

ALL E&S ITEMS ARE SHOWN GRAPHICALLY AND SHALL BE INSTALLED PER THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK 1992 ED.

SEE TITLE SHEET SP-1 FOR MINIMUM STANDARDS, MS-19 DETAILS

SUMMARY OF EROSION & SEDIMENT CONTROL MINIMUM STANDARDS	
MS 1.	PERMANENT AND TEMPORARY SEEDING SHOWN AND EXPLAINED IN THE E&S NARRATIVE ABOVE AND SPECIFIED SOIL STOCKPILE PROTECTION SHOWN ON THIS SHEET
MS 2.	PERMANENT VEGETATION INCLUDING PERMANENT SEEDING AND SOD LOCATIONS SHOWN ON THIS SHEET AND SP-6.
MS 3.	EROSION CONTROL MEASURES SHOWN ON THIS SHEET AND DESCRIBED IN THE NARRATIVE.
MS 4.	ALL DENUDED AREAS RECEIVE PERMANENT AND/OR TEMPORARY SEEDING, OR SOD AS SHOWN.
MS 5.	NO DISTURBED DRAINAGE AREAS EXCEEDING 3.0 ACRES.
MS 6.	PERMANENT AND TEMPORARY SEEDING SHOWN CONCENTRATED RUNOFF CONTAINED IN PIPES AND/OR ADEQUATE DITCHES.
MS 7.	NOT APPLICABLE AS NO SEEPAGE ANTICIPATED.
MS 8.	ALL INLETS ARE PROTECTED AND A DETAIL IS PROVIDED. OUTLETS ARE ADEQUATE AND ADDITIONAL OUTLET PROTECTION IS NOT REQUIRED OR PROVIDED.
MS 9.	NOT APPLICABLE-NO WATER COURSE ON SITE.
MS 10.	NOT APPLICABLE-NO WATER COURSE ON SITE.
MS 11.	NOT APPLICABLE-NO WATER COURSE ON SITE.
MS 12.	NOT APPLICABLE-NO WATER COURSE ON SITE.
MS 13.	NOT APPLICABLE-NO WATER COURSE ON SITE.
MS 14.	NOT APPLICABLE-NO WATER COURSE ON SITE.
MS 15.	UTILITY LINE INSTALLATION REQUIRED INCLUDES GAS, ELECTRICAL AND SANITARY SEWER PIPING. ALL WILL BE INSTALLED AS REQUIRED.
MS 16.	A CONSTRUCTION ENTRANCE LOCATION IS SHOWN. REMOVAL OF CONTROL MEASURES SHOWN AS A NOTE WITHIN THE EROSION CONTROL NARRATIVE ABOVE.
MS 17.	THE SITE DRAINS TO AN EXISTING DITCH ALONG ROUTE 581 AND IT IS ADEQUATE AS DEFINED BY THE DCR.

- WATER QUALITY BMP'S
- (A) EXISTING BIOTENTION AREA SOUTH DA=0.50 ACRES
 - (B) EXISTING BIOTENTION AREA EAST DA=0.62 ACRES
 - (C) EXISTING FILTERRA UNIT DA=0.34 ACRES
 - (D) FILTERRA UNIT DA=0.22 ACRES
 - (E) FILTERRA UNIT DA=0.32 ACRES
 - (F) STORMTECH CHAMBERS DA=0.46 ACRES
 - (G) FILTERRA UNIT DA=0.09 ACRES
 - (H) FILTERRA UNIT DA=0.14 ACRES
 - (I) STORMTECH CHAMBERS DA=2.0 ACRES

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION
THE PURPOSE OF THIS PROJECT IS TO CONSTRUCT NINE NEW CLASSROOMS, FIVE DOWNSTAIRS AND FOUR UPSTAIRS AND AN ADDITIONAL PARKING AREA. THIS PORTION OF THE WORK IS PHASE IIB AND PHASE IIA IS CURRENTLY UNDER CONSTRUCTION. PHASE IIB WILL BE UNDER CONSTRUCTION CONCURRENTLY WITH IIA. PHASE 1 HAS COMPLETED IN THE FALL OF 2013. THE SITE IS 16.01 ACRES AND CONTAINS ROUND HILL ELEMENTARY SCHOOL. THE SITE HAS CONSIDERABLE SLOPE AND THE SCHOOL IS BUILT ON THE TOP OF THE HILL. THE EARTHWORK OPERATIONS INCLUDE THE REMOVAL OF ASPHALT, CONCRETE, EXISTING VEGETATION, SOIL, AND ROCK. IF ENCOUNTERED, NO ADDITIONAL FILL MATERIAL IS ANTICIPATED UNLESS UNSUITABLE SOILS OR ROCK IS ENCOUNTERED. APPROXIMATELY 3.0 ACRES WILL BE DISTURBED AS A RESULT OF PROPOSED CONSTRUCTION FOR IIB. THE RUNOFF FROM A PORTION OF THE SITE IS ATTENUATED BY AN UNDERGROUND STORMWATER MANAGEMENT BASIN AND DISCHARGES INTO A STORM-SEWER SYSTEM.

