

SITE CONSTRUCTION
PLAN GENERAL NOTES

ALL MATERIALS AND CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH CURRENT ROANOKE CITY STANDARDS AND SPECIFICATIONS.

THE CONTRACTOR SHALL VERIFY THE ELEVATIONS OF ALL POINTS OF CONNECTION OR PROPOSED WORK TO EXISTING CURBS, SANITARY LINES, WATER LINES, ETC., PRIOR TO CONSTRUCTION.

UPON THE DISCOVERY OF SOILS THAT ARE UNSUITABLE FOR FOUNDATIONS, SUBGRADES, OR OTHER ROADWAY CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL IMMEDIATELY CONTACT A GEOTECHNICAL ENGINEER AND ROANOKE CITY. THESE AREAS SHALL BE EXCAVATED BELOW PLAN GRADE AS DIRECTED BY THE GEOTECHNICAL ENGINEER, BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED IN ACCORDANCE WITH CURRENT ROANOKE CITY SPECIFICATIONS.

ALL STORM SEWER DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH ROANOKE CITY STANDARDS AND SPECIFICATIONS.

IF PRE-CAST DRAINAGE UNITS ARE TO BE USED, THE CITY OF ROANOKE SHALL BE NOTIFIED AND THE MANUFACTURER SHALL SUBMIT DRAWING DETAILS FOR REVIEW. CERTIFICATION AND ROANOKE CITY STAMP WILL BE REQUIRED ON ALL UNITS.

ALL CONCRETE SHALL BE CLASS A3-AE (AIR ENTRAINED 3,000 PSI).

CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON PLAN. IF THERE APPEARS TO BE A CONFLICT, AND/OR UPON DISCOVERY OF ANY UTILITY SHOWN ON THIS PLAN, CALL MISS UTILITY OF CENTRAL VIRGINIA AT 1-800-552-7001. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY UTILITY WITHIN EXISTING AND/OR PROPOSED RIGHT-OF-WAY REQUIRED BY THE DEVELOPMENT.

CASING SLEEVES SHALL BE PLACED AT ALL ROAD CROSSINGS FOR GAS, POWER, TELEPHONE AND CABLE TV SERVICES TRUNK LINES.

THE INSTALLATION OF SEWER, WATER, AND GAS MAINS (INCLUDING SERVICES LATERALS AND SLEEVES) SHALL BE COMPLETED PRIOR TO PLACEMENT OF AGGREGATE BASE COURSE.

A PRIME COAT SEAL BETWEEN THE AGGREGATE BASE AND BITUMINOUS CONCRETE WILL BE REQUIRED AT A RATE OF 0.30 GALLONS PER SQUARE YARD (REC-250 PRIME COAT) PER VDOT STANDARDS AND SPECIFICATIONS.

THE SCHEDULING OF AGGREGATE BASE INSTALLATION AND SUBSEQUENT PAVING ACTIVITIES SHALL ACCOMMODATE FORECAST WEATHER CONDITIONS PER SECTION 315 OF THE ROAD AND BRIDGE SPECIFICATIONS.

ALL VEGETATION AND ORGANIC MATERIAL IS TO BE REMOVED FROM THE RIGHT-OF-WAY LIMITS PRIOR TO CONDITIONING OF THE SUBGRADE.

CERTIFICATION AND SOURCE OF MATERIALS ARE TO BE SUBMITTED TO VDOT FOR ALL MATERIALS AND BE IN ACCORDANCE WITH THE ROAD AND BRIDGE SPECIFICATIONS AND ROAD AND BRIDGE STANDARDS.

DRY GUTTER IS NOT ALLOWED IN PUBLIC RIGHT OF WAY.

THE NECESSITY AND LOCATIONS FOR ADDITIONAL VDOT STANDARD UNDERDRAINS TO BE DETERMINED AT TIME OF SUBGRADE INSPECTION.

