

EPSC PLAN NARRATIVE

1. PROJECT DESCRIPTION

THE GRANVILLE ER STP 013-4(40) PROJECT EXTENDS JUST OVER A MILE ALONG VERMONT ROUTE 100 IN THE TOWN OF GRANVILLE. THE PROJECT CONSISTS OF STREAM BANK SLOPE STABILIZATION, VT ROUTE 100 ROADWAY RESURFACING WITH A LEVELING COURSE AND A WEARING COURSE, AND INSTALLATION OF NEW GUARDRAIL, NEW PAVEMENT MARKINGS, AND DRAINAGE IMPROVEMENTS. BEGINNING AT STA. 3+00.00 (MM 4.778) AND EXTENDING NORTHERLY APPROXIMATELY 6800 FEET (1.288 MILES) AND ENDING AT STA. 71+00.00 (MM 6.066).

2. AREA OF DISTURBANCE

THE TOTAL DISTURBANCE ASSOCIATED WITH CONSTRUCTION OF THIS PROJECT IS APPROXIMATELY 2.31 ACRES.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS SHOWN ON THE INCLUDED EPSC PLAN. THE AREA OF ROADWAY RESURFACING (EXCLUDING THE SHOULDER RECONSTRUCTION AREA) IS NOT INCLUDED AS THIS WORK INVOLVES COLD PLANING ONLY AND WILL HAVE A STABLE SURFACE THROUGHOUT THE CONSTRUCTION PROCESS. WASTE, BORROW, AND STAGING AREAS ARE NOT INCLUDED AS THE CONTRACTOR WILL BE RESPONSIBLE FOR IDENTIFYING AND PERMITTING THESE AREAS, AS NECESSARY.

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:

- **PROJECT AREA SET-UP (PRE-CONSTRUCTION)**
 - 1) ESTABLISH PERIMETER CONTROLS AND MARK BOUNDARIES FOR SENSITIVE RESOURCE AREAS, SUCH AS WETLANDS AND RIPARIAN BUFFER ZONES.
 - 2) PREPARE STAGING AREAS WITH STABLE SURFACE, USING GEOTEXTILE FABRIC AND GRAVEL, AS NECESSARY.
 - 3) INSTALL SEDIMENT CONTROL MEASURES SUCH AS INLET PROTECTION AND STABILIZED CONSTRUCTION ENTRANCES AT INTERFACES BETWEEN DISTURBED AREAS AND TRAVELLED ROADWAY.
 - 4) PERFORM CLEARING.
- **STREAMBANK SLOPE STABILIZATION**
 - 1) BEGINNING AT THE UPSTREAM END OF THE STREAMBANK STABILIZATION AREA (APPROXIMATELY STA 43+00) AND WORKING DOWNSTREAM, BEGIN STREAMBANK SHAPING.
 - 2) WHEN WORKING IN THE RIVER, TO THE MAXIMUM EXTENT POSSIBLE, CONTRACTOR TO ISOLATE THE WORK AREA FROM THE FLOW OF WATER. THIS INCLUDES CONDUCTING WORK ONLY DURING LOW FLOW CONDITIONS AND PLACING EXCAVATED "KEY" MATERIAL ON RIVER SIDE OF OPERATIONS TO AID IN DIVERTING FLOWING WATER AROUND THE AREA ACTIVELY BEING WORKED.
 - 3) COVER STONE FILL AREAS ABOVE OHW WITH GRUBBING MATERIAL.
 - 4) CONCURRENTLY INSTALL TEMPORARY AND PERMANENT STABILIZATION AND EPSC MEASURES AS WORK PROGRESSES SO THAT EMBANKMENT IS STABILIZED PRIOR TO ALLOWING RUNOFF TO DISCHARGE TO IT.
- **DRAINAGE AND SHOULDER IMPROVEMENTS**
 - 1) INSTALL DRAIN PIPES AND STRUCTURES.
 - 2) INSTALL SHOULDER SUBBASE AND SIDE SLOPE STABILIZATION MEASURES.
- **ROADWAY IMPROVEMENTS (NO EARTH DISTURBANCE INVOLVED)**
 - 1) COLD PLANE ROADWAY
 - 2) INSTALL GUARDRAIL
 - 3) PAVE ROADWAY

