

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION:
THIS PROJECT CONSISTS OF CONSTRUCTION OF WATER LINE, WATER TREATMENT PLANT, WELL DEVELOPMENT AND TWO TANKS LOCATED IN THE TOWN OF BOONES MILL. THE PROJECT INCLUDES GRADING AND ASSOCIATED EROSION AND SEDIMENT CONTROL MEASURES NECESSARY TO CONSTRUCT WATERLINE, WATER TREATMENT PLANT, WELL DEVELOPMENT AND THE TWO OTHER TANKS. APPROXIMATELY 4.88 ACRES WILL BE DISTURBED AS PART OF THE CONSTRUCTION. A VSPM PERMIT WILL BE REQUIRED FOR THIS PORTION OF THE PROJECT.

EXISTING SITE CONDITIONS:
CURRENTLY THE SPRING SITE HAS A TREATMENT BUILDING, A SMALL CONCRETE TANK AND A 250,000 GALLON WATER TANK ON IT. THE SPRING SITE HAS BEEN CLEARED OF ALL TREES. THE LOCATION OF THE FUTURE WATER TREATMENT BUILDING IS LOCATED JUST BELOW THE SPRING SITE AND IS CURRENTLY AN APPLE ORCHARD.

ADJACENT PROPERTIES:
THE SURROUND PROPERTY IS ZONED AGRICULTURAL. ALL MEASURES SHALL BE TAKEN TO ENSURE THAT THE SITE IS STABILIZED AND NO ADDITIONAL SEDIMENT IS DEPOSITED INTO THE DRAINAGE CHANNEL.

OFFSITE AREAS:
ALL GRADING SHALL OCCUR ON-SITE. ANY ADDITIONAL DIRT BORROWED OR WASTED FROM THE SITE WILL BE EITHER STOCKPILED OR REMOVED FROM A LOCATION CHOSEN BY THE CONTRACTOR AT A LATER DATE.

CRITICAL AREAS:
THE CRITICAL AREAS FOR THIS PROJECT WILL BE THE AREA AROUND THE SPRING AND THE PLACE WHERE THE WATERLINE CROSSES ANY STREAMS OR CREEKS. THE CONTRACTOR SHALL ENSURE THAT SILT FENCE IS INSTALLED AT ANY AREA NEAR THE SPRING AND CREEK.

SOILS:
ALL SOILS AROUND THE SPRING AND WATER TREATMENT PLANT SITE ARE CLASSIFIED AS WINTERGREEN LOAM, 8-15% SLOPES. SOILS IN THE REMAINDER OF THE PROJECT AREA VARY BETWEEN CLIFFORD-HICKORY KNOB COMPLEX AND HAYESVILLE LOAM.

EROSION AND SEDIMENT CONTROL MEASURES:
UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATION OF THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. THE MINIMUM STANDARDS OF THE HANDBOOK SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY VARIANCE.

SECTION 3.02- TEMPORARY STONE CONSTRUCTION ENTRANCE

MAINTENANCE
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. THE USE OF WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES.

SECTION 3.05- SILT FENCE

MAINTENANCE
1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCE RESULTING FROM END RUNS AND UNDERCUTTING.
3. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

SECTION 3.08- CULVERT INLET PROTECTION

MAINTENANCE
1. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
2. AGGREGATE SHALL BE REPLACED OR CLEANED WHEN INSPECTION REVEALS THAT CLOGGED VOIDS ARE CAUSING PONDING PROBLEMS WHICH INTERFERE WITH ON-SITE CONSTRUCTION.
3. SEDIMENT SHALL BE REMOVED AND THE IMPOUNDMENT RESTORED TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.
4. TEMPORARY STRUCTURES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

SECTION 3.09- TEMPORARY DIVERSION DIKE

MAINTENANCE
1. THE MEASURE SHALL BE INSPECTED AFTER EVERY STORM AND REPAIRS MADE TO THE DIKE, FLOW CHANNEL, OUTLET OR SEDIMENT TRAPPING FACILITY, AS NECESSARY. ONCE EVERY TWO WEEKS, WHETHER A STORM EVENT HAS OCCURRED OR NOT, THE MEASURE SHALL BE INSPECTED AND REPAIRS MADE IF NEEDED. DAMAGES CAUSED BY CONSTRUCTION TRAFFIC OR OTHER ACTIVITY MUST BE REPAIRED BEFORE THE END OF EACH WORKING DAY.

