

NAME OF DEVELOPMENT		I, _____, OWNER/DEVELOPER, AM AWARE OF THE SITE DESIGN REQUIREMENTS IMPOSED BY THIS SITE DEVELOPMENT PLAN, ALL REVISIONS THEREOF, AND OTHER APPLICABLE ROANOKE COUNTY CODES AND ORDINANCES.	
MAGISTERIAL DISTRICT(S) CATAWBA		I HEREBY CERTIFY THAT I AGREE TO COMPLY WITH THESE REQUIREMENTS SHOWN ON THIS COVER SHEET UNLESS MODIFIED IN ACCORDANCE WITH LOCAL LAW.	
OWNER (name, address, telephone)	WESTERN VIRGINIA REGIONAL INDUSTRIAL FACILITIES AUTHORITY P.O. BOX 2569 ROANOKE, VA 24010 ATTN: JOHN HULL		
DEVELOPER (name, address, telephone)	WESTERN VIRGINIA REGIONAL INDUSTRIAL FACILITIES AUTHORITY P.O. BOX 2569 ROANOKE, VA 24010 ATTN: JOHN HULL		
ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone)	BALZER AND ASSOCIATES, INC. 1208 CORPORATE CIRCLE ROANOKE, VA 24018 ATTN: CHRIS BURNS 540-772-9580 FAX 540-772-8050		
TAX MAP NO(S)	026.17-01-01.00-0000		

## PRIVATE UTILITIES

- 

Property Line

Right-of-way

Centerline

Minimum Building Line

Existing Storm Sewer

Existing Sanitary Sewer

Existing Water Main

Existing Contour

Proposed Contour

Proposed Drainage Divide

Proposed Limits of Clearing

Proposed Storm Sewer

Proposed Sanitary Sewer

Proposed Water Main

24' S.D.

8' M.H.

HYDRANT

VALVE

BLOWOFF

underground utilities installed on private property or in private utility easements and building related storm drains shall be designed and installed per the current edition of the Virginia Uniform Statewide Building Code (including amendments). Design and installation requirements issued by the Western Virginia Water Authority that meet or exceed the USBC requirements are acceptable for private utilities. All private utilities are to be permitted through and inspected by the Boone County Inspection Office. Valves,aults and other devices installed by the Western Virginia Water Authority may not be substituted for those required by the code required devices.

PR #:	NOTES:
Revision Table	

## SURVEY INFORMATION

The professional seal and signature certifies the boundary survey and topographic mapping to be accurate and correct.

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING		AC			
EXCAVATION	1,000	C.Y.	\$10.00		\$10,000
EMBANKMENT		C.Y.			
VDOT STD DI-3C		EA			
CURB INLET DI-		EA			
		EA			
MANHOLE MH-2	2	EA	\$4,000		\$8,000
30" CL. III RCP	263	LF	\$80.00		\$21,040
		LF			
-IN. C.M. CULVERT		LF			
-IN. C.M. CULVERT		LF			
BOX CULVERT		LS			
PAVED SWALE		LF			
RIPRAP CHANNEL	430	LF	\$25.00		\$10,750
PERMANENT GRASS SWALE		LF			
-IN. CONCRETE ENDWALL. EW-		EA			
-IN. END SECTION ES-		EA			
CONCRETE PAVEMENT SECTION		S.Y.			
ASPHALT PAVEMENT SECTION		S.Y.			
CURB CG-2		LF			
CURB & GUTTER CG-6		LF			
GRAVEL SHOULDER		SY			
SURFACE TREATMENT		SY			
-IN. BIT. CONC.: TYPE B-		SY			
-IN. BIT. CONC.: TYPE S-		SY			
-IN. BASE MATERIAL		C.Y.			
-IN. SUBBASE MATERIAL		C.Y.			
TRAFFIC BARRICADE		EA			
8" WATER LINE		LF			
6" WATER LINE		LF			
FIRE HYDRANT ASSEMBLIES		EA			
BLOW OFFS W/ VAULT, FRAME & COVER		EA			
-6" GATE VALVES, W/ VAULT, FRAME & COVER		EA			
-IN. GATE VALVES, W/ VAULT, FRAME & COVER		EA			
8" SANITARY SEWER		LF			
STANDARD MANHOLE W/FRAME & COVER		EA			
SAMPLING MANHOLE/PORT		EA			
LANDSCAPING		LS			
AMENITIES (INCLUDING BUT NOT LIMITED TO TRAILS, ETC...)		LS			
STORMWATER MANAGEMENT		LS			
AS-BUILT PLANS (STORM SEWER SYSTEMS)	1	LS	\$3,500		\$3,500
AS-BUILT PLANS (STORMWATER MANAGEMENT)		LS	-		
SUB-TOTAL					\$53,290
10% CONTINGENCY					\$5,329
ESTIMATED TOTAL					\$58,619
BY SEALING THE PLANS, THE DESIGN PROFESSIONAL HEREBY CERTIFIES. THAT THE FOREGOING ESTIMATE REFLECTS THE CURRENT IMPROVEMENT COSTS OF THIS PROJECT.					



**BALZER**  
**& ASSOCIATES**

PLANNERS / ARCHITECTS  
ENGINEERS / SURVEYORS

Roanoke / Richmond  
New River Valley / Staunton  
Harrisonburg / Lynchburg

**www.balzer.cc**

1208 Corporate Circle  
Roanoke, VA 24018  
540.772.9580

DRAWN BY: KAM  
DESIGNED BY: KAM  
CHECKED BY: CPB  
DATE: 4/22/2025  
REVISIONS:



# 1ST SUBMITTAL

**WOOD HAVEN TECHNOLOGY PARK  
DRAINAGE IMPROVEMENTS**

**WOOD HAVEN ROAD  
ROANOKE COUNTY, VIRGINIA**

# C1

JOB No.: 04180095.03

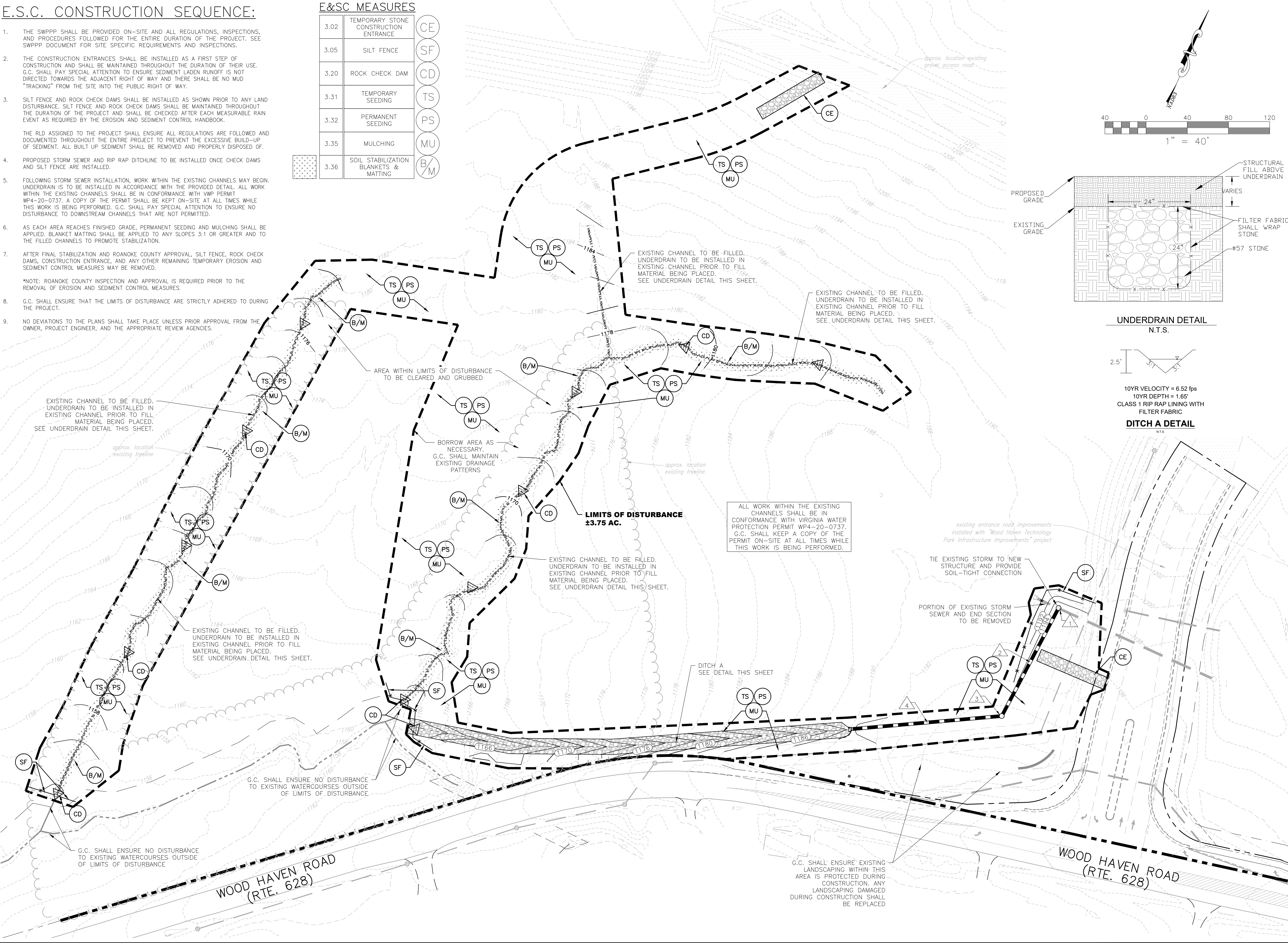


E.S.C. CONSTRUCTION SEQUENCE:

1. THE SWPPP SHALL BE PROVIDED ON-SITE AND ALL REGULATIONS, INSPECTIONS, AND PROCEDURES FOLLOWED FOR THE ENTIRE DURATION OF THE PROJECT. SEE SWPPP DOCUMENT FOR SITE SPECIFIC REQUIREMENTS AND INSPECTIONS.
2. THE CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS A FIRST STEP OF CONSTRUCTION AND SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THEIR USE. G.C. SHALL PAY SPECIAL ATTENTION TO ENSURE SEDIMENT LADEN RUNOFF IS NOT DIRECTED TOWARDS THE ADJACENT RIGHT OF WAY AND THERE SHALL BE NO MUD "TRACKING" FROM THE SITE INTO THE PUBLIC RIGHT OF WAY.
3. SILT FENCE AND ROCK CHECK DAMS SHALL BE INSTALLED AS SHOWN PRIOR TO ANY LAND DISTURBANCE. SILT FENCE AND ROCK CHECK DAMS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT AND SHALL BE CHECKED AFTER EACH MEASURABLE RAIN EVENT AS REQUIRED BY THE EROSION AND SEDIMENT CONTROL HANDBOOK.  
  
THE RLD ASSIGNED TO THE PROJECT SHALL ENSURE ALL REGULATIONS ARE FOLLOWED AND DOCUMENTED THROUGHOUT THE ENTIRE PROJECT TO PREVENT THE EXCESSIVE BUILD-UP OF SEDIMENT. ALL BUILT UP SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF.
4. PROPOSED STORM SEWER AND RIP RAP DITCHLINE TO BE INSTALLED ONCE CHECK DAMS AND SILT FENCE ARE INSTALLED.
5. FOLLOWING STORM SEWER INSTALLATION, WORK WITHIN THE EXISTING CHANNELS MAY BEGIN. UNDERDRAIN IS TO BE INSTALLED IN ACCORDANCE WITH THE PROVIDED DETAIL. ALL WORK WITHIN THE EXISTING CHANNELS SHALL BE IN CONFORMANCE WITH VWP PERMIT WP4-20-0737. A COPY OF THE PERMIT SHALL BE KEPT ON-SITE AT ALL TIMES WHILE THIS WORK IS BEING PERFORMED. G.C. SHALL PAY SPECIAL ATTENTION TO ENSURE NO DISTURBANCE TO DOWNSTREAM CHANNELS THAT ARE NOT PERMITTED.
6. AS EACH AREA REACHES FINISHED GRADE, PERMANENT SEEDING AND MULCHING SHALL BE APPLIED. BLANKET MATTING SHALL BE APPLIED TO ANY SLOPES 3:1 OR GREATER AND TO THE FILLED CHANNELS TO PROMOTE STABILIZATION.
7. AFTER FINAL STABILIZATION AND ROANOKE COUNTY APPROVAL, SILT FENCE, ROCK CHECK DAMS, CONSTRUCTION ENTRANCE, AND ANY OTHER REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MAY BE REMOVED.  
  
\*NOTE: ROANOKE COUNTY INSPECTION AND APPROVAL IS REQUIRED PRIOR TO THE REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES.
8. G.C. SHALL ENSURE THAT THE LIMITS OF DISTURBANCE ARE STRICTLY ADHERED TO DURING THE PROJECT.
9. NO DEVIATIONS TO THE PLANS SHALL TAKE PLACE UNLESS PRIOR APPROVAL FROM THE OWNER, PROJECT ENGINEER, AND THE APPROPRIATE REVIEW AGENCIES.

