

EROSION & SEDIMENT CONTROL NARRATIVE

I. PROJECT DESCRIPTION

THIS PURPOSE OF THIS PROJECT IS TO REHABILITATE/REPLACE THE CORBIESHAW ROAD SEWER FROM BRAMBLETON AVENUE TO GARST MILL ROAD LOCATED IN ROANOKE COUNTY, VIRGINIA. THE PROJECT BOUNDARIES REACH FROM THE CONNECTION AT GARST MILL ROAD TO THE INTERSECTION OF HARRIS AVENUE AND BRAMBLETON AVENUE. THE TOTAL DISTURBED AREA IS 53,440 FT².

II. EXISTING SITE CONDITIONS

THE EXISTING SITE BEGINS ON GARST MILL ROAD AND TURNS ONTO GREENVIEW ROAD AND FOLLOWS THE CREEK TO THE PUBLIC POOL AND CONTINUES TO HARRIS STREET. THE PROJECT AREA ENDS AT BRAMBLETON AVENUE. THE REPLACEMENT PORTION IS GENERALLY SLIGHTLY SLOPING TO FLAT. THE REPLACEMENT SEWER INSTALLATION BEGINS IN AND REMAINS IN A MAINTAINED GRASS AREA FOR 850 FEET. THE REMAINDER OF THE REPLACEMENT OCCURS IN A LIGHTLY WOODED AREA.

III. ADJACENT PROPERTIES

THE SITE IS BOUNDED BY RESIDENTIAL AND BUSINESS PROPERTIES ON ALL SIDES.

IV. OFF-SITE AREAS

FILL MATERIAL WILL BE OBTAINED FROM AREAS ON SITE LOCATION. UNSUITABLE MATERIAL WILL BE HAULED FROM THE SITE AND DISPOSED OF IN AN APPROVED MANNER. THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION AND SEDIMENT CONTROL PLAN TO THE EROSION AND SEDIMENT CONTROL REGULATOR PERTAINING TO OFF-SITE DISTURBED AREAS SUCH AS STOCKPILES, STAGING AREAS, AND SPOIL AREAS THAT ARE USED FOR THIS PROJECT. THE CONTRACTOR SHALL SUBMIT THE SUPPLEMENTAL E&S PLANS TO THE COUNTY AT LEAST TWO (2) DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING..

V. SOILS

ACCORDING TO USDA NRCS SOIL MAPPING, THE PROJECT SITE LIES ON SOIL TYPES CHISWELL-LITZ (5D) AND CHISWELL-LITZ (5E).

THE CHISWELL-LITZ COMPLEX (5D), 15-25 PERCENT SLOPES SERIES CONSISTS OF WELL DRAINED SOILS THAT ARE MODERATELY STEEP AND FOUND ON UPLAND SIDE SLOPES AND SUMMITS. THE SOIL DEPTHS ARE AS FOLLOWS: CHISWELL IS SHALLOW AND THE LITZ IS MODERATELY DEEP. THE SURFACE LAYER IS 2 INCHES THICK AND A DARK BROWN CHANNERY SILT LOAM. THE SUBSOIL IS 10 INCHES THICK AND REDDISH BROWN, VERY CHANNERY SILT LOAM. THE SURFACE RUNOFF IS RAPID. THE PERMEABILITY RATE OF THE SOIL IS 0.6 TO 2.0 INCHES PER HOUR. THE HYDROLOGICAL GROUP FOR CHISWELL IS D AND LITZ IS C. THE ERODIBILITY FACTOR (K) IS 0.10-0.32 IN THE SUBSOIL.

