EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REMOVAL AND REPLACEMENT OF THE EXISTING FILLED CONCRETE ARCH AND WINGWALLS AND ASSOCIATED APPROACH WORK. DURING CONSTRUCTION, THE BRIDGE WILL BE CLOSED AND TRAFFIC WILL BE DETOURED AROUND THE PROJECT SITE. THIS PROJECT IS LOCATED ON ROUTE 125 APPROXIMATELY 1.6 MILES EAST OF ROUTE 7 OVER MIDDLEBURY RIVER IN THE TOWN OF EAST MIDDLEBURY. THE EXISTING ARCH IS APPROXIMATELY 42 FEET LONG AND APPROXIMATELY 25 FEET FROM FASCIA TO FASCIA.

THE BRIDGE REPLACEMENT INCLUDES THE REMOVAL OF THE EXISTING STRUCTURE IN ITS ENTIRETY AND THE CONSTRUCTION OF A NEW 61.5 FOOT SINGLE SPAN PRECAST NEXT BEAM BRIDGE OVER A NEW 48 FOOT PRECAST ARCH. THE NEW STRUCTURE WILL BE APPROXIMATELY 36 FEET FROM FASCIA TO FASCIA. NEW PRECAST CONCRETE FOOTINGS, ABUTMENTS, AND WINGWALLS WILL BE CONSTRUCTED TO SUPPORT THE NEW SUPERSTRUCTURE. THE ASSOCIATED APPROACH WORK INCLUDES APPROACH SLABS, AND APPROXIMATELY 600 FEET OF RECONSTRUCTED ROADWAY AND NEW BRIDGE APPROACH RAIL. ONCE THE BRIDGE IS COMPLETED THE ROADWAY WILL BE RESTORED TO THE 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 0.94 ACRES.

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 STEEP WOODED BANKS ASCENDING FROM THE MIDDLEBURY RIVER TO ROLLING HILLS MOSTLY COVERED BY FOREST WITH OCCASIONAL OPEN AREAS. VT ROUTE 125 AND NORTH BRANCH ROAD ARE WITHIN THE PROJECT SITE. THERE ARE RESIDENCES TO THE NORTH AND WEST OF THE PROJECT SITE ALONG NORTH BRANCH ROAD AND ROUTE 125 WITH A TREE BUFFER.

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

THE MIDDLEBURY RIVER IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE RIVER IS CLASSIFIED AS WIDE AND CURVING WITH A BEND UPSTREAM OF THE PROJECT SITE AND A MODERATE CURRENT. THE RIVER BED CONSISTS OF GRAVEL, COBBLES, BOULDERS AND LEDGE. THE TRIBUTARY AREA AT THE BRIDGE CROSSING IS APPROXIMATELY 44.44 SQ. MILES. THERE IS ONE CULVERT WITHIN THE PROJECT AREA. THERE IS A 15" CMP CULVERT BENEATH ROUTE 125. THIS CULVERT COLLECTS RUNOFF FROM AN AREA TO THE EAST OF THE PROJECT AREA, SOUTH OF ROUTE 125 AND DAYLIGHTS ON THE NORTH SIDE OF ROUTE 125 AND DRAINS TO THE RIVER DOWN A HEAVILY WOODED EMBANKMENT.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD AND SOFTWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING BRIDGE AND THE RECONSTRUCTION OF THE APPROACH ROADWAY. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES PER THE EPSC PLAN, EXCEPT ON THE SIDE SLOPES OF THE NORTH APPROACHES WHERE DUE TO THE STEEPNESS OF THE SIDE SLOPES STONE FILL, TYPE II WILL BE USED FOR SLOPE STABILIZATION.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF ORANGE, VERMONT. SOILS ON THE PROJECT SITE ARE:

BERKSHIRE AND MARLOW EXTREMELY STONY LOAM (BsC), 3% TO 20% SLOPES, "K FACTOR" = 0.20, CLASSIFIED LOW EROSION POTENTIAL, NORTHERN HALF AND SOUTHERN EXTENT OF PROJECT SITE

STETSON GRAVELLY FINE SANDY LOAM (StA), 0% TO 5% SLOPES, "K FACTOR" = 0.10, CLASSIFIED LOW EROSION POTENTIAL, NORTHERN EXTENT OF PROJECT SITE

COLTON GRAVELLY SANDY LOAM (CtA), 0% TO 5% SLOPES, "K FACTOR" = 0.20, CLASSIFIED LOW EROSION POTENTIAL, WESTERN EXTENT OF PROJECT SITE

COLTON GRAVELLY SANDY LOAM (CtE), 30% TO 50% SLOPES, "K FACTOR" = 0.20, CLASSIFIED LOW EROSION POTENTIAL, SOUTHERN HALF AND EASTERN EXTENT OF PROJECT SITE

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: YES
ITEM 653.50, "BARRIER FENCE" WILL BE PLACED ALONG THE PROJECT LIMITS OUTSIDE THE ARCHAEOLOGY SITE ON THE NORTHWEST QUAD TO PROTECT THE KNOWN ARCHAEOLOGICAL SITE KNOWN AS THE EAST MIDDLEBURY IRON WORKS SITE (VT-AD-299) DURING CONSTRUCTION.
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: MIDDLEBURY RIVER
WETLANDS: NO

1.3 RISK EVALUATION

WITH <1 ACRE OF SOIL DISTURBANCE 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 EPSC PLAN IS MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT TO THE EXTENT FEASIBLE. 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.

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 FOR PUBLIC SAFETY AND TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE 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 INSTALLED 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.

IT IS NOT ANTICIPATED THAT DIVERSIONARY MEASURES WILL BE NECESSARY FOR THIS PROJECT SITE.

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.

CHECK STRUCTURES ARE NOT ANTICIPATED FOR THIS PROJECT.

1.4.7 CONSTRUCT PERMANENT CONTROLS

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.

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. STONE FILL, TYPE II SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:2.

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. FOR SLOPES STEEPER THAN 1:2, STONE FILL, TYPE II SHALL BE USED INSTEAD OF BIODEGRADABLE EROSION CONTROL MATTING.

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 NOT ANTICIPATED FOR THIS PROJECT.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS.

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.

VHB Vanasse Hangen Brustlin, Inc.

PROJECT NAME: MIDDLEBURY
PROJECT NUMBER: RS 0174(8)

FILE NAME: z78f217ero_nar.dgn
PROJECT LEADER: M.A. COLGAN
DESIGNED BY: G.S. GOODRICH
EPSC NARRATIVE

PLOT DATE: 8/27/2013
DRAWN BY: B.J. MASSE
CHECKED BY: K. REINHART
SHEET 93 OF 104

VHB 57438