E&SC MEASURES

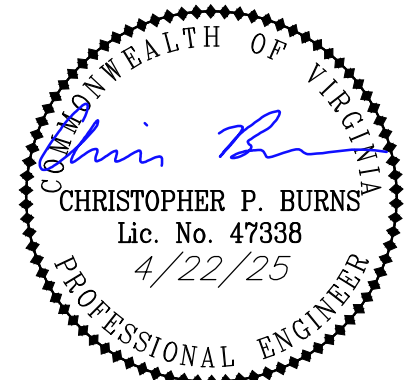
3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE
3.05	SILT FENCE	SF
3.20	ROCK CHECK DAM	CD
3.31	TEMPORARY SEEDING	TS
3.32	PERMANENT SEEDING	PS
3.35	MULCHING	MU
3.36	SOIL STABILIZATION BLANKETS & MATTING	B/M



**BALZER & ASSOCIATES**  
PLANNERS / ARCHITECTS  
ENGINEERS / SURVEYORS

Roanoke / Richmond  
New River Valley / Staunton  
Harrisonburg / Lynchburg  
[www.balzer.cc](http://www.balzer.cc)

1208 Corporate Circle  
Roanoke, VA 24018  
540.772.9580



WOOD HAVEN TECHNOLOGY PARK DRAINAGE IMPROVEMENTS

GRADING AND E.S.C. PLAN

DRAWN BY KAM  
DESIGNED BY KAM  
CHECKED BY CPB  
DATE 4/22/2025  
SCALE 1" = 40'  
REVISIONS

**C2**  
PROJECT NO. 04180095.01

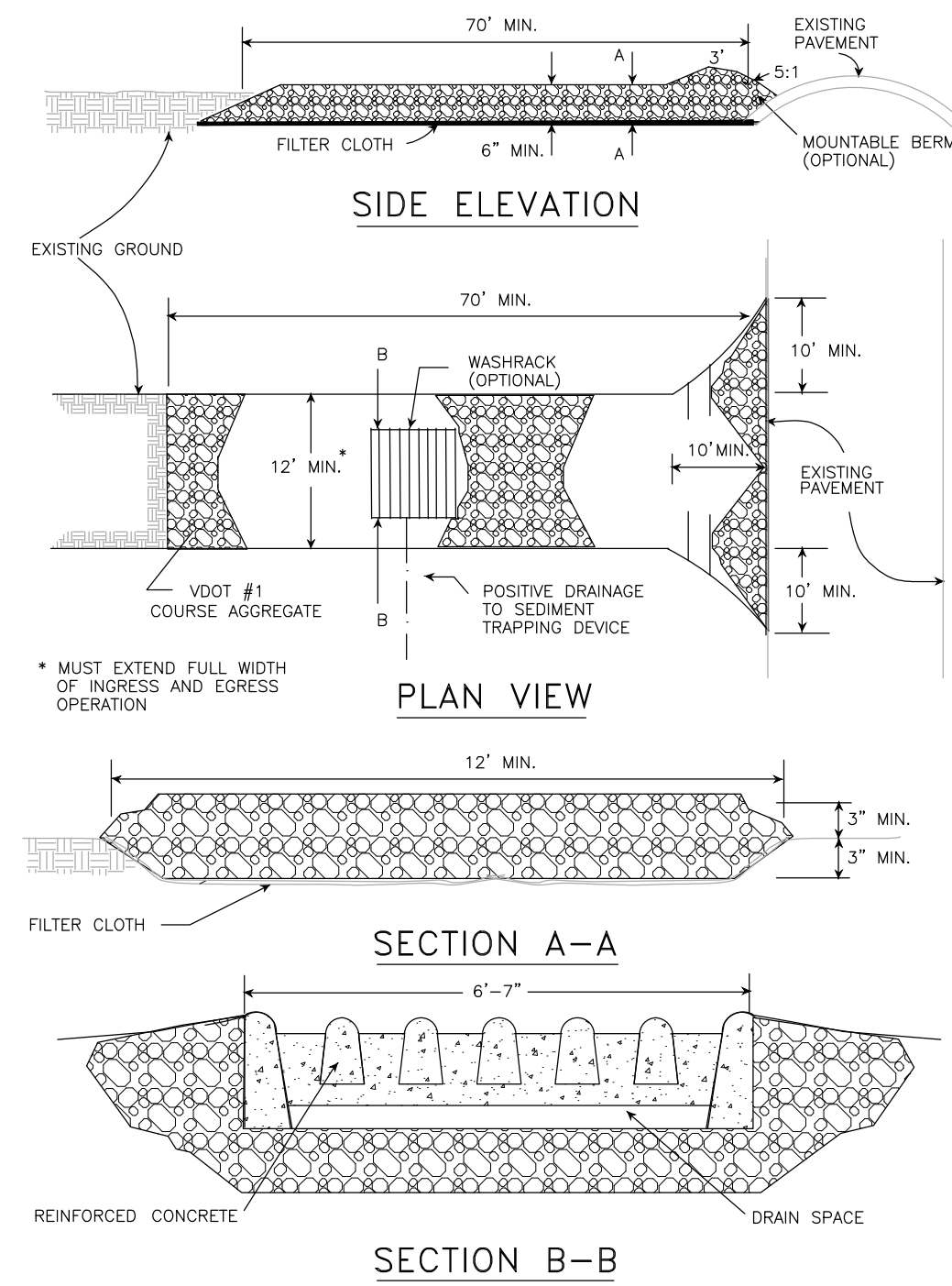






J:\180004\04180095.03 WOOD HAVEN TECHNOLOGY PARK - DRAINAGE IMPROVEMENTS\CV\DWG\04180095.03 BASE.dwg PLOTTED: 4/22/2025 3:42:15 PM

### STONE CONSTRUCTION ENTRANCE



SOURCE: ADAPTED FROM 1983 Maryland Standards for Soil erosion and Sediment Control, and Va. DSWC

### CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)

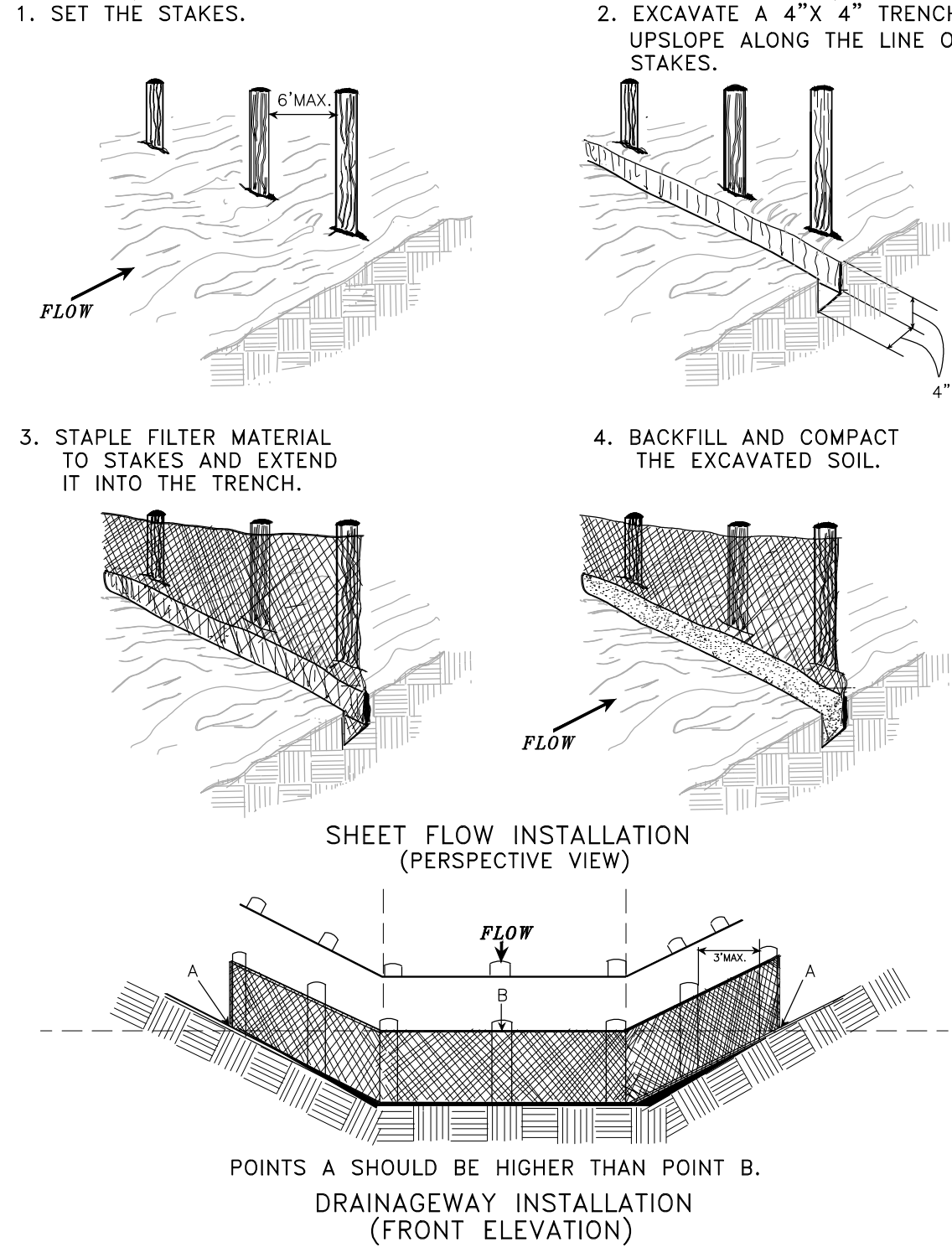
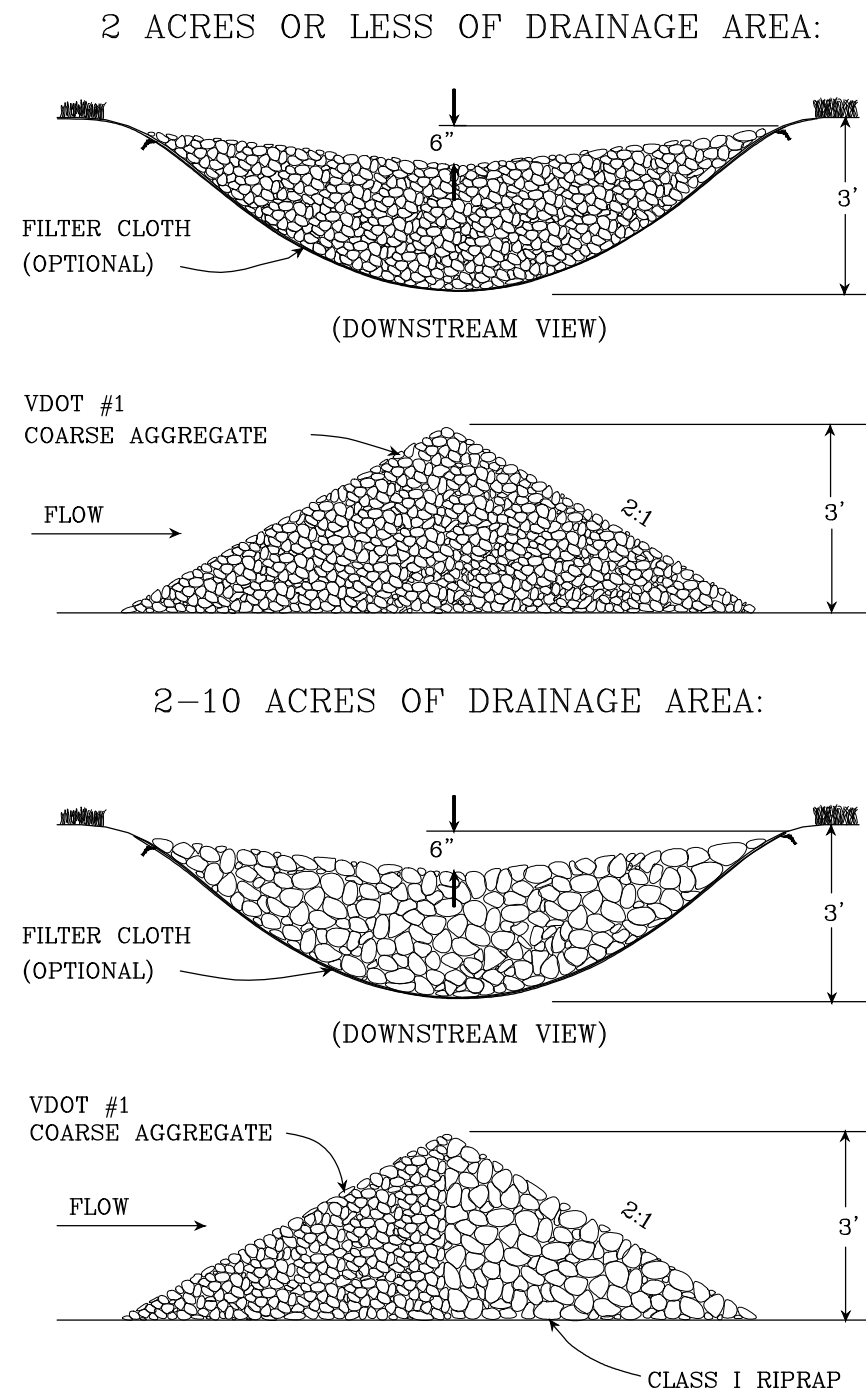


Plate 3.02-1 SOURCE: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, VA. DSWC Sherwood and Wyant

