

EPSC PLAN NARRATIVE

1 PROJECT DESCRIPTION

THIS PROJECT IS AT THE INTERSECTION OF TH 8 (RIVER ST.) AND TH 10 (DORR DR.) IN RUTLAND CITY. THIS PROJECT INVOLVES THE REMOVAL AND REPLACEMENT OF BRIDGE NO. 2, WITH SOME APPROACH AND CHANNEL WORK. A NEW TWO-LANE, TWO-SPAN, STEEL GIRDER BRIDGE WILL BE CONSTRUCTED DOWNSTREAM OF THE EXISTING BRIDGE. WATER AND SEWER LINES WILL BE MAINTAINED ON THE EXISTING BRIDGE, DURING CONSTRUCTION. FOLLOWING COMPLETION OF THE NEW BRIDGE, THE EXISTING BRIDGE, ABUTMENTS AND PIERS WILL BE REMOVED. TOTAL LENGTH OF PROJECT IS 1416 FEET, INCLUDING ROADWAY APPROACHES.

2 AREA OF DISTURBANCE

THE TOTAL AREA OF THE PROJECT INSIDE THE PROJECT DEMARCATION FENCE IS 3.66 ACRES. THE TOTAL EARTH DISTURBANCE ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT IS APPROXIMATELY 2.97 ACRES. SEE BREAKDOWN OF DISTURBANCE PER AREA IN # 5, BELOW

3 CONSTRUCTION SEQUENCE

THE CONTRACTOR SHALL SEQUENCE CONSTRUCTION ACTIVITIES TO MINIMIZE THE EXTENT OF DISTURBED SOILS LEFT OPEN TO EROSION AT ANY GIVEN TIME. A PROPOSED GENERAL SEQUENCE FOR EACH OF THE MAJOR CONSTRUCTION ACTIVITIES IS AS FOLLOWS: (STATIONS ARE APPROXIMATE.)
NOTE: REFER TO EPSC OVERVIEW STAGING PLAN FOR GRAPHICAL DEFINITION.

GENERAL PRACTICE FOR EACH STAGE OF CONSTRUCTION:

- ESTABLISH PERIMETER CONTROLS AND MARK BOUNDARIES FOR SENSITIVE RESOURCE AREAS, SUCH AS WETLANDS AND RIPARIAN BUFFER AREAS.
ESTABLISH SEDIMENT CONTROL MEASURES
CLEAR AND GRUB
STABILIZE TEMPORARY SLOPES
BEGIN CUT AND FILL OPERATIONS
STABILIZE DITCHES
INSTALL TEMPORARY STABILIZATION AND EPSC MEASURES AS WORK PROGRESSES

STAGE 1 CONSTRUCT ABUTMENT 1:

- CLOSE RIVER STREET BRIDGE TO TRAFFIC
- DETERMINE APPROPRIATE DEWATERING LOCATION FOR ABUTMENT 1
- TEMPORARILY CLOSE DORR DRIVE TO TRAFFIC FROM STA. 497+50 TO 500+50
- INSTALL COFFERDAM FOR ABUTMENT 1
- EXCAVATE TO FOOTING ELEVATION
- DRIVE PILES
- CONSTRUCT FOOTING AND STEM UP TO BRIDGE SEAT ELEVATION
- BACKFILL TO 2'-0" BELOW BRIDGE SEAT ELEVATION
- RE-OPEN DORR DRIVE TO TRAFFIC

STAGE 2 CONSTRUCT PIER AND ABUTMENT 2:

- INSTALL COFFERDAM FOR PIER
- EXCAVATE FOR PIER TO BOTTOM OF FOOTING ELEVATION
- EXCAVATE FOR ABUTMENT 2 TO BOTTOM OF FOOTING ELEVATION
- DRIVE PILES FOR PIER AND ABUTMENT 2
- CONSTRUCT FOOTING AND STEM UP TO BRIDGE SEAT ELEVATION FOR PIER
- BACKFILL PIER
- CONSTRUCT STEM FOR ABUTMENT 2 UP TO BRIDGE SEAT ELEVATION
- BACKFILL ABUTMENT 2 TO 2'-0" BELOW BRIDGE SEAT ELEVATION

