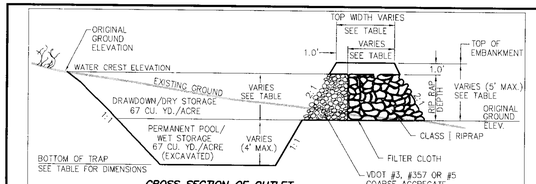
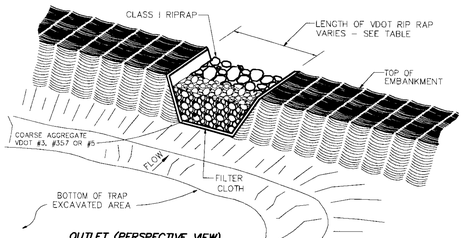


CROSS SECTION OF OUTLET



OUTLET (PERSPECTIVE VIEW)

(ST) TEMPORARY SEDIMENT TRAP (3.13–2)

NO SCALE

CONSTRUCTION

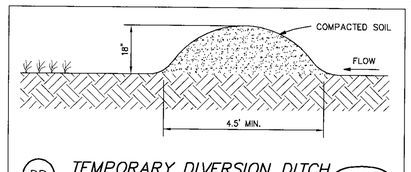
1. THE AREA UNDER THE EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ANY VEGETATION AND ROOT MAT.
2. FILL MATERIAL SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHOULD BE COMPACTED IN 6–INCH LAYERS BY TRAVERSING WITH CONSTRUCTION EQUIPMENT.
3. THE EARTHEN EMBANKMENT SHALL BE SEEDED WITH TEMPORARY OR PERMANENT VEGETATION (SEE STD. & SEPC.'S 3.31 AND 3.32) IMMEDIATELY AFTER INSTALLATION.
4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.

MAINTENANCE

1. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN VOLUME OF THE WET STORAGE. SEDIMENT REMOVAL FROM THE BASIN SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.
2. FILTER STONE SHALL BE REGULARLY CHECKED TO ENSURE THAT FILTRATION PERFORMANCE IS MAINTAINED. STONE CHOKED WITH SEDIMENT SHALL BE REMOVED AND CLEANED OR REPLACED.
3. THE STRUCTURE SHOULD BE CHECKED REGULARLY TO ENSURE THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT. THE HEIGHT OF THE STONE OUTLET SHOULD BE CHECKED TO ENSURE THAT ITS CENTER IS AT LEAST 1 FOOT BELOW THE TOP OF THE EMBANKMENT.

TEMPORARY SEDIMENT TRAP SCHEDULE

ST. NO.	DRAINAGE AREA (ACRES.)	VOLUME REQUIRED (CU. YD.)	LENGTH OF VDOT RIP RAP REQUIRED (FT)	SEDIMENT TRAP BOTTOM DIMENSIONS (EXCAVATED)		WET STORAGE DEPTH (4' MAX.) (FT)	RIP RAP & DRY STORAGE DEPTH (FT)	TOTAL WET & DRY STORAGE DEPTH (FT)	TOTAL HEIGHT OF EMBANKMENT (5' MAX.) (FT)	TOP WIDTH OF EMBANKMENT (FT)
				LENGTH (FT)	WIDTH (FT)					
1	2.57	344	15.5'	32'	8'	4'	3'	7'	4'	3.0'
2	1.28	168	7.5'	40'	16'	2'	2'	4'	3'	3.0'
3	0.12	16	1'	16'	6'	1'	1'	2'	2'	3.0'



(DD) TEMPORARY DIVERSION DITCH (3.09–1)

NO SCALE

TABLE 3.31–C
TEMPORARY SEEDING PLANT MATERIALS, SEEDING RATES, AND DATES.