THE CHISWELL-LITZ COMPLEX (5E), 25-50 PERCENT SLOPES SERIES CONSISTS OF WELL DRAINED SOILS THAT ARE STEEP-VERY STEEP AND FOUND ON UPLAND SIDE SLOPES. THE SOIL DEPTHS ARE AS FOLLOWS: CHISWELL IS SHALLOW AND THE LITZ IS MODERATELY DEEP. THE SURFACE LAYER IS 2 INCHES THICK AND A DARK BROWN CHANNERY SILT LOAM. THE SUBSOIL IS 10 INCHES THICK AND REDDISH BROWN, VERY CHANNERY SILT LOAM. THE SURFACE RUNOFF IS RAPID. THE PERMEABILITY RATE OF THE SOIL IS 0.6 TO 2.0 INCHES PER HOUR. THE HYDROLOGICAL GROUP FOR CHISWELL IS D AND LITZ IS C. THE ERODIBILITY FACTOR (K) IS 0.10-0.32 IN THE SUBSOIL.

VI. CRITICAL AREAS

A SMALL CHANNEL BORDERS THE SOUTHERN EDGE OF THE REPLACEMENT PROJECT. SILT FENCE SHALL BE USED TO PROTECT THE CHANNEL FROM SEDIMENTATION. EXCAVATED MATERIAL SHALL BE STOCKPILED ON THE UPHILL SIDE OF THE TRENCH. SEDIMENT SHALL BE TRAPPED ON SITE.

VII. EROSION AND SEDIMENT CONTROL MEASURES

ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. SYMBOLS, DETAILS, AND DIMENSIONS USED ARE TAKEN FROM THE HANDBOOK, AS WELL AS THE LATEST EDITION OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S ROAD AND BRIDGE STANDARDS.

A. STRUCTURAL PRACTICES

- TEMPORARY STONE CONSTRUCTION ENTRANCE (CE), SPEC. 3.02: A CONSTRUCTION ENTRANCE SHALL BE PROVIDED AS SHOWN ON THE PLANS AT THE EXISTING ROAD. EQUIPMENT WHEELS SHALL BE CLEAN WHEN ENTERING UPON A PAVED ROAD. ALL VEHICLES ENTERING AND EXITING THE PROJECT SITE SHALL USE A CONSTRUCTION ENTRANCE.
- SILT FENCE (SF), SPEC. 3.05: SILT FENCE BARRIERS SHALL BE PROVIDED WHERE SHOWN AND AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE.
- STRUCTURAL STREAMBANK STABILIZATION (SSS), SPEC. 3.23: PROVIDE STRUCTURAL STREAMBANK STABILIZATION AS SHOWN ON THE PLANS TO PROTECT STREAMBANKS FROM THE EROSIIVE FORCES OF FLOWING WATER.
- UTILITY STREAM CROSSING (USC), SPEC. 3.25: HELP PROTECT SEDIMENT FROM ENTERING THE STREAM FROM CONSTRUCTION WITHIN THE APPROACH AREAS.

B. VEGETATIVE PRACTICES

- TEMPORARY SEEDING (TS), SPEC. 3.31: TEMPORARY SEEDING SHALL BE PROVIDED ON SITE TO PROVIDE STABILIZATION UNTIL SITE DEVELOPMENT OCCURS. APPLY SEED BASED ON THE TEMPORARY SEEDING SCHEDULE ON THE PLANS.
- PERMANENT SEEDING (PS), SPEC. 3.32: PERMANENT SEEDING SHALL BE PROVIDED ON SITE TO PROVIDE STABILIZATION FOR ALL DISTURBED AREAS. APPLY SEED BASED ON PERMANENT SEEDING SCHEDULE SHOWN ON THE PLANS.
- MULCHING (MU), SPEC. 3.35: ALL PERMANENT AND TEMPORARY SEEDING SHALL BE STRAW MULCHED IMMEDIATELY UPON COMPLETION OF SEED APPLICATION. STRAW ON STEEP SLOPES SHALL BE ANCHORED UNLESS SEEDING WAS PROVIDED BY MEANS OF A HYDROSEEDING, IN WHICH CASE, MULCHING IS NOT REQUIRED.