ROANOKE CITY SHALL BE PROVIDED DOCUMENTATION THAT ALL IN-PLACE PAVEMENTS MEET OR EXCEED THE APPROVED PAVEMENT DESIGN THICKNESS PRIOR TO ACCEPTANCE.

GRADING NOTES

REFER TO BUILDING PLANS FOR SUBGRADE AND UTILITY TRENCHES WITHIN 5' OF THE BUILDING ENVELOPE.

REMOVE TREES, SHRUBS, GRASS, AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS AS REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION. REMOVE TREES AND OTHER VEGETATION, INCLUDING STUMPS AND ROOTS, COMPLETELY IN AREAS REQUIRED FOR SUBSEQUENT SEEDING. CUT OFF TREES AND STUMPS IN AREAS TO RECEIVE FILL MORE THAN THREE FEET IN DEPTH TO WITHIN EIGHT INCHES OF THE ORIGINAL GROUND SURFACE.

BARRICADE OPEN EXCAVATIONS OCCURRING AS PART OF THIS WORK AND OPERATE WARNING LIGHTS AS RECOMMENDED BY AUTHORITIES HAVING JURISDICTION.

EXCAVATION FOR STRUCTURES:

- CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN WITHIN A TOLERANCE OF 0.1'
- PROVIDE TRUE AND STRAIGHT FOOTING EXCAVATIONS WITH UNIFORM AND LEVEL BOTTOMS OF THE WIDTH INDICATED TO ENSURE PROPER PLACEMENT AND COVER OF ALL REINFORCEMENT.
- REMOVE ALL LOOSE MATERIALS FROM THE EXCAVATION PRIOR TO PLACEMENT OF CONCRETE.
- FOOTINGS WHICH SUPPORT CONCRETE MASONRY UNITS MAY BE STEPPED PROVIDED THE VERTICAL STEP DOES NOT EXCEED ONE HALF OF THE HORIZONTAL DISTANCE BETWEEN STEPS AND HORIZONTAL DISTANCE BETWEEN STEPS IS NOT LESS THAN TWO FEET.
- IF ROCK IS ENCOUNTERED IN A FOOTING EXCAVATION, UNDERCUT IT A MINIMUM EXCAVATION WITH CONTROLLED FILL.

CUT SURFACE UNDER PAVEMENTS TO COMPLY WITH CROSS SECTIONS, ELEVATIONS, AND GRADES AS INDICATED.

EXCAVATE TRENCHES TO UNIFORM WIDTH CONFORMING TO VDOT STANDARD PB-1 FOR STORM DRAINAGE PIPING.

PREVENT SURFACE WATER AND SUBSURFACE OR GROUND WATER FROM FLOWING INTO EXCAVATIONS AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING FOOTINGS, AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADES AND FOUNDATIONS. CONVEY WATER WHEN ATMOSPHERIC TEMPERATURE IS LESS THEN 35°F (1°C).

PROTECT EXCAVATED BOTTOMS OF ALL FOOTINGS AND TRENCHES AGAINST FREEZING WHEN ATMOSPHERIC TEMPERATURE IS LESS THEN 35°F (1°).

BACKFILLING:
a. COMPACT THE BACKFILL AROUND THE OUTSIDE OF EACH BUILDING TO A MINIMUM OF 85% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 STANDARD PROCTOR. DO NOT ALLOW HEAVY COMPACTION EQUIPMENT SUCH AS ROLLERS, ETC., CLOSER TO ANY FOOTING THAN THE HORIZONTAL DISTANCE SUBTENDED BY A 45° ANGLE WITH THE TOP EDGE OF THE FOOTINGS AND THE SURFACE OF THE GROUND.
b. BACKFILL BEHIND WALLS AFTER PERMANENT CONSTRUCTION WHICH BRACES THE WALL IS IN PLACE OR TEMPORARY BRACING OF THE WALL IS PROPERLY INSTALLED, AND AFTER ACCEPTANCE OF CONSTRUCTION BELOW FINISH GRADE INCLUDING DAMP-PROOFING, REMOVAL OF CONCRETE FORMWORK, AND REMOVAL OF TRASH AND DEBRIS.

