OF 31'-2". NEW INTEGRAL ABUTMENTS, EACH ON A SINGLE ROW OF PILES, WILL BE PRECAST AND ASSOCIATED APPROACH AND WORK INCLUDES PRECAST BRIDGE APPROACH SLABS AND NEW GUARDRAIL.

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 0.50 ACRES.

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

### 1.2 SITE INVENTORY

#### 1.2.1 TOPOGRAPHY

THE PROJECT AREA IS LOCATED IN A RURAL AREA WITH SCATTERED RESIDENTIAL DEVELOPMENT, WITH HOUSES ADJACENT TO VT 73 ON THE NORTHEAST AND SOUTHWEST CORNERS OF THE BRIDGE. ALL OF THE HOUSES IN THE AREA OF THE BRIDGE ARE HISTORIC. CORPORATION BROOK HAS BANK SLUMPING DUE TO FLOODING RELATED TO THE LATE AUGUST 2011 TROPICAL STORM IRENE.

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

CORPORATION BROOK ORIGINATES ON THE EASTERN SLOPES OF THE GREEN MOUNTAINS IN THE TOWN OF PITTSFIELD, VT. THE BROOK GENERALLY FLOWS IN A NORTHEAST DIRECTION TO ROCHESTER WHERE IT TURNS TO THE NORTHEAST AND FOLLOWS CORPORATION BROOK ROAD (TH 40) BEFORE TURNING NORTHEAST PRIOR TO ITS CONFLUENCE WITH THE WEST BRANCH OF THE WHITE RIVER. AT THE BRIDGE LOCATION, THE BROOK CROSSES VT 73 (STREAM GRADIENT OF 4.5%) AND FLOWS INTO THE WHITE RIVER APPROXIMATELY 780 FEET DOWNSTREAM. THE SUBSTRATE OF CORPORATION BROOK IS LARGE BOULDER AND COBBLE MATERIAL. THE PROJECT AREA IS LOCATED WITHIN A FEMA SPECIAL FLOOD HAZARD AREA.

#### 1.2.3 VEGETATION

THE PROJECT AREA IS RURAL WITH SOME TREES GROWING BETWEEN RIPRAP ON THE BROOK'S BANKS. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING 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 WINDSOR, VERMONT. SOILS ON THE PROJECT SITE ARE COLTON, FINE SANDY LOAM, 8% TO 15% SLOPES, "K FACTOR" = 0.24. THE SOIL IS CONSIDERED MODERATELY ERODIBLE DUE TO NORMAL 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

CRITICAL HABITATS: NO  
HISTORICAL OR ARCHEOLOGICAL AREAS: YES. HISTORIC PROPERTIES ARE ADJACENT TO THE PROJECT AREA.  
PRIME AGRICULTURAL LAND: YES. ALL OF THE SOILS WITHIN THE PROJECT AREA ARE CONSIDERED STATEWIDE SIGNIFICANT. NO IMPACT IS ANTICIPATED.  
THREATENED AND ENDANGERED SPECIES: NO  
WATER RESOURCE: CORPORATION 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. BARRIER FENCE SHALL BE USED ADJACENT TO HISTORIC PROPERTIES.

#### 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.

WOVEN WIRE SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

FILTER CURTAIN WILL BE INSTALLED WHERE WORK MUST TAKE PLACE WITHIN THE LIMITS OF THE CORPORATION BROOK 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 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.

PERMANENT EROSION CONTROL STRUCTURES ARE NOT 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.

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 NOT ANTICIPATED.

#### 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.



PROJECT NAME:	ROCHESTER
PROJECT NUMBER:	BRF 0162(I7)
FILE NAME:	z85E035EPSC_Narrative.dgn
PROJECT LEADER:	G.S. GOODRICH
DESIGNED BY:	E.A. FIALA
BR 16 EPSC NARRATIVE	
PLOT DATE:	8/19/2013
DRAWN BY:	E.A. FIALA
CHECKED BY:	B.O. CRONIN
SHEET	166 OF 238