

**1.1 PROJECT DESCRIPTION**

THIS PROJECT CONSISTS OF REPLACEMENT OF THE EXISTING SUPERSTRUCTURE WITH A NEW PRESTRESSED CONCRETE BOX BEAM SUPERSTRUCTURE AND APPROXIMATELY 123 FEET OF ASSOCIATED ROADWAY APPROACH WORK. ADDITIONAL CONSTRUCTION SPECIFIED FOR THIS PROJECT INCLUDES THE REMOVAL AND REPLACEMENT OF EXISTING GUARDRAIL ADJACENT TO THE ROADWAY, CONSTRUCTION OF A NEW NORTHERN ABUTMENT, REHABILITATION OF THE SOUTHERN ABUTMENT AND THE RECONSTRUCTION OF SIDE SLOPES ALONG THE IMPACTED ROADWAY.

THE PROJECT IS LOCATED ON MOSCOW ROAD (TH NO. 1), APPROXIMATELY 1.89 MILES WEST OF THE JUNCTION OF VT ROUTE 100 AND TH NO. 1 AND EXTENDING NORTHEASTERLY ALONG TH NO. 1 FOR 0.038 MILES CROSSING MILLER BROOK. MOSCOW ROAD IS A PAVED CLASS 2 TOWN HIGHWAY IN THE TOWN OF STOWE. PRIOR TO CONSTRUCTION, A TEMPORARY DETOUR AND BRIDGE WILL BE INSTALLED UPSTREAM OF THE EXISTING BRIDGE AND USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION. THE TEMPORARY DETOUR WILL BE A TOTAL LENGTH OF 560 FEET AND WILL BE REMOVED UPON COMPLETION OF CONSTRUCTION. THIS PROJECT IS EXPECTED TO LAST ONE CONSTRUCTION SEASON.

THE MATERIAL TO BE EXCAVATED FROM THE SITE WILL INCLUDE THE EXISTING BITUMINOUS CONCRETE SURFACE AND SUBBASE WITHIN THE EXISTING ROADWAY AS WELL AS EXCAVATION FOR THE PLACEMENT OF THE NEW ABUTMENT. ADDITIONAL EXCAVATION WILL BE NEEDED FOR THE TEMPORARY ABUTMENTS USED TO SUPPORT THE TEMPORARY BRIDGE. STOCKPILING OF ANY EXCAVATED MATERIAL TO BE REUSED IS EXPECTED TO TAKE PLACE WITHIN THE PROJECT LIMITS. LIKEWISE, STOCKPILING OF ANY NEW MATERIAL TO BE USED IS EXPECTED TO TAKE PLACE WITHIN THE PROJECT LIMITS. THE LIMIT OF CONSTRUCTION AND ASSOCIATED MAXIMUM SOIL DISTURBANCE AREA FOR THE ROADWAY AND BRIDGE CONSTRUCTION IS APPROXIMATELY 0.13 ACRES. ADDITIONALLY THERE WILL BE APPROXIMATELY 0.26 ACRES OF DISTURBED SOIL ASSOCIATED WITH THE CONSTRUCTION, USE AND REMOVAL OF THE TEMPORARY DETOUR. THE TOTAL FOOTPRINT AREA OF DISTURBED SOILS IS CALCULATED TO BE 0.39 ACRES.

THE EXISTING ENVIRONMENTAL RESOURCE ELEMENTS IN THE VICINITY OF THE PROJECT ARE MILLER BROOK AND A SMALL CLASS III WETLAND, WHICH IS OUTSIDE THE LIMITS OF CONSTRUCTION. THERE ARE NO OTHER KNOWN SENSITIVE ENVIRONMENTAL AREAS IN CLOSE PROXIMITY TO THIS PROJECT. THERE ARE NO CRITICAL HABITATS, OTHER THAN MILLER BROOK AND THE WETLAND. THE BANKS OF THIS RIVER WITHIN THE PROJECT LIMITS ARE NATURAL SOIL AND ROCK SLOPES EXTENDING FROM THE EXISTING GRADES OR ABUTMENTS TO THE ELEVATION OF THE WATER WITHIN THE BROOK. THE BANKS OF THE BROOK ARE NOT INTENDED TO BE DISTURBED WITH THE EXCEPTION OF PLACING A NEW ABUTMENT AND DURING CONSTRUCTION OF THE TEMPORARY BRIDGE. ALL PROPOSED CONSTRUCTION IS TO TAKE PLACE IN THE DRY.