GRADING NOTES CONT'D

FINISH LAWN AREAS TO WITHIN ONE INCH ABOVE OR BELOW REQUIRED SUBGRADE ELEVATIONS. SHAPE SURFACE UNDER WALKS AND PAVEMENTS TO LINE, GRADE, AND CROSS SECTION, WITH NOT MORE THAN 1/2" ABOVE OR BELOW REQUIRED SUBGRADE ELEVATION.

GRADE SURFACE UNDER BUILDING SLABS SMOOTH AND EVEN, FREE OF VOIDS. PROVIDE FINAL GRADES WITHIN 1/2" OF THOSE INDICATED WHEN TESTED WITH A 10' STRAIGHT EDGE.

PROTECT GRADED AREAS FROM TRAFFIC AND EROSION. REPAIR AREAS WHICH HAVE SETTLED, ERODED, OR BECOME DAMAGED DUE TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO OWNER.

- PLACE ALL FILL AND BACKFILL AS CONTROLLED FILL AS FOLLOWS:
- ESTABLISH SUITABLE SUBGRADE CONDITIONS PRIOR TO PLACING FILL BY PROOFROLLING, UNDERCUTTING AND COMPACTING AS NECESSARY.
 - PLACE FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4" FOR HAND TAMPERS.
 - PRIOR TO COMPACTION, PROVIDE MOISTURE CONTENT TO WITHIN 3% OF OPTIMUM BY MOISTENING OR AERATING EACH LAYER. DO NOT PLACE FILL MATERIAL ON SURFACES WHICH ARE MUDDY, FROZEN OR CONTAIN FROST OR ICE.
 - COMPACT SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 (STANDARD PROCTOR):
 - 95% UNDER PAVEMENT
 - 85% UNDER LAWN OR UNPAVED AREAS

SPREAD TOPSOIL TO A DEPTH OF 4" OVER ALL DISTURBED AREAS NOT RECEIVING WALKS, PAVEMENT, WALLS OR BUILDING, INCLUDING TRENCHES. IMMEDIATELY FOLLOWING PLACEMENT OF TOPSOIL, DISK THE ENTIRE TOPSOILED AREA AND RAKE FREE OF STONES AND DEBRIS OVER 1/2" IN ANY DIMENSION. PROVIDE A FINISHED SURFACE FREE OF DEPRESSIONS OR HIGH SPOTS. SEED IMMEDIATELY.

OWNER (CONTRACTOR) SHALL EMPLOY QUALIFIED SOILS TESTING LABORATORY TO INSPECT EARTHWORK OPERATIONS. NOTIFY LABORATORY PRIOR TO PERFORMING EARTHWORK OPERATIONS.

GENERAL UTILITY NOTES

1. SUPPLY AND INSTALL ALL MATERIALS AND METHODS FOR WATERLINES, SANITARY SEWERS AND STORM DRAINAGE IN ACCORDANCE WITH THE SPECIFICATIONS AND REQUIREMENTS OF WWVA DESIGN AND CONSTRUCTION STANDARDS AND THE VIRGINIA DEPARTMENT OF TRANSPORTATION "ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS", LATEST EDITION.

2. OBTAIN ALL REQUIRED PERMITS AND NOTIFY APPROPRIATE OFFICIALS 48 HOURS PRIOR TO COMMENCEMENT OF WORK. OBTAIN INFORMATION FROM WWVA CONCERNING PERMITS AND CONNECTIONS TO EXISTING LINES.

3. ALL WORK SHALL BE SUBJECT TO INSPECTION BY ROANOKE CITY. NOTIFY APPROPRIATE OFFICIALS PRIOR TO COMMENCEMENT OF WORK.

4. SITE SHALL BE TO SUB GRADE PRIOR TO INSTALLATION OF UTILITIES. ALL UTILITIES SHALL BE IN PLACE PRIOR TO PLACEMENT OF PAVEMENT BASE MATERIAL.