EXISTING SITE CONDITIONS
WITHIN THE PROJECT AREA THE MAJORITY OF THE EXISTING GROUND COVER IS GRASS IN GOOD CONDITION WITH THE REMAINDER BEING ASPHALT. THE SITE IS HAS AN ELEVATION DIFFERENCE OF 18' TO 20' OR SO IN THE VICINITY OF THE BASE CONSTRUCTION AREA. THE EXISTING SITE HAS EXISTING STRUCTURES AND PAVED AREAS.

ADJACENT PROPERTY
THE PROJECT AREA IS BORDERED BY ROUTE 581 TO THE SOUTH, VALLEY VIEW BOULEVARD TO THE WEST, A MOVIE THEATRE AND A CHURCH TO THE NORTH AND OAKLAND BOULEVARD TO THE EAST. RESIDENTIAL PROPERTY IS ACROSS OAKLAND BOULEVARD, TO THE EAST.

OFF-SITE AREAS
THIS PROJECT MAY HAVE A SURPLUS OF MATERIALS AND AND NO FILL MATERIAL SHOULD BE NEEDED, UNLESS ROCK AND/OR UNSUITABLE SOILS ARE ENCOUNTERED. THE LOCATION OF ALL OFF-SITE FILL AREAS OR BORROW AREAS ASSOCIATED WITH THIS CONSTRUCTION PROJECT WILL BE PROVIDED TO ROANOKE CITY COMMUNITY DEVELOPMENT DEPARTMENT BY THE GRADING CONTRACTOR FOR REVIEW AND APPROVAL. AN EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE AREAS.

SOILS
THE SOILS AS INDICATED FROM THE USDA AND NRCS SOIL SURVEY OF ROANOKE CITY CLASSIFY THE SOILS AS FREDERICK SILT LOAM AND FREDERICK-URBAN LAND COMPLEX. SIX SOIL BORINGS WERE OBTAINED IN JANUARY 2013. THE BORINGS WERE TERMINATED AT VARIOUS DEPTHS AND NO SUBSURFACE WATER WAS ENCOUNTERED.

CRITICAL EROSION AREAS
THERE ARE NO CRITICAL EROSION AREAS ON THE PROJECT SITE WITHIN THE CONSTRUCTION AREAS.

DRAINAGE PATTERNS
THE SCHOOL IS ON TOP OF A HILL AND THE RUNOFF FLOWS DOWN ALONG ALL FOUR SIDES OF THE PROPERTY. FOR THE AREA WITHIN THE CONSTRUCTION LIMITS FOR THE PROPOSED DEVELOPMENT AS WELL AS THE PREVIOUS PHASES, THE RUNOFF ULTIMATELY ENDS UP AT THE TWIN PIPES UNDER ROUTE 581, NEAR COURT STREET. THIS PHASE WILL PRESERVE THE EXISTING DRAINAGE DIVIDES AND THEIR PEAK DISCHARGES.

EROSION AND SEDIMENT CONTROL MEASURES
UNLESS OTHERWISE STATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (1992 EDITION). IF DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL DEVICES ARE DEEMED NECESSARY, THEY WILL BE INSTALLED AS DIRECTED BY THE SITE DESIGNER OR ROANOKE CITY PERSONNEL AT NO ADDITIONAL COST TO THE OWNER.

PERMANENT STABILIZATION
ALL DENUDED AREAS WILL RECEIVE ASPHALT, CONCRETE, OR VEGETATION. THE PLANS SPECIFY THE TYPE OF PERMANENT SEEDING AS WELL AS THE TYPE OF MULCH AND TREES/SHRUBS.