C. MAINTENANCE

ALL EROSION AND SEDIMENT CONTROL STRUCTURES AND SYSTEMS SHALL BE MAINTAINED, INSPECTED, AND REPAIRED AS NEEDED TO INSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED AT THE END OF EACH DAY AND AFTER EVERY RAINFALL EVENT.

- DAMAGE TO EROSION CONTROL MEASURES CAUSED BY CONSTRUCTION TRAFFIC OR OTHER ACTIVITY SHALL BE REPAIRED BEFORE THE END OF EACH WORKING DAY.
- MAINTAIN ALL SEEDED AREAS UNTIL A UNIFORM STAND IS ACCEPTED.
- PROVIDE FOR EQUIPMENT WASHING AS NEEDED TO PREVENT THE TRANSPORT OF SOIL ONTO EXISTING ASPHALT ROADWAYS. ANY SEDIMENT ON THE PAVEMENT SHALL BE REMOVED IMMEDIATELY.
- SILT FENCE BARRIERS WILL BE CHECKED DAILY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL REACHES HALF WAY TO THE TOP OF THE BARRIER.
- WHERE EROSION OR WASHOUT IS OBSERVED IN MULCHED AREAS, ADDITIONAL MULCH SHOULD BE APPLIED.

D. MINIMUM STANDARDS

MS-1. STABILIZATION OF DENUDED AREAS: PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN 7 DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT OR UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

-CONTRACTOR SHALL PROVIDE TEMPORARY AND/OR PERMANENT SEEDING AS NECESSARY TO COMPLY WITH THIS MINIMUM STANDARD.

MS-2. STABILIZATION OF SOIL STOCKPILES: DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING DEVICES. THE APPLICANT IS RESPONSIBLE FOR TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

-CONTRACTOR SHALL PROVIDE SILT FENCE AROUND ANY STOCKPILE TO REMAIN FOR 7 DAYS OR MORE. CONTRACTOR SHALL PROVIDE TEMPORARY OR PERMANENT SEEDING AS REQUIRED TO COMPLY WITH THIS MINIMUM STANDARD.

MS-3. PERMANENT VEGETATIVE COVER: A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE E&S INSPECTOR, IS UNIFORM AND MATURE ENOUGH TO SURVIVE AND INHIBIT EROSION.

-CONTRACTOR SHALL PROVIDE TEMPORARY AND PERMANENT SEEDING IN ALL AREAS WHERE CONSTRUCTION ACTIVITIES DAMAGE OR REMOVE EXISTING VEGETATION.

MS-4. TIMING AND STABILIZATION OF SILT TRAPPING MEASURES: SEDIMENT BASINS AND TRAPS, STORM INLET PROTECTION, SILT FENCING, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

-CONTRACTOR SHALL INSTALL SILT TRAPPING MEASURES AS SHOWN ON PLANS AND AS REQUIRED BY VIRGINIA EROSION AND SEDIMENT CONTROL REGULATION.

MS-5. STABILIZATION OF EARTHEN STRUCTURES: STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

-THIS MINIMUM STANDARD IS NOT APPLICABLE TO THIS PROJECT.

MS-6. SEDIMENT BASINS AND TRAPS: SEDIMENT TRAPS AND BASINS SHALL BE CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED.

- THE MINIMUM CAPACITY OF A SEDIMENT TRAP SHALL BE 134-CUBIC YARDS PER ACRE OF DRAINAGE AREA, AND SHALL CONTROL A DRAINAGE AREA OF LESS THAN 3-ACRES.
- THE MINIMUM CAPACITY OF A SEDIMENT BASIN SHALL BE 134-CUBIC YARDS PER ACRE OF DRAINAGE AREA, AND SHALL CONTROL A DRAINAGE AREA OF 3-ACRES OR GREATER.

-THIS MINIMUM STANDARD IS NOT APPLICABLE TO THIS PROJECT.