STAGE 3 INSTALL SUPERSTRUCTURE:

- ERECT STRUCTURAL STEEL
- FORM AND PLACE CONCRETE DECK
- RELOCATE SEWER AND WATER LINES TO THE NEW STRUCTURE

STAGE 4 CONSTRUCT APPROACHES:

- CONSTRUCT RETAINING WALL ALONG WEST SIDE OF DORR DRIVE, STA. 499+25 TO 501+00
- INSTALL CULVERTS AT STA. 497+27, 502+05, AND 106+25
- CONSTRUCT APPROACHES
- OPEN THE BRIDGE TO TRAFFIC

STAGE 5 DEMOLISH OLD STRUCTURE:

- DEMOLISH OLD BRIDGE
- COMPLETE CONSTRUCTION OF DRAINAGE SWALES

4 STABILIZATION OF EXPOSED SOILS

THERE ARE 4 TYPES OF SOILS ON THE PROJECT SITE: THE US DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR RUTLAND COUNTY, VERMONT IS THE SOURCE OF THE SOIL INFORMATION. ADDITIONAL INFORMATION FOR EACH SOIL TYPE IS INCLUDED ON THE PLAN SHEETS ENTITLED, "EXISTING CONDITIONS SITE PLAN."

- PAXTON FINE SANDY LOAM, VERY SANDY, K=0.24 AREA OF DISTURBANCE 1.29 ACRES
- UDIPSAMMENTS (FILL), K=0.15 AREA OF DISTURBANCE 1.67 ACRES
- ELDRIDGE FINE SANDY LOAM, K=0.24 AREA OF DISTURBANCE 0.01 ACRES
- RIPPOWAM FINE SANDY LOAM, K=0.20 AREA OF DISTURBANCE 0.001 ACRES

NOTE: K-VALUES INDICATE THE FOLLOWING: 0.0-0.18 = LOW EROSION POTENTIAL; 0.18-0.36 = MODERATE EROSION POTENTIAL; 0.37 AND HIGHER = HIGH EROSION POTENTIAL.

- SEED AND MULCH WILL BE USED FOR BOTH TEMPORARY AND PERMANENT STABILIZATION MEASURES. ROLLED EROSION CONTROL PRODUCT (RECP) WILL BE USED IN PLACE OF MULCH FOR SLOPES GREATER THAN 1V:3H. MULCH IS TO BE APPLIED AT A MINIMUM APPLICATION RATE SHOWN ON THE EPSC DETAILS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- DISTURBED AREAS AND SOIL STOCKPILES THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS SHALL BE TEMPORARILY STABILIZED WITH MULCH/ROLLED EROSION CONTROL PRODUCT (RECP) WITHIN 48 HOURS.
- EXPOSED AREAS THAT HAVE ACHIEVED FINAL GRADE SHALL BE PERMANENTLY STABILIZED WITHIN 48 HOURS.
- IN AREAS WHERE VEGETATIVE COVER WILL PROVIDE PERMANENT STABILIZATION, PERMANENT SEEDING SHALL BE COMPLETED BETWEEN APRIL 15 AND SEPTEMBER 15.

5 DRAINAGE AREAS AND DISCHARGE POINTS

- DRAINAGE AREA 1- NORTH OF RIVER STREET, ALONG DORR DRIVE. STORM WATER TREATMENT, SITE BALANCING.
- DRAINAGE AREA 2- SOUTH OF RIVER STREET, ALONG DORR DRIVE. STORM WATER TREATMENT, SITE BALANCING.
- DRAINAGE AREA 3- SOUTH OF RIVER STREET, ALONG RIVER STREET, FROM END OF BRIDGE TO CULVERT. STORM WATER TREATMENT, GRASS SWALE.
- DRAINAGE AREA 4 - NORTH OF RIVER STREET, ALONG RIVER STREET FROM END OF BRIDGE TO END OF PROJECT. STORM WATER TREATMENT, GRASS SWALE.
- DRAINAGE AREA 5 - SOUTH OR RIVER STREET, ALONG RIVER STREET FROM THE CULVERT TO THE END OF THE PROJECT. STORM WATER TREATMENT, GRASS SWALE.