5. BACKFILL MATERIAL AND PIPE BEDDING SHALL BE IN COMPLIANCE WITH WWVA STANDARDS AND SPECIFICATIONS.

6. MINIMIZE ANY DISTURBANCE TO EXISTING WATER SERVICE, SEWER LINES OR ANY OTHER UTILITY DURING CONSTRUCTION AND PROVIDE QUALITY WORKMANSHIP.

7. MAKE ALL PIPE JOINTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND WWVA DESIGN AND CONSTRUCTION STANDARDS, LATEST EDITION AND ALL APPLICABLE CITY STANDARDS. MAKE JOINTS BETWEEN DIFFERENT PIPE MATERIALS WITH STANDARD FITTINGS MANUFACTURED FOR THE PURPOSE.

8. MAINTAIN ALL WATER LINES AT TEN (10) FEET HORIZONTAL SEPARATION FROM SEWER LINES AND MEASURE THE DISTANCE EDGE-TO-EDGE. WHEN LOCAL CONDITIONS PREVENT THE DESIRED HORIZONTAL SEPARATION, THE WATERLINE MAY BE LAID CLOSER TO THE SEWER OR MANHOLE PROVIDED THAT THE BOTTOM OF THE WATERLINE SHALL BE AT LEAST EIGHTEEN (18) INCHES ABOVE THE TOP OF THE SEWER. WHERE THIS VERTICAL SEPARATION CANNOT BE OBTAINED, CONSTRUCT THE SEWER OF AWWA APPROVED WATER PIPE AND PRESSURE TREAT IN PLACE PRIOR TO BACKFILLING. THE SEWER MANHOLE SHALL BE OF WATERTIGHT CONSTRUCTION TESTED IN PLACE.

9. ALL WATER TAPS TO BE PERFORMED BY WWVA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING TAPPING SLEEVE AND VALVE.

10. ALL SANITARY SEWER TAPS TO BE PERFORMED BY WWVA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATION AND SHORING PER OSHA REGULATIONS. CONTRACTOR SHALL PROVIDE CENTERMARK FOR TAPPING.

11. LOCATE AND UNCOVER VALVE VAULTS AND MANHOLES AFTER PAVING AND ADJUST TO FINAL GRADE, IF NECESSARY.

12. PRIOR TO COMMENCING WITH ANY UNDERGROUND PIPE CONSTRUCTION OF GRADING (EXCAVATION), THE GENERAL CONTRACTOR SHALL CALL MISS UTILITY OF VIRGINIA (TOLL FREE 1-800-552-7001) AT LEAST 48 HOURS PRIOR TO COMMENCING. THE G.C. IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO ANY UTILITY, PUBLIC OR PRIVATE, AS A RESULT OF NOT CONTACTING MISS UTILITY AND SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER/DEVELOPER.

13. EXISTING UTILITY LOCATIONS SHOWN ARE A RESULT OF FIELD SURVEYS, AND AVAILABLE RECORDS. LOCATIONS ARE APPROXIMATE. GENERAL CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE ENGINEER IMMEDIATELY IF: 1) ANY LOCATION OR ELEVATION IS DIFFERENT FORM THAT SHOWN ON THE PLANS. 2) IF THERE APPEARS TO BE ANY CONFLICT, UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS. G.C. SHALL CALL "MISS UTILITY" OF VIRGINIA.

14. IN AREAS OF WATER LINE CONSTRUCTION, GRADES SHALL BE WITHIN SIX (6) INCHES OF FINAL GRADE PRIOR TO BEGINNING CONSTRUCTION.

