

GENERAL EROSION AND SEDIMENT CONTROL NOTES
TABLE 6-1

ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS.

ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

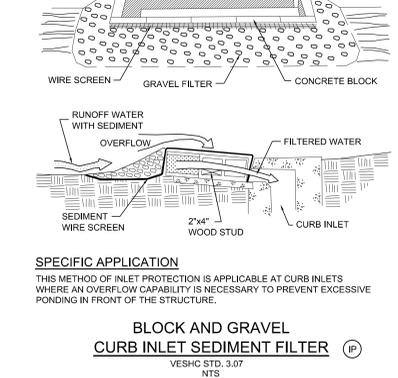
ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.



Outlet Protection (10-YR Design Storm)

ID	OP1	OP2	OP3	
Drainage Area	AC	0.30	0.50	1.25
C-Value		0.30	0.90	0.79
Time of Concentration	MIN	10	5	6
Intensity	INHR	4.5	5.8	5.4
Design Flow	CFS	0.4	2.5	5.3
Tailwater Depth	FT	0.2	0.7	0.9
Discharge Velocity	FPS	4.5	4.5	5.5
Rip Rap Gradation	FT	1.0	1.0	1.0
Apron Length	FT	6	6	6
Apron Width	FT	4	4	4
Side Slopes		2:1	2:1	2:1
Apron Depth	IN	24	24	24

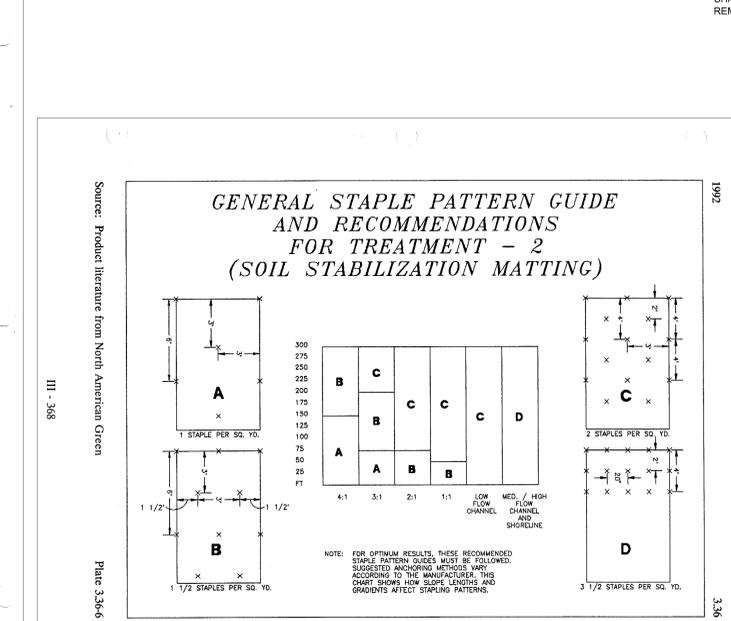
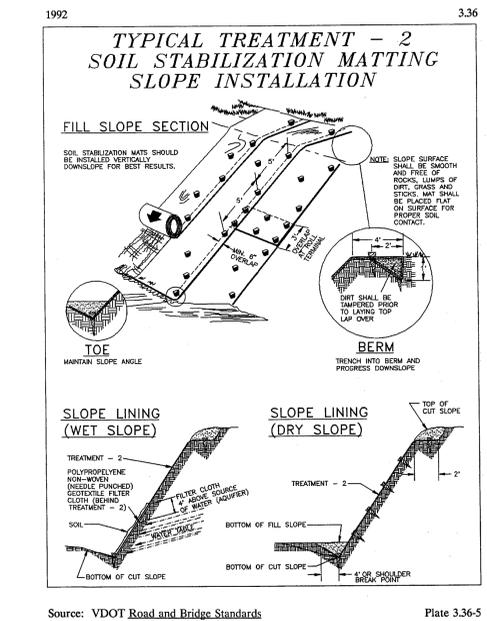


TABLE 3.31-B (Revised June 2003) TEMPORARY SEEDING SPECIFICATIONS QUICK REFERENCE FOR ALL REGIONS

APPLICATION DATES	SPECIES	APPLICATION RATES
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (lolium multi-florum) & Cereal (Winter) Rye (Secale cereale)	50 - 100 (lbs/acre)
Feb. 16 - Apr. 30	Annual Ryegrass (lolium multi-florum)	60 - 100 (lbs/acre)
May 1 - Aug. 31	German Millet	50 (lbs/acre)

FERTILIZER & LIME

- Apply 10-10-10 fertilizer at a rate of 450 lbs. / acre (or 10 lbs. / 1,000 sq. ft.)
- Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)

NOTE:

- A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
- Incorporate the lime and fertilizer into the top 4 - 6 inches of the soil by disking or by other means.
- When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin #4, 2003 Nutrient Management for Development Sites at <http://www.dcr.state.va.us/sw/esa.htm#pubs>

TABLE 3.32-D (Revised June 2003) PERMANENT SEEDING SPECIFICATIONS FOR PIEDMONT AREA

LAND USE	SPECIES	APPLICATION PER ACRE
Minimum Care Lawn (Commercial or Residential)	Tall Fescue ¹	95-100%
	Perennial Ryegrass	0-5%
	Kentucky Bluegrass ¹	0-5%
		TOTAL: 175-200 lbs
High-Maintenance Lawn	Tall Fescue ¹	TOTAL: 200-250 lbs
General Slope (3:1 or less)	Tall Fescue ¹	128 lbs
	Red Top Grass or Creeping Red Fescue	2 lbs
	Seasonal Nurse Crop ²	20 lbs
		TOTAL: 150 lbs
Low-Maintenance Slope (Slopes > 3:1)	Tall Fescue ¹	108 lbs
	Red Top Grass or Creeping Red Fescue	2 lbs
	Seasonal Nurse Crop ²	20 lbs
		TOTAL: 130 lbs

NOTE:

- When selecting varieties of turfgrass, use the Virginia Crop Improvement Association (VCIA) recommended turfgrass variety list. Quality seed will bear a label indicating that they are approved by VCIA. A current turfgrass variety list is available at the local County Extension office or through VCIA at 804-746-4884 or at <http://sudan.ces.vt.edu/html/Turf/turf/publications/publications2.html>
- Use seasonal nurse crop in accordance with seeding dates as stated below:
 - February 16th - April Annual Rye
 - May 1st - August 15th Foxtail Millet
 - August 16th - October Annual Rye
 - November - February 15th Winter Rye
- Substitute *Sericea lespedeza* for *Crownvetch* east of Farmville, VA (May through September use hulled seed, all other periods, use unhulled *Sericea*). If *Flapjacks* is used, increase rate to 30 lbs./acre. If *Weeping Lovegrass* is used, include in any slope or low maintenance mixture during warmer seeding periods, increase to 30-40.