PLATE. 3.05-2

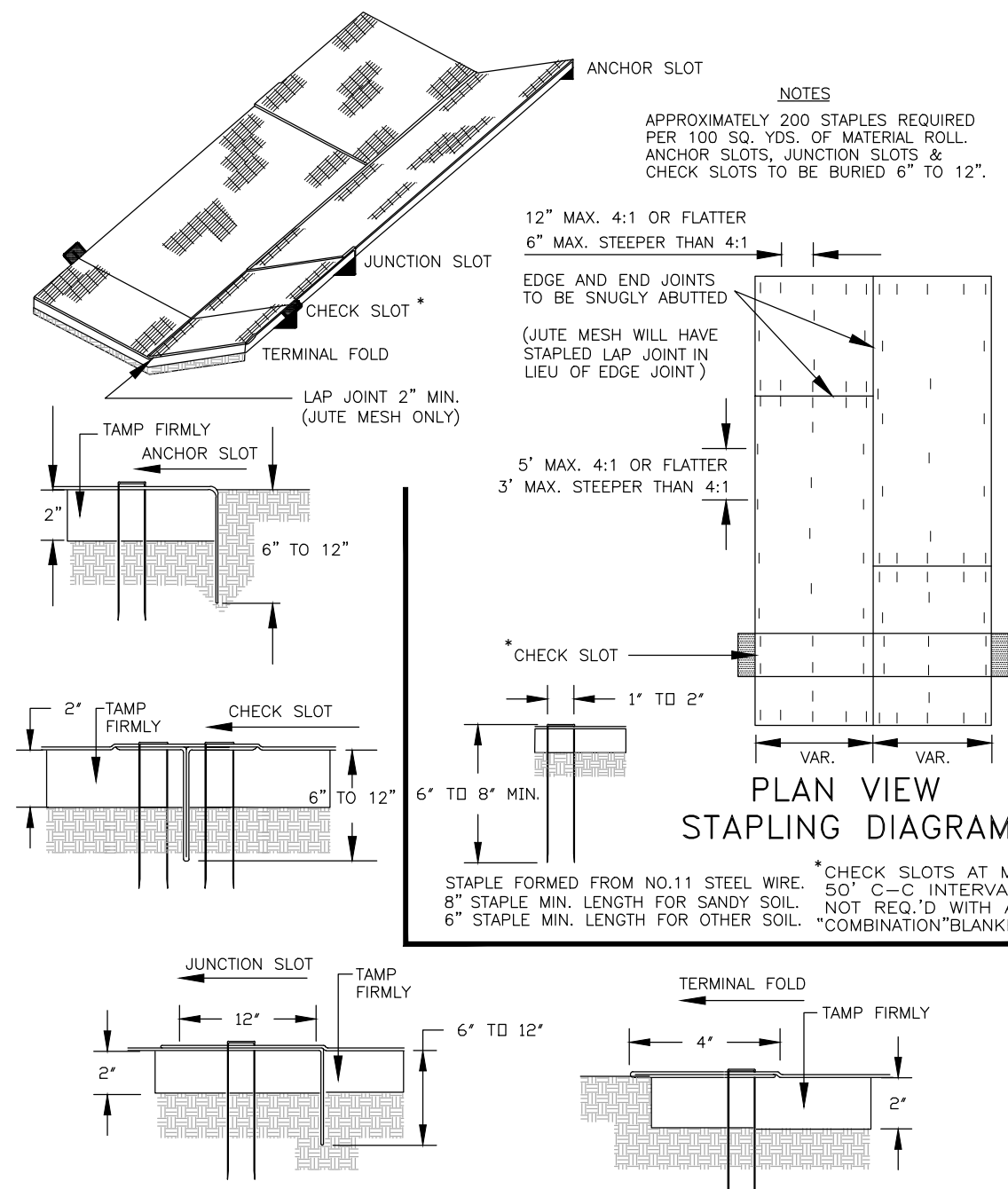
### ROCK CHECK DAM



SOURCE: VA. DSWC

PLATE. 3.20-1

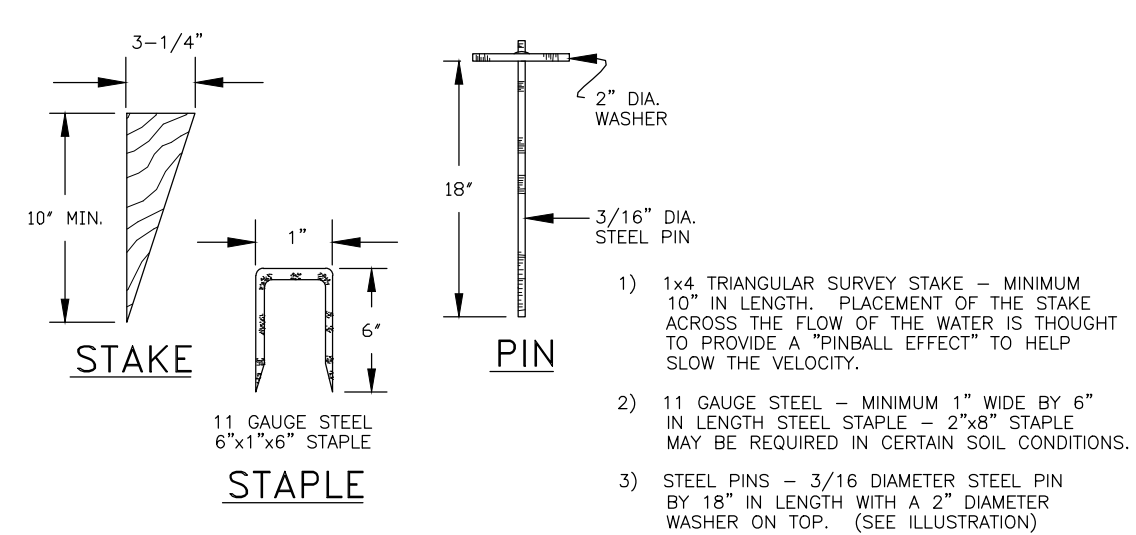
### TYPICAL TREATMENT - 1 (SOIL STABILIZATION BLANKET) INSTALLATION CRITERIA



SOURCE: VDOT ROAD AND BRIDGE STANDARDS

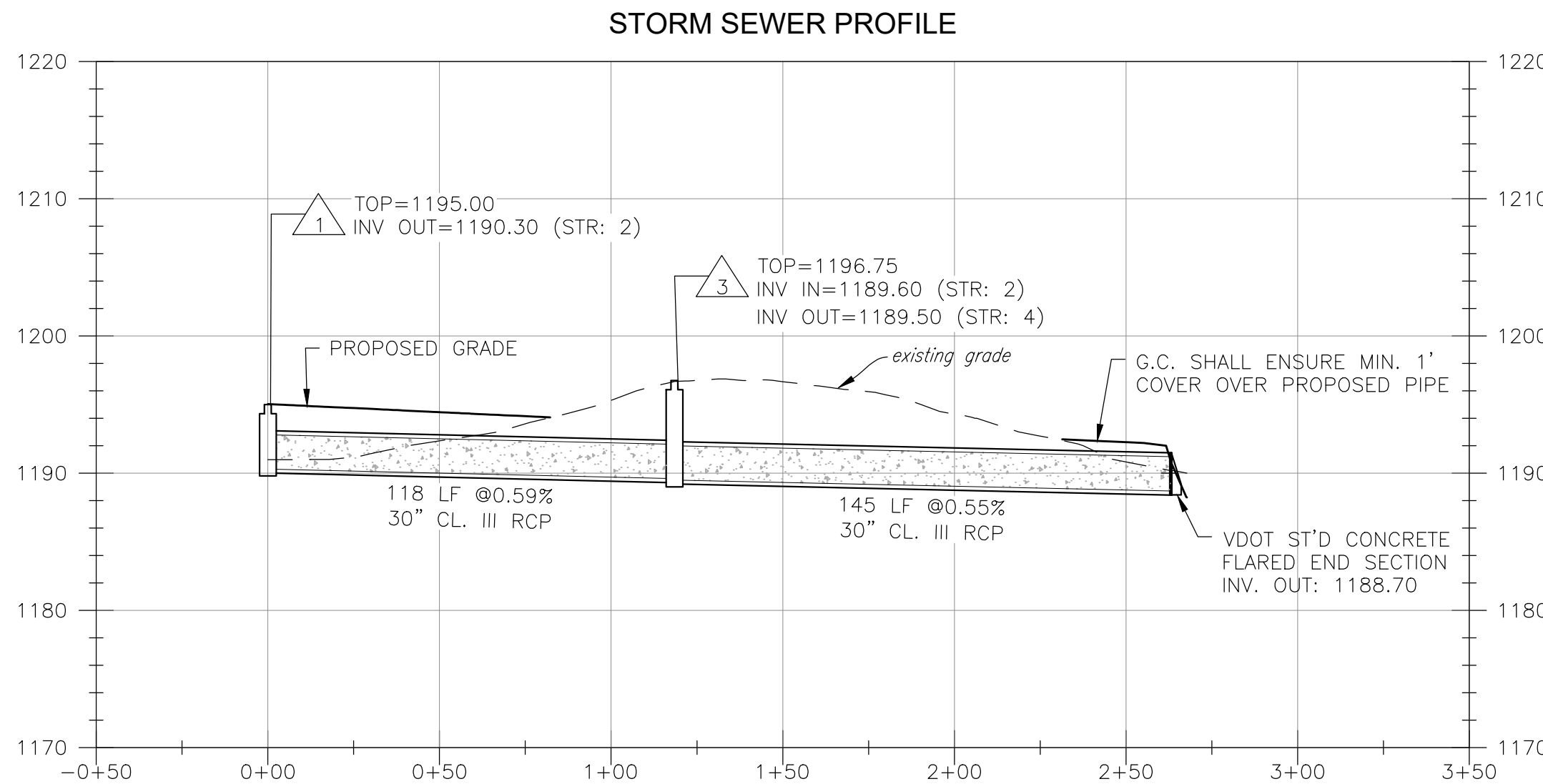
PLATE: 3.36-2

### STAKES, STAPLES, & PINS FOR INSTALLATION OF TREATMENT - 2 SOIL STABILIZATION MATTING



SOURCE: PRODUCT LITERATURE FROM GREENSTREAK, INC.

PLATE: 3.36-3



### STORM STRUCTURE SCHEDULE:

- 1 VDOT ST'D MH-2  
TOP: 1195.00  
INV IN: 1190.40 (EX. 30")  
INV OUT: 1190.30 (STR. 2)
- 2 118 LF OF 30" CL. III RCP AT 0.59%
- 3 VDOT ST'D MH-2  
TOP: 1196.75  
INV IN: 1189.60 (STR. 2)  
INV OUT: 1189.50 (STR. 4)
- 4 145 LF OF 30" CL. III RCP AT 0.55%  
WITH VDOT ST'D CONCRETE END SECTION

- NOTES:
1. VDOT STD IS-1 INLET SHAPING SHALL BE PROVIDED IN ALL PROPOSED STRUCTURES
  2. NON-SHRINK GROUT SHALL BE USED FOR ALL STORM SEWER PIPE CONNECTIONS.
  3. G.C. SHALL CONFIRM EXACT LOCATION AND ELEVATION OF EXISTING PIPE PRIOR TO ANY CONSTRUCTION AND NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
  4. EXCAVATE TRENCHES TO UNIFORM WIDTH CONFORMING TO VDOT STANDARD PB-1 DETAIL FOR STORM DRAINAGE PIPING.

\*\*NOTE: #57 AGGREGATE IS NOT AN ALLOWABLE BACKFILL OR PIPE BEDDING MATERIAL.

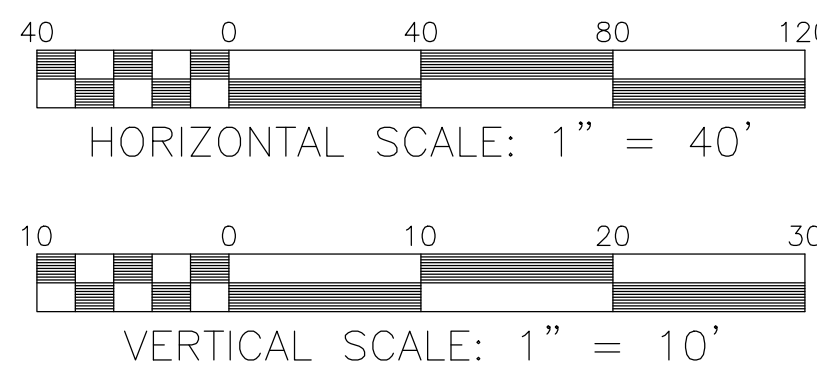


TABLE 3.31-B (Revised June 2003) TEMPORARY SEEDING SPECIFICATIONS QUICK REFERENCE FOR ALL REGIONS		
SEED		
APPLICATION DATES	SPECIES	APPLICATION RATES
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (olium multi-florum) & Cereal (Winter) Rye (Secale cereale)	50 - 100 (lbs/acre)
Feb. 16 - Apr. 30	Annual Ryegrass (olium 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:**

- 1 - A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