4. STABILIZATION OF EXPOSED SOILS

- SEED AND MULCH WILL BE USED FOR BOTH PERMANENT AND TEMPORARY 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 DETAIL SHEETS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
- DISTURBED AREAS AND SOIL STOCKPILES THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS SHALL BE TEMPORARILY STABILIZED WITH MULCH/RECP WITHIN 48 HOURS.
- DISTURBED AREAS AND SOIL STOCKPILES THAT WILL NOT BE WORKED FOR MORE THAN 30 DAYS SHALL BE TEMPORARILY STABILIZED WITH SEED AND MULCH/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, SEEDING TO BE COMPLETED BETWEEN APRIL 15 AND SEPTEMBER 15.

5. DRAINAGE AREAS AND DISCHARGE POINTS

THIS PROJECT IS BEING CONSTRUCTED ON EXISTING ALIGNMENT THROUGH AN OTHERWISE UNDEVELOPED AREA OF GRANVILLE. WITHIN THE PROJECT AREA, THE ROADWAY ALIGNMENT TRAVERSES A WOODED, LEVEL AREA, CROSSING THE ALDER MEADOW BROOK FOUR TIMES. WEST AND EAST OF THE ALDER MEADOW BROOK, THE WOODED SLOPE RISES SHARPLY ABOVE THE RIVER AT A 1:2 GRADE OR GREATER.

THE PROJECT DRAINS TO ONE RECEIVING WATERWAY, THE ALDER MEADOW BROOK. AS THIS IS A LINEAR PROJECT THAT RUNS PARALLEL TO THIS WATERWAY, THERE ARE BOTH DISCRETE DISCHARGES FROM STORMWATER COLLECTED IN DITCHES AND CROSS CULVERTS, AS WELL AS INDISCRETE DISCHARGES FROM STORMWATER FLOWING OVERLAND ALONG THE LENGTH OF THE PROJECT.

DRAINAGE AREA SUMMARY

| DRAINAGE AREA | TOTAL DISTURB. (ACRES) | LIMIT OF CONCURRENT DISTURBANCE | RECEIVING WATER |
|---------------|------------------------|---------------------------------|--------------------|
| 1 | 2.3 | 2 ACRES* | ALDER MEADOW BROOK |

SEE THE EPSC EXISTING CONDITIONS SHEETS FOR FURTHER DETAIL REGARDING DRAINAGE AREAS AND RELATED SLOPE, SOIL TYPES, AND K-FACTOR ERODABILITY INDEX RANGES.

*THE MAXIMUM AMOUNT OF CONCURRENT DISTURBANCE ALLOWED UNDER THE INDIVIDUAL PERMIT AUTHORIZATION FOR THIS PROJECT IS 2 ACRES, HOWEVER IT IS EXPECTED THAT ACTUAL AREAS OF DISTURBANCE AT ANY ONE TIME WOULD BE SIGNIFICANTLY LESS.

6. WASTE, BORROW, AND STAGING AREAS

- OFF-SITE WASTE AND BORROW 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 AND BORROW AREAS THAT ARE NEEDED. ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES NECESSARY FOR WASTE, BORROW, 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 RELATIVELY LEVEL TERRAIN WITH AN ISOLATION DISTANCE OF AT LEAST 100 FEET FROM ANY SURFACE WATERS, INCLUDING WETLANDS.
- VEHICLE AND EQUIPMENT STORAGE 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 ACTIVITIES MAY CONTINUE INTO THE WINTER CONSTRUCTION SEASON, DEPENDING ON 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 STORMWATER TREATMENT STRUCTURES
- A MINIMUM 25-FOOT BUFFER SHALL BE MAINTAINED FROM PERIMETER CONTROLS.
- DRAINAGE STRUCTURES SHALL BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.
- PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED AHEAD OF FROZEN GROUND.

- MULCH TO BE APPLIED AT TWICE THE REGULAR RATE, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
- AREAS OF DISTURBED SOILS SHALL 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 INCH THICKNESS.

