

## EPSC PLAN NARRATIVE

### 1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF THE EXISTING BRIDGE. A NEW STEEL GIRDER BRIDGE WILL BE CONSTRUCTED ALONG THE SAME ALIGNMENT AS THE EXISTING ON NEW INTEGRAL PILE ABUTMENTS. THE SPAN OF THE NEW BRIDGE WILL BE 103 FT. THE PROJECT SITE IS LOCATED IN THE TOWN OF ST. JOHNSBURY, ON US ROUTE 2, APPROXIMATELY 0.6 MILES EAST OF THE INTERSECTION OF US ROUTE 2 AND VT ROUTE 18.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 1.49 ACRES.

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.

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 HILLY TO MOUNTAINOUS, MOSTLY FORESTED WITH SOME OPEN AREAS SURROUNDING THE PROJECT SITE. THERE ARE AREAS OF VEGETATION ALONG THE BANKS OF THE MOOSE RIVER. US ROUTE 2 IS THE ONLY ROAD WITHIN THE SITE. THERE IS A COMMERCIAL BUSINESS IMMEDIATELY NORTHEAST OF THE PROJECT SITE.

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

THE MOOSE RIVER IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THIS WATERWAY IS CLASSIFIED AS SINUOUS TO MEANDERING, INCISED AND STABLE. THE NATURE OF THE STREAM BED IS CHARACTERIZED AS MOSTLY COBBLES WITH SOME GRAVEL, SAND, AND A FEW BOULDERS. THE TRIBUTARY AREA AT THE PROJECT SITE IS 116.9 MILES<sup>2</sup>. A CLASS II WETLAND EXISTS TO THE NORTHEAST OF THE EXISTING STRUCTURE.

THERE ARE SEVERAL DROP INLETS NEAR THE PROJECT THAT DRAIN INTO THE MOOSE RIVER. DISTURBANCE IN THE VICINITY OF THESE DRAINS IS EXPECTED TO BE MINIMAL AND DOWNSLOPE.

#### 1.2.3 VEGETATION

THE VEGETATION IN THE IMMEDIATE PROJECT AREA CONSISTS OF SMALL HARDWOOD TREES AND UNDERGROWTH. THERE ARE OPEN FIELDS USED FOR HAY PRODUCTION IN AREAS AWAY FROM THE PROJECT AREA.

THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY THE CONSTRUCTION PROJECT. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE III 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 CALEDONIA, VERMONT. SOILS ON THE SITE ARE PODUNK AND BUCKLAND, FINE SANDY LOAM. AT THE PROJECT SITE, NEAR THE RIVER, PODUNK SOILS SLOPE AT 0% TO 2%, WITH A "K FACTOR" = 0.24. THE BUCKLAND SOILS OCCUR SLIGHTLY FURTHER AWAY FROM THE RIVER AND CAN SLOPE FROM 8% TO 35%, WITH "K FACTOR" = 0.32. ATTENTION TO EROSION POTENTIAL MAY BE A BIGGER CONSIDERATION IN THE VICINITY OF THE TEMPORARY BRIDGE.

**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: ALTHOUGH THERE ARE NO PROTECTED HABITATS IN THE PROJECT AREA, THE MOOSE RIVER CONTAINS COLD WATER FISHERIES.

HISTORICAL OR ARCHAEOLOGICAL AREAS: ARCHAEOLOGICALLY SENSITIVE AREAS HAVE BEEN DELINEATED ON THE PLANS.

PRIME AGRICULTURAL LAND: THE AREA TO THE SOUTHEAST OF THE PROJECT IS CURRENTLY USED FOR HAY PRODUCTION.

THREATENED AND ENDANGERED SPECIES: A STATE-LISTED THREATENED SPECIES (EASTERN PEARLSHELL MUSSEL) IS KNOWN TO INHABIT THE RIVER NEAR THE PROJECT SITE.

WATER RESOURCE: MOOSE RIVER

WETLANDS: A CLASS II WETLAND EXISTS TO THE NORTHEAST OF THE EXISTING STRUCTURE.

### 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 THAT 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. 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 FABRIC DROP INLET PROTECTION SHALL BE INSTALLED AS INDICATED.

FILTER CURTAIN SHALL BE INSTALLED TO MINIMIZE SEDIMENT TRANSPORT IN THE MOOSE RIVER.

#### 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.

RUNOFF FROM ABOVE THE DISTURBED AREAS IS NOT EXPECTED TO ENTER THE PROJECT SITE; THEREFORE, DIVERSION OF UPLAND RUNOFF IS NOT EXPECTED TO BE NEEDED.

#### 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.

CHANNELIZED RUNOFF MAY OR MAY NOT OCCUR. METHODS OF STABILIZATION OF CHANNELS INCLUDE STONE CHECK DAMS, FIBER ROLLS, AND SAND BAGS.

#### 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 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.

DEWATERING ACTIVITIES ARE 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: ST. JOHNSBURY  
PROJECT NUMBER: BRF 028-4(25)S

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