

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE CONSTRUCTION OF FIBER OPTIC CONDUITS ALONG A PORTION OF I-91 AND I-89 IN THE TOWNS OF HARTFORD AND SHARON, VERMONT. METHODS FOR INSTALLATION OF THE FIBER OPTIC CONDUITS INCLUDE PLOWING, TRENCHING AND HAND EXCAVATION OF SOIL. HAND EXCAVATION WILL BE REQUIRED IN SENSITIVE AREAS WITH UNDERGROUND UTILITIES AND DRAINAGE PIPES. THE EXCAVATION RESULTING FROM INSTALLATION WILL BE BACKFILLED WITH MATERIAL REMOVED DURING THE INSTALLATION PROCESS AND EROSION CONTROL MEASURES WILL BE INSTALLED FOR THE DISTURBED EARTH.

THE DISTURBED AREAS FOR THIS PROJECT WILL PRIMARILY CONSIST OF THE EXCAVATED TRENCH FOR THE FIBER OPTIC INSTALLATION. OTHER POSSIBLE AREAS OF DISTURBANCE INCLUDE TEMPORARY STAGING AREAS FOR EQUIPMENT AND DIRECTIONAL DRILLING LOCATIONS.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.74 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST TWO MONTHS.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THIS AREA VARIES ALONG THE 15 MILE PROJECT AREA FROM HARTFORD AND SHARON, VERMONT. THIS SITE CONSISTS OF THE I-89 HIGHWAY WITH GRASSED SIDE SLOPES. I-89 GENERALLY FOLLOWS THE WHITE RIVER AND TRAVERSES TERRAIN THAT IS HILLY AND MOUNTAINOUS.

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

THE MOST PROMINENT BODY OF WATER IN THIS AREA IS THE WHITE RIVER, WHICH FLOWS IN A SOUTHEASTERLY DIRECTION. NUMEROUS CULVERTS ARE LOCATED ALONG THIS PORTION OF I-91 AND I-89 TO ALLOW STREAMS ORIGINATING IN THE MOUNTAINS AND RUNOFF FROM THE HIGHWAY TO REACH THE WHITE RIVER.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS MOSTLY OF GRASSED SLOPES ADJACENT TO I-91 AND I-89. WOODED AREAS, GENERALLY CONSISTING OF HARDWOOD AND SOME SOFTWOOD TREES WITH UNDERGROWTH, ARE LOCATED WHERE THE HIGHWAY MEDIAN WIDENS AND BEYOND THE HIGHWAY RIGHT-OF-WAY. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY THE INSTALLATION OF THE FIBER OPTIC CONDUITS. UPON COMPLETION OF THE FIBER OPTIC INSTALLATION, DISTURBED VEGETATION WILL BE RE-ESTABLISHED WITH SEED AND MATTING WITHIN THE SAME WORKING DAY.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WINDSOR, VERMONT. SOILS ON THE PROJECT SITE CONSIST MOSTLY OF HITCHCOCK SILTY LOAM, BELGRADE SILTY LOAM, WINDSOR LOAMY FINE SAND, BUCKLAND LOAM, BUCKLAND LOAM VERY STONEY, SHELBURNE FINE SANDY LOAM, DUMMERSTON FINE SANDY LOAM, UNORTHERNS AND UDIP SAMMENTS, AND HINCKLEY SANDY LOAM; SLOPES VARY FROM 0% TO 60%. THE "K FACTOR" RANGES FROM 0.17 TO 0.49 AND IS CONSIDERED MODERATE TO HIGHLY ERODIBLE DUE TO SOIL TYPE AND SLOPES.

SOILS UNDER AND ADJACENT TO THE HIGHWAY MAY CONSIST OF A DIFFERENT SOIL TYPE IF FILL WAS REQUIRED DURING CONSTRUCTION OF I-91 AND I-89.

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

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: WHITE RIVER
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. 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, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

THE DETAILED RISK EVALUATION FOR THIS PROJECT IS CATEGORIZED AS LOW RISK, AND EPSC PLANS ARE NOT REQUIRED FOR LOW RISK PROJECTS. THESE EPSC PLANS ARE INTENDED TO PROVIDE THE NECESSARY INFORMATION FOR EROSION CONTROL ON THIS PROJECT.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS WILL NOT BE DELINEATED FOR THIS PROJECT DUE TO THE LENGTH OF THIS PROJECT AND NATURE OF WORK. CONSTRUCTION FOR THIS PROJECT IS WITHIN THE HIGHWAY RIGHT-OF-WAY AND OUTSIDE THE LIMITS OF WATER RESOURCES (STREAM, BROOK, LAKE, POND, WETLAND, ETC).