MS-7. CUT AND FILL SLOPES: CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

-THIS MINIMUM STANDARD IS NOT APPLICABLE TO THIS PROJECT.

MS-8. CONCENTRATED RUNOFF DOWN CUT OR FILL SLOPES: CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.

-THIS MINIMUM STANDARD IS NOT APPLICABLE TO THIS PROJECT.

MS-9. WATER SEEPAGE FROM A SLOPE FACE: WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.

-THIS MINIMUM STANDARD IS NOT APPLICABLE TO THIS PROJECT.

MS-10. STORM SEWER INLET PROTECTION: ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

-THERE ARE NO INLETS WITHIN THE PROJECT AREA.

MS-11. STABILIZATION OF OUTLETS: BEFORE NEWLY CONSTRUCTED STORM WATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

-THIS MINIMUM STANDARD IS NOT APPLICABLE TO THIS PROJECT.

MS-12. WORK IN LIVE WATERCOURSES: WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.

-CONTRACTOR SHALL INSTALL THE PROPER UTILITY STREAM CROSSING FOR EACH PIPE THAT CROSSES THE STREAM.

MS-13. CROSSING A LIVE WATERCOURSE: WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIALS SHALL BE PROVIDED.

-THIS MINIMUM STANDARD IS NOT APPLICABLE TO THIS PROJECT.

MS-14. APPLICABLE REGULATIONS: ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.

-A JOINT PERMIT APPLICATION HAS BEEN MADE TO COMPLY WITH THE STREAM CROSSING REQUIREMENTS OF VMRC, DEQ, AND AOC. CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS AND THE VA E&S REGULATION.

MS-15. STABILIZATION OF BED AND BANKS: THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.

-CONTRACTOR SHALL PROVIDE IMMEDIATE STABILIZATION OF ALL DISTURBED STREAM BANKS.

MS-16. UNDERGROUND UTILITIES: UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS, IN ADDITION TO OTHER APPLICABLE CRITERIA:

- NO MORE THAN 500-LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
- WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES, EXCEPT FOR ANY DIVERSION DITCHES.
- EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFFSITE PROPERTY.
- TRENCH BACKFILL MATERIAL SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
- RE-STABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
- ALL APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH AT ALL TIMES.

-CONTRACTOR SHALL COMPLY WITH REGULATIONS PERTAINING TO UTILITY CONSTRUCTION. SAFETY MEASURES MUST BE IN PLACE. DEWATERING SHALL BE ACCOMPLISHED VIA A FILTER BAG OR OTHER APPROVED METHOD. COMPACTION REQUIREMENTS SHALL BE MET. ALL VA E&S REQUIREMENTS MUST BE MET.

MS-17. CONSTRUCTION ACCESS ROUTES: WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.

-CONTRACTOR SHALL INSTALL A CONSTRUCTION ENTRANCE IN THE LOCATION SHOWN. A DETAIL HAS BEEN INCLUDED.

MS-18. TEMPORARY E&S CONTROL MEASURE REMOVAL: ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL E&S AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

-CONTRACTOR SHALL REMOVE SILT FENCE AND OTHER TEMPORARY SEDIMENT TRAPPING DEVICES UPON PROJECT COMPLETION AND FINAL STABILIZATION.

MS-19. ADEQUACY OF RECEIVING CHANNELS: PROPERTIES AND WATERWAYS DOWNSTREAM FROM THE DEVELOPMENT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATES OF STORM WATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION.

-CONTRACTOR SHALL PROTECT STREAMS AND DOWNSTREAM AREAS FROM SEDIMENTATION, INCREASED WATER VOLUME, AND DAMAGE BY PROPERLY INSTALLING AND MAINTAINING THE VARIOUS MEASURES LISTED AND SHOWN IN THE EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT PLANS.