FERTILIZER & LIME

- Apply 10-20-10 fertilizer at a rate of 500 lbs. / acre (or 12 lbs. / 1,000 sq. ft.)
- Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)

NOTE:

- A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
- Incorporate the lime and fertilizer into the top 4 - 6 inches of the soil by disking or by other means.
- When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin #4, 2003 Nutrient Management for Development Sites at <http://www.dcr.state.va.us/sw/esa.htm#pubs>

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 REQUIRE 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, RESEEDED AND REMULCHED.

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION
THIS PROJECT CONSISTS OF THE CONSTRUCTION OF A GROUP HOME, ASSOCIATED SEWER AND WATER SERVICE, AND DRAINAGE IMPROVEMENTS AT THE LYNCHBURG JUVENILE SERVICES FACILITY, LOCATED IN LYNCHBURG, VIRGINIA. A TOTAL OF 3.6 ACRES WILL BE DISTURBED AS A RESULT OF CONSTRUCTION ACTIVITIES. IT IS ANTICIPATED THAT CONSTRUCTION WILL LAST LESS THAN ONE YEAR.

EXISTING SITE CONDITIONS
THIS PROPERTY IS OCCUPIED BY THE EXISTING DETENTION FACILITY, AND ASSOCIATED DRIVES, PARKING AND UTILITIES. THE PROJECT AREA IS PARTIALLY WOODED AND SLOPES DOWN TO FLORIDA AVENUE TO THE SOUTH.

ADJACENT PROPERTY
THE PROJECT IS ADJACENT TO FLORIDA AVENUE TO THE SOUTH, VACANT WOODED AREAS TO THE NORTH, AND RESIDENTIAL AREAS TO THE EAST.

CRITICAL AREAS
NO CRITICAL AREAS HAVE BEEN IDENTIFIED FOR THIS SITE.

OFFSITE AREAS
PROPOSED GRADING WILL REQUIRE AN IMPORT OF MATERIAL TO THE SITE. ANY ADDITIONAL BORROW OR WASTED SOIL FROM THE SITE WILL BE EITHER STOCKPILED ON SITE, OR REMOVED TO A LOCATION CHOSEN BY THE CONTRACTOR AT A LATER DATE. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT A SITE PLAN IS SUBMITTED FOR APPROVAL, FOR ANY BORROW OR FILL AREAS OFF SITE, OR AN AMENDED PLAN IS FILED FOR ANY STOCKPILE AREAS ON SITE.

SOILS
THE SOIL SURVEY MAP FOR LYNCHBURG, VIRGINIA, VERSION 11, DATED DECEMBER 11, 2013 INDICATES THAT THIS SITE CONSISTS OF CECIL FINE SANDY LOAM (B, K=20), TALLAPOOSA LOAM (C, K=32), AND URBAN LAND.

STORMWATER
STORMWATER QUANTITY AND QUALITY CONTROL FOR THE PROPOSED DEVELOPMENT WILL BE PROVIDED BY PROPOSED BIORETENTION FILTERS. THE BIORETENTION FILTERS WILL PROVIDE DETENTION FOR THE INCREASED IMPERVIOUS AREAS RESULTING FROM THE DEVELOPMENT, AND WILL PROVIDE WATER QUALITY TREATMENT IN ACCORDANCE WITH THE TECHNOLOGY-BASED METHOD (SEE PROJECT CALCULATIONS AND DRAINAGE AREA MAPS FOR DETAILED CALCULATIONS).

THE TOTAL DRAINAGE AREA TO THE EXISTING POND IS BEING REDUCED BY 0.24 ACRES AND THE TOTAL IMPERVIOUS AREA DRAINING TO THE EXISTING POND IS BEING REDUCED BY 0.06 ACRES.

CONCENTRATED FLOW FROM THE PROPOSED BIORETENTION FILTERS DISCHARGES TO LEVEL SPREADERS TO PROMOTE SHEET FLOW. THE SITE DRAINS TO A SMALL CHANNEL ADJACENT TO FLORIDA AVENUE. DURING THE 10-YEAR STORM, THE ROADWAY SPREAD IN FLORIDA AVENUE IS LESS THAN 6", WHICH MEETS VDOT AND CITY SPREAD CRITERIA.

EROSION AND SEDIMENT CONTROL

3.02 CONSTRUCTION ENTRANCE (CE) - ONE CONSTRUCTION ENTRANCE IS PROPOSED AT THE ENTRANCE TO THE SITE, AS SHOWN ON PLANS. WHERE THE ENTRANCE IS PROPOSED IN PAVED AREAS CONTRACTOR SHALL REMOVE ALL MUD, DIRT, AND DEBRIS PRIOR TO ENTERING THE PUBLIC RIGHT OF WAY. CONTRACTOR SHALL INSTALL ADDITIONAL STONE STABILIZATION AS NECESSARY TO PREVENT TRACKING ONTO THE EXISTING ROADWAY WITHIN THE LIMITS OF CONSTRUCTION.

