

## EROSION CONTROL NARRATIVE

### I.1 PROJECT DESCRIPTION

MONTPELIER BHF 6400(3) IS LOCATED ALONG TOWN HIGHWAY (TH) 9 (TAYLOR STREET) IN THE CITY OF MONTPELIER, WASHINGTON COUNTY, VERMONT. THE PROJECT BEGINS AT A POINT APPROXIMATELY 400 FT SOUTH OF THE INTERSECTION OF TH 9 WITH STATE STREET AND CONTINUES SOUTHERLY 210.50 FT TO ITS ENDING POINT JUST NORTH OF THE INTERSECTION WITH U.S. ROUTE 2 (MEMORIAL DRIVE). THE PROJECT INVOLVES REHABILITATION OF BRIDGE NO. 5 OVER THE WINOOSKIRIVER INCLUDING DECK REPLACEMENT, TRUSS REPAIR, SUBSTRUCTURE REPAIR (BRIDGE SEAT RECONSTRUCTION, WINGWALL REFACING, ABUTMENT REFACING), AND RECONSTRUCTION OF THE BRIDGE APPROACHES.

AREAS OF DISTURBANCE ARE LOCATED WITHIN THE EXCAVATION LIMITS FOR THE APPROACH WORK AND SUBSTRUCTURE REPAIR, AND INCLUDE DISTURBANCES RELATED TO TEMPORARY CONSTRUCTION ACCESS.

THE TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 0.10 ACRE EXCLUDING WASTE, BORROW AND STAGING AREAS.

### I.2 SITE INVENTORY AND ANALYSIS

#### I.2.1 OFF-SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)

THE PROJECT AREA IS BORDERED BY U.S. ROUTE 2 ON THE SOUTH. SURFACE RUNOFF FROM U.S. ROUTE 2 AND FROM A DENSELY WOODED UPLAND AREA LOCATED SOUTH OF U.S. ROUTE 2 IS CAPTURED IN A CLOSED STORMWATER DRAINAGE SYSTEM IN THE ROADWAY AND DISCHARGED TO THE WINOOSKIRIVER. A RELATIVELY FLAT AND NARROW AREA COVERED IN GRASS AND SHRUBS WITH SOME COMMERCIAL DEVELOPMENT IS LOCATED BETWEEN U.S. ROUTE 2 AND THE SOUTH BANK OF THE RIVER. RUNOFF FROM THIS AREA CAN BE CHARACTERIZED AS GENERALLY OVERLAND SHEET FLOW THAT DISCHARGES TO THE RIVER.

THE PROJECT AREA IS BORDERED ON THE NORTH BY GENERALLY FLAT, PAVED PARKING AREAS WITH SOME LIMITED GRAVEL PARKING AREAS THAT ARE ASSOCIATED WITH DOWNTOWN DEVELOPMENT. STORMWATER RUNOFF FROM THIS AREA CAN BE CHARACTERIZED AS GENERALLY OVERLAND SHEET FLOW THAT IS GRADUALLY CONVEYED TO THE WINOOSKIRIVER.

#### I.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER

THE PROJECT AREA AND BRIDGE REHABILITATION WORK SPANS THE WINOOSKIRIVER. RUNOFF FROM THE EXISTING BRIDGE IS CAPTURED BY SCUPPERS LOCATED IN THE BRIDGE DECK AND OUTLETS DIRECTLY TO THE RIVER AND ITS BANKS. SEVERAL DROP INLETS ARE LOCATED IN TH 9 AND U.S. ROUTE 2 NEAR THE SOUTHERN PROJECT APPROACH AND OUTLET DIRECTLY TO THE WINOOSKIRIVER.

AREAS OF DISTURBANCE ARE GENERALLY LOCATED WITHIN THE 50 FT RIPARIAN BUFFER AREA.

#### I.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

TH 9 AND U.S. ROUTE 2 ARE THE ONLY ROADWAYS IN THE PROJECT AREA, BOTH ARE PAVED. IN ADDITION, THERE ARE SOME GENERALLY FLAT, PAVED PARKING AREAS AND SOME LIMITED GRAVEL PARKING AREAS ASSOCIATED WITH DOWNTOWN DEVELOPMENT THAT BORDER TH 9 JUST NORTH OF THE PROJECT AREA. A PAVED RECREATIONAL PATH AND GRAVEL DRIVE ARE LOCATED WITHIN THE NORTHERN PROJECT APPROACH. NO BUILDINGS ARE LOCATED WITHIN THE PROJECT LIMITS.

UNDERGROUND WATER AND OVERHEAD ELECTRIC AND TELEPHONE LINES ARE LOCATED WITHIN THE PROJECT AREA. AN EXISTING WATER MAIN IS CARRIED ACROSS THE BRIDGE AND IS TO BE REPLACED AS PART OF THE PROPOSED CONSTRUCTION.

