# EPSC PLAN NARRATIVE

## PROJECT DESCRIPTION:

1. THIS PROJECT INVOLVES GRADING, DRAINAGE, SUBBASE AND PAVEMENT FOR THE REHABILITATION AND ENHANCEMENT OF A PORTION OF US ROUTE 2 IN THE TOWN OF DANVILLE, GENERALLY ALONG EXISTING ALIGNMENT. THE PROJECT BEGINS APPROXIMATELY 6.518 KILOMETERS EAST OF THE CABOT-DANVILLE TOWN LINE AND EXTENDS EASTERLY APPROXIMATELY 1.145 KILOMETERS.

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.

2. TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 6.0 HECTARE (14.9 ACRES).

3. IT IS ANTICIPATED THAT THIS PROJECT WILL BE SUBSTANTIALLY COMPLETE WITHIN TWO CONSTRUCTION SEASONS, WITH PLANTING OF TREES AND SHRUBS IN THE SPRING OF THE THIRD CONSTRUCTION SEASON.

## SITE INVENTORY:

4. TOPOGRAPHY: EXISTING AND PROPOSED ROLLING GRADES ALONG THIS SECTION OF US ROUTE 2 VARY FROM 0% TO 10%. THE CENTER OF TOWN, VILLAGE GREEN AND SURROUNDING STREETS ARE GENERALLY FLAT WITH THE EASTERLY AND WESTERLY APPROACHES TO TOWN (US ROUTE 2) STEEPER. THERE ARE MANY COMMERCIAL AND RESIDENTIAL BUILDINGS WITHIN THE PROJECT LIMITS THAT ARE TYPICAL OF AN URBAN SETTING. THE CENTER OF TOWN CONSISTS OF MOSTLY IMPERVIOUS AREAS (BUILDINGS, PARKING LOTS, PAVED AND GRAVEL DRIVEWAYS) WHILE THE APPROACHES ARE MAINLY LAWN AND GRASSY AREAS WITH ROADSIDE DITCHES.

5. DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES: THE INITIAL 200 METERS OF THE PROJECT DRAINS WESTERLY THROUGH A SERIES OF STONE-LINED DITCHES, UNDERGROUND STORM DRAIN SYSTEM, VEGETATED SWALES AND OFF PROJECT INTO EXISTING STONE DITCHES THAT FLOW INTO A SWAMPY AREA IMMEDIATELY SOUTHWEST OF THE PROJECT. THE REMAINING PROJECT DRAINS TO THE EAST THROUGH UNDERGROUND STORM DRAIN CONDUITS, ROADSIDE DITCHES AND VEGETATED SWALES. THE STORMWATER EVENTUALLY EMPTIES INTO A PROPOSED WET POND AT THE SOUTHEAST PROJECT LIMIT. THE WET POND DRAINS THROUGH AN OUTLET STRUCTURE (CONTROLLING THE RATE OF RUNOFF), INTO A VEGETATED SWALE AND OUTLETTING INTO AN EXISTING UN-NAMED TRIBUTARY TO THE WATER ANDRIC.

AN EXISTING DRAINAGE SYSTEM AT APPROXIMATE STATION 19+420 CONVEYS OFFSITE RUNOFF FROM THE NORTH OF THE PROJECT TO THE SOUTH. THIS DRAINAGE PATTERN WILL BE HONORED AND THE PROJECT RUNOFF WILL NOT BE ALLOWED TO COMINGLE WITH THE CLEAN WATER.

6. VEGETATION: THE VEGETATION IN THE PROJECT AREA CONSISTS OF LAWNS, SHRUBS, GRASSLANDS AND ROADSIDE TREES. THE IMPACT TO VEGETATION WILL BE FROM GRADING OPERATIONS AND THE ADDITION OF IMPERVIOUS AREAS SUCH AS SIDEWALK, PARKING AND ROAD WIDENING. MOST OF THE DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES WITH SOME DISTURBED AREAS RECEIVING LANDSCAPING ENHANCEMENTS. ROADSIDE TREES ARE PROPOSED FOR THE LENGTH OF THE PROJECT AS WELL.

7. SOILS: ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF CALEDONIA, VERMONT. SOILS ON THE PROJECT SITE ARE VERSHIRE-LOMBARD COMPLEX ("K" FACTOR = 0.37), PEACHAM MUCK ("K" FACTOR = 0.37), CABOT SILT LOAM ("K" FACTOR = 0.32), AND BUCKLAND FINE SANDY LOAM ("K" FACTOR = 0.32). ALL SOILS ARE MODERATELY TO HIGHLY ERODIBLE.