SECTION 3.18- OUTLET PROTECTION

MAINTENANCE
1. OUTLET PROTECTION SHOULD BE CHECKED FOR SEDIMENT ACCUMULATION AFTER EACH RUNOFF-PRODUCING STORM EVENT. IT SHOULD BE INSPECTED PERIODICALLY TO DETERMINE IF HIGH FLOWS HAVE CAUSED SOUR BENEATH THE RIPRAP OR FILTER FABRIC OR CLOGGED ANY OF THE STONE. CARE MUST BE TAKEN TO PROPERLY CONTROL SEDIMENT-LOADED CONSTRUCTION RUNOFF WHICH MAY DRAIN TO THE POINT OF THE NEW INSTALLATION. IF REPAIRS ARE NEEDED, THEY SHOULD BE ACCOMPLISHED IMMEDIATELY.

SECTION 3.31- TEMPORARY SEEDING

ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER BY PLANTING SEED ON ROUGH-GRADED AREAS THAT WILL BE BROUGHT TO FINAL GRADE BETWEEN 6 MONTHS AND A YEAR.

SECTION 3.32- PERMANENT SEEDING

MAINTENANCE
1. EVEN WITH CAREFUL, WELL-PLANNED SEEDING OPERATIONS, FAILURES CAN OCCUR. WHEN IT IS CLEAR THAT PLANTS HAVE NOT GERMINATED ON AN AREA OR HAVE DIED THESE AREAS MUST BE RESEEDING IMMEDIATELY TO PREVENT EROSION DAMAGE. HOWEVER, IT IS EXTREMELY IMPORTANT TO DETERMINE FOR WHAT REASON GERMINATION DID NOT TAKE PLACE AND MAKE ANY CORRECTIVE ACTION NECESSARY PRIOR TO RESEEDING THE AREA. HEALTHY VEGETATION IS THE MOST EFFECTIVE EROSION CONTROL AVAILABLE.

SECTION 3.35- MULCHING

MAINTENANCE
1. ALL MULCHES AND SOIL COVERINGS SHOULD BE INSPECTED PERIODICALLY (PARTICULARLY AFTER RAINSTORMS) TO CHECK FOR EROSION. WHERE EROSION IS OBSERVED IN MULCHED AREAS, ADDITIONAL MULCH SHOULD BE APPLIED. NETS AND MATS SHOULD BE INSPECTED AFTER RAINSTORMS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, RE-INSTALL NETTING OR MATTING AS NECESSARY AFTER DAMAGE TO THE SLOPE OR DITCH. INSPECTIONS SHOULD TAKE PLACE UP UNTIL GRASSES ARE FIRMLY ESTABLISHED. WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE; REPAIR AS NEEDED.

VEGETATIVE PRACTICES:

TEMPORARY SEEDING / PERMANENT STABILIZATION:

SEEDING MEASURES SHALL BE TAKEN ON DISTURBED SOIL AT CUT / FILL SLOPES, DITCH LINES, OR AREAS OUTSIDE OF ON-GOING CONSTRUCTION PRACTICES WITHIN SEVEN (7) DAYS OF COMPLETED GRADING. ALL AREAS DISTURBED BY CONSTRUCTION WILL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINAL GRADING.