DRAINAGE AREA	STATION LOCATION	AREA OF DISTURBANCE (ACRES)	NEW IMPERVIOUS AREA (ACRES)	RECEIVING WATER
1	496+59-500+00	0.70	0.07	OTTER CREEK
2	500+00-502+25	0.59	0.05	OTTER CREEK
3	100+90-106+25, RT	0.72	0.14	OTTER CREEK
4	100+90-108+00, LT	0.73	0.29	OTTER CREEK
5	106+25-108+00, RT	0.23	0.03	OTTER CREEK
total		2.97	0.58	

NOTE: REFER TO THE APPROVED STORM WATER PERMIT (7041-INDS) FOR MORE INFORMATION CONCERNING THE DISCHARGE POINTS LISTED IN THIS TABLE.

- DRAINAGE AREA 1 - LOCATED IN THE NORTHWEST QUADRANT OF THE PROJECT. RUNOFF ORIGINATES FROM BOTH LANES AND BOTH SHOULDERS OF DORR DRIVE. THE WATER FROM THE RIGHT LANE AND RIGHT SHOULDER FLOWS NORTH ALONG THE CURB ON THE WEST SIDE OF DORR DRIVE UNTIL IT REACHES THE DROP INLET AT STA. 497+62 RT, WHERE IT ENTERS THE CULVERT AND CROSSES DORR DRIVE AND FLOWS ONTO THE LAND ON THE EAST SIDE OF DORR DRIVE. THERE IS OVERLAND FLOW, AND THE WATER EVENTUALLY REACHES THE OTTER CREEK. THE WATER FROM THE LEFT LANE AND LEFT SHOULDER FLOWS OVER THE STONE FILL SLOPE THAT LINES THE OTTER CREEK AND ENTERS THE OTTER CREEK AT THE TOE OF THIS STONE FILL.
- DRAINAGE AREA 2 - LOCATED IN THE SOUTHWEST QUADRANT OF THE PROJECT. RUNOFF ORIGINATES FROM BOTH LANES AND BOTH SHOULDERS OF DORR DRIVE. THE WATER FROM THE RIGHT LANE AND RIGHT SHOULDER FLOWS SOUTH ALONG THE CURB ON THE WEST SIDE OF DORR DRIVE, UNTIL IT REACHES THE DROP INLET AT STA. 502+00, WHERE IT ENTERS THE CULVERT AND CROSSES DORR DRIVE AND FLOWS ONTO THE LAND ON THE EAST SIDE OF DORR DRIVE. THERE IS OVERLAND FLOW, AND THE WATER EVENTUALLY REACHES THE OTTER CREEK. THE WATER FROM THE LEFT LANE AND LEFT SHOULDER FLOWS DOWN THE SIDE SLOPE ONTO LEVEL GROUND, OR INTO THE OTTER CREEK.
- DRAINAGE AREA 3- LOCATED ON THE EAST SIDE OF THE OTTER CREEK AND ON THE SOUTH SIDE OF RIVER STREET, FROM THE BRIDGE TO THE CULVERT AT STA. 106+25. RUNOFF ORIGINATES FROM THE RIGHT LANE AND RIGHT SHOULDER OF RIVER STREET. THE WATER FLOWS OVER THE SIDE SLOPE AND INTO THE GRASS SWALE LOCATED AT THE TOE OF SLOPE. THE SWALE FLOWS EAST AND JOINS THE FLOW OUT OF THE CULVERT AT STA. 106+25.
- DRAINAGE AREA 4- LOCATED ON THE EAST SIDE OF THE OTTER CREEK AND ON THE NORTH SIDE OF RIVER STREET. RUNOFF ORIGINATES FROM THE LEFT LANE AND LEFT SHOULDER OF RIVER STREET, FROM THE BRIDGE TO THE END OF THE PROJECT. THE WATER FLOWS OVER THE SIDE SLOPES AND INTO THE GRASS SWALES LOCATED AT THE TOE OF SLOPE. THE SWALES FLOW INTO THE CULVERT AT STA. 106+25.

