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NARRATIVE

I.1 PROJECT DESCRIPTION

BRO 1447(19) T.H. 85 BRIDGE NO. 29 OVER THE PASSUMPSIC RIVER IS LOCATED IN THE TOWN OF ST. JOHNSBURY, CALEDONIA COUNTY, VERMONT. THE PROJECT BEGINS APPROXIMATELY 211 FT WEST OF THE INTERSECTION OF T.H. 85 AND U.S. ROUTE 5 AND EXTENDS EAST ALONG T.H. 85 211 FT TO U.S. ROUTE 5. THIS PROJECT ALSO BEGINS ON U.S. ROUTE 5 AT A POINT APPROXIMATELY 206 FT SOUTH OF THE INTERSECTION OF T.H. 85 AND U.S. ROUTE 5 AND EXTENDS 378 FT NORTH ON U.S. ROUTE 5. WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES THE REPLACEMENT OF BRIDGE NO. 29 AND RELATED CHANNEL WORK, SUBBASE, COLD PLANING, RESURFACING WITH A SHIM/LEVELING COURSE AND WEARING COURSE, INSTALLATION OF NEW GUARDRAIL, NEW PAVEMENT MARKINGS, NEW SIGNS, AND INCIDENTAL ITEMS. THE TOTAL AREA OF DISTURBANCE FOR THIS PROJECT IS 0.55 ACRES.

I.2 SITE INVENTORY AND ANALYSIS

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

THE PROJECT AREA LIES WITHIN A SMALL VALLEY ACROSS THE PASSUMPSIC RIVER LOCATED BETWEEN MOUNT PISGAH AND SADDLEBACK MOUNTAIN TO THE EAST AND AN AREA OF ROLLING TERRAIN AND HILLS TO THE WEST. THE PROJECT RUNS BOTH PERPENDICULAR AND PARALLEL TO THE PASSUMPSIC RIVER WHICH IS A TRIBUTARY OF THE CONNECTICUT RIVER AND RUNS FROM SEVERAL SOURCES LOCATED IN THE MOUNTAINS TO THE NORTH TO ITS OUTFALL IN THE CONNECTICUT RIVER. THE MAJORITY OF ALL SURFACE RUNOFF WATERS WITHIN IN THE PROJECT AREA FLOW OVERLAND AND THROUGH ROADSIDE DITCHES THAT OUTLET INTO THE PASSUMPSIC RIVER. THERE ARE ALSO SOME CULVERTS LOCATED WITHIN THE PROJECT AREA THAT CONVEY THE WATER FROM THE ROADSIDE DITCHES TO THE PASSUMPSIC RIVER.

I.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER

THERE ARE A FEW ROADSIDE DITCHES THAT ARE LOCATED WITHIN THE PROJECT CORRIDOR THAT OUTLET DIRECTLY OR THROUGH CULVERTS INTO THE PASSUMPSIC RIVER. ALSO, THE PROJECT IS LOCATED OVER AND ALONG THE PASSUMPSIC RIVER WHICH IS A NATURAL WATERWAY THAT RUNS FROM SEVERAL SOURCES LOCATED IN THE MOUNTAINS TO THE NORTH AND EVENTUALLY FLOWS INTO THE CONNECTICUT RIVER SOUTH OF THE PROJECT AREA.

I.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE MAJORITY OF THE EXISTING SITE TOPOGRAPHY CONSISTS OF A RURAL MINOR ARTERIAL ROUTE AND LOCAL RURAL ROUTE SITUATED IN A RURAL RESIDENTIAL AREA WITH SOME COMMERCIAL ESTABLISHMENTS LOCATED IN THE PROJECT AREA. SANITARY SEWER FACILITIES ARE PRESENT WITHIN THE PROJECT AREA, BUT THERE ARE NO IMPACTS ASSOCIATED WITH THIS CONTRACT. AERIAL FACILITIES ARE ALSO PRESENT WITHIN THE PROJECT LIMITS WHICH WILL BE RELOCATED AS A RESULT OF THIS PROJECT.

I.2.4 VEGETATION

THE VEGETATION LOCATED WITHIN THE PROJECT LIMITS PRIMARILY CONSISTS OF GRASSED/LAWN AREAS ALONG THE BANKS OF THE PASSUMPSIC RIVER AND RESIDENTIAL AREAS. THERE ARE ALSO SOME AREAS OF SHRUBS/BRUSH LOCATED ALONG THE BANKS OF THE PASSUMPSIC RIVER AND SOME ISOLATED AREAS OF DENSE WOODED AREAS LOCATED TO THE EAST OF PROJECT CORRIDOR. IT IS ANTICIPATED THAT THERE WILL BE NO IMPACTS TO THE WOODED OR SHRUB/BRUSH AREAS DURING THE CONSTRUCTION OF THIS PROJECT. DUE TO THE REPLACEMENT OF BRIDGE 29 AND THE RECONSTRUCTION OF THE ROADWAYS IN THE IMMEDIATE VICINITY OF BRIDGE 29 MOST LAWN AREAS WILL NEED TO BE REGRADED AND RESEEDED TO ESTABLISH TURF AND TO STABILIZE THE SOIL.