3.05 SILT FENCE (SF) - A TEMPORARY SEDIMENT BARRIER CONSTRUCTED OF POSTS PLACED ACROSS OR AT THE TOE OF A SLOPE OR IN A MINOR DRAINAGE WAY TO INTERCEPT AND DETAIN SEDIMENT AND DECREASE FLOW VELOCITIES FROM DRAINAGE AREAS OF LIMITED SIZE.

3.07 INLET PROTECTION (IP) - STORM DRAIN INLET PROTECTION SHALL BE PLACED AT THE INLET OF ALL CURBS AND DROP INLETS TO FILTER SEDIMENT-LADEN RUNOFF.

3.09 TEMPORARY DIVERSION DIKE (DD) - A RIDGE OF COMPACTED SOIL WILL BE USED TO DIVERT SEDIMENT-LADEN RUNOFF TO THE SEDIMENT BASIN DURING INITIAL GRADING OPERATIONS.

3.11 TEMPORARY RIGHT-OF-WAY DIVERSION (RWD) - A RIDGE OF COMPACTED GRAVEL CONSTRUCTED ACROSS A DISTURBED RIGHT OF WAY TO DIVERT SEDIMENT LADEN RUNOFF TO A SEDIMENT TRAPPING MEASURE.

3.13 TEMPORARY SEDIMENT TRAP (ST) - A SMALL PONDING AREA FORMED BY CONSTRUCTING AN EMBANKMENT WITH A STONE OUTLET ACROSS A SWALE. IT IS USED TO DETAIN SEDIMENT LADEN RUNOFF FROM DRAINAGE AREAS LESS THAN 3 ACRES FOR ENOUGH TIME TO ALLOW MOST OF THE SUSPENDED SOLIDS TO SETTLE OUT.

3.18 OUTLET PROTECTION (OP) - THE APPLICATION OF RIPRAP CHANNEL SECTIONS AND/OR STILLING BASINS BEFORE STORM DRAIN OUTLETS TO REDUCE EROSION AND UNDER-CUTTING FROM SCOURING AT OUTLETS AND TO REDUCE FLOW VELOCITIES BEFORE STORMWATER ENTERS RECEIVING CHANNELS BELOW THESE OUTLETS.

3.31 TEMPORARY SEEDING (TS) - 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.

3.32 PERMANENT SEEDING (PS) - ESTABLISHMENT OF PERENNIAL VEGETATIVE COVER BY PLANTING SEED ON ROUGH-GRADED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A YEAR OR MORE OR WHERE PERMANENT, LONG-LIVED VEGETATIVE COVER IS NEEDED ON FINE-GRADED AREAS.

3.35 MULCHING (MU) - APPLICATION OF PLANT RESIDUES OR OTHER SUITABLE MATERIALS TO DISTURBED SURFACES TO PREVENT EROSION AND REDUCE OVERLAND FLOW VELOCITIES. FOSTERS PLANT GROWTH BY INCREASING AVAILABLE MOISTURE AND PROVIDING INSULATION AGAINST EXTREME HEAT OR COLD.

3.36 SOIL STABILIZATION BLANKETS & MATTINGS (BM) - SOIL STABILIZATION BLANKETS OR MATTING SHOULD BE APPLIED TO ALL SLOPES STEEPER THAN 3:1.

3.38 TREE PROTECTION (TP) - PROTECTING EXISTING TREES FROM MECHANICAL AND OTHER INJURIES DURING LAND-DISTURBING ACTIVITIES.

VEGETATIVE MEASURES
PERMANENT STABILIZATION: ALL AREAS DISTURBED BY CONSTRUCTION WILL BE STABILIZED WITH SOD IMMEDIATELY FOLLOWING FINAL GRADING UNLESS OTHERWISE INDICATED. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

MANAGEMENT STRATEGIES

- EROSION AND SEDIMENT CONTROL SHOULD BE DISCUSSED BETWEEN THE GRADING CONTRACTOR AND THE OWNER PRIOR TO ANY EXCAVATION SO THAT LIMITS OF CONSTRUCTION AND EROSION CONTROL METHODS ARE CLEARLY UNDERSTOOD BY BOTH PARTIES.
- CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
- THERE IS TO BE NO TRACKING OF MUD OR DIRT BY CONSTRUCTION EQUIPMENT ONTO ANY PAVED DRIVES OR ROADS.
- SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING AND WILL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
- SEEDING OR OTHER STABILIZATION WILL FOLLOW IMMEDIATELY AFTER GRADING.
- AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.
- AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY ERS CONTROLS WILL BE CLEANED UP AND REMOVED.

PERMANENT STABILIZATION
ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH SOD IMMEDIATELY FOLLOWING FINISH GRADING.

CONSTRUCTION SEQUENCE

- INSTALL CONSTRUCTION ENTRANCE.
- INSTALL PERIMETER CONTROLS AND ALL APPURTENANCES AS SHOWN ON PLANS.
- CLEAR AND GRUB SITE, STRIP AND STOCKPILE TOPSOIL.
- BEGIN SITE BULK GRADING.
- GRADE ROADWAY AND PARKING AREAS.
- GRADE BUILDING PAD.
- INSTALL UTILITIES; INSTALL INLET AND OUTLET PROTECTION AS EACH STORMWATER STRUCTURE IS PLACED.
- INSTALL BASE STONE FOR PAVED AREAS.
- INSTALL RETAINING WALLS.
- CONSTRUCT BUILDING.
- COMPLETE FINISH GRADING.
- SPREAD TOPSOIL, TEMPORARY AND PERMANENT SEEDING AND MULCHING TO BE PLACED ON ALL DISTURBED AREAS.
- INSTALL LANDSCAPING.
- BIORETENTION FILTERS SHALL BE INSTALLED UPON STABILIZATION OF ALL UPSTREAM DRAINAGE AREAS.
- CONTRACTOR TO RESTORE ALL AREAS BACK TO EITHER PROPOSED GRADES OR EXISTING CONDITIONS AFTER COMPLETION OF THE PROJECT. ALL DISTURBED AREAS, HAUL ROADS, CONSTRUCTION ROADS, LAY DOWN AREAS, ETC. SHALL BE RESTORED.