- 2 - Incorporate the lime and fertilizer into the top 4 - 6 inches of the soil by disking or by other means.
- 3 - 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/esw/e&s.htm#pubs>

### TEMPORARY SEEDING SPECIFICATIONS

TABLE 3.32-C (Revised June 2003) PERMANENT SEEDING SPECIFICATIONS FOR APPALACHIAN/MOUNTAIN AREA		
SEED		
LAND USE	SPECIES	APPLICATION RATES
Minimum Care Lawn (Commercial or Residential)	Tall Fescue Perennial Ryegrass <sup>1</sup> Kentucky Bluegrass <sup>2</sup>	30-100% 0-10% 0-10% TOTAL: 200-250 lbs.
High-Maintenance Lawn	Minimum of three (3) up to five (5) varieties of Kentucky Bluegrass from approved list for use in Virginia <sup>3</sup>	TOTAL: 125 lbs.
General Slope (3:1 or less)	Tall Fescue <sup>1</sup> Red Top Grass or Creeping Red Fescue Seasonal Nurse Crop <sup>4</sup>	125 lbs. 2 lbs. 20 lbs. TOTAL: 150 lbs.
Low-Maintenance Slope (Steeper than 3:1)	Tall Fescue <sup>1</sup> Red Top Grass or Creeping Red Fescue Seasonal Nurse Crop <sup>4</sup> Crownvetch <sup>4</sup>	105 lbs. 2 lbs. 20 lbs. 20 lbs. TOTAL: 150 lbs.

1 - 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://saudan.ces.vt.edu/hm/Turf/turfpublications/publications2.html>

2 - Perennial Ryegrass will germinate faster and at lower soil temperatures than Tall Fescues, thereby providing cover and erosion resistance for seedbed.

3 - Use seasonal nurse crop in accordance with seeding dates as stated below:

March, April - May 15 <sup>th</sup>	Annual Rye
May 16 <sup>th</sup> - August 15 <sup>th</sup>	Foxtail Millet
August 16 <sup>th</sup> - September, October	Annual Rye
November - February	Winter Rye

4 - All legume seed must be properly inoculated. If Flatpea is used, increase to 30 lbs/acre. If Veeeping Lowgrass is used, include in any slope or low maintenance mixture during warmer seeding periods, increase to 30 -40 lbs/acre.