VIII. SOIL STOCKPILES AND BORROW AREAS

FILL MATERIAL SHALL BE OBTAINED FROM AREAS OF EXCAVATION ON SITE. LOCATIONS OF SOIL STOCKPILES

SHALL BE DETERMINED BY THE CONTRACTOR WITH THE APPROVAL OF THE OWNER/DEVELOPER. ALL STOCKPILES SHALL BE LOCATED ON SITE AND PROTECTED WITH SURROUNDING SILT FENCING AND STABILIZED WITH A VEGETATIVE COVER. THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION AND SEDIMENT CONTROL PLAN FOR ALL SOILS INTENTIONALLY TRANSPORTED OFFSITE IF THE TRANSPORTED MATERIAL DISTURBS MORE THAN 1,000 SQUARE FEET IN AREA. ALL APPLICABLE PERMITS SHALL BE OBTAINED.

IX. STORMWATER

FOR EACH PROJECT THE TRENCH WILL BE BACKFILLED WITH NATIVE MATERIAL AND THE VEGETATION REESTABLISHED. ADDITIONALLY, THE PROJECT WILL NOT AFFECT THE PATTERN OF OVERLAND FLOW. PRE-CONSTRUCTION CONTOURS WILL BE RE-ESTABLISHED. STANDARD DRAINAGE CALCULATIONS IDENTIFY A VOLUMETRIC FLOW WITH THE EQUATION OF WHERE THE FLOW (Q) = RUNOFF COEFFICIENT (C) X RAINFALL INTENSITY (I) X DRAINAGE AREA (A). AS DISCUSSED, THE VEGETATION WILL BE REESTABLISHED AND NATIVE SOILS USED FOR BACKFILL, PROVIDING NO CHANGE IN THE RUNOFF COEFFICIENT. THE RAINFALL INTENSITY WILL REMAIN CONSTANT, BEING BASED ON RAINFALL PROBABILITY. FINALLY, SINCE PRE-CONSTRUCTION CONTOURS WILL BE REESTABLISHED, DRAINAGE PATTERNS AND DELINEATED AREAS WILL NOT CHANGE. POST CONSTRUCTION RUNOFF WILL EQUAL PRE-CONSTRUCTION RUNOFF.

X. CONTACT PARTY FOR E&S IMPLEMENTATION

CONTRACTOR SHALL PROVIDE CERTIFIED E&S RESPONSIBLE LAND DISTURBER.

(TS) TEMPORARY SEEDING SCHEDULE

PLANTING SPECIES	SPECIES	RATE (LBS/ACRE)
SEPT 1 - FEB 15	50/50 MIX OF ANNUAL RYEGRASS (LOLIUM MULTI-FLOSUM) & CEREAL (WINTER) RYE (SECALE CERALE)	50 - 100
FEB 16 - APR 30	ANNUAL RYEGRASS (LOLIUM MULTI-FLOSUM)	60 - 100
MAY 1 - AUG 31	GERMAN MILLET (SETARIA ITALICA)	50

(PS) PERMANENT SEEDING SCHEDULE

SITE SPECIFIC SEEDING MIXTURES FOR PIEDMONT AREA

	TOTAL POUNDS PER ACRE
HIGH MAINTENANCE LAWN CARE	200-250 LBS
TURF - TYPE TALL FESCUE	100%
GENERAL SLOPE (3:1 OR LESS)	
KENTUCKY 31 FESCUE	128 LBS
INDIAN GRASS	2 LBS
SEASONAL NURSE CROP*	20 LBS
TOTAL	150 LBS
LOW MAINTENANCE SLOPE (STEEPER THAN 3:1)	
KENTUCKY 31 FESCUE	108 LBS
SEASONAL NURSE CROP*	20 LBS
INDIAN GRASS	22 LBS
TOTAL	150 LBS

*USE SEASONAL NURSE CROP IN ACCORDANCE WITH SEEDING DATES AS STATED BELOW:

ANNUAL RYE:	FEBRUARY 16TH THROUGH APRIL
FOXTAIL MILLET:	MAY 1ST THROUGH AUGUST 15TH
ANNUAL RYE:	AUGUST 16TH THROUGH OCTOBER
WINTER RYE:	NOVEMBER THROUGH FEBRUARY 15TH

LIME & FERTILIZER SPECIFICATIONS:

A SOILS TEST IS REQUIRED PRIOR TO FINAL SITE STABILIZATION, TO DETERMINE LIME AND FERTILIZER APPLICATION RATES FOR THE ESTABLISHMENT OF GRASS ON SITE. CONTACT VIRGINIA COOPERATIVE EXTENSION OR A GEOTECHNICAL FIRM WITH SOIL TESTING FACILITIES TO OBTAIN A SOILS REPORT FOR NUTRIENT APPLICATION.

INCORPORATION:

LIME AND FERTILIZER SHALL INCORPORATED INTO THE TOP 4 INCHES OF TOPSOIL BY DISCING OR OTHER MEANS WHENEVER POSSIBLE. FOR EROSION CONTROL, WHEN APPLYING LIME AND FERTILIZER WITH A HYDROSEEDER, APPLY TO A ROUGH, LOOSE SURFACE.

MULCHING:

MULCH WITH STRAW AT A RATE OF 2 TONS/ACRE OR EQUIVALENT.

