

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

PROJECT BURKE BRZ 1447(15) CONSISTS OF THE REPLACEMENT OF BRIDGES #16 AND #17 OVER DISH MILL BROOK ON TOWN HIGHWAY 7 IN THE TOWN OF BURKE, VT. THIS PROJECT SITE IS LOCATED ON TH 7 BEGINNING AT A POINT 0.80 KM EAST OF THE JUNCTION OF VT 114 AND TH 7, EXTENDING EASTERLY ALONG TH 7 FOR 325 METERS. CONSTRUCTION EXTENDS FOR 325 METERS ON TH 7 AND INCLUDES THE RECONSTRUCTION OF TWO SINGLE SPAN STEEL BEAM BRIDGES, ROADWAY WORK, NEW BITUMINOUS CONCRETE PAVEMENT, AND RELATED DRAINAGE WORK. BRIDGE #17 WILL BE RECONSTRUCTED IN THE SAME LOCATION, WHILE BRIDGE #16 WILL BE RECONSTRUCTED APPROXIMATELY 13 METERS DOWNSTREAM TO MATCH IN WITH A NEW ROADWAY ALIGNMENT. DURING CONSTRUCTION A PAVED DETOUR, WITH A TEMPORARY BRIDGE, WILL BE CONSTRUCTED TO DIVERT TRAFFIC AROUND BRIDGE #17.

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 1.72 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST TWO CONSTRUCTION SEASONS.

1.2 SITE INVENTORY

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

DUE TO THE NATURE OF THE TOPOGRAPHY, ADJACENT WETLANDS, AND THE SOIL TYPES PRESENT ON THE SITE, THERE ARE MANY CRITICALLY EROSION AREAS ON THIS PROJECT. SPECIAL ATTENTION SHALL BE GIVEN TO THE AREAS ON THE NORTH SIDE OF TH 7, WHERE STEEP SLOPES WILL CONVEY HIGH VELOCITY OFF-SITE "RUN-ON" TO DISTURBED AREAS ON THE PROJECT, AND AREAS TO THE SOUTH OF TH 7, WHERE THERE IS POTENTIAL FOR SEDIMENT MOBILIZATION ONTO ADJACENT WETLANDS.

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

DISH MILL BROOK HAS INCISED, SINUOUS, AND STABLE CHANNEL CHARACTERISTICS. THE STREAMBED IN THE PROJECT AREA CONSISTS OF SAND, GRAVEL, COBBLES, AND BOULDERS. THE SOUTHERN SIDE OF THE ROAD MAINLY CONSISTS OF CLASS III WETLANDS.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

TH 7 IS A PAVED ROAD. THE ROADWAY PORTION OF THE PROJECT IS LOCATED ON AN UPHILL SLOPE IN THE WEST TO EAST DIRECTION, WITH THE SLOPE OF THE ROAD RANGING FROM 2% TO 8.5%. THE LAND ON AND ADJACENT TO THE SITE HAS HILLY TO MOUNTAINOUS TERRAIN WITH A MIXTURE OF OPEN AND FORESTED AREAS. THE LAND ON THE NORTH SIDE OF THE ROAD IS VERY STEEP, AS SLOPES REACH A GRADE OF 65%. THESE STEEP SLOPES ARE FORESTED AND TERMINATE AT THE ROADWAY DRAINAGE DITCH.

1.2.4 VEGETATION

THE MAJORITY OF THE VEGETATION PRESENT ON THE PROJECT SITE IS TREES, WITH SOME SHRUBS AND GRASSY AREAS. THE DISTURBED LAND WILL BE REPLACED WITH THE VERMONT AGENCY OF TRANSPORTATION STANDARD RURAL SEED MIX, MADE UP OF FIVE DIFFERENT VARIETIES OF GRASSES.

1.2.5 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE FOR THE COUNTY OF CALEDONIA, VERMONT. SOILS ON THE PROJECT SITE ARE CABOT SILT LOAM, 0% TO 8% SLOPES, "K FACTOR" = 0.32. THE SOIL IS CONSIDERED MODERATELY 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

THERE ARE NO 'THREATENED & ENDANGERED SPECIES' LIVING ON OR NEAR THE PROJECT SITE. THE SOUTHERN HALF OF THE PROJECT AREA CONTAINS SEVERAL AREAS SENSITIVE FOR ARCHAEOLOGICAL RESOURCES. THIS SOUTHERN AREA CONSISTS PRIMARILY OF CLASS III WETLANDS. THE ARMY CORP OF ENGINEERS HAS DETERMINED THAT THE WORK PROPOSED WILL HAVE MINOR INDIVIDUAL AND CUMULATIVE IMPACTS ON THE WATERS AND WETLANDS OF THE U.S.

1.3 RISK EVALUATION

THIS PROJECT HAS BEEN DETERMINED TO BE LOW RISK UNDER CONSTRUCTION GENERAL PERMIT

3-9020 (2006), AND AS SUCH THE LOW RISK SITE HANDBOOK MUST BE COMPLIED WITH AND BE ON SITE AT ALL TIMES. THE RISK EVALUATION SCORE FOR THIS PROJECT IS -1. OVERALL SCORES OF LESS THAN 1 QUALIFY THE PROJECT AS LOW RISK. ANY MODIFICATIONS TO THE PROJECT SHALL RESULT IN A RE-EVALUATION OF THE RISK AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-FILING SHOULD THE RISK CHANGE.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. 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.

