

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REHABILITATION OF THE HISTORIC TRUSS BRIDGE (NO. 37) CARRYING TOWN HIGHWAY 62 OVER THE WEST RIVER IN THE TOWN OF DUMMERSTON. THE BRIDGE IS CURRENTLY CLOSED TO TRAFFIC. THE BRIDGE IS APPROXIMATELY 63 METERS LONG AND 4.7 METERS WIDE. THE TOTAL LENGTH OF THE APPROACH WORK IS APPROXIMATELY 112 METERS. IT ALSO INCLUDES WIDENING THE NORTHBOUND APPROACH SHOULDER OF VERMONT ROUTE 30, REPLACING GUARDRAIL AND REPLACING AN EXISTING CULVERT ON VERMONT ROUTE 30 WITH A DROP INLET AND A NEW PIPE OUTLET.

DURING THIS CONTRACT, IT IS ANTICIPATED THAT A TEMPORARY WORK PLATFORM WILL BE CONSTRUCTED ALONG SIDE AND UPSTREAM OF THE EXISTING TRUSS BRIDGE. TEMPORARY SHORING WILL BE REQUIRED AT THE EXISTING ABUTMENTS AND TEMPORARY SHORING WILL BE REQUIRED FOR THE WORK PLATFORM IN THE RIVER. THE CONTRACTOR SHALL PREVENT ANY DEBRIS FROM FALLING INTO THE WEST RIVER FROM THE EXISTING TRUSS BRIDGE OR THE TEMPORARY WORK PLATFORM. THE EXISTING ABUTMENT BACKWALLS WILL BE RECONSTRUCTED AND PORTIONS OF THE EXISTING DRY MASONRY WILL BE REPAIRED AS NOTED IN THE PLANS. THE APPROACH SHOULDER ON VERMONT ROUTE 30 WILL BE WIDENED AND TOWN HIGHWAY 62 WILL BE REGRADED.

THE SITE IS LOCATED AT LATITUDE 42 DEGREES 54.9 MINUTES, LONGITUDE 72 DEGREES 36.8 MINUTES.

AREA OF DISTURBANCE WITHIN THE PROJECT AREA (INCLUDING WASTE, BORROW, SHORING AND STAGING AREAS): 610 SM (0.061 HECTARES) (0.15 ACRES). NO WETLANDS HAVE BEEN IDENTIFIED AT THE PROJECT SITE. NO OTHER SENSITIVE RESOURCE AREAS HAVE BEEN IDENTIFIED AT THE PROJECT (EXCEPT THE HISTORIC TRUSS BRIDGE ITSELF).

1.2 SITE INVENTORY

1.2.1 OFFSITE DRAINAGE CHARACTERISTICS (UP AND DOWN GRADIENT)

THE LAND SURROUNDING THE PROJECT SITE CONSISTS OF A WELL ESTABLISHED FOREST WITH RELATIVELY STEEP SLOPES. OFFSITE DRAINAGE FROM THE EAST IS COLLECTED ALONG THE EAST EDGE OF A NORTH-SOUTH GRAVEL ROAD (TH 62 & TH 40) AND CONVEYED INTO A CULVERT AND A WELL-DEFINED, DEEP DITCH THAT DISCHARGES TO THE RIVER VIA OVERLAND FLOW THROUGH THE WOODS. OFFSITE DRAINAGE ALONG THE WEST EDGE OF THE NORTH-SOUTH GRAVEL ROAD GENERALLY DRAINS TO THE RIVER VIA OVERLAND FLOW THROUGH THE WOODS. ON PAVED VERMONT ROUTE 30, THE ROADWAY DRAINAGE IS COLLECTED AND CONVEYED ALONG THE NORTHBOUND CURB AND DISCHARGES THRU A CULVERT TO THE RIVER VIA OVERLAND FLOW. THE SOUTHBOUND SIDE OF PAVED VERMONT ROUTE 30 COLLECTS OFFSITE DRAINAGE IN GRASS LINED SWALES, CONVEYS IT INTO A CULVERT AND DISCHARGES IT TO THE RIVER VIA OVERLAND FLOW.