I.2.5 SOILS

THE SOILS LOCATED WITHIN THE PROJECT LIMITS HAVE BEEN PRIMARILY CLASSIFIED AS POTENTIALLY HIGHLY ERODIBLE OR HIGHLY ERODIBLE BY THE UNITED STATES DEPARTMENT OF AGRICULTURE'S NATIONAL RESOURCE CONSERVATION SERVICE (NRCS). THE FOLLOWING IS A LIST OF SOIL TYPES THAT ARE LOCATED WITHIN THE PROJECT AREA AND ARE LIKELY TO BE ENCOUNTERED.

MAP UNIT TYPE	DESCRIPTION	SLOPES	ERODIBILITY	ERODIBILITY FACTOR (K)
I04B	URBAN LAND-ADAMS-NICHOLVILLE COMPLEX	0-8	POTENTIALLY HIGHLY ERODIBLE	0.17
214E	VERSHIRE-LOMBARD COMPLEX	35-60	HIGHLY ERODIBLE	0.32

MAP UNIT TYPE IS FROM THE NRCS SOIL SURVEY MAP FOR CALEDONIA COUNTY, VERMONT. SEE SHEETS 27 THROUGH 28 FOR MAP UNIT BOUNDARY LINES.

I.2.6 SENSITIVE RESOURCE AREAS

THE PASSUMPSIC RIVER RUNS THROUGH THE PROJECT AREA AND THERE IS A 50 FT RIPARIAN BUFFER ASSOCIATED WITH THE RIVER. THE CONTRACTOR SHALL PROTECT ALL FEATURES BEYOND THE CONSTRUCTION LIMITS FROM IMPACTS THROUGHOUT THE DURATION OF THE PROJECT.

I.2.7 PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

LOCATED WITHIN THE PROJECT LIMITS IS THE PASSUMPSIC RIVER, A TRIBUTARY TO THE CONNECTICUT RIVER WHICH FLOWS FROM SEVERAL SOURCES LOCATED IN THE MOUNTAINS TO THE NORTH UNDER BRIDGE 29 ON T.H. 85 TO ITS OUTFALL POINT IN THE CONNECTICUT RIVER SOUTH OF THE PROJECT AREA.

I.3 TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL

I.3.1 DESCRIPTION OF ALL TEMPORARY STRUCTURAL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES

TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED THROUGH BEST MANAGEMENT PRACTICES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER. THE FOLLOWING IS A LIST OF TEMPORARY EROSION CONTROL MEASURES THAT SHALL BE IMPLEMENTED DURING THIS CONSTRUCTION OF THIS PROJECT AS SHOWN IN THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER:

- PROJECT DEMARCATION FENCE
- SILT FENCE
- CULVERT INLET/OUTLET PROTECTION
- DRAINAGE STRUCTURE INLET PROTECTION
- FILTER CURTAIN
- EROSION MATTING
- STONE CHECK DAMS

I.3.2 DESIGN CALCULATIONS FOR ALL TEMPORARY STRUCTURAL CONTROL MEASURES

DUE TO THE LIMITED VARIATIONS IN THE TOPOGRAPHY ASSOCIATED WITH THE PROJECT ENVIRONS AND THE EXTENT OF THE PROPOSED WORK ANTICIPATED, NO TEMPORARY STRUCTURAL EROSION CONTROL MEASURE DESIGN CALCULATIONS WERE PERFORMED.

I.4 FINAL EROSION PREVENTION CONTROL MEASURES

I.4.1 DESCRIPTION OF PERMANENT EROSION AND SEDIMENT CONTROL MEASURES

EXISTING CULVERT OUTLETS SHALL BE PERMANENTLY PROTECTED WITH STONE APRONS AND THE EMBANKMENT SURROUNDING THE NEW STRUCTURE ALONG THE PASSUMPSIC RIVER WILL HAVE STONE PLACED ON TOP.