**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:**

- 1 - A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
- 2 - Incorporate the lime and fertilizer into the top 4 - 6 inches of the soil by disking or by other means.
- 3 - 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/esw/e&s.htm#pubs>

### PERMANENT SEEDING SPECIFICATIONS

Erosion & Sediment Control Technical Bulletin No. 4 Nutrient Management for Development Sites					
C. When applying maintenance fertilizer on established sod,					
Pounds of nitrogen per 1,000 sq. ft. if the fertilizer is less than 50 percent WIN			Type of Grass		
Month	Tall Fescue Perennial Rye	Kentucky Bluegrass	Bermudagrass	Zoysiagrass	
September	1	1	0	0	
October	1	1	0	0	
Early November	0	0	0	0	
April	0	0	0	0	
May	0-0.5	0-0.05	1	1	
June	0	0	1	0	
July/August	0	0	0	1	
Yearly Lbs. N/1000 sf	2.5	2.5	2	2	
Pounds of nitrogen per 1,000 sq. ft. if the fertilizer is more than 50 percent WIN			Type of Grass		
Month	Tall Fescue Perennial Rye	Kentucky Bluegrass	Bermudagrass	Zoysiagrass	
August 15	1.5	1.5	0	0	
October 1	1.5	1.5	0	0	
April	0	0	1.5	1.5	
May 15	0	0	0	0	
June	0	0	1.5	1.5	
Yearly Lbs. N/1000 sf	3	3	3	3	

### FERTILIZER SPECIFICATIONS AND RATES FOR MANAGEMENT

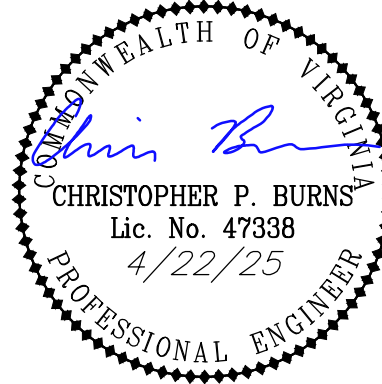


**BALZER & ASSOCIATES**  
PLANNERS / ARCHITECTS  
ENGINEERS / SURVEYORS

Roanoke / Richmond  
New River Valley / Staunton  
Harrisonburg / Lynchburg

[www.balzer.cc](http://www.balzer.cc)

1208 Corporate Circle  
Roanoke, VA 24018  
540.772.9580



WOOD HAVEN TECHNOLOGY PARK DRAINAGE IMPROVEMENTS

DETAILS

DRAWN BY KAM  
DESIGNED BY KAM  
CHECKED BY CPB  
DATE 4/22/2025  
SCALE AS SHOWN  
REVISIONS

**C4**

PROJECT NO. 04180095.01



J:\18\000\04\180095\03 WOOD HAVEN TECHNOLOGY PARK - DRAINAGE IMPROVEMENTS\CIVIL\dwg\04 180095.03 BASE.dwg PLOTTED: 4/22/2025 3:42:18 PM

## CONSTRUCTION SITE PLAN GENERAL NOTES

### CONSTRUCTION METHODS

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS, AND LOCAL JURISDICTIONAL STANDARDS AND SPECIFICATIONS, WHERE APPLICABLE.
2. THE LOCATION OF EXISTING UTILITIES AS SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION WORK AND NOTIFY ENGINEER IMMEDIATELY IF LOCATIONS DIFFER FROM PLANS.
3. THE CONTRACTOR SHALL NOTIFY 'MISS UTILITY' AT 1-800-552-7001 OR 811 PRIOR TO ANY CONSTRUCTION WORK IN THIS AREA.

### GENERAL NOTES

PROVIDE NEW MATERIALS AND WORKMANSHIP IN CONFORMANCE WITH ALL APPLICABLE CODES, STATE AND FEDERAL LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, AND OTHER CRITERIA WHICH WOULD NORMALLY APPLY TO WORK OF THIS NATURE. NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERING A CONFLICT IN CODES, ORDINANCES, STANDARDS, OR OTHER CRITERIA. APPLICABLE CODES AND STANDARDS INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, THE FOLLOWING:

- a. BOCA BASIC CODES
- b. ROANOKE COUNTY
- c. VDOT – VIRGINIA DEPARTMENT OF TRANSPORTATION, ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS
- d. VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS AND HANDBOOK
- e. OSHA – OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
- f. ASTM – AMERICAN SOCIETY FOR TESTING AND MATERIALS
- g. WWA – WESTERN VIRGINIA WATER AUTHORITY

MAINTAIN A SET OF APPROVED PLANS ON SITE AT ALL TIMES DURING CONSTRUCTION.

OBTAIN EACH REQUIRED PERMIT PRIOR TO COMMENCING THAT PART OF THE WORK. PAY REQUIRED FEES.

NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERY OF CONDITIONS WHICH DIFFER FROM THOSE SHOWN ON THE PLANS.

COMPLY WITH LOCAL ORDINANCES FOR BURNING OF WASTE. TRANSPORT WASTE MATERIALS AND UNSUITABLE MATERIALS FROM OWNER'S PROPERTY.

COORDINATE BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS.

A PRECONSTRUCTION MEETING MUST TAKE PLACE PRIOR TO COMMENCING WORK. AS A MINIMUM, THE CONTRACTOR, OWNER'S AGENT AND COUNTY'S AGENT MUST ATTEND.

VERIFY THE LOCATION AND ELEVATION OF EACH EXISTING UNDERGROUND UTILITY IN AREAS OF CONSTRUCTION PRIOR TO COMMENCEMENT OF WORK. CONTACT ENGINEER IMMEDIATELY IF THERE APPEARS TO BE A CONFLICT. UPON DISCOVERY OF A UTILITY WHICH IS NOT SHOWN, AND UPON DISCOVERY OF A LOCATION OR ELEVATION WHICH DIFFERS FROM THAT SHOWN, TO LOCATE UTILITIES, CALL "MISS UTILITY"; 1-800-552-7001. UTILITY LOCATIONS SHOWN ARE THE RESULT OF A COMBINATION OF FIELD LOCATION AND EXISTING INFORMATION. LOCATIONS ARE APPROXIMATE.

REPAIR ALL DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, CAUSED AS A RESULT OF CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO OWNER.

NOTIFY OWNERS OF UTILITIES IN AREAS OF CONSTRUCTION PRIOR TO COMMENCEMENT OF EXCAVATION.

SIGNAGE SHALL COMPLY WITH THE APPLICABLE REGULATIONS OF THE COUNTY. A SEPARATE PERMIT IS REQUIRED.

ANY SITE DEVELOPMENT OUTSIDE OF THE SCOPE OF THIS PLAN WILL REQUIRE SITE PLAN REVIEW AND APPROVAL.

ADDITIONAL DRAINAGE STRUCTURES AND EASEMENTS MAY BE REQUIRED BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION DUE TO ANY DEVIATION BETWEEN THE APPROVED PROPOSED CONTOURS AND THE AS-BUILT CONDITIONS OR ANY OTHER TOPOGRAPHIC CHANGES.

### DEMOLITION NOTES

DEMOLITION SHALL INCLUDE, UNLESS OTHERWISE NOTED ON DRAWINGS, REMOVAL OF EXISTING OBJECTS OR IMPROVEMENTS, WHETHER INDICATED ON THE DRAWINGS OR NOT, THAT WOULD IN THE OPINION OF THE OWNER, PREVENT OR INTERFERE WITH THE PROGRESS OR COMPLETION OF THE PROPOSED WORK.

