

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REHABILITATION OF AN EXISTING 114-INCH CORRUGATED METAL CULVERT ON INTERSTATE 89 IN THE TOWN OF SHARON, NEAR MILE MARKER 12.384 AND IS DESIGNATED AS STRUCTURE BR 14-1. THE EXISTING CULVERT CONVEYS HIGH POLE BROOK UNDER BOTH THE SOUTHBOUND AND NORTHBOUND LANES OF INTERSTATE 89. THE EXISTING CULVERT IS PROPOSED TO BE SLIP LINED WITH 102" CORRUGATED ALUMINUM ALLOY PIPE AS THE EXISTING CULVERT IS BEYOND ITS DESIGN LIFE AND SHOWS SIGNS OF STRUCTURAL DEFICIENCY. WORK WILL INCLUDE THE CONSTRUCTION OF A NEW HEADWALL AT THE INLET AND THE INSTALLATION OF A SLIP-LINE PIPE INSIDE THE EXISTING CULVERT. THE LENGTH OF THE EXISTING CULVERT IS APPROXIMATELY 478.33 FEET. TOTAL DISTURBED AREA (EXCLUDING WASTE, BORROW, AND CONTRACTOR'S OFF-SITE STAGING AREAS) EQUALS 0.64 ACRES. THE TOTAL DISTURBED AREA INCLUDES THE ENTIRE AREA LOCATED WITHIN THE PROJECT DEMARCATION FENCING SHOWN.

IT IS ANTICIPATED THAT THIS WILL BE A SINGLE SEASON PROJECT.

1.2 SITE INVENTORY

OFF SITE DRAINAGE CHARACTERISTICS

THE PROPERTY SURROUNDING THE PROJECT SITE CONSISTS OF WELL ESTABLISHED VEGETATION WITH MODERATE SLOPING TERRAIN. THE TERRAIN IS MOSTLY FORESTED WITH SOME CLEARINGS AND CAN BE DESCRIBED AS HILLY TO MOUNTAINOUS WITH WELL DEFINED DRAINAGE WAYS. THE AREA EAST OF I-89 CONSISTS OF BOTH HARDWOOD AND SOFTWOOD TREES. DUE TO THE NATURE OF THE SURROUNDING AREA, STORMWATER RUNOFF ENTERING THE PROJECT SITE WILL BE LIMITED TO THAT WHICH IS CONTAINED IN THE HIGH POLE BROOK TRIBUTARY AREA.

1.2.2. DRAINAGE, WATERWAYS, BODIES OF WATER

HIGH POLE BROOK IS LOCATED IN THE PROJECT AREA AND PASSES THROUGH THE CULVERT PROPOSED TO BE SLIP-LINED WITH 102" CORRUGATED ALUMINUM ALLOY PIPE. THE BROOK FLOWS FROM EAST TO WEST BENEATH THE NORTHBOUND AND SOUTHBOUND EMBANKMENTS OF INTERSTATE 89. THERE ARE NO OTHER WATERWAYS OR BODIES OF WATER WITHIN THE PROJECT AREA. STORMWATER RUNOFF ENTERING THE PROJECT AREA WILL BE PRIMARILY LIMITED TO THAT WHICH IS CONVEYED VIA GRASSED ROADWAY DITCHES ALONG INTERSTATE 89 AND STORMWATER CONTAINED WITHIN HIGH POLE BROOK.

1.2.3. TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:

THE TOPOGRAPHY OF THE PROJECT SITE IS STEEP HILLY TERRAIN. THE BROOK TO THE WEST SIDE OF THE INTERSTATE EMBANKMENTS RUNS BETWEEN TWO ABUTTING PROPERTIES. THE OUTLET HEADWALL IS SURROUNDED BY LARGE STONES ON A STEEP EMBANKMENT. THE BROOK TO THE EAST SIDE OF THE INTERSTATE EMBANKMENT FLOWS THROUGH HILLY ROCKY TERRAIN. THE EMBANKMENT SLOPES FROM THE INTERSTATE ARE AT A 1:2 (VERTICAL : HORIZONTAL) SLOPE.

1.2.4. VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF A WOODED AREA NEAR THE CULVERT ENDS AND GRASSLAND ON THE ROADWAY EMBANKMENTS. THE IMPACT TO THE VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY IMPACTED BY THE SLIP-LING OF THE EXISTING CULVERT OPERATIONS AND THE CONSTRUCTION OF THE PROPOSED HEADWALL AT THE INLET OF THE EXISTING CULVERT. DISTURBED VEGETATION WILL BE REESTABLISHED USING STANDARD SEED AND MULCH PRACTICES OR STONE.