SPECIES	SEEDING RATES: ACRE	SEEDING RATES: 1000 SQ. FT.	NORTH [a]: 3/1 to 4/30	NORTH [a]: 8/15 to 9/15	NORTH [a]: 9/16 to 11/1	SOUTH [b]: 3/1 to 4/30	SOUTH [b]: 8/1 to 9/1	SOUTH [b]: 9/1 to 11/15	PLANT CHARACTERISTICS
OATS (Avena sativa)	3 bu. (UP TO 100 lbs., NOT LESS THAN 50 lbs.)	2 lbs.	X	–	–	X	–	–	Use spring varieties (e.g., Noble)
RYE [d] (Secale cereale)	2 bu. (UP TO 110 lbs., NOT LESS THAN 50 lbs.)	2.5 lbs.	X	–	X	X		X	Use for late fall seedings, winter cover. Tolerates cold and low moisture.
GERMAN MILLET (Setaria italica)	50 lbs.	approx. 1 lb.	–	X	–	–	X	–	Warm–season annual. Dies at first frost. May be added to summer mixes.
ANNUAL RYEGRASS [c] (Lolium multi–florum)	60 lbs.	1.5 lbs.	X	–	X	X	–	X	May be added in mixes. Will mow out of most stands.
WEEPING LOVEGRASS (Eragrostis curvula)	15 lbs.	5.5 ozs.	–	X	–	–	X	–	Warm–season perrennial. May bunch. Tolerates hot, dry slopes and acid, infertile soils. May be added to mixes.
KOREAN LESPEDEZA (Lespedeza stipulacea)	25 lbs.	approx. 1.5 lbs.	X	X	–	X	X	–	Warm–season annual legume. Tolerates acid soils. May be added to mixes.

[a] NORTHERN PIEDMONT AND MOUNTAIN REGION. SEE PLATES 3.22–1 AND 3.22–2.
[b] SOUTHERN PIEDMONT AND COASTAL PLAIN.
[c] MAY BE USED AS A COVER CROP WITH SPRING SEEDING.
[d] MAY BE USED AS A COVER CROP WITH FALL SEEDING.

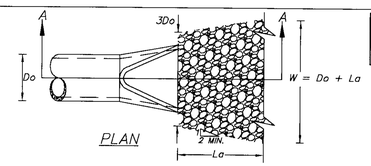
X MAY BE PLANTED BETWEEN THESE DATES.
– MAY NOT BE PLANTED BETWEEN THESE DATES.

TABLE 3.32–D
SITE SPECIFIC SEEDING MIXTURES FOR COASTAL PLAIN AREA

	Total Lbs. Per Acre
Minimum Core Lawn:	
- Commercial or Residential	
- Kentucky 31 or Turf–Type Tall Fescue	175–200 lbs.
or	
- Common Bermudagrass **	75 lbs.
High–Maintenance Lawn	
- Kentucky 31 or Turf–Type Tall Fescue	200–250 lbs.
or	
- Hybrid Bermudagrass (seed) **	40 lbs. (unhulled) 30 lbs. (hulled)
or	
- Hybrid Bermudagrass (by other vegetative establishment method, see Std. & Spec. 3.34)	
General Slope (3:1 or less)	
- Kentucky 31 Fescue	128 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	20 lbs.
	150 lbs.
Low Maintenance Slope (Steeper than 3:1)	
- Kentucky 31 Tall Fescue	93–108 lbs.
- Common Bermudagrass **	0–15 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	20 lbs.
- Sericea Lespedeza **	20 lbs.
	150 lbs.

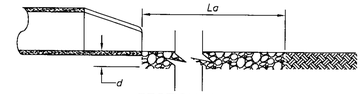
* Use seasonal nurse crop in accordance with seeding dates as stated below:
February, March through April: ..... Annual Rye
May 1st through August: ..... Foxtail Millet
September, October through November 15th: ..... Annual Rye
November 16th through January: ..... Winter Rye

** May through October, use hulled seed. All other seeding periods, use unhulled seed. Weeping Lovegrass may be added to any slope or low-maintenance mix during warmer seeding periods; add 10-20 lbs./acre in mixes.



PLAN

	La	d	W
(OP1)	16'	1.35'	17.5'



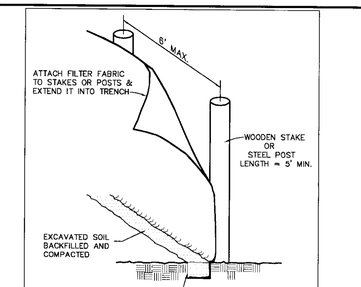
SECTION A–A

NOTES

1. APRON LINING MAY BE RIPRAP, OR GROUTED RIPRAP.
2. La IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING PLATES 3.18–3 AND 3.18–4 OF VA E&S HANDBOOK.
3. d = 1.5 TIMES THE D50 SIZE.
4. GEOTEXTILE FABRIC UNDERLINER REQUIRED FOR ALL OUTLET PROTECTION AREAS.