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 LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR EACH PRACTICE REQUIRED ON THE PROJECT TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING.)

1.4.1 MARK SITE BOUNDARIES

PROJECT DEMARCATION FENCING, DENOTED -PDF- ON THE PLANS, IS USED TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION. PLAN ALL GRADING TO MINIMIZE SOIL EXPOSURE.

1.4.2 LIMIT DISTURBANCE AREA

EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AND AS DIRECTED BY THE ENGINEER.

1.4.3 STABILIZE CONSTRUCTION EXIT

STABILIZED CONSTRUCTION ENTRANCE SHALL BE UTILIZED AS NECESSARY.

1.4.4 INSTALL SILT FENCE

SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK AS SHOWN ON THE PLANS OR AS NECESSARY.

1.4.5 DIVERT UPLAND RUNOFF

SWALE (STORM WATER FROM STREET COLLECTIONS DRAINAGE SYSTEM)

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK DAMS SHALL BE UTILIZED AS NECESSARY.

1.4.7 CONSTRUCT PERMANENT CONTROLS

TYPE I, II, III STONE FOR SLOPE LINING AND CHANNEL PROTECTION
SEED AND MULCH
DRAINAGE INLETS AND PIPING
SOIL RETENTION WALLS

STREAM BANK VEGETATION WILL BE INTRODUCED IN THE GRUBBING MATERIAL THAT IS TO BE PLACED OVER THE STREAM BANK STONE FILL.

1.4.8 STABILIZE EXPOSED SOILS

SEED AND MULCH
EROSION MATTING

TRACKING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL BE UTILIZED ON A REGULAR BASIS. SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF FORECASTED RAIN. SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING INTERMITTENT PHASES OF CONSTRUCTION.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER (SEE LOW RISK HANDBOOK)

1.4.10 STABILIZE SOIL AT FINAL GRADE

SEED AND MULCH
EROSION MATTING

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

1.4.11 DE-WATERING ACTIVITIES

SEDIMENT BASINS SHALL BE USED AS NECESSARY FOR SUBSTRUCTURE WORK. SPECIAL CONSIDERATION MUST BE GIVEN TO THE FIRST PUMP-DOWN OF THE COFFERDAMS. THIS WILL CONTAIN THE GREATEST VOLUME OF WATER WITH A HIGH SEDIMENT LOAD. CLEAN SEDIMENT BASINS WHEN HALF FULL OF SEDIMENT. AFTER SUBSTRUCTURE COMPLETION, THE SEDIMENT IN THE BASINS SHALL BE REMOVED AND THE GROUND RESTORED TO ITS ORIGINAL SLOPES OR GRADED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

1.4.12 INSPECT YOUR SITE

INSPECT SITE BASED ON PERMIT AUTHORIZATION OR SPECIAL PROVISION REQUIREMENTS.

TEMPORARY EROSION PREVENTION MEASURES TO BE UTILIZED INCLUDE:

PROJECT DEMARCATION FENCING, DENOTED -PDF- ON THE PLANS, TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION.

TRACKING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL ALSO BE UTILIZED ON A REGULAR BASIS. ANY SLOPES TO BE EXPOSED FOR SEVERAL DAYS PRIOR TO FINAL GRADING SHALL BE TRACKED AND MULCHED. SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF FORECASTED RAIN.

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING, OR AN EQUIVALENT, SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE OR DURING INTERMITTENT PHASES OF CONSTRUCTION.

SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK. INSTALLATION SHALL BE PERFORMED PER INCLUDED DETAIL SHEET.

MEASURES SUCH AS SILT FENCE SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT BUILD-UP SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT REACHES ONE-HALF THE HEIGHT OF THE CONTROL MEASURE. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

PERMANENT EROSION CONTROL:

SEVERAL PERMANENT EROSION CONTROL WILL BE UTILIZED:

STREAM BANKS WILL BE ARMORED WITH STONE FILL TYPE III AS SPECIFIED BY VTRANS ON THE PROJECT PLANS. THE STONE FILL WILL STABILIZE THE EXISTING BANK IN ORDER TO PROTECT IT FROM EROSION DURING STORM AND HIGH WATER EVENTS.

IN ORDER TO DISSIPATE WATER VELOCITIES AND REDUCE EROSION POTENTIAL, UTILIZE STONE FILL, TYPE I AT CULVERT OUTLETS.

ALL DISTURBED AREAS WILL BE SEEDED AND MULCHED WITHIN 48 HOURS AFTER FINAL GRADE HAS BEEN ESTABLISHED. AREAS WITH SLOPES STEEPER THAN 1:3 SHALL UTILIZE BIODEGRADABLE EROSION CONTROL MATTING.

STREAM BANK VEGETATION WILL BE INTRODUCED IN THE GRUBBING MATERIAL THAT IS TO BE PLACED OVER THE STREAM BANK STONE FILL.

EPSC NARRATIVE

PROJECT NAME:	BURKE
PROJECT NUMBER:	BRZ 1447(15)
FILE NAME:	87e043\se043e0nar.dgn
PROJECT LEADER:	C.P. WILLIAMS
DESIGNED BY:	
EROSION CONTROL NARRATIVE	
PLOT DATE:	10-MAR-2008
DRAWN BY:	M.FESSEL
CHECKED BY:	E.L.RUSTAY
SHEET	47 OF 81