1.2.5. SOILS

THE SOIL FOUND EAST OF INTERSTATE 89 CONSISTS OF AGAWAM FINE SANDY LOAM, 3 TO 8% SLOPES AND A COMMON FILL MATERIAL. AGAWAM LOAM IS WELL DRAINED AND HAS AN ERODIBILITY FACTOR (K-VALUE) OF 0.28. THE ROADWAY EMBANKMENTS ARE MOST LIKELY A COMMON FILL MATERIAL THAT WAS PLACED DURING THE CONSTRUCTION OF THE INTERSTATE.

GENERALLY, K-VALUES INDICATE THE FOLLOWING:
0.23 AND LOWER - LOW ERODIBILITY
0.24 TO 0.36 - MODERATE ERODIBILITY
0.37 AND HIGHER - HIGH ERODIBILITY

1.2.6. SENSITIVE RESOURCE AREAS

NO THREATENED OR ENDANGERED SPECIES HAVE BEEN IDENTIFIED WITHIN THE PROJECT LIMITS AND THERE WILL BE NO ADVERSE EFFECT TO AGRICULTURE OR ARCHAEOLOGICAL FEATURES. HIGH POLE BROOK RUNS THROUGH THE PROJECT SITE AND THROUGH THE CULVERT PROPOSED TO BE SLIP LINED.

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 FOR THE APPROPRIATE NOTICE OF INTENT UNDER THE CONSTRUCTION GENERAL PERMIT PROCESS

1.4. EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL 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. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

COORDINATE THE INSTALLATION, USE, AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES WITH CONSTRUCTION ACTIVITIES TO ENSURE ECONOMICAL, EFFECTIVE, AND CONTINUOUS EROSION AND SEDIMENT CONTROL. EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS. THE CONTRACTOR SHALL USE ADDITIONAL EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION, FIELD CONDITIONS, AND AS DIRECTED BY THE ENGINEER OR ONSITE COORDINATOR. SEE SECTION 105.23 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006.

INSTALL EROSION AND SEDIMENT CONTROLS MEASURES AS SHOWN IN THE EROSION CONTROL PLAN OR AS DIRECTED BY THE ENGINEER OR ONSITE COORDINATOR. DO NOT MODIFY THE TYPE, SIZE, OR LOCATION OF ANY CONTROL OR PRACTICE WITHOUT APPROVAL OF THE ENGINEER OR ONSITE COORDINATOR. ANY CHANGES SHALL BE NOTED ON THE PLANS, IN THE WEEKLY INSPECTION REPORT, AND REPORTED TO THE APPROPRIATE AUTHORITY IN A TIMELY MANNER. INSPECT ALL CONTROL MEASURES WEEKLY AND AFTER EACH RAINFALL EVENT THAT PRODUCES RUNOFF FROM THE PROJECT SITE. REPAIR MEASURES PROMPTLY ONCE DAMAGE IS DISCOVERED.

PREVENTING 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 AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED 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 FENCE, DENOTED -PDF- IN THE PLANS, IS USED TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION. DISTURBANCE OUTSIDE THE LIMITS OF THE PROJECT DEMARCATION FENCE WILL REQUIRE ADDITIONAL PERMIT COVERAGE.

CONTROL ONLY SEDIMENT LADEN STORMWATER RUNOFF GENERATED BY THE PROJECT SITE. COLLECT AND ROUTE CLEAN STORMWATER AROUND THE PROJECT SITE WHENEVER POSSIBLE USING DIVERSION BERMS, CHANNELS, CULVERTS, OR TEMPORARY PIPES.

1.4.2. LIMIT DISTURBANCE AREA
CONTRACTOR SHALL LIMIT THE DISTURBANCE TO WITHIN THE IMPACT LINES SHOWN ON THE PLANS. CONTRACTOR SHALL NOT DISTURB ANY AREA OUTSIDE OF THE EXISTING RIGHT OF WAY.

DO NOT ALLOW CONSTRUCTION EQUIPMENT TO OPERATE OUTSIDE OF PERIMETER CONTROL MEASURES.