(OP) PIPE OUTLET CONDITIONS (3.18–1)

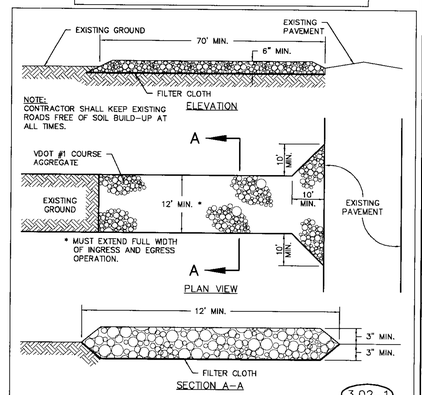
NO SCALE



(SF) SILT FENCE (WITHOUT WIRE SUPPORT)

NO SCALE

SOURCE: VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, 1993, 3RD ED. PLATE: 3.05–2

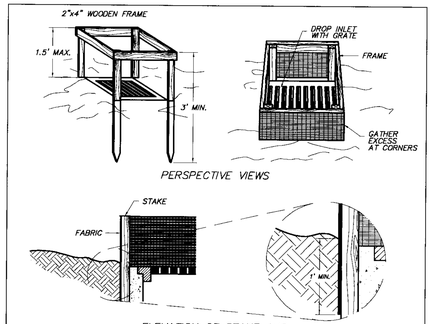


(CE) STONE CONSTRUCTION ENTRANCE (3.02–1)

NO SCALE

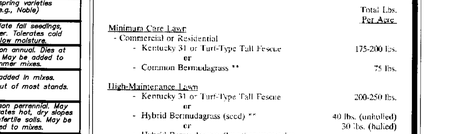
SOURCE: VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, 3RD ED., 1993 PLATE: 3.02–1

CONTRACTOR SHALL KEEP EXISTING ROADS FREE OF SOIL BUILD–UP AT ALL TIMES.



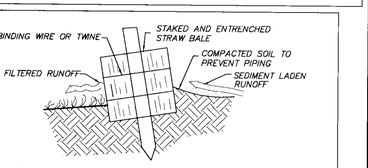
(IP) SILT FENCE DROP INLET PROTECTION (3.07–1)

NO SCALE



BLOCK AND GRAVEL CURB INLET SEDIMENT FILTER

NO SCALE

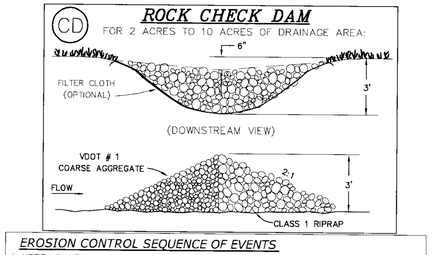


(STB) CROSS–SECTION OF A PROPERLY INSTALLED STRAW BALE (3.04–1)

NO SCALE

(CD) ROCK CHECK DAM

FOR 2 ACRES TO 10 ACRES OF DRAINAGE AREA:



EROSION CONTROL NARRATIVE

PROJECT DESCRIPTION: THIS PROJECT CONSISTS OF THE CONSTRUCTION OF A SINGLE FAMILY RESIDENTIAL SUBDIVISION LOCATED ON SANDY RIDGE ROAD. APPROXIMATELY 27.4 AC. OF LAND DISTURBANCE WILL OCCUR DURING THE CONSTRUCTION OF THIS SUBDIVISION. THE LAND DISTURBANCE WILL INCLUDE CUT AND FILL GRADING ACTIVITIES, AND SOME CLEARING. POST–DEVELOPED, THE SITE WILL CONSIST OF APPROXIMATELY 14% IMPERVIOUS SURFACES.