#### I.2.4 VEGETATION

VEGETATION IN THE PROJECT AREA IS LIMITED TO SMALL GRASSY AREAS WITH SHRUBS AND TREES ON THE TOPS OF THE RIVER BANKS. THE RIVER BANKS ARE COVERED IN LOW-LYING BRUSH WITH SOME LARGER TREES AND SMALL WOODED AREAS THROUGHOUT. EXISTING VEGETATION IS SPARSE ALONG THE BANK WITHIN THE SHADOW OF THE EXISTING BRIDGE. CLEARING OF BRUSH AND TREES ALONG THE BANK IS ONLY NECESSARY TO PROVIDE CONTRACTOR ACCESS BELOW THE BRIDGE AND IS INTENDED TO BE LIMITED IN AREA FOR THAT PURPOSE. ALL GRASSY AND BRUSH COVERED AREAS THAT ARE DISTURBED DURING CONSTRUCTION ARE TO BE RE-VEGETATED WITH SEED AND COVERED IN TEMPORARY EROSION MATTING AS REQUIRED.

### I.2.5 SOILS

SOIL SURVEY DATA FOR THE PROJECT AREA WAS OBTAINED FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE'S NATURAL RESOURCES CONSERVATION SERVICE (NRCS). THE SOIL SURVEY MAP FOR WASHINGTON COUNTY, VERMONT SHOWS THE FOLLOWING MAP UNITS IN THE PROJECT AREA (LOCATIONS ARE SHOWN ON SHT. 22):

TUNBRIDGE-LYMAN COMPLEX (MAP UNIT 72E), 35-60% SLOPES, VERY ROCKY, CLASSIFIED AS 'HIGHLY ERODIBLE' WITH A K-FACTOR = 0.34

URBAN LAND-UDIPSAMMENTS COMPLEX (MAP UNIT 104), OCCASIONALLY FLOODED, CLASSIFIED AS 'NOT HIGHLY ERODIBLE' WITH A K-FACTOR = 0.10

### I.2.6 SENSITIVE RESOURCE AREAS

NO KNOWN OCCURRENCES OF CRITICAL HABITATS, THREATENED AND ENDANGERED SPECIES, PRIME AGRICULTURAL LAND, WETLANDS, HISTORICAL OR ARCHAEOLOGICAL SITES EXIST WITHIN THE PROJECT AREA.

THE WINOOSKIRIVER IN THE PROJECT AREA IS LISTED AS AN IMPAIRED SURFACE WATER FOR E. COLON THE STATE OF VERMONT 2006 303(d) LIST OF SURFACE WATERS. THERE IS NO STORMWATER OR SEDIMENT IMPAIRMENT IN THE PROJECT AREA.

### I.3 RISK EVALUATION

THE PROJECT DOES NOT FALL UNDER THE JURISDICTION OF CONSTRUCTION GENERAL PERMIT 3-9020 BASED ON THE PROJECT IMPACT AREA OF LESS THAN ONE ACRE. 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, THEN THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH VANR VIA FILING OF THE APPROPRIATE NOTICE OF INTENT UNDER THE CONSTRUCTION GENERAL PERMIT PROCESS.

### I.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS ARE MEANT TO BE A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT AS REQUIRED BY THE AGENCY'S STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006 AND THE EROSION PREVENTION AND SEDIMENT CONTROL PROTOCOL DATED FEBRUARY 2007. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT TO MINIMIZE EROSION AND PREVENT THE SEDIMENTATION OF RECEIVING WATERS. THE MEASURES PRIMARILY CONSIST OF STABILIZATION AND/OR STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER MISCELLANEOUS POLLUTION PREVENTION CONTROLS.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TRYING TO CONTROL ERODED SEDIMENT. MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS, OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION PREVENTION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE EMPLOYED WHEREVER POSSIBLE. THEREFORE, STABILIZE ALL DISTURBED AREAS AS SOON AS PRACTICABLE, BUT NO MORE THAN TWO DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.

THE CONTRACTOR SHALL COORDINATE THE INSTALLATION, USE, AND REMOVAL OF EROSION PREVENTION AND SEDIMENT CONTROL MEASURES WITH CONSTRUCTION ACTIVITIES TO ENSURE ECOLOGICAL, EFFECTIVE, AND CONTINUOUS EROSION PREVENTION AND SEDIMENT CONTROL. THE CONTRACTOR SHALL EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

(REFER TO THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION'S LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL AND APPROPRIATE DETAIL SHEETS FOR EACH PRACTICE REQUIRED ON THE PROJECT TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING.)

