EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF TWO SEPARATE SITES LOCATED ON VT ROUTE 108 IN THE TOWN OF FLETCHER. WORK TO BE PERFORMED ON THIS PROJECT INCLUDES THE RECONSTRUCTION OF THE EXISTING ROADWAY AND ROADWAY EMBANKMENT TO REPAIR SLOPE FAILURE. THE PROJECT WILL ALSO INCLUDE THE UPGRADE OF AN EXISTING 24" CULVERT TO A 42" CULVERT.

NOTE: AREA OF DISTURBANCE SHALL INCLUDE LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, INCLUDING ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS.

TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 0.70 ACRES.

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)

BOTH SITES SLOPE FROM EAST TO WEST AT GRADES RANGING FROM 8-50%. VEGETATION CONSISTS OF GRASS AND SCRUB BRUSH. THE SITE 2 RECEIVES OFFSITE RUNOFF FROM ROUGHLY 32 ACRES OF FOREST. STORM WATER RUNOFF FROM THE PROJECT WILL FLOW IN A WESTERLY DIRECTION ACROSS A NATURALLY VEGETATED AREA INTO BLACK CREEK. THE EXISTING 24" CULVERT ON THE NORTH END OF THE PROJECT IS TO BE UPDGRADED TO A 42" CULVERT AND DRAINS MOSTLY OFFSITE FLOW UNDER ROUTE 108.

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

BLACK CREEK IS LOCATED APPROXIMATELY 800' WEST OF THE PROJECT, FLOWS NORTH TO SOUTH AND SERVES AS A TRIBUTARY TO THE MISSISQUOI RIVER. THE MISSISQUOI RIVER IS LOCATED APPROXIMATELY 15 MILES NORTH OF THE SITE.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

SITE 1: VT ROUTE 108 IN THE AREA OF SITE 1 HAS A GRADE OF 2.4%. THERE ARE NO EXISTING SIDEROADS, BUILDINGS OR UTILITIES IN THE AREA OF SITE 1.

SITE 2: VT ROUTE 108 IN THE AREA OF SITE 2 HAS A GRADE OF 1.7%. IMMEDIATELY TO THE NORTH OF THE PROJECT ON THE WEST SIDE OF ROUTE 108 IS JORDAN ROAD A GRAVEL TOWN ROAD.
ON THE EAST SIDE OF THE PROJECT THERE IS A GRAVEL DRIVE TO AN EXISTING RESIDENCE. THE UTILITIES IN THE AREA ARE AERIAL.

1.2.4 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS MAINLY OF BRUSH AND GRASS, WITH SOME AREAS OF LAWN BORDERING ROUTE 108.

DISTURBED VEGETATION OUTSIDE OF THE PROPOSED PAVED AREAS WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH/EROSION MATTING PRACTICES.

1.2.5 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF FRANKLIN, VERMONT. SOILS ON SITE 1 ARE AS FOLLOWS:
WALLKILL SILT LOAM, "K FACTOR" = 0.37. THE SOIL IS CONSIDERED HIGHLY ERODIBLE.

SOILS ON SITE 2 ARE AS FOLLOWS:
MUNSON SILT LOAM, 8% TO 15% SLOPES, "K FACTOR" = 0.49. THE SOIL IS CONSIDERED 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.

1.2.6 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: BLACK CREEK
WETLANDS: YES

1.3 RISK EVALUATION

THIS PROJECT DISTURBS LESS THAN 1 ACRE AND IS THEREFORE NON-JURISDICTIONAL. 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. BARRIER FENCE SHALL BE USED INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 100 FEET OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC). SINCE THIS PROJECT IS ADJACENT TO WET AREAS BARRIER FENCE SHALL BE USED.

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. BARRIER FENCE SHALL BE INSTALLED TIGHT TO THE CONSTRUCTION LIMITS WITHIN THE WETLAND LIMITS.

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 REINFORCED SILT FENCE SHALL BE USED INSTEAD OF SILT FENCE WITHIN 100 FEET UPSLOPE OF RECEIVING WATERS. WOVEN WIRE SILT FENCE IS TO BE USED SINCE THERE ARE WETLANDS WITHIN 100' OF PROJECT DISTURBANCE.

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. OFFSITE RUNOFF IS TO BE COLLECTED IN GRASS SWALE AND CONVEYED UNDER ROUTE 108 VIA CROSS CULVERT. IT IS NOT ANTICIPATED THAT DIVERSIONARY MEASURES WILL BE NEEDED FOR THIS CULVERT REPLACEMENT.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE 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. THE PROJECT DOESN'T CURRENTLY REQUIRE AN OPERATIONAL STORMWATER PERMIT.

SPECIFIC PERMANENT CONTROL MEASURES OF THE PROJECT INCLUDE TYPE II STONE FOR PIPE INLET AND OUTLET, AND RE-VEGETATION.

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.

IT IS NOT ANTICIPATED THAT THIS PROJECT WILL EXTEND INTO THE WINTER CONSTRUCTION SEASON.

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.

TEMPORARY DEWATERING MAY BE NECESSARY TO LIMIT DISTURBANCE TO AND MAINTAIN INTEGRITY OF EXCAVATION. IF NECESSARY, TEMPORARY DEWATERING SHALL BE ACCOMPLISHED BY OPEN PUMPING FROM SHALLOW SUMPS, TEMPORARY DITCHES, AND TRENCHES WITHIN AND AROUND THE EXCAVATION LIMITS. SUMPS SHALL BE PROVIDED WITH FILTERS SUITABLE TO PREVENT PUMPING OF FINE-GRAINED SOIL PARTICLES. THE WATER TRAPPED BY THE TEMPORARY DEWATERING CONTROLS SHALL BE DISCHARGED TO SETTLING BASINS OR AN APPROVED FILTER SOCK SO THAT THE FINE PARTICLES SUSPENDED IN THE DISCHARGE HAVE ADEQUATE TIME TO "SETTLE OUT" PRIOR TO DISCHARGE. ALL EFFLUENT, OR DISCHARGE, SHALL COMPLY WITH ALL APPLICABLE PERMITS AND REGULATIONS.

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

1.5.1 CONSTRUCTION SEQUENCE

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

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.

Stantec

EPSC NARRATIVE

PROJECT NAME: FLETCHER
PROJECT NUMBER: STP 027-I(22)

FILE NAME: ...\plotfiles\zllb064bdr_erol.dgn PLOT DATE: 11/15/2012
PROJECT LEADER: GAE DRAWN BY: STANTEC
DESIGNED BY: ISM CHECKED BY: MCF
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