SITE MAINTENANCE:

- SILT FENCE BARRIERS SHALL BE CHECKED WEEKLY AND ESPECIALLY AFTER EACH RAINFALL EVENT, TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. IF ANY BARRIER IS DAMAGED DUE TO CONSTRUCTION ACTIVITIES, NATURAL CAUSES, OR ANY OTHER REASON, THE BARRIER SHALL BE REPAIRED OR REPLACED IMMEDIATELY. IF TRASH OR SEDIMENTATION REACHES ONE-HALF THE HEIGHT OF THE BARRIER, THE BARRIER SHALL BE CLEANED, AND RESTORED TO PROPER FUNCTIONING CONDITION.
- ALL OTHER STRUCTURAL MEASURES ARE TO BE CHECKED WEEKLY AND ESPECIALLY AFTER EACH RAINFALL EVENT TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. ANY DAMAGED OR CLOGGED MEASURE SHALL BE CLEANED OUT OR REPAIRED IMMEDIATELY.
- ALL SEDIMENT REMOVED FROM THE CONTROL DEVICES SHALL BE RE-SPREAD ON THE SITE ABOVE THE CONTROL DEVICES.
- VEGETATION SHALL BE CHECKED WEEKLY TO INSURE PROPER AND ADEQUATE COVERAGE. BARE OR WASHED AREAS SHALL BE SCARIFIED AND RESEEDING UNTIL PERMANENT STABILIZATION HAS BEEN ACHIEVED.
- ONCE SITE HAS ESTABLISHED AND SEDIMENT HAS CEASED TO BE CONVEYED ON THE SITE, ALL SILT FENCE BARRIERS AND INLET PROTECTION SHALL BE REMOVED FROM THE SITE.
- OTHER CONTROLS.
 - NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, GARBAGE AND DEBRIS SHALL BE DISCHARGED TO SURFACE WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A CWA SECTION 404 PERMIT.
 - WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, MINIMIZATION OF TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ON THE PAVEMENT WILL BE PREVENTED BY PROPER USE AND MAINTENANCE OF THE CONSTRUCTION ENTRANCES AND CLEANING THE ROAD AT THE END OF EACH DAY.
 - STORAGE OF ONSITE MATERIALS WILL BE DONE TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER AND SPILL PREVENTION AND RESPONSE.
 - DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM.

INSPECTIONS AND REPORTING:

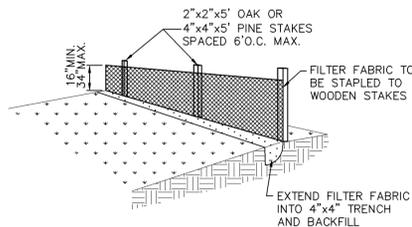
FACILITY PERSONNEL WHO ARE FAMILIAR WITH THE CONSTRUCTION ACTIVITY, THE BMPS AND THE STORMWATER POLLUTION PREVENTION PLAN WILL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, AND AREAS USED FOR STORAGE MATERIALS THAT ARE EXPOSED TO PRECIPITATION. STRUCTURAL CONTROLS AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. THESE INSPECTIONS SHALL BE CONDUCTED EVERY 14 DAYS OR WITHIN 48 HOURS OF THE END OF A STORM EVENT THAT IS 0.5 INCHES OR GREATER.

EROSION AND SEDIMENT CONTROL DEVICES:

PERIMETER EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY. AS CONSTRUCTION PROCEEDS, ALL ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS SOON AS POSSIBLE. EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN ARE A MINIMUM AND THE PROJECT CONDITION MAY DICTATE ADDITIONAL CONTROL. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PER THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

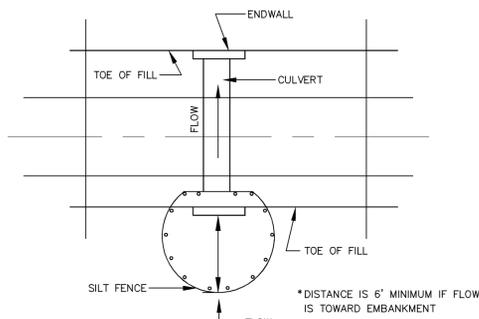
EROSION AND SEDIMENT CONTROL MAINTENANCE:

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL DEVICES FOR THE DURATION OF THE PROJECT. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CHECKED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL TO INSURE THAT ALL DEVICES ARE IN PLACE AND FUNCTIONING AS REQUIRED. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE MAINTAINED PER THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. IN GENERAL, IF THE SILT BUILT UP BEHIND A BARRIER BECOMES AS DEEP AS 9 INCHES, THE SILT IS TO BE REMOVED AND THE BARRIER REPAIRED OR REPLACED. AFTER COMPLETION OF THE PROJECT, AND PERMANENT SEEDING HAS BEEN ESTABLISHED, EROSION CONTROL DEVICES AND ANY SILT BUILT UP SHALL BE REMOVED. DISTURBED AREAS DUE TO THIS CLEANUP OPERATION SHALL BE REPAIRED, RESEEDING AND REMULCHED.

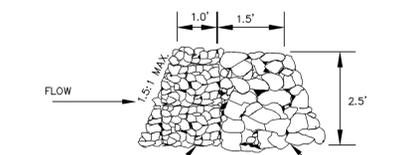


ⓈF SILT FENCE
(WITHOUT WIRE SUPPORT)
N.T.S.

ⓈIP SILT FENCE CULVERT INLET PROTECTION



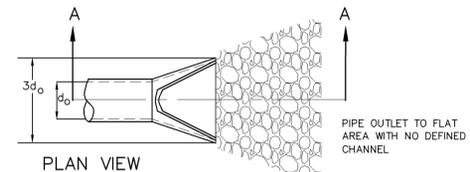
*** OPTIONAL STONE COMBINATION**



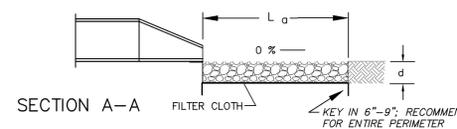
* VDOT #3, #357, #5, #6 OR #57 COARSE AGGREGATE TO REPLACE SILT FENCE IN "HORSESHOE" WHEN HIGH VELOCITY OF FLOW IS EXPECTED.

SOURCE: ADAPTED FROM VDOT Standard Sheets and Va. DSWC

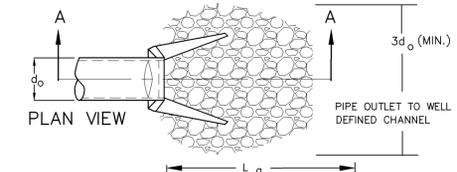
PLATE 3.08-1



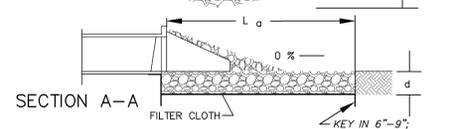
PLAN VIEW



SECTION A-A



PLAN VIEW

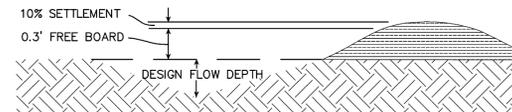


SECTION A-A

NOTES:
1. APRON LINING MAY BE RIPRAP, GROUTED RIPRAP, GABION BASKET, OR CONCRETE.
2. L_o IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING PLATES 3.18-3 AND 3.18-4.
3. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 6 INCHES.

ⓈOP PIPE OUTLET PROTECTION

N.T.S.



TYPICAL VEE-SHAPED DIVERSION ⓈOD

N.T.S.

ⓈCE TEMPORARY CONSTRUCTION ENTRANCE

N.T.S.

* ENGINEERING >>> SURVEYING >>> PLANNING

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E&S NARRATIVE AND DETAILS-ASBUILT
FOR
TOWN OF BOONES MILL WATER SYSTEM REPLACEMENT, VOLUME 1
TOWN OF BOONES MILL, BOONE DISTRICT, FRANKLIN COUNTY, VA

PROJECT NO.	20080815
G.L. NO.	297-03-AS3.9
FILE NO.	G-12675
DATE:	7/31/09
DRAWN BY:	WCH
CHECKED BY:	BLC

HURT & PROFFITT

SHEET NO.
C0.3

1	8/28/09	VDH COMMENTS
2	9/3/09	OWNER COMMENTS
4	3/14/12	ASBUILTS

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