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

8. SENSITIVE RESOURCE AREAS:

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: WATER ANDRIC
WETLANDS: THERE ARE TWO AREAS OF CLASS III WETLANDS PRESENT ON THE PROJECT, ONE AT APPROXIMATE STATION 18+580 RT AND THE OTHER AT APPROXIMATE STATION 19+965 RT. DISTURBANCE TO THE WETLANDS INVOLVE GRADING ACTIVITIES AND THE IMPACT IS MITIGATED AS DESCRIBED IN THE CONSTRUCTION GENERAL PERMIT.

## RISK EVALUATION:

9. THIS PROJECT FALLS UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES AS A MODERATE RISK PROJECT. THIS PROJECT REQUIRES A SITE-SPECIFIC EPSC PLAN AND MUST CONFORM TO "THE VERMONT STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION AND SEDIMENT CONTROL". 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.

## EROSION PREVENTION AND SEDIMENT CONTROL:

10. 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.

11. 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 INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 30 METERS OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC) AS SHOWN ON THE PLANS.

12. SEDIMENT BASINS, SEDIMENT TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

13. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME, OR SLOPE DRAIN STRUCTURE.

14. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.

15. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND THE RECEIVING CHANNEL.

16. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:

A. NO MORE THAN 150 METERS OF TRENCH MAY BE OPENED AT ONE TIME.

B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.

17. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED. GROUND DISTURBANCE RESULTING FROM THIS REMOVAL SHALL BE STABILIZED IMMEDIATELY.

18. SEDIMENT BUILDUP SHALL BE REMOVED IN WATER CONVEYANCES, INCLUDING GRASSED DITCHES AND PIPES, AND AREAS USED FOR TEMPORARY SEDIMENT TRAPS. ALL SEDIMENT REMOVED SHALL BE DISPOSED OF IN AN AREA AS DESCRIBED IN NOTE #19.

19. ALL SEDIMENT REMOVED FROM SEDIMENT CONTROL PRACTICES AS A PART OF MAINTENANCE SHALL BE DISPOSED OF IN AN AREA THAT IS:

A. LESS THAN 5% IN SLOPE.

B. AT LEAST 30 METERS FROM ANY DOWNSLOPE WATER BODY OR CONVEYANCE TO A WATER BODY (INCLUDING STORM DRAIN INLET OR DITCH).

C. VEGETATED.

PERMANENT STABILIZATION OF SEDIMENT SHALL BE IMMEDIATELY IMPLEMENTED FOLLOWING DISPOSAL. GROUND DISTURBANCE RESULTING FROM REMOVAL OF SEDIMENT SHALL BE STABILIZED IMMEDIATELY.

20. FOR ANY AREA TO BE STABILIZED FOR WINTER BY VEGETATIVE COVER, SEEDING MUST BE COMPLETED NO LATER THAN SEPTEMBER 15.

21. ANY AREA TO BE STABILIZED FOR WINTER THAT DOES NOT HAVE ESTABLISHED VEGETATION BY OCTOBER 15 MUST BE STABILIZED BY ANCHORED MULCH AT THE WINTER APPLICATION RATE, OR OTHER APPROVED STABILIZATION MEASURES (E.G. ROLLED EROSION CONTROL PRODUCT). DORMANT SEEDING (E.G. WITH WINTER RYE) IS RECOMMENDED.

22. DISTURBED AREAS BORDERING AND DRAINING TO ROADS MUST HAVE AN APPROPRIATE SEDIMENT BARRIER SPANNING THE EDGE OF THE DISTURBANCE TO PREVENT WASHING OF SEDIMENT ONTO ROADWAYS OR INTO ROAD DITCHES. THE FOLLOWING EXCEPTIONS APPLY:

A. STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECAST FOR THE NEXT 24 HOURS.

B. STABILIZATION IS NOT REQUIRED IF THE WORK IS OCCURRING IN A SELF-CONTAINED EXCAVATION (I.E. NO OUTLET) WITH A DEPTH OF 0.6 METERS OR GREATER (E.G. HOUSE FOUNDATION EXCAVATION, UTILITY TRENCHES).

23. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. EXCEPT AS NOTED BELOW, ALL SITES SHALL BE SEEDED AND STABILIZED WITH EROSION CONTROL MATERIALS, SUCH AS MULCH OR ROLLED EROSION CONTROL PRODUCTS, INCLUDING AREAS WHERE CONSTRUCTION HAS BEEN SUSPENDED OR SECTIONS COMPLETED:

A. ON THE CUT SIDE OF ROADS, DITCHES SHALL BE STABILIZED IMMEDIATELY WITH ROCK RIP-RAP OR OTHER NON-ERODIBLE LINES (E.G. RECP), OR WHERE APPROPRIATE, VEGETATIVE MEASURES SUCH AS SOD.

B. FOR ACTIVE CONSTRUCTION AREAS SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS AND AREAS WITHIN 15 METERS. OF A BUILDING UNDER CONSTRUCTION, A PERIMETER SEDIMENT CONTROL SYSTEM CONSISTING, FOR EXAMPLE, OF SILT FENCING, SHALL BE INSTALLED AND MAINTAINED TO CONTAIN SOIL. EXPOSED DISTURBED AREAS ADJACENT TO A CONVEYANCE THAT PROVIDES RAPID OFFSITE DISCHARGE OF SEDIMENT, SUCH AS A CUT SLOPE AT AN ENTRANCE, SHALL BE COVERED WITH PLASTIC OR GEOTEXTILE TO PREVENT SOIL LOSS UNTIL IT CAN BE STABILIZED. STABILIZED CONSTRUCTION ENTRANCES WILL BE MAINTAINED TO CONTROL VEHICLE TRACKING MATERIAL OFF SITE.

C. PERMANENT SEEDING SHALL ONLY BE UNDERTAKEN IN THE SPRING FROM APRIL THROUGH MAY, AND IN LATE SUMMER AND EARLY FALL UNTIL SEPTEMBER 15, EXCEPT THAT PERMANENT SEEDING MAY BE UNDERTAKEN DURING THE SUMMER IF PLANS PROVIDE FOR ADEQUATE WATERING. DURING THE PEAK SUMMER MONTHS AND IN THE FALL AFTER SEPTEMBER 15, WHEN SEEDING IS FOUND TO BE IMPRACTICABLE, AN APPROPRIATE TEMPORARY STABILIZATION SHALL BE SPECIFIED.

D. TEMPORARY SEDIMENT TRAPPING DEVICES SHALL NOT BE REMOVED UNTIL PERMANENT STABILIZATION IS ESTABLISHED IN ALL CONTRIBUTORY DRAINAGE AREAS. SIMILARLY, STABILIZATION SHALL BE ESTABLISHED PRIOR TO CONVERTING SEDIMENT TRAPS/BASINS INTO PERMANENT (POST-CONSTRUCTION) STORMWATER MANAGEMENT PRACTICES.

E. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSION IMMEDIATELY AFTER INSTALLATION.

F. ALL SLOPES STEEPER THAN 3:1 (H:V), OR 33.3%, AS WELL AS PERIMETER DIKES, SEDIMENT BASIN OR TRAPS, AND EMBANKMENTS SHALL, UPON COMPLETION, BE IMMEDIATELY STABILIZED WITH SOD, SEED AND ANCHORED HAY MULCH, OR OTHER APPROVED STABILIZATION MEASURES (RECP). AREAS OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM SHALL NOT BE DISTURBED.

G. ALL STABILIZED SLOPES, WATER CONVEYANCES AND OTHER AREAS SHALL BE INSPECTED AND APPROVED BY THE ENGINEER AND IN ACCORDANCE WITH THE TERMS OF THE AUTHORIZATION TO DISCHARGE ISSUED BY THE VERMONT AGENCY OF NATURAL RESOURCES.

24. IN ADVANCE OF A PREDICTED RAINFALL OR SNOWMELT EVENT, ALL MANAGEMENT PRACTICES APPROPRIATE TO CURRENT AREAS OF DISTURBANCE MUST BE CHECKED AND REPAIRED AS NECESSARY TO ENSURE PROPER OPERATING CONDITION. IF NECESSARY TO PREVENT SEDIMENT DISCHARGE FROM THE CONSTRUCTION SITE TO WATERS OF THE STATE, THIS WILL INCLUDE THE TEMPORARY STABILIZATION OF ALL DISTURBED SOILS ON THE SITE IN ADVANCE OF THE ANTICIPATED RUNOFF PERIOD.

25. THE CONTRACTOR SHALL PERMANENTLY STABILIZE ALL REQUIRED AREAS WITH TOPSOIL AND SEEDING IMMEDIATELY UPON FINAL GRADING.

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