

# EROSION PREVENTION AND SEDIMENT CONTROL NARRATIVE

## PROJECT DESCRIPTION:

THE BARNET INTERSTATE 91 CULVERT REHABILITATION PROJECT INCLUDES WORK TO BE PERFORMED AT TWO ISOLATED LOCATIONS, MILE MARKERS 117.72 AND 117.96 ON INTERSTATE 91 IN THE TOWN OF BARNET, COUNTY OF CALEDONIA.

THE PROJECT SHALL CONSIST OF INSTALLATION OF CURED IN PLACE PIPE LINERS, INSTALLATION OF CONCRETE HEADWALLS, CHANNEL STABILIZATION, AND EMBANKMENT STABILIZATION. TOPSOIL, SEED, MULCH, OR STONE FILL SHALL BE APPLIED TO ALL DISTURBED AREAS.

THE PROJECT SHALL REHABILITATE TWO EXISTING CORRUGATED METAL GALVANIZED PIPES. THESE CULVERTS ARE CURRENTLY IN POOR CONDITION RESULTING IN EMBANKMENT AND MEDIAN SINKHOLES, AS WELL AS ROADWAY SETTLEMENT. DISTURBED EARTH ASSOCIATED WITH THIS WORK IS A RESULT OF ACCESS AND STAGING REQUIREMENTS. THE TOTAL AREA OF DISTURBANCE IS APPROXIMATELY .50 ACRES OF LAND INCLUDING BOTH ON-SITE AND CONTIGUOUS WASTE, BORROW, STAGING, AND HAUL ROADS.

## SITE INVENTORY AND ANALYSIS:

### BODIES OF WATER & ON-SITE/OFF-SITE DRAINAGE CHARACTERISTICS:

THE BARNET INTERSTATE 91 PROJECT IS LOCATED IN THE UPPER CONNECTICUT RIVER BASIN. THE EXISTING 60" CGMP AT MILE MARKER 117.72 AND 54" CGMP AT MILE MARKER 117.96 CONVEY SMALL UNNAMED STREAMS BENEATH BOTH INTERSTATE BARRELS, THAT ULTIMATLY DISCHARGE TO THE CONNECTICUT RIVER.

THE PROJECT IS LOCATED IN A RURAL AREA. THE WOODED HIGHER ELEVATIONS TO THE WEST PRODUCE MINIMAL OFF-SITE RUNOFF THAT REACHES THE PROJECT LIMITS. THE MAJORITY OF THIS RUNOFF IS COLLECTED IN THE UNNAMED STREAMS PRIOR TO REACHING THE SITE. THE ON-SITE RUNOFF WILL CONSIST OF RUNOFF PRODUCED BY THE EXISTING INTERSTATE PAVEMENT STRUCTURE AS WELL AS THE TEMPORARY ACCESS ROADS AND STAGING AREAS.

### VEGETATION:

VEGETATION IMPACTS RESULTING FROM THIS PROJECT INCLUDE CLEARING OF VEGETATION (PRIMARILY PINE TREES) ON EMBANKMENT SIDE SLOPES BETWEEN THE EXISTING EDGES OF PAVEMENT AND TOES OF SLOPE. THERE ARE NO PROPOSED TREE REPLACEMENTS AS PART OF THIS PROJECT. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS PART OF THE PROJECT.

### SOIL:

THE LOCATIONS WHERE CONSTRUCTION ACTIVITIES ARE PROPOSED ARE PRIMARILY WITHIN THE INTERSTATE EMBANKMENT AND MEDIAN. THE SOILS AT THESE LOCATIONS ARE LIKELY FILL MATERIAL PLACED DURING CONSTRUCTION OF THE INTERSTATE. THE SOIL MAPS INDICATE THE PROJECT AREA IS COMPRISED OF LOAMY FINE SAND. A K-FACTOR WAS NOT OBTAINED FOR THESE AREAS.