15. MINIMUM COVER OVER WATER AND SANITARY SEWER LINES SHALL BE THREE (3) FEET.

16. THE CONTRACTOR SHALL INSTALL ALL WATER SERVICE CONNECTIONS AND METER BOXES.

17. CONNECT PIPE TO MANHOLES THROUGH PRE CAST OPENINGS AND JOIN WITH EITHER A FLEXIBLE BOOT ADAPTER.

18. FIELD MARK FUTURE SERVICE CONNECTIONS BY A TREATED, SOLID WOODED (2"x4") MARKER THREE (3) FEET LONG SET VERTICALLY PLUMB WITH THE END OF THE CAPPED EXTENSION. PAINT THE TOPS OF THE MARKERS YELLOW AND SET FLUSH WITH THE FINISHED GRADE. SHOW THE LOCATION AND INVERT DEPTH OF THE SERVICE CONNECTION ON THE AS-BUILT PLANS.

LANDSCAPE SPECIFICATIONS

1. PLANT MATERIAL NAMES ARE IN COMPLIANCE WITH HORTUS THIRD SIZES AND GRADING ARE TO COMPLY WITH THE LATEST EDITION OF AMERICAN STANDARDS FOR NURSERY STOCK. PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMAN.

2. ALL WORK SHALL BE COORDINATED WITH TRADES.

3. USE EXISTING TOPSOIL AND/OR PROVIDE NEW TOPSOIL, WHICH IS FERTILE, FRIABLE, NATURAL LOAM, SURFACE SOIL, REASONABLY FREE OF SUBSOIL, FOREIGN MATTER AND ROOTS, STUMPS AND STONES LARGER THAN 2" IN DIMENSION.

4. CONTRACTOR SHALL ASCERTAIN LOCATION OF ALL UTILITIES PRIOR TO EXCAVATION.

5. CONTRACTOR SHALL MAINTAIN PLANT MATERIAL DURING INSTALLATION MAINTENANCE SHALL BECOME RESPONSIBILITY OF OWNER UPON ACCEPTANCE OF WORK.

6. WHERE THE LANDSCAPE WORK IS COMPLETED, THE OWNER'S REPRESENTATIVE WILL, UPON WRITTEN REQUEST, MAKE AN INSPECTION TO DETERMINE ACCEPTABILITY. IF WORK IS NOT ACCEPTABLE, REPLACE REJECTED WORK AND CONTINUE MAINTENANCE UNTIL REINSPECTION AND APPROVAL.

7. GUARANTEE ALL MATERIALS AND LABOR FOR 12 CALANDER MONTHS AFTER ACCEPTANCE.
- MAKE REPLACEMENTS OF ALL DEAD PLANTS IN IMPAIRED CONDITIONS IN EARLY FALL FOLLOWING PLANTING.
 - ADD ADDITIONALLY IN THE EARLY SPRING FOR THE SAME OR OTHER MATERIALS WHICH ARE DEAD OR IMPAIRED FROM THE WINTER CONDITIONS.

8. WITHIN 10 DAYS AFTER ACCEPTANCE, THE CONTRACTOR SHALL DELIVER AN OUTLINE OF MAINTENANCE PROCEDURES RECOMMENDED FOR THIS PLANTING FOR THE OWNER.

9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY DURING THE GUARANTEE PERIOD TO PROVIDE WRITTEN NOTICE TO THE OWNER OF ANY MAINTENANCE PRACTICE WHICH IN THEIR OPINION WILL AFFECT THE GUARANTEE IF NOT REMEDIED PROMPTLY.

10.DO NOT MAKE SUBSTITUTIONS. BID MATERIALS SHOWN ON PLANS. CONTRACTOR IS ENCOURAGED TO PROVIDE WRITTEN ALTERNATE LIST OF MATERIALS, SIZES AND NUMBERS SUBSTITUTION FOR COST-EFFECTIVE MAINTENANCE OF DESIGN INTEGRITY.

11.THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ACCEPT OR REJECT ANY MATERIAL THAT HE/SHE DEEMS UNACCEPTABLE. REJECTED MATERIAL SHALL BE REMOVED PROMPTLY FROM THE SITE.