EARTHWORK AND GRADING

PRIOR TO THE EARTHWORK OPERATIONS, A MODERATE AMOUNT OF CLEARING AND GRUBBING WILL BE REQUIRED. THE SITE IS VEGETATED WITH GRASSES AND SOME TREES. MULTIPLE UTILITY LINES AND/OR STRUCTURES WILL ALSO NEED TO BE REMOVED AND/OR RELOCATED.

AFTER CLEARING THE VEGETATION AND PRIOR TO ANY FILL PLACEMENT, SITE PREPARATION SHOULD BEGIN WITH THE REMOVAL OF EXISTING SURFICIAL ORGANIC SOILS AND OTHER DELETERIOUS MATERIALS. IF POSSIBLE, FOLLOWING THE STRIPPING AND GRUBBING OPERATIONS, THE FILL AREAS SHOULD BE COMPACTED AND PROOF-ROLLED IN THE PRESENCE OF A QUALIFIED GEOTECHNICAL REPRESENTATIVE. PROOF-ROLLING SHOULD BE COMPLETED WITH A LOADED 35 TO 30 TON TRUCK OR OTHER APPROVED EQUIPMENT ACROSS THE SOIL SUBGRADE. DURING THE PROOF-ROLLING PROCESS, IT IS RECOMMENDED THAT A ROLLER PATTERN BE ESTABLISHED THAT WILL MAXIMIZE THE DENSIFICATION OF THE SUBGRADE PRIOR TO FILL PLACEMENT. PROOF-ROLLING SHOULD BE PERFORMED DURING GOOD WEATHER AND NOT WHILE THE SITE IS WET AS A RESULT OF RECENT RAIN OR SNOW. AREAS THAT RUMP, RUT, HEAVE, OR ARE OTHERWISE DETERMINED TO BE UNSUITABLE OR UNSTABLE BY THE GEOTECHNICAL REPRESENTATIVE, SHOULD BE EXCAVATED AND REPLACED AS DIRECTED BY THE GEOTECHNICAL REPRESENTATIVE.

BASED ON THE EXISTING GRADES AND BASED ON THE PROPOSED ELEVATIONS, A SIGNIFICANT AMOUNT OF CUTTING AND FILLING OF SOILS WILL BE REQUIRED TO ESTABLISH FINAL SUBGRADES ACROSS THE SITE. MAXIMUM FILL DEPTHS WITHIN THE BUILDING PAD ARE ESTIMATED AT 29.5 FEET.

BECAUSE OF THE SLOPING TERRAIN, IT IS RECOMMENDED THAT THE EXISTING SLOPE BE BENCHED OUT AT REGULAR INTERVALS 5 FEET HORIZONTAL FOR EVERY 3 FEET VERTICAL CHANGE IN ELEVATION DURING THE PLACEMENT OF STRUCTURAL FILL. THIS WILL ALLOW FOR THE FILL TO BE PLACED IN A MORE HORIZONTAL DIRECTION, BASED ON PREVIOUS EXPERIENCES, LESS SETTLEMENT AND LESS MOVEMENT OF THE FILL ZONE CAN BE EXPECTED IF THIS RECOMMENDATION IS EXECUTED.

COMPACTED STRUCTURAL FILL FOR BUILDING AREAS, PAVEMENTS, AND UTILITY TRENCH BACKFILL MAY BE CONSTRUCTED USING ON-SITE SOILS OR APPROVED OFF-SITE BORROW SOILS.

SUITABLE OFF-SITE BORROW SOILS FOR THIS AREA GENERALLY INCLUDES NON-COHESIVE SOILS AND COHESIVE SOILS (LOW TO MEDIUM PLASTICITY) AS DEFINED BY THE UNIFIED SOILS CLASSIFICATION SYSTEM (CL, ML, SC, OR SM) WHICH ARE FREE OF ORGANICS OR OTHER DELETERIOUS MATERIALS.

WE ALSO RECOMMEND THAT FILL MATERIALS HAVE A MINIMUM DRY DENSITY OF 90 POUNDS PER CUBIC FOOT AS DETERMINED BY A STANDARD PROCTOR (ASTM D 698).

STRUCTURAL FILL MATERIAL UNDER AND WITHIN 15 FEET OF THE BUILDING PAD SHOULD BE PLACED IN HORIZONTAL LIFTS, WITH AN 8 INCH TO 9 INCH LOOSE THICKNESS AND COMPACTED TO AT LEAST 98% OF THE MATERIAL'S MAXIMUM DRY DENSITY AS DETERMINED BY A STANDARD PROCTOR (ASTM D 698).

STRUCTURAL FILL MATERIAL FOR THE FOUNDATION WALLS AND MATERIAL PLACED IN SLOPES AND PARKING AREAS SHOULD BE PLACED IN HORIZONTAL LIFTS, WITH AN 8 INCH TO 9 INCH LOOSE THICKNESS, AND COMPACTED TO AT LEAST 95% OF THE MATERIAL'S MAXIMUM DRY DENSITY AS DETERMINED BY A STANDARD PROCTOR (ASTM D 698).

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C501

Full Scale Verification
Drawing No. _____
DATE: 03/25/15

REVISIONS

NO.

BY

DATE

PROFESSIONAL SEAL

PATRICK C. PROFFIT
Lic. No. 034330
02/03/2015

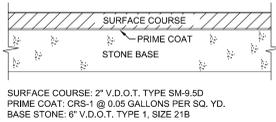
Virginia A & E

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LYNCHBURG JUVENILE SERVICES GROUP HOME
CITY PROJECT NO. B0168
ENGINEERING PROJECT NO. 1004336G
1401 FLORIDA AVENUE
LYNCHBURG, VIRGINIA

DETAIL SHEET

PROJECT NO. 1004336G
DATE: 03/25/15



SURFACE COURSE: 2" V.D.O.T. TYPE SM-9.5D
 PRIME COAT: CRS-1 @ 0.05 GALLONS PER SQ. YD.
 BASE STONE: 6" V.D.O.T. TYPE 1, SIZE 21B

NOTE:
 APPLICATION OF TACK AT JOINTS, ADJACENT TO CURBS,
 GUTTERS OR OTHER APPURTENANCES SHALL BE
 APPLIED BY HAND WAND AT THE RATE OF 0.2 GAL./SQ.YD.