CONTRACTOR RESPONSIBILITIES, LIMITATIONS & PROHIBITIONS

1. GENERAL NOTES

- THIS PROJECT FALLS UNDER THE JURISDICTION OF AN INDIVIDUAL PERMIT FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. IF THE CONTRACTOR PROPOSES CHANGES THAT RESULT IN ADDITIONAL PERMITTING, PRIOR TO OR DURING CONSTRUCTION, THE CONTRACTOR WILL BE RESPONSIBLE FOR AMENDING THE PERMIT AS NECESSARY.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO AMEND/UPDATE ALL PLANS AND EXISTING PERMITS WHEN ADDING DETAILED CONSTRUCTION PHASING THAT MAY DEVIATE FROM THE APPROVED PLANS AS DIRECTED BY THE ENGINEER.
- OTHER THAN THOSE SHOWN ON THE PLANS ALL LAND DISTURBANCES WITHIN 50 FEET OF ALL WATER BODIES, MEASURED FROM THE TOP OF BANK, AND WETLANDS, ARE PROHIBITED WITHOUT FURTHER REGULATORY REVIEW.
- FOR AREAS OUTSIDE OF PROJECT LIMITS, CONTRACTOR TO MAINTAIN ALL EXISTING STREAMS AND RIPARIAN BUFFER ZONES IN THEIR NATURAL CONDITION.
- OFF-SITE DISCHARGES OF ANY MATERIAL OTHER THAN STORMWATER, SUCH AS VEHICLE AND EQUIPMENT MAINTENANCE SPILLS, FUELS, 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 VIOLATING WATER QUALITY STANDARDS BASED ON MONITORING, IS PROHIBITED. ANY CORRECTIVE ACTION UNDERTAKEN TO REMOVE SEDIMENT FROM A WETLAND IS ALSO PROHIBITED WITHOUT REVIEW AND APPROVAL FROM ENGINEER.
- WEATHER CONDITIONS WILL BE MONITORED DURING THE CONSTRUCTION SEASON. IF AN EXTENDED RAIN PERIOD OR HEAVY RAIN IS PREDICTED, EXPOSED SOIL AREAS SHALL BE MULCHED PRIOR TO AND DAILY DURING THE RAIN EVENT. IF DETERMINED NECESSARY BY THE ENGINEER, WORK MAY BE SUSPENDED OR LIMITED DURING THE RAIN EVENT.
- WHEN WORKING ON STEAMBANK STABILIZATION AREAS THAT EXTEND INTO THE STREAM CHANNEL AND BELOW OHW, CONTRACTOR TO LIMIT DISTURBANCE TO ONLY THOSE AREAS FOR WHICH CONSTRUCTION WILL BE COMPLETED IN THAT SAME DAY.

2. EPSC PLAN

THE CONTRACTOR SHALL SUBMIT AN EPSC PLAN IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE PLAN AT A MINIMUM SHALL TAKE INTO CONSIDERATION THE FOLLOWING:

- THE DISTURBANCE AT ANY ONE TIME IN THIS AREA SHALL BE LIMITED TO 2 ACRES.
- ACCESS TO THE AREA, INCLUDING TEMPORARY AND PERMANENT STABILIZATION OF THE PROPOSED ACCESS DURING AND THEN FOLLOWING CONSTRUCTION OF THE PROJECT.
- STORMWATER RUNOFF TO BE CONTROLLED PRIOR TO, DURING, AND FOLLOWING THE FULL COMPLETION OF STONE-FACING THE RIVER EMBANKMENT.
- TO MINIMIZE THE AMOUNT OF DISTURBED SOILS THE SIDE SLOPES SHALL BE ROUGH GRADED AND TEMPORARILY STABILIZED EVERY 4' OF EMBANKMENT HEIGHT.

3. INSPECTION & MONITORING NOTES

- CONTRACTOR TO CONDUCT INSPECTIONS AND MONITORING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

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| PROJECT NAME: | GRANVILLE | | |
| PROJECT NUMBER: | ER STP 013-4(40) | | |
| FILE NAME: | z12b520EPSC_Narrative.dgn | | |
| PLOT DATE: | 7/8/2015 | | |
| PROJECT LEADER: | J. TUCKER | DRAWN BY: | B. BRESLEND |
| DESIGNED BY: | B. BRESLEND | CHECKED BY: | E. ANDREWS |
| EPSC NARRATIVE | | SHEET | 38 OF 141 |