### SENSITIVE RESOURCE AREAS:

EXTREME CARE SHOULD BE EXERCISED WHILE CHANNEL WORK IS BEING PERFORMED. MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS, AND OTHER SENSITIVE AREAS IS A CRUCIAL EROSION PREVENTION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

## TEMPORARY EROSION PREVENTION & SEDIMENT CONTROL:

### TEMPORARY EROSION PREVENTION MEASURES TO BE UTILIZED INCLUDE:

"PROJECT DEMARCATION FENCING," DENOTED --PDF- ON THE PLANS, TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION, AND IS LOCATED BEYOND THE TOE OF SLOPES (PROJECT LIMITS).

EROSION MATTING FOR SLOPES WILL BE INSTALLED TEMPORARILY ON ALL SLOPES STEEPER THAN 3H:1V TO REDUCE EROSION.

SEEDING AND MULCHING WILL BE THE PRIMARY METHOD OF SLOPE STABILIZATION ON THIS PROJECT.

NATURAL SWALES LOCATED PARALLEL TO THE PROPOSED ACCESS ROADS WILL SERVE TO DIVERT THE MAJORITY OF THE OFF-SITE RUNOFF PRIOR TO REACHING DISTURBED AREAS. THE SITE'S NATURAL DRAINAGE WAYS SHALL BE MAINTAINED AND PRESERVED TO THE EXTENT POSSIBLE.

### TEMPORARY MEASURES TO CONTROL SEDIMENT TRANSPORT INCLUDE:

SILT FENCE WILL BE INSTALLED NEAR THE TOE OF SLOPES TO PREVENT SEDIMENT TRANSPORT FROM ENTERING THE CULVERTS. EACH LINE OF SILT FENCE WILL BE PLACED ALONG A CONTOUR WITH EACH END TURNED SLIGHTLY UPHILL TO CREATE A PONDING EFFECT. MULTIPLE SILT FENCE SECTIONS SHALL BE OVERLAPPED RATHER THAN ABUTTING END TO END. NO SILT FENCE SHALL BE UTILIZED IN AREAS OF CONCENTRATED FLOWS, SUCH AS CHANNELS OR DITCHES. SILT FENCE SHALL BE CHECKED REGULARLY FOR ACCUMULATION OF SEDIMENT.

THE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING MEASURES TO CONTROL SEDIMENT TRANSPORT BASED ON THE METHOD CHOSEN FOR "TEMPORARY RELOCATION OF STREAMS." REFER TO THE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS RELATED TO THIS ITEM.

## PERMANENT EROSION CONTROL MEASURES:

### THE FOLLOWING PERMANENT EROSION CONTROL MEASURES WILL BE UTILIZED:

PERMANENT STABILIZATION AND FINAL LAND TREATMENT WILL CONSIST OF ESTABLISHED VEGETATION ON THE EMBANKMENTS AND THE MEDIAN. STONE FILL WILL BE USED TO STABILIZE INLET AND OUTLET CHANNELS.

## GENERAL EROSION & SEDIMENT CONTROL GUIDELINES:

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 TO CONTROL EROSION AND MINIMIZE THE SEDIMENT TO RECEIVING BODIES OF WATER. 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 WILL USE ADDITIONAL EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER.

ANY CHANGES TO EROSION CONTROL MEASURES SHALL BE NOTED ON THE PLANS AND REPORTED TO THE ENGINEER IN A TIMELY MANNER. REPAIR MEASURES SHALL BE APPLIED AS NECESSARY.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. THEREFORE, STABILIZE ALL DISTURBED AREAS PROMPTLY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED. PERIMETER CONTROL MEASURES SHALL BE INSTALLED FOLLOWING CLEARING, BUT PRIOR TO THE START OF ANY GRUBBING OR GRADING ACTIVITY. TEMPORARY CONTROLS SHALL BE INSTALLED IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS.

DO NOT ALLOW CONSTRUCTION EQUIPMENT TO OPERATE ON THE DOWN SLOPE SIDE OF PERIMETER CONTROL MEASURES.

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