TYPICAL PAVING SECTION
 N.T.S.

IN AREAS OF THE EXISTING PARKING LOT IS TO BE DEMOLISHED
 AND REMOVED CONTRACTOR IS TO EXCAVATE AS NEEDED TO
 NEW SUB BASE TO ALLOW FOR PLACEMENT OF 6" OF TYPE 1
 SIZE 21B STONE.

SECTION 323113 - CHAIN LINK FENCE MATERIALS

- A. GENERAL:**
- COLD-ROLLED STEEL SHEETS SHALL COMPLY WITH ASTM A 1008/A 1009M, SUITABLE FOR EXPOSED APPLICATIONS.
 - ALL PIPING FOR FENCE AND GATES SHALL BE SCHEDULE 40 HOT-DIPPED GALVANIZED STEEL OR APPROX. EQUAL FOR SIZE, FINISH, MATERIAL COMPOSITION, STRENGTH, APPEARANCE, PERFORMANCE AND EASE OF MAINTAINABILITY.
 - GALVANIZING SHALL BE IN ACCORDANCE WITH ASTM F 668-88. ALL FENCE FITTINGS SHALL COMPLY WITH ASTM F626-89A.
 - ALL MATERIALS EXCEPT NUTS AND BOLTS SHALL HAVE THE PVC COATING EXTRUDED AND ADHERED TO THE GALVANIZED STEEL CORE WIRE PER ASTM F 668-88, CLASS 2A. COLOR SHALL BE AS SELECTED BY THE ENGINEER. FABRIC SHALL HAVE .015 TO .025 INCH PVC COATING EXTRUDED AND ADHERED TO THE CORE. ALL OTHER MATERIALS SHALL BE 10 TO 15 MILS PVC COATING.

B. CHAIN LINK FENCE FABRIC:

- COLOR COATED CHAIN LINK FENCE FABRIC SHALL CONFORM TO ASTM F668-88 CLASS 2A MATERIAL.
- FABRIC SHALL BE W&M STEEL CORE WIRE, GALVANIZED WITH NOT LESS THAN 30 OZ. PER SQUARE FOOT OF ACTUAL SURFACE, WITH A .015 - .025 INCH PVC BONDED OR POWDER COATING, EXTRUDED AND ADHERING TO THE GALVANIZED WIRE.
- FABRIC SHALL BE WOVEN IN A CONTINUOUS 2" MESH (1-3/4 INCH FOR TENNIS COURTS). STEEL CORE WIRE SHALL HAVE A MINIMUM BREAKING STRENGTH 1290 LBS.
- FINISHED SIZE, INCLUDING PVC BONDED OR POWDER COATING, SHALL BE 8-GAUGE (FINISHED) WITH 9-GAUGE CORE WIRE, 6-GAUGE (FINISHED) WITH 9-GAUGE CORE FOR BACKSTOPS AND WING FENCING (UP TO 10' HEIGHT), OR AS SPECIFIED ON PLANS AND DETAILS. LOWER EDGE OF FABRIC SHALL BE NO GREATER THAN ONE AND ONE-HALF (1-1/2) INCHES ABOVE CONCRETE MOW STRIP OR INFIELD FINISHED GRADE AS SPECIFIED ON PLANS AND DETAILS.
- FABRIC SHALL HAVE A KNUCKLED TOP AND BOTTOM SELVAGE.
- HEIGHT OF THE FABRIC MEASURED FROM THE ENDS OF THE KNUCKLED SELVAGE SHALL BE AS SPECIFIED ON PLANS AND DETAILS, PLUS OR MINUS 1 INCH PER 8 LINEAL FEET.

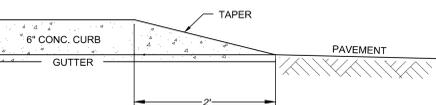
C. PERIMETER FENCING OR BALLFIELD BACKSTOP FRAMEWORK:

- ALL POSTS, RAILS, AND FRAMEWORK SHALL HAVE 10-15 MILS OF VINYL OR POWDER COATING. NO HAND PAINTING IS ALLOWED, EXCEPT FOR MINOR TOUCHING UP. ALL POSTS, RAILS, RODS SHALL BE STEEL PIPE. SIZES SHALL BE AS SPECIFIED IN THE FOLLOWING TABLE FOR PERIMETER FENCING AND BACKSTOP AND WING FENCING.

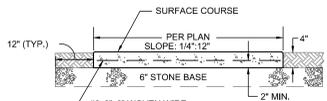
FOR COLOR COATED PERIMETER FENCES, WING FENCES & TENNIS COURT FENCES

TYPE	4" HIGH	6" HIGH	8" HIGH	10" HIGH	20" HIGH
TERMINAL / CORNER POSTS	3" OD	3" OD	3" OD	3" OD	4" OD
LINE POSTS	2-3/8" OD	2-3/8" OD	2-3/8" OD	2-3/8" OD	2-7/8" OD
TOP RAILS	1-5/8" OD				
INTERMEDIATE RAILS	N/A*	N/A*	1-5/8" OD	1-5/8" OD	1-5/8" OD
BOTTOM RAILS	N/A*	N/A*	1-5/8" OD	1-5/8" OD	1-5/8" OD
POST FOOTING					
SIZE FOR TERMINAL / CORNER POSTS	12" W 30" D	12" W 36" D	12" W 36" D	18" W 36" D	24" W 48" D
POST FOOTING					
SIZE FOR LINE POSTS	12" W 24" D	12" W 36" D	12" W 36" D	18" W 36" D	24" W 36" D
FABRIC MESH	2"	2"	2"	2"	2"
FABRIC FINISHED SIZE	8-GAUGE*	8-GAUGE*	8-GAUGE*	8-GAUGE*	8-GAUGE*

*8-GAUGE (FINISHED) WITH 9-GAUGE CORE WIRE (TYPICAL)

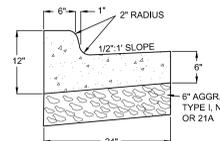


TYPICAL 6" CONC. CURB TAPER
 N.T.S.