**1.2 SITE INVENTORY**

1.2.1 OFFSITE DRAINAGE CHARACTERISTICS

THIS PROJECT SITE IS LOCATED IN A RURAL AREA OF THE TOWN OF STOWE. THE PROPERTY SURROUNDING THE PROJECT SITE IS MODERATELY SLOPED WITH WELL-ESTABLISHED VEGETATION INCLUDING GRASS LAWNS, FIELDS, AND FOREST AREA. MUCH OF THE RUNOFF FROM THE SURROUNDING TERRAIN DRAINS DIRECTLY INTO MILLER BROOK. THERE ARE NO DEFINED DRAINAGE DITCHES OR OTHER DRAINAGE FEATURES IN THE PROJECT AREA.

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

MILLER BROOK IS THE ONLY WATERWAY WITHIN THE PROJECT LIMITS. THERE IS A SMALL CLASS III WETLAND AREA OUTSIDE OF THE PROJECT LIMITS.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE PROJECT CONSISTS OF MODERATE SLOPES. THE ROADWAY IS BORDERED ON BOTH SIDES BY THE STATE OF VERMONT DEPARTMENT OF FOREST AND PARKS. OVERHEAD UTILITIES ARE LOCATED ALONG THE WEST SIDE OF MOSCOW ROAD WITH TWO POLES THAT WILL BE RELOCATED BY THE OWNER, PRIOR TO THE START OF CONSTRUCTION.

1.2.4 VEGETATION

THE PROJECT AREA CONSISTS OF GRASSY LAWNS AND FIELDS WITH SCATTERED GROUPS OF SMALL TO MEDIUM TREES. IMPACTS TO VEGETATED AREAS WILL BE LIMITED TO THE SIDE SLOPES OF THE ROAD, AREAS ADJACENT TO THE BRIDGE AND THE AREA OF THE TEMPORARY DETOUR. FOLLOWING THE COMPLETION OF CONSTRUCTION, THE TEMPORARY DETOUR AND ASSOCIATED FILL WILL BE REMOVED AND THE VEGETATION WILL BE REESTABLISHED USING STANDARD SEED AND MULCH PRACTICES.

1.2.5 SOILS

THE SOIL CONSERVATION SERVICE HAS MAPPED THE SOILS THROUGHOUT LAMOILLE COUNTY. THE SOIL TYPE IDENTIFIED FOR THIS PROJECT SITE IS UDIFLUVENTS, FREQUENTLY FLOODED, WITH A PARENT GROUP COMPRISED OF MISCELLANEOUS SOIL UNITS. THIS SITE IS LISTED AS NOT HIGHLY ERODIBLE. SUBSURFACE INVESTIGATIONS WERE CONDUCTED AS PART OF THIS PROJECT. THE SOILS WERE NOTED TO BE DENSE, FINE TO COURSE SAND AND GRAVEL.

1.2.6 SENSITIVE RESOURCE AREAS

THE ONLY SENSITIVE AREAS IN THE PROJECT AREA ARE MILLER BROOK AND A SMALL TYPE III WETLAND. THE WETLAND IS OUTSIDE OF THE LIMITS OF CONSTRUCTION. NO THREATENED OR ENDANGERED SPECIES, PRIME AGRICULTURAL SOILS, HISTORICAL OR ARCHEOLOGICAL SITES, OR OTHER CRITICAL HABITATS EXISTING WITHIN THE PROJECT AREA.