#### I.4.1 MARK SITE BOUNDARIES

PROJECT DEMARCATION FENCING, DENOTED -PDF- ON THE PLANS, IS USED TO DELINEATE THE LIMITS IN WHICH THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT AND PERSONNEL. THIS MEASURE IS INTENDED TO LIMIT THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION. THE CONTRACTOR SHALL INSTALL THE PERIMETER CONTROLS PRIOR TO STARTING ANY WORK WITHIN THE PROJECT AREA.

#### I.4.2 LIMIT DISTURBANCE AREA

EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AND AS DIRECTED BY THE ON-SITE PLAN COORDINATOR. IN GENERAL, THE CONTRACTOR SHALL PRESERVE EXISTING VEGETATION, TREES AND SHRUBS WHERE POSSIBLE.

#### I.4.3 STABILIZE CONSTRUCTION ENTRANCE

THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCES PER THE EROSION CONTROL DETAILS AS NECESSARY TO GAIN ACCESS DOWN THE RIVER BANK AND BELOW THE BRIDGE. STABILIZED CONSTRUCTION ENTRANCES ARE INTENDED TO PREVENT THE TRACKING OF SEDIMENT ONTO PAVED SURFACES.

#### I.4.4 INSTALL SILT FENCE

SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UPSLOPE WORK AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ON-SITE PLAN COORDINATOR.

#### I.4.5 DIVERT UPLAND FLOW

THE CONTRACTOR SHALL PROVIDE A TEMPORARY PIPE EXTENSION FOR THE EXISTING 15" OUTLET PIPE LOCATED IN THE SOUTHWEST QUADRANT OF THE PROJECT AREA AS NECESSARY TO MAINTAIN STORMWATER OUTLET FLOW AND TO CONVEY DISCHARGE DOWNSLOPE OF AREAS CONSTRUCTED OR MAINTAINED FOR CONTRACTOR ACCESS. PAYMENT FOR THE TEMPORARY PIPE EXTENSION SHALL BE INCIDENTAL TO ITEM 653.35 VEHICLE TRACKING PAD.

IT IS NOT ANTICIPATED THAT OTHER MEASURES SUCH AS TEMPORARY DRAINAGE SWALES WILL BE REQUIRED TO DIVERT UPLAND RUNOFF AWAY FROM THE PROJECT AREA. HOWEVER, IF SITE CONDITIONS CHANGE, THE CONTRACTOR SHALL CONSTRUCT TEMPORARY DIVERSION DIKES OR SWALES PER THE LOW RISK SITE HANDBOOK AS DIRECTED BY THE ON-SITE PLAN COORDINATOR. REFER TO SUBSECTION 105.29 FOR PAYMENT OF TEMPORARY MEASURES TO DIVERT UPLAND FLOW.

#### I.4.6 SLOW DOWN CHANNELIZED RUNOFF

NO AREAS OF CHANNELIZED RUNOFF ARE ANTICIPATED DURING CONSTRUCTION OR POST-CONSTRUCTION. HOWEVER, IF SITE CONDITIONS CHANGE, THE CONTRACTOR SHALL INSTALL CHECK DAMS PER THE LOW RISK SITE HANDBOOK IN LOCATIONS AS DIRECTED BY THE ON-SITE PLAN COORDINATOR.

#### I.4.7 CONSTRUCT PERMANENT CONTROLS

THE CONTRACTOR SHALL SEED SLOPES AND PROVIDE TEMPORARY EROSION MATTING IN LOCATIONS INDICATED ON THE EPSC PLANS. AREAS ALONG THE RIVER BANK DISTURBED AS A CONSEQUENCE OF PROVIDING CONTRACTOR ACCESS SHALL BE RESTORED TO ORIGINAL GRADE PRIOR TO FINAL SEEDING.

AREAS OF DISTURBANCE ALONG THE RIVER BANK THAT ARE LOCATED BENEATH THE BRIDGE SUPERSTRUCTURE, INCLUDING A 2 FT WIDE AREA ON EITHER SIDE, SHALL BE LINED WITH STONE FILL, TYPE II, AND RESTORED TO ORIGINAL GRADE. ANY EXCAVATION REQUIRED TO PROVIDE THE STONE FILL SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION. UNDER NO CIRCUMSTANCES SHALL THE PLACEMENT OF STONE FILL CREATE MORE AREA OF DISTURBANCE THAN THAT WHICH RESULTED FROM OTHER CONSTRUCTION ACTIVITIES.

## EPSC NARRATIVE (1)

PROJECT NAME: MONTPELIER  
PROJECT NUMBER: BHF 6400(31)

FILE NAME: \$FILES\$  
PROJECT MANAGER: SUSAN SCRIBNER  
DESIGNED BY: D. D'AMATO  
BRIDGE DESIGN SUPERVISOR: P. HALSTEAD

PLOT DATE: 10/12/2009  
DRAWN BY: D. D'AMATO  
CHECKED BY: P. PERKINS  
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