

## **EPSC PLAN NARRATIVE**

### **1.1 PROJECT DESCRIPTION**

THIS PROJECT INVOLVES COLD PLANING THE EXISTING ROADWAY TO A DEPTH OF 2 INCHES, APPLYING A 1/2 INCH BITUMINOUS PAVEMENT SHIM, AND PAVING A 1 1/2 INCH WEARING COURSE. THE WORK ALSO INCLUDES STONE SLOPE WORK ALONG AN UNNAMED STREAM, INSTALLING NEW DRAINAGE STRUCTURES, SLOPE RESTORATION, AND DRAINAGE DITCH IMPROVEMENTS. THE PROJECT IS LOCATED IN THE TOWN OF PLYMOUTH, ON VT ROUTE 100A, APPROXIMATELY 400 FEET EAST OF THE INTERSECTION OF VT 100A AND VT 100.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE AND PAVEMENT DISTURBANCE WITHIN THE PROJECT AREA AS SHOWN ON THE ATTACHED EPSC PLAN. TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 1.55 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL BE COMPLETED IN TWO CONSTRUCTION SEASONS.

### **1.2 SITE INVENTORY**

#### **1.2.1 TOPOGRAPHY**

THE TOPOGRAPHY OF THE AREA IS VERY HILLY WITH STEEP VEGETATED SLOPES, FORESTED UPLANDS, AND OCCASIONAL LEDGE OUTCROPS. ROADWAY SIDE SLOPES CONSIST OF VEGETATED UNDERGROWTH, EXISTING STONE SLOPE ADJACENT TO THE UNNAMED STREAM, AND EXPOSED LEDGE FACES.

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

THE UNNAMED STREAM IS THE ONLY MAJOR WATERBODY ON THE PROJECT SITE. THE UNNAMED STREAM WOULD BE CLASSIFIED AS STEEP, WITH A NARROW, STONE OR LEDGE LINED CHANNEL. THE STREAM BED CONSISTS OF GRAVEL, ROCK AND LEDGE.

#### **1.2.3 VEGETATION**

THE VEGETATION IN THE PROJECT AREA CONSISTS OF MIXED HARDWOOD AND SOFTWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY RESTORATION OF THE SLOPE FAILURE AREAS, LEDGE REMOVAL AREAS, AND SIDE SLOPE RESTORATION WITHIN THE PROJECT LIMITS. UPON PROJECT COMPLETION, THE CHANNEL SIDE SLOPES ADJACENT TO THE UNNAMED STREAM WILL BE ARMORED WITH STONE FILL TYPE II AS SPECIFIED ON THE PLANS. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES. CLEARING SHALL BE KEPT TO A MINIMUM.

#### **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: LYMAN ROCK OUTCROP COMPLEX, VERY STONY, 35% TO 70% SLOPES, "K FACTOR" = 0.32. THIS SOIL IS CONSIDERED HIGHLY ERODIBLE, MARLOW FINE SANDY LOAM, 35% TO 70% SLOPES, "K FACTOR" = 0.20. THIS SOIL IS CONSIDERED HIGHLY ERODIBLE, TURNBRIDGE LYMAN COMPLEX, 15% TO 35% SLOPES, "K FACTOR" = 0.20. THIS SOIL IS CONSIDERED HIGHLY ERODIBLE, COLTON FINE SANDY LOAM, 3% TO 8% SLOPES, "K FACTOR" = 0.15. THIS SOIL IS CONSIDERED POTENTIALLY HIGHLY ERODIBLE.

#### **1.2.5 SENSITIVE RESOURCE AREAS**

CRITICAL HABITATS: NO  
HISTORICAL OR ARCHEOLOGICAL AREAS: NO  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: POSSIBILITY OF GREEN SPLEENWORT ON LEDGE FACE THAT WILL NEED TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION BY VTRANS.  
WATER RESOURCE: UNNAMED STREAM  
WETLANDS: NO

### **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 PLACED 5 FEET FROM THE TOE OF SLOPE TO PHYSICALLY MARK SITE BOUNDARIES. PDF CAN BE LOCATED CLOSER TO THE PROPOSED SLOPE LIMITS IN SENSITIVE AREAS OR AS DIRECTED BY THE ENGINEER. PDF SHALL BE INSTALLED PRIOR TO THE BEGINNING OF ANY EARTHWORK ON THE PROJECT.

#### **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 CONSTRUCTION CHANGES.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHENEVER 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.

FOR THIS PROJECT IT IS ASSUMED THAT MOST OF THE WORK OUTSIDE THE PAVED SURFACE CAN BE COMPLETED WITHOUT EQUIPMENT LEAVING THE PAVED SURFACES. FOR OTHER WORK LOCATED ALONG THE STREAM CHANNEL, THE EQUIPMENT WILL NEED TO CROSS AN EXISTING STONE SLOPE WHICH WILL ACT AS A STABILIZED CONSTRUCTION ACCESS IN THOSE AREAS.