1.4.3. STABILIZE CONSTRUCTION EXIT
AT LOCATIONS WHERE CONSTRUCTION VEHICLES WILL BE LEAVING THE CONSTRUCTION SITE/STAGING AREAS, A STABILIZED CONSTRUCTION EXIT SHALL BE CONSTRUCTED TO LIMIT THE AMOUNT OF SEDIMENT THAT IS TRANSPORTED OFF OF THE SITE BY CONSTRUCTION VEHICLES. STONE WILL BE USED TO REMOVE SEDIMENT FROM THE TIRES OF CONSTRUCTION VEHICLES. IF SEDIMENT IS STILL BEING TRACKED ONTO PUBLIC ROADS, THE LENGTH OF THE PAD SHALL BE EXTENDED OR VEHICLES SHALL BE RINSED WITH A HOSE PRIOR TO LEAVING THE SITE.

1.4.4. INSTALL SILT FENCE
SILT FENCE WILL BE INSTALLED AT THE TOE OF FILL SLOPES TO PREVENT SEDIMENT TRANSPORT TO DOWN GRADIENT AREAS. EACH LINE OF SILT FENCE WILL BE PLACED ALONG THE CONTOUR WITH THE LOWER EDGE BURIED 6" TO PREVENT UNDERFLOW AND ENDS TURNED SLIGHTLY UP GRADE TO CREATE A PONDING EFFECT. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UPSLOPE EARTHWORK. SILT FENCE SHALL BE PLACED AS SHOWN ON THE EROSION CONTROL PLAN AND AS DIRECTED BY THE ENGINEER.

1.4.5. DIVERT UPLAND FLOW
THE EXISTING STREAM WILL BE DIVERTED AS DESCRIBED IN THE DEWATERING SECTION BELOW. NO OTHER UPLAND FLOW DIVERSION WILL BE REQUIRED.

1.4.6. SLOW DOWN CHANNELIZED RUNOFF
CHECK DAMS TO BE USED AS NECESSARY.

1.4.7. CONSTRUCT PERMANENT CONTROLS
ALL DISTURBED SOIL SHALL BE STABILIZED WITH SEED AND MULCH.

1.4.8. STABILIZE EXPOSED SOILS
SEEDING AND MULCHING SHALL BE UTILIZED TO STABILIZE SOIL. SOIL SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE AND/OR DURING INTERMITTENT PHASES OF CONSTRUCTION. MULCHING WILL BE UTILIZED ON A REGULAR BASIS. ANY SOIL TO BE EXPOSED FOR SEVERAL DAYS PRIOR TO FINAL GRADING SHALL BE MULCHED. SOIL SHALL BE STABILIZED WITHIN 48 HOURS PRIOR TO FORECASTED RAIN. THEREFORE, STABILIZE ALL DISTURBED AREAS PROMPTLY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY VEGETATION SHALL BE ESTABLISHED IF THE AREA IS TO BE WITHOUT CONSTRUCTION ACTIVITY FOR A PERIOD OF 14 DAYS. PERIMETER CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY. INSTALL OTHER TEMPORARY CONTROLS IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS.

1.4.9. WINTER STABILIZATION
THE CONSTRUCTION SEASON SHALL BE FROM MAY 1 TO OCTOBER 15. IF ANY EARTHWORK IS TO BE PERFORMED OUTSIDE THE CONSTRUCTION SEASON, A WINTER EROSION AND SEDIMENT CONTROL PLAN DESCRIBING ALTERNATIVE STABILIZATION METHODS SHALL BE SUBMITTED TO THE RESIDENT ENGINEER PRIOR TO AUGUST 15 FOR APPROVAL.

1.4.10. STABILIZE SOIL AT FINAL GRADE
SEEDING AND MULCHING SHALL BE UTILIZED TO STABILIZE SOIL. SOIL SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEEDING, MULCHING, AND BIODEGRADABLE EROSION CONTROL MATTING OR 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. DEWATERING ACTIVITIES
STREAM DIVERSION IS REQUIRED DURING THE GROUT PLACEMENT OPERATIONS AND DURING THE CONSTRUCTION OF THE HEADWALLS AND CRADLE WALLS. THE IMPACTS SHOWN ON THIS PLAN ASSUME THAT STREAM DIVERSIONS WILL BE ACCOMPLISHED THROUGH THE USE OF SAND BAGS TO DIVERT WATER INTO A SMALLER PIPE INSERTED INTO THE LINER.

1.4.12. SITE INSPECTION
TEMPORARY EROSION CONTROL MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED FOR SEDIMENT BUILDUP. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT REACHES ONE-HALF THE HEIGHT OF THE CONTROL MEASURE. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE SUCH THAT IT WILL NOT BE SUBJECT TO EROSION.

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