BASE STONE: 6" VDOT #21A
 SURFACE COURSE: 4" CLASS 3000 PSI CONCRETE
 SIDEWALK TO BE POURED MONOLITHICALLY WITH A WOOD FLOAT FINISH. CONSTRUCTION JOINTS @ 8' INTERVALS. EXPANSION JOINTS @ 30' INTERVALS FILLED W/ PRE-MOLDED 1/2" JOINT FILLER.

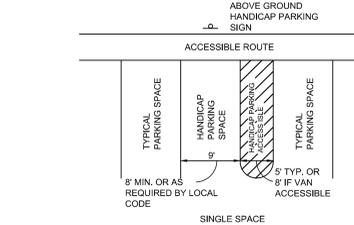
TYP. CONC. WALK SECTION
 N.T.S.



24" COMBINED CURB AND GUTTER SHALL BE CONSTRUCTED OF ONE COURSE CLASS "A3" CONCRETE (A3) CONFORMING TO THE ABOVE SECTION AND SHALL BE THOROUGHLY SPADED IN FORMS AND FINISHED WITH A WOODEN FLOAT. CONCRETE SHALL BE POURED IN 10' LENGTHS WITH JOINTS CUT ENTIRELY THROUGH THE CURB AND GUTTER BY MEANS OF 1/4" STEEL PLATES. FRONT CURB FORMS WITH 2" RADIUS SHALL BE REQUIRED.

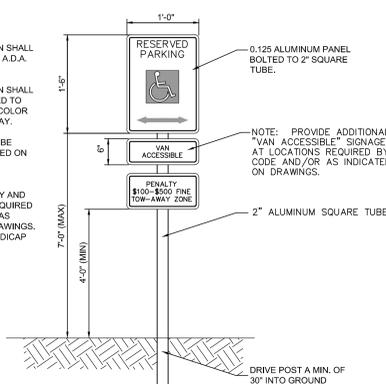
2" CONC. CURB & GUTTER
 N.T.S.

- ALL SIGNS SHOWN SHALL CONFORM TO THE A.D.A. SPECIFICATIONS.
- ALL SIGNS SHOWN SHALL BE REFLECTORIZED TO SHOW THE SAME COLOR BY NIGHT AS BY DAY.
- ALL SIGNS SHALL BE SECURELY MOUNTED ON POST.
- INSTALL QUANTITY AND AT LOCATIONS REQUIRED BY CODE AND/OR AS INDICATED ON DRAWINGS. CONFIRM ALL HANDICAP SIGNAGE CODES.

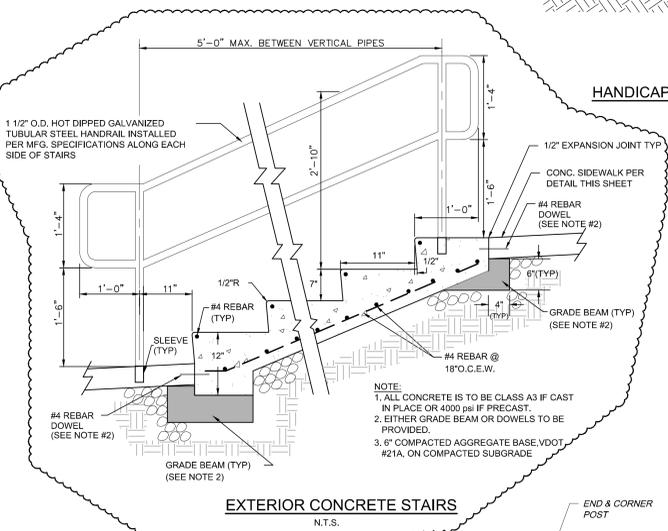


HANDICAP PARKING DETAIL
 N.T.S.

- NOTES:**
- TWO ADJACENT HANDICAP SPACES MAY SHARE THE SAME PARKING ACCESS ISLE.
 - HANDICAP PARKING SPACES AND ACCESS ISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 2% IN ANY DIRECTION.
 - 1 OUT OF EVERY 8 HANDICAP SPACES, BUT NOT LESS THAN 1, SHALL BE VAN ACCESSIBLE AND SHALL HAVE PROPER SIGNAGE NOTING "VAN ACCESSIBLE".
 - HANDICAP AND VAN ACCESSIBLE PARKING SPACES SHALL HAVE PROPER SIGNAGE AS PER LOCAL CODE AND A.D.A. REQUIREMENTS.
 - HANDICAP SPACES SHALL COMPLY WITH LOCAL CODES AND A.D.A. REQUIREMENTS.

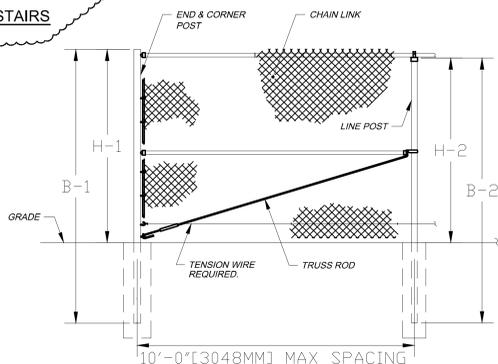


HANDICAP PARKING SIGN
 N.T.S.