CORBESHAW ROAD SEWER IMPROVEMENTS

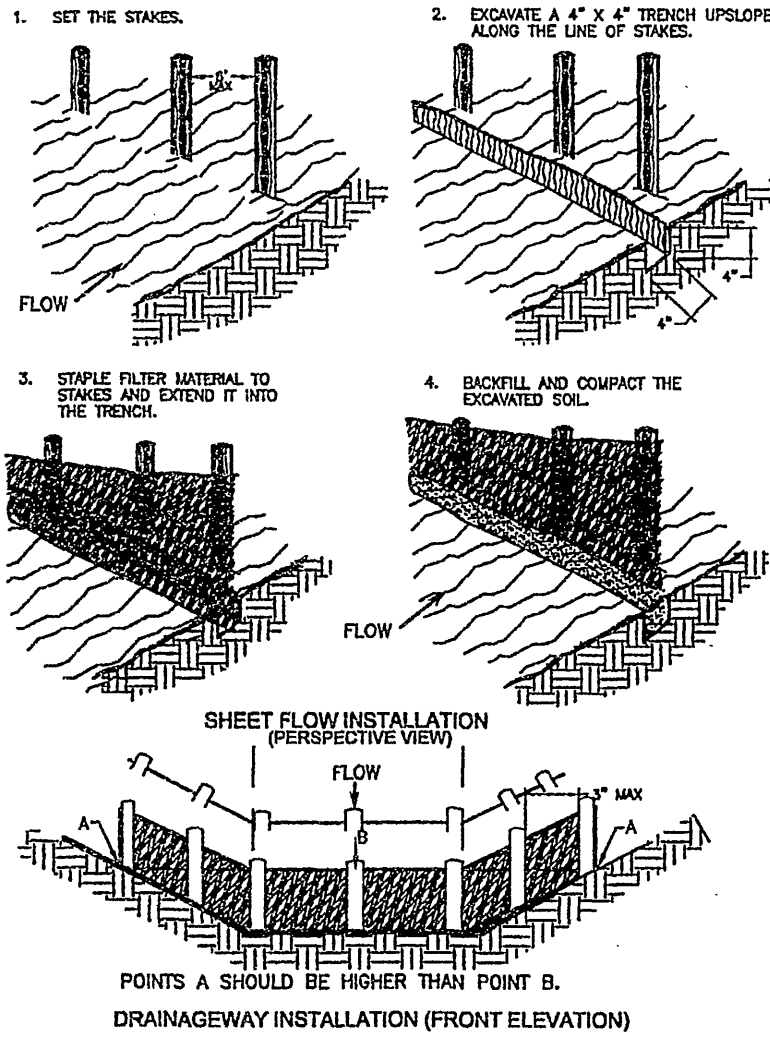
VESCH STD	DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL
3.02 (CE)	Temporary Gravel Construction Entrance	EA	1	\$1,500.00	\$1,500.00
3.03 (CRS)	Construction Road Stabilization	SQ		\$3.00	\$0.00
3.04 (STR)	Straw Bale Barrier	LF		\$3.00	\$0.00
3.05 (SF)	Silt Fence	LF	1340	\$4.00	\$5,360.00
3.06 (BB)	Bush Barrier	LF		\$2.00	\$0.00
3.07 (FP)	Storm Drain Inlet Protection	EA		\$100.00	\$0.00
3.08 (CIP)	Culvert Inlet Protection	EA		\$150.00	\$0.00
3.09 (DD)	Temporary Diversion Dike	LF		\$3.00	\$0.00
3.10 (FD)	Temporary Fall Diversion	LF		\$0.50	\$0.00
3.11 (RWD)	Temporary Right-of-Way Diversion	LF		\$3.00	\$0.00
3.12 (DV)	Diversion	LF		\$8.50	\$0.00
3.13 (ST)	Temporary Sediment Trap	EA		\$0.00	\$0.00
	1 Acre Drainage Area	EA		\$750.00	\$0.00
	2 Acre Drainage Area	EA		\$1,500.00	\$0.00
	3 Acre Drainage Area	EA		\$2,000.00	\$0.00
3.14 (SB)	Temporary Sediment Basin	EA		\$0.00	\$0.00
	3 Acre Drainage Area	EA		\$3,000.00	\$0.00
	6 Acre Drainage Area	EA		\$8,000.00	\$0.00
	15 Acre Drainage Area	EA		\$10,000.00	\$0.00
3.15 (TSD)	Temporary Slope Drain	LF		\$10.00	\$0.00
3.16 (PF)	Paved Flume	LF		\$25.00	\$0.00
3.17 (SCC)	Stormwater Conveyance Channel	LF		\$8.00	\$0.00
3.18 (OP)	Outlet Protection	EA		\$200.00	\$0.00
3.20 (CD)	Rock Check Dams	EA		\$50.00	\$0.00
3.23 (SSS)	Structural Streambank Stabilization	CU	45	\$80.00	\$3,600.00
3.25 (USC)	Utility Stream Crossing	EA	1	\$2,000.00	\$2,000.00
3.26 (SR)	Surface siltfencing	AC		\$500.00	\$0.00
3.31 (TS)	Temporary Seeding	AC	1.20	\$1,800.00	\$2,160.00
3.32 (PS)	Permanent Seeding with Straw	AC	1.20	\$2,400.00	\$2,880.00
3.36 (RM)	Soil Stabilization Elements and Matting	SY		\$2.00	\$0.00
3.38 (TP)	Tire Preservation & Protection	LF		\$3.60	\$0.00
NA (SSF)	"Super Silt Fence"	LF		\$8.00	\$0.00