1.4.2 LIMIT DISTURBANCE AREA

THE DISTURBANCE AREA FOR THIS PROJECT WILL BE LIMITED TO TRENCH EXCAVATION FOR INSTALLATION OF FIBER OPTIC AND ASSOCIATED EQUIPMENT AS SHOWN ON THE PLANS. THE METHOD OF INSTALLATION FOR THE FIBER OPTIC CONDUITS WILL INCLUDE EXCAVATING THE TRENCH, INSTALLING THE FIBER OPTIC, BACKFILLING THE EXCAVATION, SEEDING THE DISTURBED AREA AND INSTALLATION OF EROSION MATTING TO COVER THE EXPOSED SOIL. THIS INSTALLATION PROCESS WILL PREVENT INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA WHICH IS 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.

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

IT IS NOT ANTICIPATED THAT A SPECIFIC STABILIZED CONSTRUCTION ENTRANCE/EXIT WILL BE USED ON THIS PROJECT AS ACCESS FOR THIS PROJECT WILL BE ALONG THE I-91 AND I-89 HIGHWAYS. HOWEVER, IT IS EXPECTED THAT STABILIZED CONSTRUCTION ENTRANCES/EXITS WILL BE USED ON THIS PROJECT TO ACCESS DIRECTIONAL DRILLING LOCATIONS ALONG I-89.

1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK WHEN RAIN IS FORECASTED WITHIN A 24 HOUR PERIOD.

SILT FENCE, EROSION SOCK, AND STONE CHECK DAMS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN. SILT FENCE IS PRIMARILY BEING USED AT THE LOCATIONS OF DIRECTIONAL DRILLING. THE EROSION SOCK IS BEING USED ALONG THE CONSTRUCTION AREA BECAUSE AS THE CONSTRUCTION PROGRESSES SEGMENTS OF THE EROSION SOCK CAN BE EASILY REMOVED AND INSTALLED AHEAD OF THE CONSTRUCTION EFFORTS.

1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED WHERE FEASIBLE TO PREVENT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

UPLAND RUNOFF ON THIS PROJECT, IN MOST CASES, WILL CONSIST ONLY OF RUNOFF FROM THE HIGHWAY. DUE TO THE FIBER OPTIC BEING INSTALLED PARALLEL TO THE HIGHWAY FOR LONG DISTANCES, DIVERTING WATER MIGHT NOT BE PRACTICABLE.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

STONE CHECK DAMS SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSION POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

STONE CHECK DAMS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN, AT A MINIMUM. INSTALLATION OF THE FIBER OPTIC CABLE IS PRIMARILY ON A SIDE SLOPE AWAY FROM THE DITCHLINE.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN BY THE END OF EACH WORK DAY.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE. THIS PROJECT IS EXPECTED TO BE ENTIRELY CONSTRUCTED DURING THE WINTER MONTHS.

1.4.10 STABILIZE SOIL AT FINAL GRADE

ALL OPEN EXCAVATIONS MUST BE FILLED IN AFTER WORK IS COMPLETED EACH DAY AND EXPOSED SOIL MUST BE STABILIZED BY THE END OF EACH WORK DAY.

SEED AND BIODEGRADABLE EROSION CONTROL MATTING WITH A LONGEVITY OF AT LEAST 12 MONTHS OR AN EQUIVALENT SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. SEED APPLIED FROM SEPTEMBER 15TH TO MAY 1ST SHALL CONSIST OF WINTER RYE (ITEM 651.17) FOR EARLY GERMINATION IN THE SPRING. PREPARATION OF THE TOPSOIL SHALL CONFORM TO SECTION 65.1 OF THE 2006 STANDARD SPECIFICATIONS FOR CONSTRUCTION BOOK AND THE APPLICATION RATE FOR SEED SHALL BE 2.0 POUNDS OF WINTER RYE PER 1,000 SQUARE FEET.

1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

DEWATERING IS NOT ANTICIPATED FOR THIS PROJECT AS WASTEWATER/MUD WILL BE COLLECTED AND SELF-CONTAINED IN WATER TRUCKS. HOWEVER, DRILLING MUDD WITH ENVIRONMENTALLY FRIENDLY REAGENTS WILL BE USED FOR DIRECTIONAL DRILLING ACTIVITIES ON THIS PROJECT. DRILLING MUDD MUST BE TAKEN OFF SITE AND DISPOSED AT AN APPROVED PROCESSING PLANT. SILT FENCE WILL BE INSTALLED DOWN GRADIENT OF DRILLING LOCATIONS AND THE DIRECTIONAL DRILLING CONTRACTOR SHALL HAVE AN ENVIRONMENTAL CLEAN UP KIT SHOULD "FRACKING" OCCUR DURING THE DRILLING PROCESS.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

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 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

1.5.3 UPDATES

PROJECT NAME: HARTFORD SHARON

PROJECT NUMBER: FITS503

FILE NAME: z06e142ERO-NARR.dgn

PROJECT LEADER: J. YOUNG

DESIGNED BY: A. SEAMAN

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PLOT DATE: 10/1/2010

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