EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE PARTIAL REPLACEMENT OF BRIDGE 9 ON VT-110 IN THE TOWN OF CHELSEA. THE SUPERSTRUCTURE WILL BE REPLACED WITH FOUR PREFABRICATED BRIDGE UNITS, SPANNING 81'-1¼" OVER THE FIRST BRANCH OF THE WHITE RIVER, ON EXISTING ABUTMENTS ALONG THE SAME ALIGNMENT. BRIDGE 9 IS APPROXIMATELY 0.2 MILES SOUTH OF THE JUNCTION WITH VT-113 IN CHELSEA. WORK WILL INVOLVE REMOVAL OF EXISTING BRIDGE SUPERSTRUCTURE, WIDENING EXISTING ABUTMENTS, AND CONSTRUCTION OF BRIDGE SUPERSTRUCTURE. BRIDGE REPLACEMENT WILL INCLUDE TEMPORARY DETOUR, CHANNEL WORK, AND APPROACH WORK.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA AS SHOWN ON THE ATTACHED EPSC PLAN. THE AREA OF DISTURBANCE DOES NOT INCLUDE WASTE, BORROW OR STAGING AREAS. THE CONTRACTOR IS RESPONSIBLE FOR WASTE, BORROW, AND STAGING AREAS, AS WELL AS THE MATERIAL STOCKPILE, REFUELING AND MAINTENANCE AREAS. A MAP SHALL BE ATTACHED IF NECESSARY.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.42 ACRES. IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE LOCAL AREA IS GENERALLY FLAT GROUND ON DEVELOPED LAND. VT-110 GENERALLY RUNS SOUTH TO NORTH. TH-77 INTERSECTS VT-110 IN CLOSE PROXIMITY TO THE BRIDGE, AND IS A GRAVEL ROAD WITH A PAVED APRON.

THERE IS ONE PAVED DRIVE WITHIN THE PROJECT SITE ALONG VT-110. ALL OTHER NEARBY STRUCTURES AND RESIDENCES ARE BEYOND THE PROJECT LIMITS.

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

THE FIRST BRANCH OF THE WHITE RIVER IS THE ONLY SOURCE OF WATER WITHIN THE PROJECT SITE. THE RIVER IS CLASSIFIED AS SINUOUS, INCISED, AND ALLUVIAL. THE STREAM BED CONSISTS OF MOSTLY GRAVEL AND COBBLES. THE DRAINAGE AREA IS 37.8 SQUARE MILES. THERE ARE NO EXISTING DROP INLETS IN THE PROJECT SITE, AND ONE EXISTING 24" CULVERT CONNECTING OPEN ROADSIDE CHANNELS ON EITHER SIDE OF VT-110, WHICH ULTIMATELY FLOWS INTO THE RIVER. RIVER IS LIKELY TO OVERTOP CHANNEL BANKS DURING HIGH RAIN EVENTS.

THE PROJECT IS LOCATED WITHIN A FLOODPLAIN.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF GRASS AND BRUSH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING 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 ORANGE, VERMONT. SOILS ON THE PROJECT SITE ARE: HADLEY VERY FINE SANDY LOAM, 0% TO 3% SLOPES, "K FACTOR" = 0.49; AND MERRIMAC FINE SANDY LOAM, 0%-3% SLOPES, "K FACTOR" = 0.24.

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 (MULTIPLE AREAS – SEE EPSC - EXISTING CONDITIONS LAYOUT FOR LOCATIONS)
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: FIRST BRANCH OF THE WHITE RIVER
WETLANDS: NO

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 CONTRACTORS 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.

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND DETAIL SHEETS.

FILTER CURTAIN WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND DETAIL SHEETS.

DROP INLET PROTECTION WILL BE MAINTAINED THROUGH THE DURATION OF CONSTRUCTION AS PROPOSED ON THE EPSC PLAN AND DETAIL SHEETS.

PIPE INLET PROTECTION WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND DETAIL SHEETS.

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 DIVERSION MEASURES ARE NOT ANTICIPATED TO BE NEEDED.

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.

THE PROJECT AREA IS RELATIVELY FLAT; THEREFORE CHECK STRUCTURES ARE NOT ANTICIPATED TO BE NEEDED.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS.

SEED AND MULCH WILL BE USED AS PERMANENT CONTROLS TO STABILIZE EXPOSED SOIL. STONE FILL WILL BE USED TO STABILIZE THE SLOPES AND STREAMBED AROUND ABUTMENTS.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

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

THE USE OF SURFACE ROUGHENING IS NOT ANTICIPATED FOR THIS PROJECT.

THE USE OF TEMPORARY EROSION MATTING (BIODEGRADABLE) DURING CONSTRUCTION IS NOT ANTICIPATED.

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.

SHOULD EARTH DISTURBANCE BE PERFORMED OUTSIDE THE CONSTRUCTION SEASON, A WINTER EROSION AND SEDIMENT CONTROL PLAN DESCRIBING ALTERNATIVE STABILIZATION METHODS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO AUGUST 15 FOR APPROVAL.

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, TEMPORARY EROSION MATTING (BIODEGRADABLE) OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

THE USE OF PERMANENT EROSION CONTROL MATTING IS NOT ANTICIPATED FOR THIS PROJECT.

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.

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.

WASTE, BORROW, AND STAGING AREAS MUST BE APPROVED BY THE VTRANS ENVIRONMENTAL SECTION.

NO ONSITE DISPOSAL OF WASTE MATERIALS SHALL BE ALLOWED. THE CONTRACTOR IS ENCOURAGED TO USE EXEMPT SITES FOR EARTHEN AND/OR SOLID WASTES. INFORMATION REGARDING EXEMPT SITES MAY BE FOUND ON THE VTRANS ENVIRONMENTAL WEBSITE AT http://vtransengineering.vermont.gov/bureaus/pdb/environmental/off-site-activity.

1.5.3 UPDATES

PROJECT NAME:	CHELSEA
PROJECT NUMBER:	BHF 0169(9)

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FILE NAME: z12cl50epscnar.dgn	PLOT DATE: 8/31/2016
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