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

THE WEST RIVER IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE DRAINAGE BASIN FOR THIS RIVER IS GENERALLY CHARACTERIZED BY ROCKY, STEEP SLOPES WITH A WIDE FLOODPLAIN. THE TRIBUTARY DRAINAGE AREA AT THE BRIDGE IS APPROXIMATELY 104,960 HECTARES (259,354 ACRES). DURING FLOOD EVENTS, THE RIVER RISES RAPIDLY AND THE FLOW IS MODERATE. THE CHANNEL BED MATERIAL CONSISTS OF MEDIUM-SIZED COBBLES WITH FINE SAND AND THE BANKS ARE ROCKY AND RELATIVELY RESISTANT TO EROSION. PREVIOUSLY DISTURBED SOILS ARE LOCATED ALONG THE EXISTING ROADWAYS AND ABUTMENTS AT BOTH SIDES OF THE RIVER AT THE TOP OF BANK. THERE ARE SEVERAL DROP INLETS AND CULVERTS ONSITE DRAINING FROM THE ROADWAY TO THE RIVER.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE PROJECT IS GENERALLY CHARACTERIZED BY THE WEST RIVER AND ITS BANKS. THE RIVER IS WIDE WITH RELATIVELY STEEP BANKS THAT ARE WELL VEGETATED AND WOODED.

VERMONT ROUTE 30 IS A NORTH-SOUTH PAVED ROAD THAT RUNS PARALLEL TO THE WEST RIVER AT THE WEST END OF THE BRIDGE. IT IS RELATIVELY FLAT AND TRAFFIC IS MODERATE WITH A POSTED SPEED OF 80 KM/H (50 MPH).

TH 62 AND TH 40 ARE SINGLE LANE GRAVEL ROADS THAT RUN PARALLEL TO THE WEST RIVER. TH 62 BEGINS AT THE WEST END OF THE BRIDGE, AT VERMONT ROUTE 30, WHERE IT CROSSES THE RIVER AND THEN TURNS AND RUNS SOUTH. THERE IS A "Y" INTERSECTION AT THE EAST END OF THE BRIDGE WHERE TH 40 BEGINS AND THEN RUNS NORTH. SEVERAL HOUSES WITH GRAVEL DRIVES ARE IN THE VICINITY OF THIS INTERSECTION.

EXISTING OVERHEAD UTILITIES RUN ALONG THE WEST SIDE OF VERMONT ROUTE 30. THE SOUTH APPROACH OF TOWN HIGHWAY 62 HAS UTILITIES ON THE WEST SIDE. AT THE "Y" INTERSECTION, EAST OF THE BRIDGE, THE UTILITIES CROSS THE ROAD AND CONTINUE NORTH ON THE EAST SIDE OF TOWN HIGHWAY 40.

1.2.4 VEGETATION

IN GENERAL, THE WEST BANK OF THE RIVER CONSISTS OF SMALL GRASS AREAS, ASSORTED BRUSH AND A NARROW STRIP OF MIXED HARDWOOD AND SOFTWOOD TREES. THE EAST BANK OF THE RIVER CONSISTS OF A WIDE STRIP OF WOODS THAT CONSIST OF A DENSE MIX OF HARDWOOD AND SOFTWOOD TREES WITH ASSORTED BRUSH. THE RESIDENCES EAST OF THE PROJECT HAVE LANDSCAPED AREAS WITH LAWN AND ASSORTED TREES.

ALL TREES AND AREAS OF BRUSH WILL BE REMOVED WITHIN THE EXISTING, NARROW RIGHT-OF-WAY OF TH 62 AND THE WORK PLATFORM AREA WITHIN THE PROJECT LIMITS. ALL AREAS OF DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH.