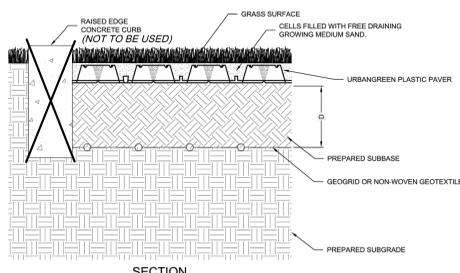
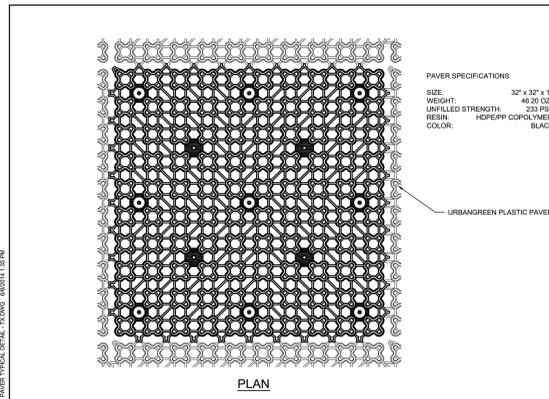
EXTERIOR CONCRETE STAIRS
 N.T.S.

- NOTE:**
- ALL CONCRETE IS TO BE CLASS A3 IF CAST IN PLACE OR 4000 PSI IF PRECAST.
 - EITHER GRADE BEAM OR DOWELS TO BE PROVIDED.
 - 6" COMPACTED AGGREGATE BASE, VDOT #21A, ON COMPACTED SUBGRADE.



FENCE HEIGHT	END & CORNER POSTS		LINE POSTS	
	NOMINAL HEIGHT	BAR LENGTH	NOMINAL HEIGHT	BAR LENGTH
8'-0"	B-1	11'-0" [3353MM]	H-1	8'-0 5/8" [2454MM]
10'-0"	B-1	13'-0" [3962MM]	H-1	10'-0 5/8" [3064MM]
8'-0"	B-2	11'-0" [3353MM]	H-2	7'-8 7/8" [2359MM]
10'-0"	B-2	13'-0" [3962MM]	H-2	9'-8 7/8" [2969MM]

CHAIN-LINK FENCE DETAIL
 N.T.S.



* THIS DETAIL IS INTENDED FOR GENERAL USE AND REFERENCE ONLY, AND IS NOT SITE SPECIFIC.

TABLE 1: TYPICAL SUB-BASE (D) THICKNESS REQUIREMENTS W/ GEOGRID

APPLICATION/LOAD	* CBR STRENGTH OF SUBGRADE SOIL	(D) SUB-BASE THICKNESS (N) (SEE NOTE 3)	GEOGRID (SEE NOTE 1)
FIRE TRUCK AND OCCASIONAL HEAVY VEHICLE ACCESS	>= 6	5	TX5
	>= 4.6	7	TX5
	>= 2.4	11/12	TX7
	>= 1.2	19/21	TX7
LIGHT VEHICLE ACCESS AND SPILLOVER CAR PARKING	>= 6	5	TX5
	>= 4.6	6	TX5
	>= 2.4	9/10	TX7
	>= 1.2	14/16	TX7

* CBR - CALIFORNIA BEARING RATIO

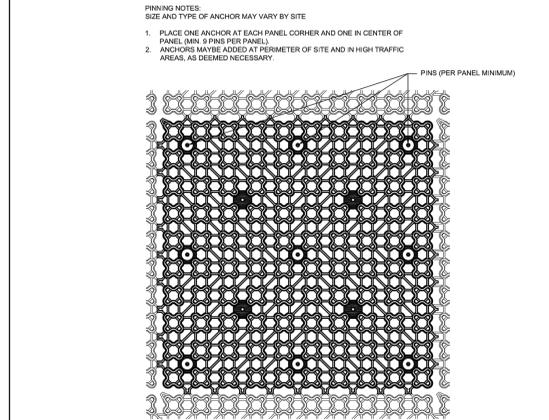
GENERAL NOTES:

- IF CONTECH GEOGRID IS OMITTED, THEN THE TOTAL SUB-BASE LAYER THICKNESS MUST BE INCREASED BY 50%. IF SUBGRADE SOILS ARE IMPERMEABLE AND NO GEOGRID IS USED, A NON-WOVEN GEOTEXTILE W/ RECYCLED CONTENT IS RECOMMENDED AND SHOULD HAVE GOOD PERMEABILITY AND POROSITY (20-70 PORES PER SQUARE INCH).
- IF AN UNDERDRAIN IS REQUIRED, USE 4-INCH DIAMETER PERFORATED PIPE LAD AT MINIMUM GRADIENT 1:100. BEDDED ON GRAVEL IN TRENCH BACKFILLED WITH DOT TYPE A DRAINAGE STONE, COVERED WITH A WOVEN GEOTEXTILE FABRIC AND LEADING TO A SUITABLE CUT-OUT OR BORE TENSION AREA. DRAINS PLACED DOWN CENTER OR ONE EDGE OF ACCESS ROUTES UP TO 14.5 FT. WIDE. WIDER AREAS MAY REQUIRE ADDITIONAL DRAINS AT 16.5 FT. - 33 FT. CENTERS. DRAINAGE DESIGN BY SPECIFIER BASED ON SPECIFIC GROUND CONDITIONS ON SITE.
- SUBBASE SHOULD BE A SANDY GRAVEL MATERIAL FROM LOCAL SOURCES COMMONLY USED IN THE PREPARATION OF A ROAD BASE AND WALKWAYS. SUBBASE GRAVEL AGGREGATE TO BE 5/8-INCH MAXIMUM CIRCULAR SIZE WITH NO MORE THAN 2% PASSING THE #200 SIEVE. MATERIAL SHOULD BE NEARLY NEUTRAL IN PH.
- URBANGREEN PAVERS, GEOGRID AND GEOTEXTILES BY CONTECH ENGINEERED SOLUTIONS: 800-925-5240