CONSTRUCTION SEQUENCING NOTES:

PHASE 1 - ESTABLISH PERIMETER CONTROLS

1. PRIOR TO BEGINNING ANY WORK WITHIN THE PROJECT LIMITS, PROJECT DEMARCATION FENCING SHALL BE ERECTED ALONG THE ENTIRE PROJECT AS SHOWN IN THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER. THE COST OF INSTALLING THE PROJECT DEMARCATION FENCE SHALL BE PAID FOR UNDER ITEM 620.70 SNOW FENCE (MOD. - PDF).
2. INSTALL ALL NECESSARY EROSION PREVENTION ITEMS (E.G. SILT FENCE, FILTER CURTAIN, DRAINAGE STRUCTURE INLET PROTECTION AND CLUVERT INLET/OUTLET PROTECTION) AS SHOWN ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER. THE COST OF INSTALLING ALL EROSION PREVENTION AND SEDIMENT CONTROL ITEMS SHALL BE PAID FOR UNDER THERE RESPECTIVE ITEMS AS SHOWN IN THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.

PHASE 2 - RECONSTRUCT EXISTING BRIDGE AND ROADWAYS

1. THE CONTRACTOR SHALL REPLACE THE EXISTING BRIDGE BY CLOSING DEPOT HILL ROAD AND BACK CENTER ROAD TO TRAFFIC WITHIN THE PROJECT AREA. DURING FINAL PAVING OPERATIONS, THE CONTRACTOR SHALL RECONSTRUCT U.S. ROUTE 5 BY UTILIZING TEMPORARY LANE CLOSURES AND MAINTAINING ONE-WAY TRAFFIC ON ONE UNOBSSTRUCTED 10.0 FT LANE AT ALL TIMES THROUGH THE PROJECT AREA DURING WORKING HOURS. TRAFFIC SHALL BE RESTORED TO NORMAL OPERATIONS DURING NON-WORKING HOURS AND ALL HOLIDAYS PER SECTION 100 OF THE VERMONT AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001.
2. THE CONTRACTOR SHALL CONSTRUCT THE PROPOSED ROADWAY IN SUCH A MANNER THAT MINIMIZES THE DURATION OF EXPOSED GROUND BY STAGING THEIR ACTIVITIES SO THAT ALL DISTURBED AREAS WILL BE EITHER PAVED OR STABILIZED AT THE END OF EACH WORK DAY. NO LONGITUDINAL DROP OFFS SHALL EXIST WITHIN THE PROJECT AREA DURING NON-WORKING HOURS. IT IS ANTICIPATED THAT THE CONTRACTOR WILL FIRST REPLACE THE EXISTING BRIDGE AND THEN OVERLAY THE U.S. ROUTE 5 PAVEMENT.

PHASE 3 - REMOVE ALL TEMPORARY EROSION CONTROL AND PERIMETER CONTROL MEASURES

1. THE CONTRACTOR SHALL ONLY REMOVE ALL TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES AND THE PROJECT DEMARCATION FENCE ONCE ALL WORK HAS BEEN COMPLETED AND THE SLOPES HAVE BEEN STABILIZED AS DIRECTED BY THE RESIDENT ENGINEER.