**1.3 RISK EVALUATION**

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.

**1.4 EROSION PREVENTION AND SEDIMENT CONTROL**

TO MINIMIZE THE POTENTIAL FOR STORM WATER RUNOFF TO TRANSPORT SEDIMENT INTO THE BROOK, SEVERAL KEY EROSION CONTROL DEVICES AND GENERAL PRACTICES WILL BE USED. DETAILS OF THE DEVICES AND THE LOCATION OF THEIR PLACEMENT CAN BE FOUND IN THE EPSC PLANS AND DETAILS. ALL EROSION CONTROL MEASURES SHALL BE PLACED IN ACCORDANCE WITH THE EPSC DETAILS IN THESE PLANS.

1.4.1 MARK SITE BOUNDARIES

MARKING THE SITE BOUNDARIES WILL HELP TO LIMIT THE AREA OF SOIL DISTURBANCE. THE SITE BOUNDARY SHALL BE MARKED WITH PROJECT DEMARCATION FENCE.

1.4.2 LIMIT DISTURBANCE AREA

LIMITING THE DISTURBANCE AREA WILL HELP TO REDUCE THE POTENTIAL FOR SEDIMENT TRANSPORT FROM THE SITE. THE AREA OF DISTURBANCE SHALL BE LIMITED BY PHASING THE CONSTRUCTION WHEN APPROPRIATE, BY ESTABLISHING VEGETATION IN AREAS IMMEDIATELY FOLLOWING GRADING AND BY MULCHING STOCKPILED EARTHEN MATERIALS. THE EXISTING MAINLINE WILL BE CLOSED DURING CONSTRUCTION; THEREFORE IT CAN BE USED AS A STAGING AND STOCKPILE AREA. THESE AREAS WILL BE COMPLETELY WITHIN THE PROJECT LIMITS AND WILL UTILIZE THE TEMPORARY EROSION CONTROL MEASURES CALLED FOR.

1.4.3 STABILIZE CONSTRUCTION EXIT

A STABILIZED CONSTRUCTION EXIT WILL HELP TO REMOVE EARTHEN MATERIALS FROM CONSTRUCTION EQUIPMENT EXITING THE SITE. A VEHICLE TRACKING PAD SHALL BE CONSTRUCTED AT THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

1.4.4 INSTALL SILT FENCE

SILT FENCE WILL REDUCE THE AMOUNT OF SEDIMENT TRANSFERRED FROM THE SITE THROUGH STORMWATER RUNOFF. SILT FENCE SHALL BE LOCATED NEAR THE EDGE OF THE BROOK AND 5 FEET TO 10 FEET DOWN GRADIENT FROM THE TOES OF SLOPE, AS SHOWN ON THE EPSC CONSTRUCTION SITE PLAN. THE SILT FENCE SHALL BE PLACED PARALLEL TO, OR ALONG, THE CONTOUR, SO THE STORM WATER WILL RUN PERPENDICULAR TO THE SILT FENCE. THE ENDS SHALL BE "J" HOOKED UP GRADIENT TO CREATE A PONDING EFFECT FOR WATER TRYING TO RUN ALONG THE FENCE AND AROUND THE ENDS.

1.4.5 DIVERT UPLAND RUNOFF

NOT APPLICABLE

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

SLOWING DOWN CHANNELIZED RUNOFF WILL HELP TO ALLOW SEDIMENT TO FALL OUT OF STORMWATER THEREFORE REDUCING THE AMOUNT OF SEDIMENT TRANSPORTED FROM THE SITE. TEMPORARY STONE CHECK DAMS SHALL BE USED BETWEEN THE PERMANENT ABUTMENTS AND TEMPORARY BRIDGE ABUTMENTS, AS SHOWN ON THE EPSC CONSTRUCTION SITE PLAN. THESE TEMPORARY MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS IN THESE PLANS.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT CONTROLS TO MINIMIZE SEDIMENT RUNOFF INCLUDE SEEDING AND MULCHING DISTURBED AREAS FOLLOWING FINAL GRADING AND INSTALLING TYPE I STONE FILL ON SLOPES GREATER THAN 1:2.