STORMWATER RUNOFF CONSIDERATIONS
THIS PROJECT WILL INCREASE THE PEAK RUNOFF AND THE RUNOFF VOLUME. THE SITE IS LOCATED ON THE TOP OF A HILL WITH ALL PORTIONS OF THE SITE DRAINING TO STORM SEWER SYSTEMS, CHANNELS AND SHEET FLOWS TO THE EXISTING STORM SEWER SYSTEM THAT DRAINS UNDER ROUTE 581 WHERE COURT STREET IS TRUNCATED. A PORTION OF THE PROPOSED DEVELOPMENT WILL DISCHARGE TO THE PROPOSED UNDERGROUND STORM WATER MANAGEMENT SYSTEM. THIS SYSTEM WILL ATTENUATE THE POST-DEVELOPMENT PEAK DISCHARGES TO THE PRE-DEVELOPMENT LEVELS. THE DITCHES LEAVING THE SITE ARE ADEQUATE FOR THE TWO-YEAR VELOCITY AND THE 10-YEAR CAPACITY. THE DITCHES AND CULVERTS DOWNSTREAM ARE CURRENTLY UNDER CONSTRUCTION FOR THE VDOT FUNDED VALLEY VIEW INTERCHANGE PROJECT.

MANAGEMENT STRATEGIES
1. CONSTRUCTION SHOULD BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
2. EROSION AND SEDIMENT CONTROL DEVICES WILL BE INSTALLED AS A FIRST STEP OF CONSTRUCTION.
3. THE GRADING CONTRACTOR WILL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES. INSPECTIONS ARE TO BE MADE PERIODICALLY AND AFTER EVERY ERODIBLE RAINFALL.
4. THE GRADING INSPECTION PERSONNEL WILL MAKE REPAIRS TO DAMAGED OR DEFICIENT CONTROL MEASURES IMMEDIATELY UPON DISCOVERY OF DAMAGE OR UPON NOTIFICATION OF THE DEFICIENCY.

STRUCTURAL PRACTICES
TEMPORARY CONSTRUCTION ENTRANCE 3.02 - A CONSTRUCTION ENTRANCE WILL BE INSTALLED OFF OF THE EXISTING DRIVEWAY TO ACCESS THE SITE AND TO PREVENT SOIL FROM LEAVING THE SITE.
SILT FENCE 3.05 - SILT FENCE SHALL BE PLACED AROUND THE PERIMETER OF THE SITE AND WITHIN AS SHOWN ON THE E&S SHEET.
STORM DRAIN PROTECTION 3.07 - ALL STORM DRAIN INLETS SHALL BE PROTECTED FROM SEDIMENT LADEN RUNOFF AS SHOWN ON THE E&S SHEET.
CULVERT INLET PROTECTION 3.08 - ALL CULVERT INLETS SHALL BE PROTECTED FROM SEDIMENT LADEN RUNOFF AS SHOWN ON THE E&S SHEET.

VEGETATIVE PRACTICES
TEMPORARY SEEDING 3.31 - TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. SUCH AREAS MAY INCLUDE DENUDED AREAS AND SOIL STOCKPILES.
PERMANENT SEEDING 3.32 - PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN A YEAR. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IN THE OPINION OF THE LOCAL PROGRAM ADMINISTRATOR OR THEIR DESIGNATED AGENT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
MULCHING 3.35 - MULCHING SHALL BE USED IN CONJUNCTION WITH PERMANENT SEEDING AS INDICATED WITHIN THE SEEDING SCHEDULE.
SODDING 3.33 - SODDING SHALL BE USED WHERE NOTED AND AT ALL LOCATIONS THAT MAY REQUIRE GRASS/SOIL STABILIZATION TO OBTAIN AN OCCUPANCY PERMIT. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IN THE OPINION OF THE LOCAL PROGRAM ADMINISTRATOR OR THEIR DESIGNATED AGENT, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.

MAINTENANCE REQUIREMENTS - ALL MEASURES ARE TO BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. THE CONSTRUCTION ENTRANCE SHALL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF ADDITIONAL STONE OR THE WASHING AND REMOVING OF EXISTING STONE.
SILT FENCE - THE SEDIMENT TO BE REMOVED WHEN HEIGHT OF SEDIMENT REACHES APPROXIMATELY ONE-HALF OF THE HEIGHT OF THE SILT FENCE. ALL DECOMPOSED FABRIC TO BE REPLACED IMMEDIATELY.
STORM DRAIN INLET PROTECTION - SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSION WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DEPTH OF THE TRAP.
TEMPORARY SEEDING - AREAS WHICH FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT RILL EROSION, WILL BE RE-SEED AS SOON AS SUCH AREAS ARE IDENTIFIED. PERMANENT SEEDING: WHEN IT IS CLEAR THAT PLANTS HAVE NOT GERMINATED ON AN AREA, OR HAVE DIED, THESE AREAS MUST BE RE-SEED IMMEDIATELY TO PREVENT EROSION DAMAGE.
MULCHING - ALL MULCHES SHALL BE INSPECTED PERIODICALLY TO CHECK FOR EROSION. WHERE EROSION IS OBSERVED IN MULCHED AREAS, ADDITIONAL MULCH SHALL BE APPLIED. INSPECTIONS ARE TO TAKE PLACE UNTIL GRASSES ARE FIRMLY ESTABLISHED.