12.BALLED AND BURLAPPED PLANTS SHALL BE DUG WITH FIRM NATURAL BALLS OF EARTH. BALL SIZES SHALL BE IN ACCORDANCE WITH A.A.N. SPECIFICATIONS. ALL CONTAINER GROWN STOCK SHALL BE WELL ROOTED AND ESTABLISHED IN THE CONTAINER IN WHICH IT IS SOLD. AN ESTABLISHED CONTAINER GROWN PLANT SHALL HAVE A ROOT SYSTEM DEVELOPED SUFFICIENTLY TO RETAIN ITS SHAPE WHEN REMOVED FROM THE CONTAINER.

13.ALL PLANT MATERIAL SHALL BE NURSERY GROWN UNLESS OTHERWISE SPECIFIED. PRUNING SHALL BE DONE BEFORE PLANTING OR DURING THE PLANTING OPERATION.

14.ALL PLANT MATERIAL SHALL BE COVERED AND PROTECTED FROM EXCESSIVE DRYING DURING TRANSIT.

15.ANTI-DESICCANTS SHALL BE APPLIED ON ALL MATERIAL DUG WHILE IN FOLIAGE.

16.MULCH MATERIAL SHALL BE EITHER SHREDDED HARDWOOD MULCH OR APPROVED EQUAL. MATERIAL SHALL BE MULCHING GRADE, UNIFORM IN SIZE AND FREE OF FOREIGN MATTER.

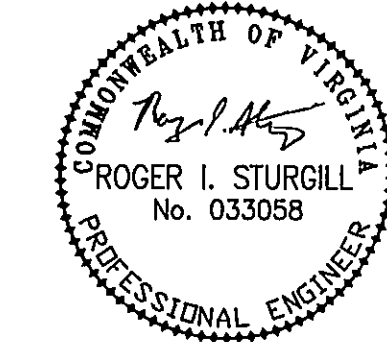
17.TOPSOIL MIXTURE SHALL BE 2 PARTS EXISTING SOIL MIXED EVENLY WITH 1 PART SPAGNUM PEAT MOSS OR PEAT HUMUS. EXISTING SOIL SHALL BE FREE OF STONES, LUMPS, PLANTS,ROOTS AND OTHER DEBRIS OVER 1 1/2 INCHES. IT SHALL NOT CONTAIN TOXIC SUBSTANCES HARMFUL TO PLANT GROWTH. TOPSOIL SHALL HAVE A PH RANGE OF 5.0 TO 7.0.

- 18.PLANTING PROCEDURES FOR TREES AND SHRUBS
- PLANTING SHALL OCCUR IN ACCORDANCE WITH ALL DETAILS.
 - TREES AND SHRUBS SHALL BE PLACED IN THE PLANTING PIT, BY LIFTING FROM THE BALL (NEVER FORM THE BRANCHES OR TRUNK). ALL PLANT MATERIAL SHALL BE PLACED IN A STRAIGHT POSITION WITHIN THE PLANTING PIT. WITH THE MOST DESIRABLE SIDE PLACED TOWARDS THE PROMINENT VIEW (SIDEWALK, STREET, ETC.).
 - THE TREE PIT SHALL BE BACKFILLED WITH A SOIL MIXTURE AS PER SPECIFICATIONS. THE PIT SHALL BE FILLED HALFWAY INITIALLY AND TAMPED FIRMLY. ALL ROPES, WIRES, ETC. ON THE ROOTBALL SHALL BE CUT AND THE BURLAP OR BALL WRAP PULLED BACK TO THE EDGE OF THE ROOTBALL. COMPLETE BACKFILLING PLANT PIT AND TAMP FIRMLY. BACKFILL SOIL SHALL NOT COVER TOP OF ROOTBALL. MULCH ROOTBALL AND SAUCER WITH MINIMUM OF 3 INCHES SHREDDED OR CHIPPED HARDWOOD OR PINE MULCH. WATER THOROUGHLY OR UNTIL PLANT PIT IS FILLED.