EXISTING SITE CONDITIONS: THE SITE IS LOCATED ON THE NORTH SIDE OF SANDY RIDGE ROAD, AND IS PARTIALLY WOODED. A PORTION OF THE SITE WAS ONCE USED AS A MINING AREA, SO THE SLOPES VERY FROM 1.0% TO APPROXIMATELY 50%. CRITICAL SLOPES ARE OUTLINED ON SHEETS C2.0–C2.1 FOR THE BENEFIT OF THE CONTRACTORS AND MACHINE OPERATORS. LIMITS OF CLEARING WILL BE STAKED BY A SURVEY TEAM TO PROTECT AREAS THAT ARE NOT TO BE DISTURBED WITH THIS SECTION.

ADJACENT AREAS: THE SITE IS SURROUNDED BY SINGLE FAMILY RESIDENCES TO THE EAST AND WEST, SANDY RIDGE ROAD ON THE SOUTH, AND BAILEY'S CREEK TO THE NORTH. NO ADJACENT AREAS WILL BE IMPACTED BY THE CONSTRUCTION OF THIS PHASE. OFFSITE IMPACTS WILL BE ADDRESSED WITH FUTURE SECTIONS AS NEEDED.

OFFSITE AREAS: THERE ARE NO OFFSITE AREAS.

SOILS: SHEET C4.1 SHOWS THE LIMITS OF THE SOIL TYPES PRESENT ON THIS SITE. THE SOIL TYPES ARE LABELED BY UNIT SYMBOLS THAT CORRESPOND WITH THE TABLE ON THE LEFT SIDE OF THE SHEET. THE EROSION FACTORS ARE LISTED THERE AS WELL. STEEPLY SLOPED AREAS NEAR WATERS OF THE U.S. AND WETLANDS CONSIST OF HIGHLY ERODIBLE SOILS.

CRITICAL AREAS: RPA, WETLANDS AND WATERS OF THE US ARE LABELED ON SHEETS C2.0, C2.1, C4.0 AND C4.1. AREAS OF STEEP SLOPES HAVE BEEN OUTLINED ON SHEETS C2.0–C2.1 FOR THE BENEFIT OF THE CONTRACTORS AND MACHINE OPERATORS.

EROSION AND SEDIMENT CONTROL MEASURES: TEMPORARY SEDIMENT TRAPS, TEMPORARY SEDIMENT BASINS, PERIMETER SILT FENCE, DIVERSION DITCHES AND INLET PROTECTION INSTALLED ON THE PROPOSED STRUCTURES WILL SERVE AS THE PRIMARY EROSION CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PROCESS. TEMPORARY AND PERMANENT SEEDING WILL ALSO BE USED AS NEEDED. SEEDING SHALL BE DONE IN ACCORDANCE WITH TABLES ON SHEET C4.2.

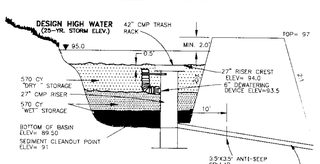
PERMANENT STABILIZATION: ALL DENUDED AND UNGRAVELLED AREAS SHALL BE SEEDED IN ACCORDANCE WITH STATE REGULATIONS. OUTLET PROTECTION AND EC–2 MATTING AT CRITICAL OUTFALLS WILL ALSO SERVE AS PERMANENT STABILIZATION.

STORMWATER RUNOFF CONSIDERATIONS: THE DEVELOPMENT OF THIS SITE WILL RESULT IN AN INCREASE IN THE PEAK RATE OF RUNOFF. AN ANALYSIS OF EACH OF THE OUTFALLS WAS CONDUCTED AND THEY WERE DEEMED ADEQUATE FOR THIS DEVELOPMENT. THE DITCHES AND STREAMS USED AS OUTFALL POINTS ARE CONSISTENT FROM THE OUTFALL POINT TO THE WETLANDS ASSOCIATED WITH BAILEY'S CREEK. DURING CONSTRUCTION, INCREASED RUNOFF WILL BE MANAGED THROUGH THE USE OF SILT TRAPS AND SEDIMENT BASINS..

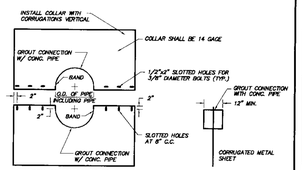
CALCULATIONS: ALL STORM SEWER AND MS–19 ANALYSIS CALCULATIONS HAVE BEEN SUBMITTED TO COUNTY AND STATE OFFICIALS FOR REVIEW.