REMOVAL OF CONTROL MEASURES
ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MUST BE REMOVED WITHIN THIRTY DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE DIRECTED BY THE LOCAL PROGRAM ADMINISTRATOR.

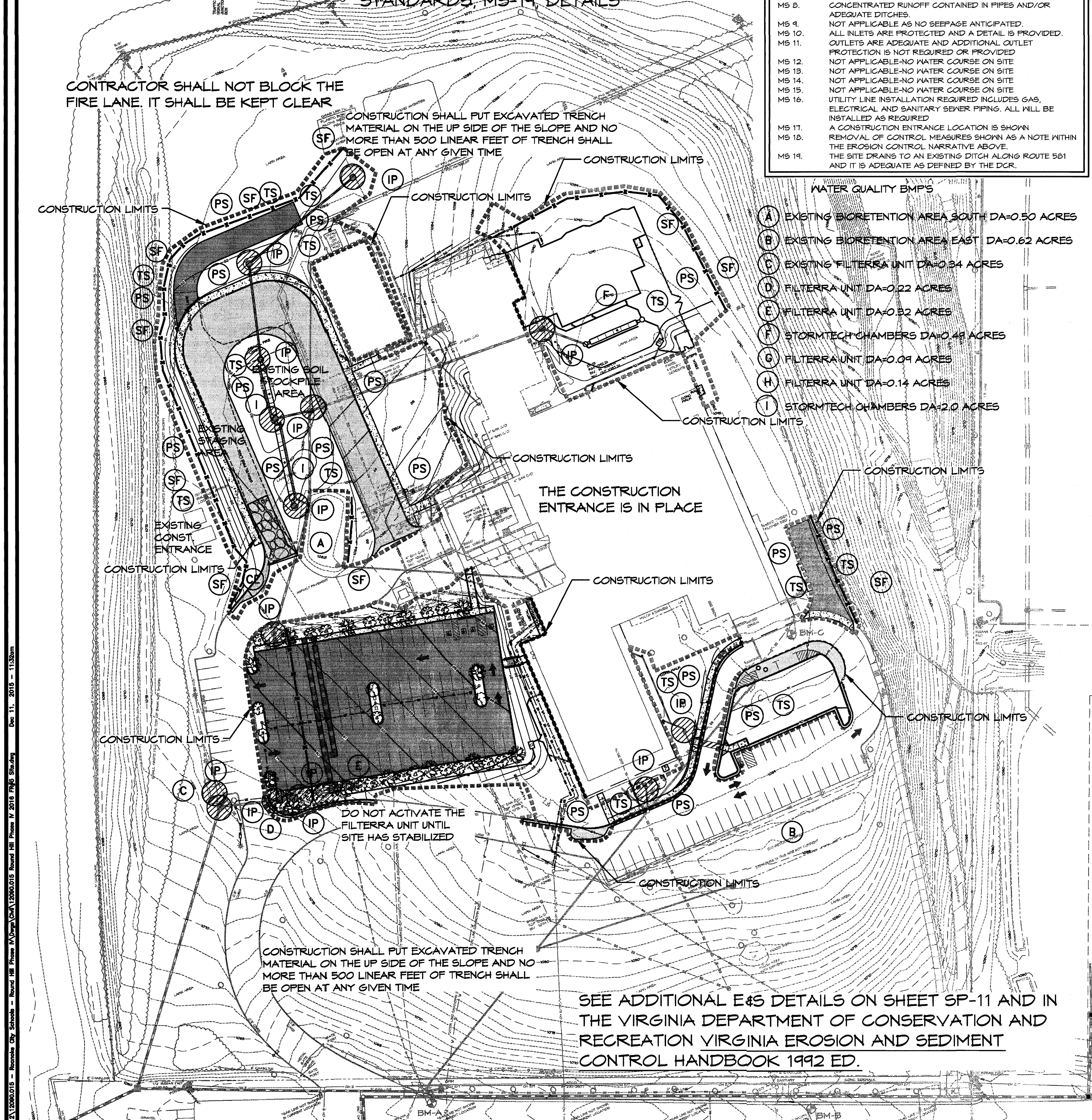
STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLETING THE SWPPP PLAN, UPDATING THE PLAN AS THE JOB PROGRESSES, INSPECTIONS AND ADHERING TO THE SWPPP PLAN AS WELL AS THE VSPM REGISTRATION. THE CONTRACTOR IS RESPONSIBLE FOR ALL FEES ASSOCIATED WITH THE SWPPP AND VSPM REGISTRATION.