PERMITS, FEES AND LICENSES SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR, INCLUDING DISPOSAL CHARGES AS REQUIRED.

WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE GOVERNING AUTHORITIES IN DEMOLITION OF EXISTING PAVEMENT, CURBS AND GUTTERS, DRAINAGE STRUCTURES AND UTILITIES AS MAY BE REQUIRED.

ALL EXISTING UTILITIES TO ANY BUILDINGS SHOWN TO BE RAZED SHALL BE DISCONNECTED AND PLUGGED OR CAPPED AS REQUIRED BY THE LOCALITY.

CONTRACTOR SHALL SAW-CUT ALL JOINTS WHERE EXISTING CURBING, PAVEMENT AND SIDEWALK IS TO BE DEMOLISHED AND NEW CONSTRUCTION JOINS THE EXISTING. ALL SAW CUTTING SHALL BE TO THE FULL DEPTH OF PAVEMENT.

CONTRACTOR SHALL COMPLETELY FILL BELOW GRADE AREAS AND VOIDS FROM DEMOLITION USING APPROVED SELECT FILL MATERIAL.

ALL EXISTING CURBING, CONCRETE, SIDEWALK, ENTRANCES, ASPHALT, BRICK, AND ANY STRUCTURES THAT ARE DEMOLISHED SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR. ALL DEBRIS, ETC. SHALL NOT BE USED AS FILL MATERIAL ON THE SITE.

CONTRACTOR SHALL PROVIDE THE FOLLOWINGS PROTECTIONS AT THE JOB SITE: MAKE ARRANGEMENTS, BEFORE INITIATING DEMOLITION, FOR RELOCATING, DISCONNECTION, REROUTING, ABANDONING, OR SIMILAR ACTION AS MAY BE REQUIRED RELATIVE TO UTILITIES AND OTHER UNDERGROUND PIPING, TO PERMIT WORK TO PROCEED WITHOUT DELAY. ARRANGEMENTS SHALL BE MADE IN ACCORDANCE WITH REGULATIONS OF AUTHORITIES OF UTILITIES MENTIONED, SUCH AS OVERHEAD AND UNDERGROUND POWER AND TELEPHONE LINES AND EQUIPMENT, GAS PIPING, STORM SEWERS, SANITARY SEWERS, OR WATER PIPING. CONTRACTOR SHALL NOT USE WATER WHEN IT MAY CREATE HAZARDOUS OR OBJECTIONABLE CONDITIONS, SUCH AS ICE, FLOODING AND/OR POLLUTION.

ENSURE SAFE PASSAGE OF PERSONS AROUND ALL AREAS OF DEMOLITION.

CONDUCT OPERATIONS TO PREVENT DAMAGE TO ADJACENT BUILDINGS, STRUCTURES, OTHER FACILITIES, OR INJURY TO PERSONS.

PROMPTLY REPAIR DAMAGES CAUSED TO ADJACENT FACILITIES BY DEMOLITION OPERATIONS AT NO COST TO THE OWNER.

MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN, KEEP IN SERVICE, AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS. PREVENT INTER- RUPTION OF EXISTING UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION. PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES AS AC-CEPTABLE TO GOVERNING AUTHORITIES.

USE WATER SPRINKLING AND OTHER SUITABLE METHODS TO LIMIT DUST AND DIRT RISING AND SCATTERING IN AIR TO LOWEST PRACTICAL LEVEL.

### GRADING NOTES

G.C. SHALL REFER TO GEOTECHNICAL REPORT PROVIDED BY ECS MID-ATLANTIC, LLC DATED MARCH 12, 2020 FOR THE SITE AND FOLLOW ALL RECOMMENDATIONS. IF THERE ARE ANY DISCREPANCIES BETWEEN THESE NOTES, THE REPORT SHALL GOVERN.

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:

- a. CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN WITHIN A TOLERANCE OF 0.1'
- b. PROVIDE TRUE AND STRAIGHT FOOTING EXCAVATIONS WITH UNIFORM AND LEVEL BOTTOMS OF THE WIDTH INDICATED TO ENSURE PROPER PLACEMENT AND COVER OF ALL REINFORCEMENT.
- c. REMOVE ALL LOOSE MATERIALS FROM THE EXCAVATION PRIOR TO PLACEMENT OF CONCRETE.
- d. 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.
- e. 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.

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:

- a. ESTABLISH SUITABLE SUBGRADE CONDITIONS PRIOR TO PLACING FILL BY PROOFROLLING, UNDERCUTTING AND COMPACTING AS NECESSARY.
- b. PLACE FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4" FOR HAND TAMPERS.
- c. 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.
- d. COMPACT SOIL TO NOT LESS THAN 95% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 (STANDARD PROCTOR).

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.

### SITE CONSTRUCTION PLAN GENERAL NOTES

ALL MATERIALS AND CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION'S STANDARDS AND SPECIFICATIONS.

LAND USE PERMITS (CE-7P) MUST BE OBTAINED FROM THE VIRGINIA DEPARTMENT OF TRANSPORTATION PRIOR TO BEGINNING ANY CONSTRUCTION WITHIN THE EXISTING STATE MAINTAINED RIGHT-OF-WAY (INCLUDING ACCESS). VDOT IS TO RECEIVE WRITTEN NOTIFICATION 48 HOURS PRIOR TO COMMENCING WITH INITIAL CONSTRUCTION ACTIVITIES WITHIN SAID RIGHT-OF-WAYS.

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 THE OWNER. THESE AREAS SHALL BE EXCAVATED BELOW PLAN GRADE AS DIRECTED BY THE GEOTECHNICAL ENGINEER, BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED IN ACCORDANCE WITH CURRENT VDOT SPECIFICATIONS.

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

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

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 AS NECESSARY.

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 GRADED LIMITS PRIOR TO CONDITIONING OF THE SUBGRADE.

### ENGINEERS NOTES

BALZER AND ASSOCIATES, INC. ASSUMES NO RESPONSIBILITY FOR ADEQUACY OF PLANS OR FOR INFORMATION ON PLANS UNTIL SUCH PLANS HAVE BEEN APPROVED BY THE REQUIRED PUBLIC AGENCIES.

ANY WORK COMMENCED ON A PROJECT PRIOR TO PLAN APPROVAL IS AT SOLE RISK OF THE DEVELOPER.

BALZER AND ASSOCIATES, INC. WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE PLANS AND WILL NOT BE RESPONSIBLE FOR ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR THEIR AGENTS OR EMPLOYEES, OR OF ANY OTHER PERSONS PERFORMING PORTIONS OF THE WORK.



**BALZER  
& ASSOCIATES**  
PLANNERS / ARCHITECTS  
ENGINEERS / SURVEYORS

Roanoke / Richmond  
New River Valley / Staunton  
Harrisonburg / Lynchburg

[www.balzer.cc](http://www.balzer.cc)

1208 Corporate Circle  
Roanoke, VA 24018  
540.772.9580



WOOD HAVEN TECHNOLOGY PARK DRAINAGE IMPROVEMENTS

NOTES

DRAWN BY	KAM
DESIGNED BY	KAM
CHECKED BY	CPB
DATE	4/22/2025
SCALE	N/A
REVISIONS	