



## **EROSION CONTROL NARRATIVE**

### **1.1 PROJECT DESCRIPTION**

THIS PROJECT IS LOCATED ON TH 23 IN CHITTENDEN, VT. THE PROJECT INVOLVES THE CONSTRUCTION OF TWO REPLACEMENT BRIDGES (BR 19 & BR 20) OVER THE WILDCAT BROOK. THE REPLACEMENT FOR BR 19 WILL BE CONSTRUCTED ON NEW ALIGNMENT DOWNSTREAM OF THE EXISTING STRUCTURE. BRIDGE 20 WILL BE RECONSTRUCTED IN-PLACE UTILIZING A TEMPORARY BRIDGE TO MAINTAIN TRAFFIC DURING CONSTRUCTION. PARTIAL REMOVAL OF THE EXISTING BR 19 STRUCTURE WILL BE COMPLETED.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST MORE THAN ONE CONSTRUCTION SEASON.

TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 1.39 ACRES.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS.

### **1.2 SITE INVENTORY**

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

THE AREA SURROUNDING THE PROJECT SITE CONSISTS OF WELL ESTABLISHED FOREST WITH ROLLING HILLS AT THE PROJECT SITE. THERE ARE TWO HOUSES IN THE PROJECT AREA: ONE UPSLOPE AND TO THE NORTH OF BR 19 AND ONE UPSLOPE TO THE EAST OF BR 20, BOTH WITH GRASS AND TREE BUFFERS.

THE WILDCAT BROOK IS DOWN-GRADIENT OF TH 23 BETWEEN BR 19 AND BR 20. THE PROJECT SITE COULD RECEIVE RUNOFF WATER FROM NEARBY SLOPES. DUE TO THE VEGETATED, NATURAL CONDITIONS OF THESE SLOPES, RUNOFF SHOULD BE MINIMAL.

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

THE WILDCAT BROOK IS THE ONLY WATER RESOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS PERENNIAL, ALLUVIAL, SINUOUS, AND LOCALLY ANABRANCHED WITH A STREAM BED CONSISTING OF COBBLES, BOULDERS AND GRAVEL. THE WILDCAT BROOK IS IMMEDIATELY ADJACENT TO DISTURBED SOILS AT BRIDGE 19 AND BRIDGE 20.

#### **1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES**

THE TOPOGRAPHY OF THE AREA IS HILLY TO MOUNTAINOUS, MOSTLY FORESTED. TH 23 AND THREE GRAVEL DRIVEWAYS ARE WITHIN THE PROJECT SITE. THERE ARE TWO HOUSES IN THE PROJECT AREA: ONE UPSLOPE AND TO THE NORTH OF BR 19 AND ONE UPSLOPE TO THE EAST OF BR 20. THERE ARE OVERHEAD UTILITIES WHICH WILL BE RELOCATED PRIOR TO CONSTRUCTION.

#### **1.2.4 VEGETATION**

THE VEGETATION IN THE PROJECT AREA CONSISTS OF GRASS, HARDWOOD TREES AND UNDERGROWTH. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE IV AS SPECIFIED ON THE PLANS. STREAM BANK VEGETATION WILL BE INTRODUCED IN THE GRUBBING MATERIAL THAT IS TO BE PLACED OVER THE STREAM BANK STONE FILL. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

#### **1.2.5 SOILS**

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR RUTLAND COUNTY, VERMONT. SOILS ON THE PROJECT SITE ARE PERU AND MARLOW, FINE SANDY LOAM, 5% TO 30% SLOPES, K FACTOR = 0.24. THE SOIL HAS A MODERATE EROSION POTENTIAL BASED ON K FACTOR.

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 OR ARCHEOLOGICAL AREAS: NO  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: NO  
WATER RESOURCE: WILDCAT BROOK  
WETLANDS: NO

### **1.3 RISK EVALUATION**

THIS PROJECT FALLS UNDER THE JURISDICTION OF CONSTRUCTION GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES BASED ON THE PROJECT IMPACT AREA. FURTHER RISK EVALUATION DETERMINED THAT THIS PROJECT IS CONSIDERED LOW RISK. ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

### **1.4 EROSION PREVENTION AND SEDIMENT CONTROL**

THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS (EPSC 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. THESE 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 PREVENTION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE FOLLOWED 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. BARRIER FENCE IS USED TO DELINEATE THE PROJECT LIMITS WITHIN 30M OF THE WILDCAT BROOK.

#### **1.4.2 LIMIT DISTURBANCE AREA**

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

#### **1.4.3 STABILIZE CONSTRUCTION ENTRANCE**

STABILIZED CONSTRUCTION ENTRANCES SHALL BE CONSTRUCTED AS SHOWN ON THE EPSC PLANS.

#### **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. SILT FENCE LOCATED WITHIN 30M OF THE WILDCAT BROOK SHALL BE WOVEN WIRE REINFORCED SILT FENCE.

#### **1.4.5 DIVERT UPLAND RUNOFF**

DIVERSIONARY MEASURES SHALL BE USED WHEN UPLAND RUNOFF ENTERS THE PROJECT LIMITS.

#### **1.4.6 SLOW DOWN CHANNELIZED RUNOFF**

CHECK DAMS SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS.

#### **1.4.7 CONSTRUCT PERMANENT CONTROLS**

TYPE IV STONE FOR SLOPE LINING AND CHANNEL PROTECTION  
SEED AND MULCH  
DRAINAGE INLETS AND PIPING

#### **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**

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A SPECIFIC WINTER EPSC PLAN FOR THE PROJECT WORK THAT WILL EXTEND INTO THIS COMING WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

#### **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**

DISCHARGE FROM DEWATERING THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS. PROPOSED DEWATERING TREATMENT AREAS ARE SHOWN ON THE EPSC PLANS; HOWEVER, THE CONTRACTOR MUST SUBMIT A PLAN FOR DEWATERING TO THE RESIDENT ENGINEER FOR APPROVAL.

#### **1.4.12 INSPECT YOUR SITE**

INSPECT SITE BASED ON PERMIT AUTHORIZATION OR SPECIAL PROVISION REQUIREMENTS.

### **1.5 SEQUENCE AND STAGING**

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

#### **1.5.1 CONSTRUCTION SEQUENCE**

#### **1.5.2 OFF-SITE ACTIVITIES**

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.23-105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION

AN ALTERNATE TEMPORARY EROSION CONTROL PLAN MAY BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE RESIDENT ENGINEER. THE CONTRACTOR WILL USE OTHER TEMPORARY OR PERMANENT EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER.

USE THE EPSC PLANS IN CONJUNCTION WITH THE EPSC DETAIL SHEETS PROVIDED.

CONTRACTOR TO DESIGN AND CONSTRUCT FILTER CURTAIN IN ACCORDANCE WITH SUBSECTION 649.04 OF STANDARD SPECIFICATIONS FOR CONSTRUCTION.

## **EPSC - NARRATIVE**

<b>PROJECT NAME:</b>	<b>CHITTENDEN</b>
<b>PROJECT NUMBER:</b>	<b>STP 1443(45) &amp; STP 1443(46)</b>
<b>FILE NAME:</b> 96j236\str\s\j236eronotes.dgn	<b>PLOT DATE:</b> 24-AUG-2009
<b>PROJECT LEADER:</b> C. CARLSON	<b>DRAWN BY:</b> W. LAMMER
<b>DESIGNED BY:</b> W. LAMMER	<b>CHECKED BY:</b> C. CARLSON
	<b>SHEET 10 OF 81</b>