E&S NOTES:

- REFER TO SHEETS SP-1 AND SP-2 AND THE PROJECT MANUAL FOR E&S REQUIREMENTS AND SPECIFICATIONS.
- SEE SHEET SP-12 FOR EROSION AND SEDIMENT CONTROL DETAILS.
- NO GRADING IS PERMITTED WITHOUT A DCR CERTIFIED "RESPONSIBLE LAND DISTURBER" PRESENT.
- CONSTRUCTION SHOULD BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
- EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS A FIRST STEP OF CONSTRUCTION.
- THE GRADING CONTRACTOR WILL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES. INSPECTIONS ARE TO BE MADE PERIODICALLY AND AFTER EVERY ERODIBLE RAINFALL.
- THE GRADING INSPECTION PERSONNEL WILL MAKE REPAIRS TO DAMAGED OR DEFICIENT CONTROL MEASURES IMMEDIATELY UPON DISCOVERY OF DAMAGE OR UPON NOTIFICATION OF THE DEFICIENCY.
- ALL DENUDED AREAS WILL RECEIVE SOD (SO) FOR THE PERMANENT GROUND COVER UNLESS SHOWN OTHERWISE AS PERMANENT SEEDING (PS).
- ONCE THE SITE HAS STABILIZED, REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL ITEMS.
- REMOVE ALL EXCESS SOIL FROM THE SITE AND RE-GRADE THE SOIL STOCKPILE AREA TO THE GRADES SHOWN ON THE GRADING PLAN AND SEED.
- ALL DITCHES, SWALES AND NATURAL WATERCOURSES DOWNSTREAM OF THE PROJECT SHALL BE FIELD REVIEWED BEFORE AND AFTER THE CONSTRUCTION TO ENSURE COMPLIANCE TO DCR'S STD. MS-19. IF EROSION OR SCOUR IS OCCURRING, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMEDY ALL CORRECTIVE MEASURES AT NO ADDITIONAL COST TO THE OWNER.

LEGEND

(PS)	PERMANENT SEEDING (STD. 3.32)	(AS)	ASPHALT
(CD)	ROCK CHECK DAM (STD. 3.20)	(NC)	NEW CONCRETE
(SF)	SILT FENCE (WITHOUT WIRE SUPPORT) (STD. 3.05)	(NA)	NEW ADDITION
(IP)	STORM DRAIN INLET PROTECTION (STD. 3.07)	(PC)	PROPOSED CONTOUR
(CIP)	CULVERT DRAIN INLET PROTECTION (STD. 3.08)	(EC)	EXISTING CONTOUR
(CE)	CONSTRUCTION ENTRANCE (STD. 3.02)	(PNC)	PHASE IIA CONTOURS NOT REALIZED
(OP)	CULVERT OUTLET (VDOT STD. 113.01)	(CL)	CONSTRUCTION LIMITS
		(TS)	TEMPORARY SEEDING (STD. 3.31)
		(MU)	MULCHING (STD. 3.35)
		(SO)	SODDING (STD. 3.32)



SEE ADDITIONAL E&S DETAILS ON SHEET SP-11 AND IN THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK 1992 ED.

EROSION CONTROL PLAN
Scale 1" = 50'

DATE:	April 1, 2015
REVISIONS	
1	May 28, 2015
2	July 28, 2015
3	Aug. 12, 2015
4	Dec. 07, 2015

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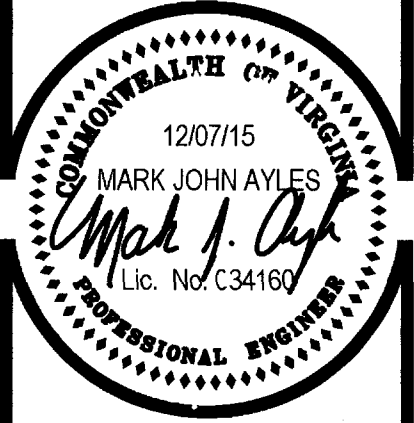
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EROSION CONTROL PLAN

SCHOOL PLAN NO.
124-43-00-101



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