(e) DRAINAGE AREA 5- LOCATED ON THE EAST SIDE OF THE OTTER CREEK AND ON THE SOUTH SIDE OF RIVER STREET, FROM STA. 106+25 TO THE END OF THE PROJECT. RUNOFF ORIGINATES FROM THE RIGHT LANE AND RIGHT SHOULDER OF RIVER STREET. THE WATER FLOWS OVER THE SIDE SLOPE AND INTO THE GRASS SWALE LOCATED AT THE TOE OF SLOPE. THE SWALE FLOWS WEST AND JOINS THE FLOW OUT OF THE CULVERT AT STA. 106+25.

6 WASTE, BORROW AND STAGING AREAS

- OFF-SITE WASTE AREAS HAVE NOT BEEN IDENTIFIED FOR THIS PROJECT. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND PERMIT, AS NECESSARY, ANY OFF-SITE WASTE AREAS THAT WILL BE NEEDED. ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES NECESSARY FOR WASTE AND STAGING AREAS OUTSIDE THE PROJECT, LIMITS SHALL BE PAID FOR PER 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- LOCATE ADDITIONAL AREAS FOR DISPOSAL OF STUMPS, EXCESS SOILS AND COLLECTED SEDIMENT, IF NECESSARY. DISPOSE OF THESE MATERIALS IN A MANNER THAT WILL NOT RESULT IN SEDIMENTS ENTERING WATERS OF THE STATE.
- DISPOSAL SITES REQUIRE LEVEL TERRAIN AND AN ISOLATION DISTANCE OF AT LEAST 100 FT FROM ANY SURFACE WATERS, INCLUDING WETLANDS.
- VEHICLE AND EQUIPMENT STAGING AREAS OR AREAS ADJACENT TO CONSTRUCTION TRAILERS OR OTHER HIGH TRAFFIC AREAS SHALL BE COVERED WITH GEOTEXTILE FABRIC AND 12 INCHES OF GRAVEL. FOLLOWING COMPLETION OF CONSTRUCTION, ALL NON-NATIVE MATERIALS SHALL BE REMOVED FROM THE STAGING AREA. COMPACTED, RUTTED, OR OTHERWISE DISTURBED SOILS SHALL BE TILLED, RAKED, SEEDED AND MULCHED.
- ERODIBLE MATERIALS STOCKPILED WITHIN THE MATERIAL STORAGE AREAS SHALL BE ISOLATED WITH SILT FENCE OR OTHER ACCEPTABLE SEDIMENT BARRIER. SOIL STOCKPILED ON THE SITE SHALL BE SEEDED AND MULCHED.

7 WINTER CONSTRUCTION REQUIREMENTS

IT IS EXPECTED THAT CONSTRUCTION WILL CONTINUE INTO THE WINTER CONSTRUCTION SEASON, CONDITIONAL UPON ACTUAL FIELD AND WEATHER CONDITIONS. IF ACTIVITIES ARE ON GOING BETWEEN OCTOBER 15 AND APRIL 15, THE CONTRACTOR SHALL FOLLOW REQUIREMENTS FOR WINTER CONSTRUCTION, AS DEFINED IN SPECIFIC PERMIT CONDITIONS AND AS FOLLOWS:

- ENLARGED ACCESS POINTS STABILIZED TO PROVIDE FOR SNOW STOCKPILING.
- LIMITS OF DISTURBANCE MOVED OR REPLACED TO REFLECT BOUNDARY OF WINTER WORK.
- DEVELOPMENT OF A SNOW MANAGEMENT PLAN THAT INCLUDES:
 - ADEQUATE STORAGE AND CONTROL OF MELT-WATER.
 - STORAGE OF CLEARED SNOW TO BE PLACED DOWN SLOPE OF DISTURBED AREAS AND OUT OF STORM WATER TREATMENT STRUCTURES.
- A MINIMUM OF 25 FOOT BUFFER SHALL BE MAINTAINED FROM PERIMETER CONTROLS.
- DRAINAGE STRUCTURES MUST BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.
- SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED AHEAD OF FROZEN GROUND.
- MULCH TO BE APPLIED AT TWICE THE RATE, AS SHOWN ON THE EPSC DETAILS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
- AREAS OF DISTURBED SOILS MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
 - IF NO PRECIPITATION WITHIN 24 HOURS IS FORECAST AND WORK WILL RESUME IN THE SAME AREA WITHIN 24 HOURS.
 - DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS OPEN UTILITY TRENCHES, MUST BE STABILIZED AT THE END OF EACH WORK WEEK.
- PRIOR TO STABILIZATION, SNOW OR ICE MUST BE REMOVED TO LESS THAN 1" THICKNESS.

8 CONTRACTOR RESPONSIBILITIES, LIMITATIONS & PROHIBITIONS

- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO AMEND/UPDATE ALL PLANS AND EXISTING PERMITS WHEN ADDING DETAILED CONSTRUCTION PHASING OR MODIFYING ANYTHING THAT MAY DEVIATE FROM THE APPROVED PLANS, AS DIRECTED BY THE ENGINEER.
- OTHER THAN THOSE SHOWN ON THE PLANS, ALL LAND DISTURBANCE WITHIN 50 FEET OF ALL WATER BODIES, MEASURED FROM THE TOP OF THE BANK, AND WETLANDS ARE PROHIBITED WITHOUT FURTHER REGULATORY REVIEW.
- CONTRACTOR TO MAINTAIN ALL EXISTING STREAMS AND RIPARIAN BUFFER ZONES IN THEIR NATURAL CONDITION.
- OFF-SITE DISCHARGES OF ANY MATERIAL, OTHER THAN STORM WATER, SUCH AS VEHICLE AND EQUIPMENT MAINTENANCE SPILLS, FUEL, WASH WATER, CONSTRUCTION DEBRIS, OIL, WET CONCRETE (INCLUDING WASHOUT WATER FROM CONCRETE BATCH TRUCKS OR EQUIPMENT USED TO MIX CONCRETE) AND OTHER SUBSTANCES ARE PROHIBITED.
- THE FAILURE TO PROMPTLY ABATE THE DISCHARGE OF SEDIMENT OR ANY OTHER WASTE WHICH CAUSES A VISIBLE DISCOLORATION OF SURFACE WATERS (INCLUDING WETLANDS), OR IS FOUND TO BE IN VIOLATION OF WATER QUALITY STANDARDS BASED ON MONITORING IS PROHIBITED. ANY CORRECTIVE ACTION UNDERTAKEN TO REMOVE SEDIMENT FROM A WETLAND IS ALSO PROHIBITED.
- WEATHER CONDITIONS WILL BE MONITORED DURING THE CONSTRUCTION SEASON. IF AN EXTENDED RAIN PERIOD OR HEAVY RAIN IS PREDICTED, EXPOSED SOIL AREAS WILL BE MULCHED PRIOR TO AND DAILY DURING THE RAIN EVENT. IF DETERMINED NECESSARY BY THE ENGINEER, WORK MAY BE SUSPENDED OR LIMITED DURING THE STORM.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING A DEWATERING AND WATER TREATMENT PLAN.

PROJECT NAME:	RUTLAND CUTY
PROJECT NUMBER:	BRF 3000(16)
FILE NAME: s94j09for.ms.dgn	PLOT DATE: 03-JUL-2014
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