1.4.8 STABILIZE EXPOSED SOILS

STABILIZING THE EXPOSED SOILS WILL HELP TO REDUCE THE POTENTIAL FOR STORMWATER TRANSPORTING SEDIMENT FROM THE SITE. ALL TEMPORARY STOCKPILES SHALL BE MULCHED AND SEEDED AND SHALL HAVE SILT FENCE INSTALLED AT THE TOE OF SLOPE.

1.4.9 WINTER STABILIZATION

SHOULD CONSTRUCTION PROCEED INTO THE WINTER, SPECIALIZED WINTER EPSC PROCEDURES SHALL BE FOLLOWED DURING WINTER CONSTRUCTION AND DURING ANY WINTER SHUT DOWN.

1.4.10 STABILIZE SOIL AT FINAL GRADE

STABILIZING SOIL AT FINAL GRADE WILL HELP TO REDUCE THE AREA OF DISTURBANCE AND WILL THEREFORE REDUCE THE POTENTIAL FOR SEDIMENT TRANSPORT FROM THE SITE. FOLLOWING FINAL GRADING ALL DISTURBED AREAS OUTSIDE OF THE ROADWAY SHALL RECEIVE TOPSOIL, SEED AND MULCH TO REESTABLISH GRASS AND VEGETATION. TOPSOILING, SEEDING AND MULCHING SHALL BE IN ACCORDANCE WITH THE SEEDING FORMULA FOR RURAL AREAS AND ASSOCIATED NOTES AS SHOWN ON THIS SHEET.

1.4.11 DEWATERING ACTIVITIES

NOT APPLICABLE

1.4.12 INSPECT YOUR SITE

THE EROSION CONTROL MEASURES SHALL BE PERIODICALLY INSPECTED AND MAINTAINED ON A REGULAR BASIS. INSPECTION OF THE EROSION CONTROL MEASURES SHALL TAKE PLACE BEFORE AND AFTER MAJOR STORM EVENTS TO INSURE THEY ARE IN GOOD CONDITION AND TO REMOVE EXCESSIVE BUILDUP OF SILT AND DEBRIS AFTER THE STORM EVENTS. A REPORT ON THE EFFECTIVENESS OF THE EROSION CONTROL MEASURES SHALL BE PRESENTED TO THE RESIDENT ENGINEER AND ONSITE COORDINATOR UPON THE COMPLETION OF EACH INSPECTION. MODIFICATIONS OR IMPROVEMENTS TO THE EROSION CONTROL PLAN SHOULD BE COORDINATED WITH THE RESIDENT ENGINEER AND ONSITE COORDINATOR.

**SEEDING FORMULA  
RURAL AREAS**

% WT.	LBS./A.	NAME	PUR %	GERM %
37.5	22.5	CREeping RED FESCUE	98	85
37.5	22.5	TALL FESCUE	95	90
5.0	3.0	RED TOP	95	90
15.0	9.0	BIRDSFOOT TREFOIL	98	85
5.0	3.0	ANNUAL RYEGRASS	95	85
100.0	60.0			

**GENERAL NOTES**

SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.

SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	STOWE	Bridge No.	3
Highway No.	T.H. 1	Log Sta.	
		Surv. Sta.	
<b>MOSCOW ROAD OVER MILLER BROOK EPSC NARRATIVE</b>			
Designed By	R.H. BARNES	Drawn By	S.J. BIJOLLE
Checked By	Date	Bridge Design Supervisor	
E.P. DETRICK	5/09	J.W. TUCKER	Date 5/09
PROJECT	STOWE	PROJECT NO.	BHO 1446 (30)
I.G.C. Info. ... \DGN\z99j244ecp-t1t.dgn			
D & K DWG NO.		Sheet	15 of 37