MINIMUM STANDARDS

THE FOLLOWING STANDARDS ARE TO BE PROVIDED OR ADDRESSED ON EVERY DEVELOPMENT PROJECT EXCEEDING 5000 S.F. IN AREA OF DISTURBANCE. THESE STANDARDS ARE CONSIDERED A MINIMUM AND MAY REQUIRE ADDITIONAL MEASURES AS DEEMED NECESSARY BY THE LOCAL APPROVING AUTHORITY OR THE CONSULTING ENGINEER.

No.	CRITERIA, TECHNIQUE OR METHOD	PRACTICES PROVIDED
1	PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE HAS BEEN REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN THIRTY (30) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.	<div>TS PS MU</div> FOR ALL DENUDED AREAS
2	DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.	<div>TS PS MU</div> FOR PROVIDED STOCKPILE
3	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 LOCAL PROGRAM ADMINISTRATOR OR DESIGNATED AGENT, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.	<div>TS PS MU</div> FOR ALL DENUDED AREAS
4	SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS 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.	<div>SF</div> FOR ALL DRAINAGE DIVIDES
5	STABILIZATION METHODS SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.	<div>TS PS MU</div> FOR ALL EARTHEN STRUCTURES
6	SEDIMENT TRAPS AND BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.	SEE SUPPLEMENTAL CALCULATIONS
7	CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE (1) YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZATION MEASURES UNTIL THE PROBLEM IS CORRECTED.	<div>TS PS MU</div> FOR ALL ERODING SLOPES
8	CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.	NOT APPLICABLE
9	WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.	<div>TS PS MU</div> FOR ALL ERODING SLOPES
10	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.	<div>IP</div> FOR ALL STORM WATER INTAKES
11	BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS 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.	NOT APPLICABLE
12	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.	NOT APPLICABLE NO STREAMS ON-SITE
13	WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX (6) MONTH PERIOD, A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL.	NOT APPLICABLE NO STREAMS ON-SITE
14	ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET. THE BEDS AND BANKS OF ANY WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.	NOT APPLICABLE NO STREAMS ON-SITE
15	THE BEDS AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.	NOT APPLICABLE NO STREAMS ON-SITE
16	UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA: 1)NO MORE THAN 500 LINEAR FEET OF ANY TRENCH MAY BE OPENED AT ONE TIME. 2)EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES. 3)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 OFF-SITE PROPERTY. 4)MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION. 5)RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS. 6)APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.	NOT APPLICABLE ALL UTILITY PIPING ON-SITE
17	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 SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.	<div>CE CRS</div> FOR ALL POINTS OF INGRESS/EGRESS
18	ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM ADMINISTRATOR. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.	<div>TS PS MU</div>
19	PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE APPLICABLE CRITERIA.	NO SWM REQUIRED



1208 Corporate Circle
Roanoke, Virginia 24018
Phone: 540/772-0580
FAX: 540/772-8050

501 Branchway Road
Richmond, Virginia 23228
Phone: 804/784-0571
FAX: 804/784-2835

880 Technology Park Drive
Suite 200
Glen Allen, Virginia 23059
Phone: 804/653-0132
FAX: 804/653-0133

448 Peppers Ferry Road, NW
Christiansburg, Virginia 24073
Phone: 540/981-4260
FAX: 540/981-4291

1681 Commerce Road
Suite 401
Verona, Virginia 24482
Phone: 540/248-3220
FAX: 540/248-3221

GRANDIN COURT BAPTIST CHURCH
MAC CENTER ADDITION
NOTES
CITY OF ROANOKE, VIRGINIA

DRAWN BY: BTC
DESIGNED BY: BTC
CHECKED BY: SMH
DATE: 6-4-07
REVISIONS:
7-3-07
8-24-07
10-30-07

SCALE: NTS
SHEET NO.
C-9
JOB NO.
R0500329.00