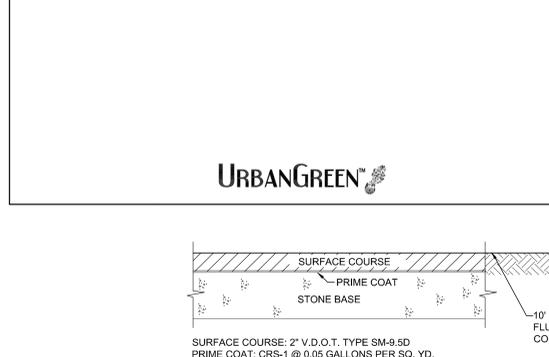
- INSTALLATION NOTES:**
- THE CONTRACTOR SHALL COMMENCE THE WORK AFTER ENTIRE SUBGRADE HAS BEEN FINE GRADED AND COMPACTED TO SPECIFIED TOLERANCE.
 - INSTALL SUBBASE COURSE MATERIAL OVER PREPARED SUBGRADE TO ELEVATIONS AND DEPTHS SHOWN ON PLAN. INSTALL MATERIAL IN LIFTS THAT DO NOT EXCEED 6 INCHES. COMPACTING EACH LIFT TO 95% MODIFIED PROCTOR DENSITY.
 - USE CONNECTORS PROVIDED TO MAINTAIN PROPER SPACING AND TO INTERLOCK THE PAVERS.
 - PAVER PANELS TO BE INSTALLED WITH THE LARGER CLOSER OPENING FACING DOWN. PAVEMENT MATERIAL SHOULD BE COVERED IF EXPOSED TO SUN AND OUTSIDE ELEMENTS FOR MORE THAN 30 DAYS.
 - PAVERS CAN BE CUT USING A HAND OR POWER SAW TO FIT AROUND OBSTRUCTIONS AND CONTOURS. PIECES WHICH ARE LESS THAN HALF THE ORIGINAL SIZE SHOULD NOT BE USED.
 - FILL PAVERS WITH THE SPECIFIED SAND. FILL MATERIAL SHALL BE INSTALLED TO THE TOP OF THE PAVEMENT AND NO HIGHER THAN 1/4 INCH ABOVE THE TOP OF THE PAVEMENT. ONCE THE FILL MATERIAL IS INSTALLED USE A LIGHT VIBRATING PLATE TO CONSOLIDATE THE PAVERS AND TO SETTLE THE JOINTS.
 - CARRY OUT SOIL PLACEMENT OR REGRADING, FERTILIZING AND WATERING PROGRAM. A VERY LIGHT TOP DRESSING MAY BE APPLIED TO JUST COVER THE SEED AND TO PROVIDE ADEQUATE GERMINATION CONDITIONS.
 - IT IS PREFERRED TO ALLOW THE GRASS TO FULLY ESTABLISH PRIOR TO VEHICLE TRAFFIC.

CONTECH ENGINEERED SOLUTIONS LLC
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 8025 Carver Plaza Dr., Suite 400, West Chester, OH 45399
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URBANGREEN PLASTIC PAVERS GRASS INSTALLATION STANDARD DETAIL



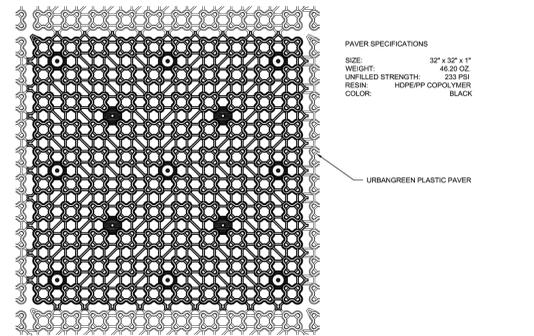
TYPICAL BASKETBALL COURT PAVING SECTION
 N.T.S.



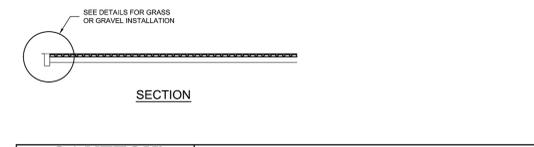
NOTE:
 APPLICATION OF TACK AT JOINTS, ADJACENT TO CURBS,
 GUTTERS OR OTHER APPURTENANCES SHALL BE
 APPLIED BY HAND WAND AT THE RATE OF 0.2 GAL./SQ.YD.

NOTE: ACTUAL PAVING SECTIONS TO BE BASED ON CBR RESULTS.

TYPICAL BASKETBALL COURT PAVING SECTION
 N.T.S.



TYPICAL BASKETBALL COURT PAVING SECTION
 N.T.S.



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URBANGREEN PLASTIC PAVEMENT PANEL AND PINNING STANDARD DETAIL

SURFACE COURSE: 2" V.D.O.T. TYPE SM-9.5D
 PRIME COAT: CRS-1 @ 0.05 GALLONS PER SQ. YD.
 BASE STONE: 4" V.D.O.T. TYPE 1, SIZE 21B

10' SAFETY ZONE TO BE FLUSH WITH BASKETBALL COURT SURFACE

NOTE:
 APPLICATION OF TACK AT JOINTS, ADJACENT TO CURBS,
 GUTTERS OR OTHER APPURTENANCES SHALL BE
 APPLIED BY HAND WAND AT THE RATE OF 0.2 GAL./SQ.YD.

NOTE: ACTUAL PAVING SECTIONS TO BE BASED ON CBR RESULTS.

TYPICAL BASKETBALL COURT PAVING SECTION
 N.T.S.

NO.	BY	REVISIONS	DATE

Patrick C. Proffitt
 Lic. No. 024330
 02/03/2015
 PROFESSIONAL ENGINEER

Virginia A & E

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 1115 VISTA PARK DRIVE
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 PHONE: (434) 316-6001

LYNCHBURG JUVENILE SERVICES GROUP HOME
 CITY PROJECT NO: B0158
 ENGINEERING PROJECT NO: 10043-BG
 1401 FLORIDA AVENUE
 LYNCHBURG, VIRGINIA

DETAIL SHEET

PROJECT NO: 20190440
 DATE: 08 FEB 15

Full Scale Verification
 0" = 1"
 Drawing No.: **C502**

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 2524 LANGHORNE ROAD
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