1.2.5 SOILS

ALL SOIL DATA WAS OBTAINED FROM MAPPING CREATED BY THE NATURAL RESOURCES CONSERVATION SERVICE FOR THE COUNTY OF WINDHAM, VERMONT. "WINDSOR" SOIL IS LOCATED ON THE WEST SIDE OF THE BRIDGE. THE SOIL IS LOAMY FINE SAND WITH GENERALLY 2% TO 8% SLOPES. THE SOIL IS NOT CONSIDERED HIGHLY ERODIBLE (K=0.17). "QUONSET" AND "WARWICK" SOILS ARE LOCATED ON THE EAST SIDE OF THE BRIDGE. THESE SOILS ARE FINE SANDY LOAM WITH GENERALLY 2% TO 8% SLOPES. THESE SOILS ARE NOT CONSIDERED HIGHLY ERODIBLE (K=0.20).

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

CRITICAL HABITATS: NO
 HISTORICAL AREAS: EXISTING TRUSS BRIDGE ONLY
 ARCHEOLOGICAL AREAS: NO
 PRIME AGRICULTURAL LAND: NO
 THREATENED AND ENDANGERED SPECIES: NO
 WATER RESOURCE: WEST RIVER (REFER TO PROJECT PERMIT CONDITIONS FOR IN-STREAM WORK RESTRICTIONS)
 WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF CONSTRUCTION GENERAL PERMIT 3-9020 BASED ON THE PROJECT IMPACT AREA. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE (INCLUDING ANY WASTE, BORROW, SHORING AND STAGING AREAS) 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.

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 FENCE, 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.

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.

INSTALL TURBIDITY CURTAIN WITH ADEQUATE ANCHORAGE AND GUIDE DEVICES TO ACCOMMODATE RIVER FLOWS FOR ALL CONSTRUCTION IN OR ADJACENT TO THE RIVER.

1.4.3 STABILIZE CONSTRUCTION ENTRANCE/EXIT

STABILIZED CONSTRUCTION ENTRANCES AND EXITS ARE NOT ANTICIPATED FOR THIS PROJECT.

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

COLLECT AND ROUTE CLEAN OFFSITE RUNOFF AROUND OR THROUGH THE PROJECT SITE USING DIVERSION BERMS, DIVERSION TO SWALES, CULVERTS AND/OR TEMPORARY PIPES.

USE EXCAVATED DROP INLET PROTECTION DURING CONSTRUCTION UNTIL CONTRIBUTING DRAINAGE AREAS ARE STABILIZED.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

TEMPORARY STONE CHECK DAM, TYPE I SHALL BE UTILIZED AS NECESSARY.

1.4.7 CONSTRUCT PERMANENT CONTROLS

SEED AND HAY MULCH
 DRAINAGE INLETS AND PIPING

RIPRAP PROTECTION WILL BE INSTALLED AT CULVERT OUTLETS.

1.4.8 STABILIZE EXPOSED SOILS

SEED AND HAY MULCH
 TEMPORARY 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 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

IF CONSTRUCTION CONTINUES THRU THE WINTER, USE VARIOUS MEASURES SPECIFIED FOR WINTER (SEE LOW RISK SITE HANDBOOK).

1.4.10 STABILIZE SOIL AT FINAL GRADE

SEED AND HAY MULCH
 TEMPORARY EROSION MATTING

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR 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

DE-WATERING IS NOT ANTICIPATED FOR THIS PROJECT.

1.4.12 INSPECT YOUR SITE

INSPECT SITE BASED ON PERMIT AUTHORIZATION OR SPECIAL PROVISION REQUIREMENTS.

STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	DUMMERSTON	Bridge No.	37
Highway No.	TH 62	Log Sta.	
		Surv. Sta.	
TH 62 OVER WEST RIVER			
EPSC NARRATIVE			
Designed By	C.L. CILLEY	Drawn By	C.L. CILLEY
Checked By	Date	Bridge Design Supervisor	
S. M. HODGDON	4/09	S. M. HODGDON	Date 4/09
PROJECT	DUMMERSTON	PROJECT NO.	BHO 1442 (28)
I.G.C. Info.			
Bridge Sheet No.	ZJ080ERONAR	Sheet	9 of 49