EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REMOVAL OF A TEMPOARY BRIDGE AND REPLACEMENT WITH A STEEL PLATE GIRDER BRIDGE FOR BRIDGE NO. 19 ON VT ROUTE 73. DURING CONSTRUCTION, TRAFFIC WILL BE DETOURED OVER A NEW TEMPORARY BRIDGE SLIGHTLY DOWNSTREAM. THE NEW STRUCTURE WILL SPAN THE WHITE RIVER ON A NEW ALIGNEMENT, WITH ASSOCIATED ROADWAY AND CHANNEL WORK. THIS PROJECT IS LOCATED ON A RURAL MAJOR COLLECTOR ON VT 73 OVER THE WHITE RIVER IN THE TOWN OF ROCHESTER, APPROXIMATELY 0.02 MILES WEST OF THE INTERSECTION OF VT 73 AND VT 100. THE TEMPORARY BRIDGE IS APPOXIMATELY 24 FEET WIDE AND 132 FEET LONG, AND RESTS ON A NEW CONCRETE STUB ABUTMENT ON THE WEST SIDE OF THE RIVER AND IS SUPPORTED ON THE EXISTING ABUTMENT ON THE EAST SIDE.

THE BRIDGE REPLACEMENT INCLUDES THE REMOVAL OF THE EXISTING STRUCTURE IN ITS ENTIRETY AND THE CONSTRUCTION OF A NEW 130'-10" SINGLE SPAN BRIDGE WITH STEEL PLATE GIRDERS AND A CONCRETE OVERLAY TO CREATE A NEW BRIDGE WIDTH OF 33 FEET. NEW CONCRETE ABUTMENTS, ONE SPREAD FOOTING AND ONE INTEGRAL ABUTMENT, WILL BE FORMED IN PLACE AND ASSOCIATED APPROACH WORK INCLUDES BRIDGE APPROACH SLABS, REALIGNMENT OF ROADWAY, AND NEW GUARDRAIL. ONCE THE BRIDGE IS COMPLETED, THE TEMPORARY BRIDGE AND ITS APPROACHES WILL BE REMOVED AND RESTORED TO PREVIOUS CONDITIONS.

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 0.91 ACRES.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY IN THIS PROJECT AREA IS GENERALLY FLAT WITH OPEN FIELDS, GRAVEL BANKS, AND RIP RAP BANKS PRESENT. THE PROJECT IS LOCATED IN A LARGELY UNDEVELOPED, RURAL AREA WITH FIELDS ON BOTH SIDES OF VT 73 ON THE WEST SIDE OF THE WHITE RIVER AND STEEP ARMOURED SLOPES OF VT 100 ON THE EAST SIDE OF THE RIVER. STEEP FORESTED HILLS ARE LOCATED DIRECTLY EAST OF VT 100. ROCHESTER VILLAGE IS APPROXIMATELY 0.6 MILES NORTH OF THE BRIDGE ON VT 100. A SINGLE DWELLING IS LOCATED TO THE WEST OF THE BRIDGE ON THE NORTH SIDE OF VT 73.

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

THE HEADWATERS OF THE WHITE RIVER ORIGINATE IN THE GREEN MOUNTAINS IN ADDISON COUNTY TO THE NORTHWEST OF ROCHESTER. THE RIVER GENERALLY FLOWS IN A SOUTHERLY DIRECTION TO THE TOWN OF STOCKBRIDGE, VT WHERE IT CHANGES DIRECTION AND FLOWS TO THE NORTHEAST AND THEN TO THE SOUTHEAST TO ITS CONFLUENCE WITH THE CONNECTICUT RIVER IN THE TOWN OF HARTFORD, VT. IN THE PROJECT AREA, THE WHITE RIVER HAS BEEN RESHAPED DURING IRENE AND POST-IRENE FLOOD REBUILDING ACTIVITES. THE WEST BANK HAS BEEN MOST AFFECTED AND THIS REACH OF THE WHITE RIVER IS LOCATED WITHIN A FEMA SPECIAL FLOOD HAZARD AREA. THE EAST BANK OF THE WHITE RIVER IS STEEP AND ARMORED WITH STONE FILL AND EXTENDS UPWARD TO VT 100. THE RIVERBED CONSITS OF GRAVEL WITH SMALL COBBLES AND BOULDERS. THERE IS A WETLAND FEATURE THAT FALLS UNDER CLASS II CATEGORY. THE FEATURE IS A PALUSTRINE EMERGENT WETLAND, LOCATED SOUTH OF THE SOUTHWEST QUADRANT OF THE PROJECT AREA.

1.2.3 VEGETATION

DOMINANT VEGETATION INCLUDES SENSITIVE FERN (ONOCLEA SENSIBILIS) AND SOFT RUSH (JUNCUS EFFUSUS). AN UNCOMMON SPECIES, THE CUTLEAF TOOTHWORD (CARAMINE CONCATENATE), WAS FOUND AT THE CONFLUENCE OF THE WEST BRANCH OF THE WHITE RIVER AND THE WHITE RIVER (ABOUT 900 FEET DOWNSTREAM OF THE BRIDGE). THE CONDITIONS DO NOT SUPPORT THE CUTLEAF TOOTHWORT AND IT IS NOT LIKELY TO OCCUR IN THE PROJECT AREA. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING BRIDGE AND THE PLACEMENT AND REMOVAL OF THE TEMPORARY BRIDGE. 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 WINDSOR, VERMONT. SOIL ON THE PROJECT SITE IS MADE UP OF NINIGRET FINE SANDY LOAM TO THE WEST OF VT 100, WITH 0 TO 8% SLOPES, "K FACTOR" = 0.37. TO THE EAST OF VT 100, THE SOIL CONSISTS OF BERSHIRE-TUNBRIDGE COMPLEX, 35 TO 50 PERCENT SLOPES, VERY STONY, "K FACTOR" = 0.37. FURTHER EAST, AGAWAM FINE SANDY LOAM, WITH 3% TO 8% SLOPES, "K FACTOR" = 0.37; AND COLTON FINE SANDY LOAM, WITH 25% TO 60% SLOPES, "K FACTOR" = 0.24 ARE PRESENT. THE SOILS ARE CONSIDERED HIGHLY ERODIBLE DUE TO SIGNIFICANT 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: NO
PRIME AGRICULTURAL LAND: YES. THE BRIDGE REPLACEMENT WILL NOT LIKELY REDUCE THE AGRICULTURAL POTENTIAL OF THE LAND.
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: WHITE RIVER
WETLANDS: YES. A CLASS II WETLAND FEATURE WAS LOCATED OUTSIDE OF THE PROJECT AREA SOUTH WEST OF THE BRIDGE; WITHIN AN EXISTING FIELD ON THE WEST SIDE OF THE WHITE RIVER. IF CONSTRUCTION ACTIVITIES ARE SITED NEAR THE WETLAND OR PROPOSED 50-FOOT CLASS II BUFFER, A DETAILED DELINEATION DURING THE GROWING SEASON IS RECOMMENDED.

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.

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 WHITE RIVER 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 EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

STONE CHECK DAMS ARE NOT ANTICIPATED FOR THIS PROJECT.

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 ANTICIPATED. A FILTER BAG FOR THE TREATMENT HAS BEEN PROPOSED AND IS SHOWN ON THE PLANS.

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.