TEMPORARY SEDIMENT BASIN 1

SEDIMENT BASIN 2 SCHEMATIC ELEVATIONS



DESIGN ELEVATIONS WITHOUT EMERGENCY SPILLWAY



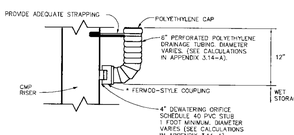
ELEVATION OF UNASSEMBLED COLLAR — END SECTION

NOTES FOR COLLAR:

1. UNASSEMBLED COLLARS SHALL BE MARKED BY PAINTING OR TAGGING TO IDENTIFY MATCHING PAIRS.
2. THE LAP BETWEEN THE TWO HALF SECTIONS AND BETWEEN THE PIPE AND CONNECTING BAND SHALL BE CAULKED WITH ASPHALT MASTIC AT TIME OF INSTALLATION.

CORRUGATED METAL ANTI–SEEP COLLAR DETAIL

NO SCALE

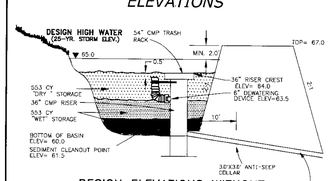


RECOMMENDED DEWATERING SYSTEM FOR SEDIMENT BASINS

NO SCALE

NOTE: WITH CONCRETE RISER, USE PVC SCHEDULE 40 STUB FOR DEWATERING ORIFICE.

* DRAINAGE TUBING SHALL COMPLY WITH ASTM F667 AND AASHTO M294



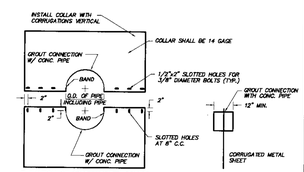
TRASH RACK DETAIL

N.T.S.

TEMPORARY SEDIMENT BASIN 2

SEDIMENT BASIN 2 SCHEMATIC ELEVATIONS

DESIGN ELEVATIONS WITHOUT EMERGENCY SPILLWAY



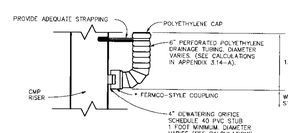
ELEVATION OF UNASSEMBLED COLLAR — END SECTION

NOTES FOR COLLAR:

1. UNASSEMBLED COLLARS SHALL BE MARKED BY PAINTING OR TAGGING TO IDENTIFY MATCHING PAIRS.
2. THE LAP BETWEEN THE TWO HALF SECTIONS AND BETWEEN THE PIPE AND CONNECTING BAND SHALL BE CAULKED WITH ASPHALT MASTIC AT TIME OF INSTALLATION.

CORRUGATED METAL ANTI–SEEP COLLAR DETAIL

NO SCALE

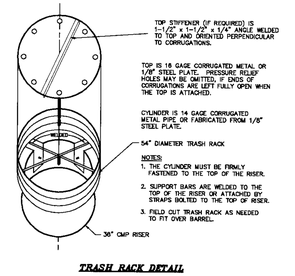


RECOMMENDED DEWATERING SYSTEM FOR SEDIMENT BASINS

NO SCALE

NOTE: WITH CONCRETE RISER, USE PVC SCHEDULE 40 STUB FOR DEWATERING ORIFICE.

* DRAINAGE TUBING SHALL COMPLY WITH ASTM F667 AND AASHTO M294



TRASH RACK DETAIL

N.T.S.