GENERAL NOTES FOR TEMPORARY SOIL EROSION PREVENTION AND SEDIMENT CONTROL

1. THE EROSION PREVENTION & SEDIMENT CONTROL PLANS (EP&SCP) ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT AS REQUIRED BY THE VAOT STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT TO CONTROL EROSION AND MINIMIZE THE SEDIMENTATION OF RIVERS, STREAMS AND/OR IMPOUNDMENTS SUCH AS LAKES AND RESERVOIRS. THE MEASURES CONSIST OF STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER MISCELLANEOUS POLLUTION PREVENTION CONTROLS.
2. COORDINATE THE INSTALLATION, USE, AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES WITH ROADWAY CONSTRUCTION ACTIVITIES TO ASSURE ECOLOGICAL, EFFECTIVE, AND CONTINUOUS EROSION PREVENTION AND SEDIMENT CONTROL. EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS.
3. INSPECTION OF SOIL EROSION AND POLLUTION CONTROL MEASURES SHALL BE DONE EVERY SEVEN (7) CALENDER DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE OR AS DIRECTED BY THE RESIDENT ENGINEER. REPAIRS SHALL BE MADE AS NEEDED WHEN DAMAGE TO MEASURES ARE DISCOVERED AND SEDIMENT SHALL BE REMOVED WHEN THE STORAGE VOLUME OF AN EROSION CONTROL MEASURE IS APPROACHING ONE HALF OF ITS INTENDED CAPACITY OR AS DIRECTED BY THE RESIDENT ENGINEER.
4. INSTALL ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES AS SHOWN IN THE EP&SCP OR AS DIRECTED BY THE RESIDENT ENGINEER. DO NOT MODIFY THE TYPE, SIZE, OR LOCATION OF ANY CONTROL OR PRACTICE WITHOUT APPROVAL FROM THE RESIDENT ENGINEER.
5. PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TRYING TO CONTROL ERODED SEDIMENT. THEREFORE STABILIZE ALL DISTURBED AREAS AS SOON AS IS PRACTICAL BUT NO MORE THAN TWO DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED EXCEPT FOR PERIMETER CONTROL MEASURES, WHICH SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING, GRUBBING OR GRADING ACTIVITY.
6. THE CONTRACTOR SHALL GRADE AND TRIM ALL SLOPES AS THE EXCAVATION PROGRESSES AND SEED ALL SLOPES AS DIRECTED BY THE RESIDENT ENGINEER.
7. THE CONTRACTOR SHALL HAVE A HYDROSEEDER AND/OR A MULCHING MACHINE AVAILABLE ON THE PROJECT SITE OR AVAILABLE AT ONE WEEK'S NOTICE (MAXIMUM) UNTIL THE PERMANENT SEEDING IS COMPLETED.
8. CONTROL ONLY SEDIMENT LADEN RUNOFF GENERATED BY THE PROJECT SITE. SEPARATE AND QUICKLY ROUTE CLEAN OFFSITE RUNOFF THROUGH THE PROJECT BY USING EARTH DIVERSION BERMS, DIVERSION CHANNELS, AND CULVERTS. A TEMPORARY LINING MATERIAL MAY BE REQUIRED WHERE THE CONTRACTOR PROVIDES TEMPORARY CHANNELS TO KEEP CONTRACTOR'S WORK SITES FREE FROM WATER DURING CONSTRUCTION AS DIRECTED BY THE RESIDENT ENGINEER
9. CONSTRUCTION OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER AS TO PREVENT ANY DAMAGE TO THE WATERS OF THE UNITED STATES FROM POLLUTION BY DEBRIS, SEDIMENT, OR OTHER FOREIGN MATERIAL, OR FROM MANIPULATION OF EQUIPMENT AND/OR MATERIALS IN OR NEAR THE WATERS OF THE UNITED STATES. THE CONTRACTOR SHALL NOT RETURN DIRECTLY TO THE WATERS OF THE UNITED STATES ANY WATER WHICH HAS BEEN USED FOR WASH PURPOSES OR OTHER SIMILAR OPERATIONS WHICH WOULD CAUSE THIS WATER TO BECOME POLLUTED WITH SAND, SILT, CEMENT, OIL OR OTHER IMPURITIES. IF THE CONTRACTOR USES WATER FROM THE WATERS OF THE UNITED STATES, THE CONTRACTOR SHALL CONSTRUCT AN INTAKE OR TEMPORARY DAM TO PROTECT AND MAINTAIN STREAM WATER QUALITY.
10. DURING CONSTRUCTION, NO WET OR FRESH CONCRETE OR LEACHATE SHALL BE ALLOWED TO ESCAPE INTO THE WATERS OF THE UNITED STATES, NOR SHALL WASHING FROM CONCRETE TRUCKS, MIXERS OR OTHER DEVICES BE ALLOWED TO ENTER ANY WETLANDS OR WATERS OF THE UNITED STATES.
11. DO NOT ALLOW CONSTRUCTION VEHICLES TO TRACK SEDIMENT OFFSITE OF THE PROJECT LIMITS.
12. DO NOT ALLOW ANY CONSTRUCTION EQUIPMENT TO OPERATE OR ACCESS ON THE DOWN SLOPE SIDE OF PERIMETER CONTROL MEASURES.
13. DO NOT ALLOW ANY CROSSING OF A FLOWING STREAM OR DISTURBANCE OF THE EXISTING STREAM BANK BY CONSTRUCTION EQUIPMENT EXCEPT AS AUTHORIZED BY THE RESIDENT ENGINEER.
14. IN GENERAL, PRESERVE EXISTING VEGETATION, TREES, AND SHRUBS WHEN POSSIBLE AS DIRECTED BY THE RESIDENT ENGINEER.

TEMPORARY EROSION PREVENTION & SEDIMENT CONTROL NOTES

SURVEYED BY	W. DEYETTE	DATE	10/93
DRAWN BY	C. KAHLBAUGH	DATE	7/06
SQUAD LEADER	J. P. HALSTEAD		
DESIGN FILE NO.			
IPARM FILE		DATE PLOTTED	12/20/2006
PROJ. NAME	ST. JOHNSBURY, BRIDGE NO. 29		
PROJ. NO.	BRO 1447(19)		
SHEET	21	OF	72 SHEETS

DATUM	NAVD 88
VERTICAL	
HORIZONTAL	N/A