#### **1.4.4 INSTALL SEDIMENT BARRIERS**

SEDIMENT BARRIERS (EROSION LOGS) SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE EARTHWORK IN ACCORDANCE WITH THE EROSION PREVENTION AND CONTROL PLANS.

EROSION LOGS WILL BE INSTALLED AT THE TOE OF SLOPE AS PROPOSED ON THE EPSC PLAN.

AT LOCATIONS WHERE CONSTRUCTION IS IN OR NEAR WATERCOURSES OF THE STATE OF VERMONT, THE CONTRACTOR SHALL INSTALL EROSION LOGS ALONG THE TOE OF SLOPE DIRECTLY ADJACENT TO THE WATERCOURSE OR AS SHOWN ON THE PLANS AND PER THE SPECIFICATIONS. THE CONTRACTOR SHALL REMOVE THE LEDGE BY MECHANICAL MEANS WITHOUT BLASTING. PRIOR TO BEGINNING ANY WORK ADJACENT TO THE STREAM OR LEDGE REMOVAL THE CONTRACTOR SHALL INSTALL PREFABRICATED CHECK DAMS IMMEDIATELY DOWNSTREAM OF THE PROPOSED WORK AREA TO REDUCE SEDIMENT TRANSFER. IT IS ANTICIPATED THAT DURING LEDGE REMOVAL THE CONTRACTOR WILL BREAK THE LEDGE AND LET IT DROP INTO THE STREAM CHANNEL. THE LEDGE ROCK DROPPED INTO THE CHANNEL SHALL BE REMOVED AT THE END OF EACH WORK DAY OR AS DIRECTED BY THE ENGINEER. IN ADDITION, ANY SEDIMENT COLLECTED IN FRONT OF THE PREFABRICATED CHECK DAMS SHALL BE REMOVED AT THE END OF EACH WORK DAY OR MORE FREQUENTLY IF SEDIMENT BUILDS UP AS DIRECTED BY THE ENGINEER. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD FOR CONTAINING AND REMOVING SEDIMENT FROM THE WATERCOURSE, THE CONTRACTOR SHALL SUBMIT THE ALTERNATE METHOD TO THE ENGINEER FOR APPROVAL AT LEAST 14 DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING.

#### **1.4.5 DIVERT UPLAND RUNOFF**

THE PROJECT AREA HAS STEEP SLOPES ADJACENT TO THE PROPOSED DITCHLINE WORK AND SLOPE RESTORATION AREAS THAT MAY MAKE THE CONSTRUCTION OF DIVERSION STRUCTURES DIFFICULT. THEREFORE ALTERNATE SEDIMENT CONTROL MEASURES INCLUDING INLET PROTECTION, EROSION LOGS ALONG THE BOTTOM OF THE SLOPE RESTORATION AREAS AND DITCHLINE CHECK DAMS WILL BE USED TO LIMIT SEDIMENT TRANSPORT WHERE 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.

TEMPORARY STONE CHECK DAMS, TYPE I WILL BE INSTALLED WITHIN THE PROPOSED CHANNEL AS SHOWN ON THE EPSC PLAN, AT A MINIMUM.

#### **1.4.7 CONSTRUCT PERMANENT CONTROLS**

PERMANENT STORMWATER TREATMENT DEVICES, SUCH AS STONE SLOPES, SHALL BE INSTALLED AS SHOWN ON THE PLANS.

#### **1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION**

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE.

TEMPORARY MULCHING SHALL BE UTILIZED ON A REGULAR BASIS ON EXPOSED SOIL AREAS.

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. SEEDING AND MULCHING SHALL BE USED TO STABILIZE SOIL. SEE THE EROSION CONTROL DETAILS FOR SEED TYPES AND APPLICATION RATES.

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 MATERIAL REMOVED FROM BEHIND PREFABRICATED CHECK DAMS IN THE WATERCOURSE SHALL BE TREATED THE SAME WAY AS DISCHARGE FROM DEWATERING ACTIVITIES AND MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

#### **1.4.12 INSPECT YOUR SITE**

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR AFTER ANY RAINFALL EVENT THAT RESULTS IN DISCHARGE FROM THE SITE.

### **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 OFFSITE ACTIVITIES**

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS INCLUDING, BUT NOT LIMITED TO, STAGING AREAS SHALL FOLLOW SUBSECTIONS 105.25-105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.



PROJECT NAME: PLYMOUTH  
PROJECT NUMBER: ER 0149(6)

FILE NAME: z13C318ero\_nar.dgn  
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PLOT DATE: 5/17/2016  
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