EROSION CONTROL SEQUENCE OF EVENTS

1. NOTIFY DIANE COOK IN THE DEPT. OF INSPECTIONS & CODE COMPLIANCE AT (804) 722–8673 FOR A PRE–CONSTRUCTION MEETING AND ON–SITE VISIT ONE WEEK PRIOR TO BEGINNING CONSTRUCTION.
2. INSTALL CONSTRUCTION ENTRANCE, TEMPORARY SEDIMENT TRAPS, TEMPORARY SEDIMENT BASINS, DIVERSION DITCHES, AND PERIMETER SILT FENCE AS PER PLAN.
3. BEGIN CLEARING AND GRUBBING OPERATIONS. STABILIZE THE SITE WITH VEGETATION AND STRAW MULCH ACCORDING TO STATE REGULATIONS.
4. BEGIN ROAD CONTRUCTION, AND INSTALL STORM SEWER, DRAINAGE DITCHES, AND UTILITIES AS PER PLAN. BUILD STORM SEWER TO SEDIMENT TRAPS AND SEDIMENT BASINS ONLY. DO NOT CONSTRUCT TO OUTFALL POINTS BELOW TRAPS AND BASINS AT THIS TIME.
5. IMMEDIATELY AFTER PLACING BASE STONE AND INSTALLATION OF CURB & GUTTER, INSTALL INLET PROTECTION AS PER PLAN.
6. FINISH ROAD CONSTRUCTION AS SHOWN ON PLANS. SEED DENUDED AREAS AS SOON AS POSSIBLE AND MULCH ALL DISTURBED AREAS. INSTALL PAVEMENT.
7. ONCE ROAD CONSTRUCTION IS COMPLETE, AND SITE IS STABILIZED, COMPLETELY FLUSH STORM SEWER STRUCTURES TO REMOVE ANY ACCUMULATED SEDIMENT. REMOVE TEMPORARY SEDIMENT BASINS 1 & 2 AND SEDIMENT TRAPS 1 & 2. SEDIMENT TRAP 3 SHALL REMAIN UNTIL JADEN DR. IS EXTENDED IN THE FUTURE. INSTALL STORM SEWER TO OUTFALL POINTS.
8. CONTINUING MAINTENANCE PRACTICES SHALL BE PERFORMED TO ENSURE PROTECTION OF DOWNSTREAM PROPERTIES.
9. NO EROSION CONTROL DEVICE SHALL BE REMOVED UNTIL AN ADEQUATE STAND OF GRASS HAS BEEN OBTAINED.

NOTE: ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN ARE TO BE CONSTRUCTED, MAINTAINED, AND REMOVED IN ACCORDANCE WITH THE CURRENT EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATION 4VAC50–30.

EROSION CONTROL GENERAL NOTES

1. CONTACT THE PRINCE GEORGE DEPT. OF INSPECTIONS & CODE COMPLIANCE AT (804) 722–8673 PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITIES ON THE SITE.
2. 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 PRINCE GEORGE COUNTY ORDINANCE INCLUDING THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50–30 EROSION AND SEDIMENT CONTROL REGULATIONS.
3. THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
5. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
6. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF–SITE BOR–ROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMEN–TATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.
8. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEA–SURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
9. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
10. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES EVERY TWO WEEKS AND AFTER EACH RUNOFF–PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CON–TROL DEVICES SHALL BE MADE IMMEDIATELY.
11. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THA MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THEN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE LEFT DORMANT FOR MORE THAN ONE YEAR.
12. THE CONTRACTOR IS RESPONSIBLE FOR DAILY REMOVAL OF SEDIMENT THAT HAS BEEN TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOILS WHICH MAY PRESENT A HEALTH HAZARD, TRAFFIC SAFETY PROBLEM, OR HARM ANIMAL OR PLANT LIFE.

COMMONWEALTH OF VIRGINIA
DENISE A. JOHNSON
Lic No. 24313
1-21-08
PROFESSIONAL ENGINEER

VIRGINIA | NORTH CAROLINA | WEST VIRGINIA
THIS DRAWING PREPARED AT THE
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Site Development | Residential | Infrastructure | Technology

REVISION DESCRIPTION	DATE
COUNTY COMMENTS	26 NOV 07
COUNTY COMMENTS	21 JAN 08

DATE	31 JULY 2007
DRAWN BY	K. HALPAUS
DESIGNED BY	K. HALPAUS
CHECKED BY	D. JOHNSON
SCALE	NONE

TIMMONS GROUP

THE MEADOWS @ PRINCE GEORGE - SECTION 3

BLAND DISTRICT * PRINCE GEORGE COUNTY, VIRGINIA

EROSION CONTROL NOTES AND DETAILS

JOB NO.	24313
SHEET NO.	C4.2

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