SUBTOTAL \$17,500.00

Add a 10% contingency to Total Cost 10% \$1,750.00

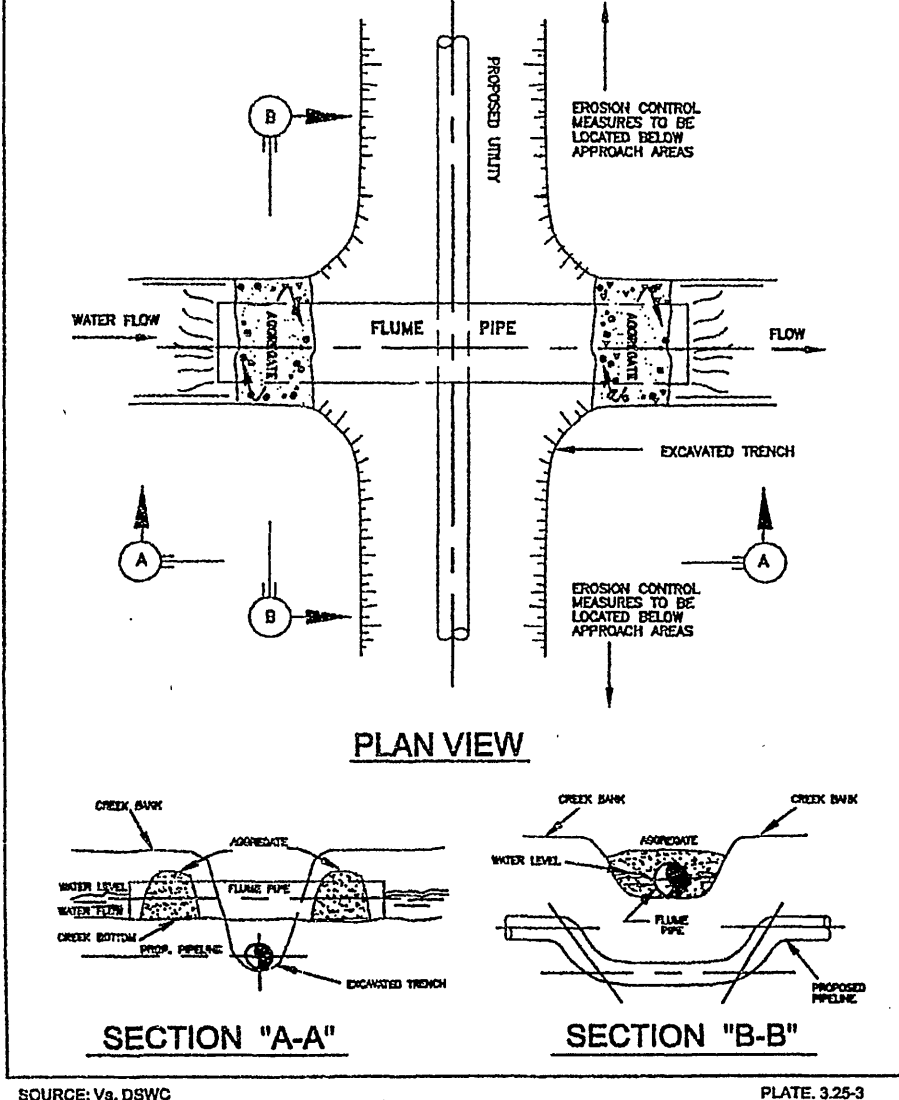
TOTAL \$19,250.00

CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)

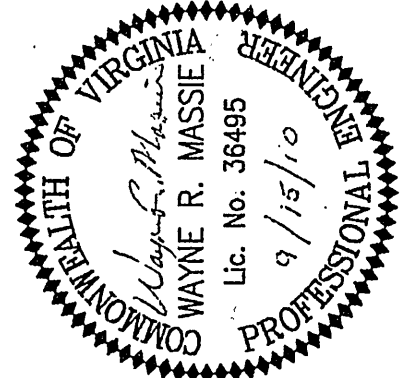


SOURCE: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Shawhead & Wyant

FLUME PIPE CROSSING



SOURCE: Va. DSWC



CORBIESHAW ROAD
SEWER IMPROVEMENTS
WESTERN VIRGINIA
WATER AUTHORITY

ROANOKE, VIRGINIA

REVISION DESCRIPTION

MARK DATE

COMM NO:	208049
DATE:	AUGUST 25, 2010
DRAWN:	LDB
DESIGN:	WRM
CHECK:	TRW
CAD FILE:	09049-C-501.dwg
SHEET TITLE	
EROSION & SEDIMENT CONTROL NARRATIVE & DETAILS	
SHT. NO.	C-501
REV. NO.	0