EROSION AND SEDIMENT CONTROL NARRATIVE The purpose of this project is to construct a grocery and retail stores with associated parking areas on 22.86 acres. EXISTING SITE CONDITIONS The proposed development is located to north of Valley Gateway Bolevard, to the southwest of Carson Road, and southeast of Challanger Avenue in Roanoke County, The existing site is undeveloped woodland with a stream. ADJACENT AREAS The undeveloped area is bordered on the north by three residencial properties owned by Frances Thrasher Life Estate, Michael Malone and F&W Properties II Inc; and to the east by Challenger Avenue (Route 460); and to the South by property owned by Tract B Roanoke Gateway LLC, Valley (Route 758).

Gateway Boulevard and Integrity Drive; and to the west by Carson Road The Soil Survey of Roanoke County classifies the soils in this area as 1) Chiswell-Litz and 2) Groseclose-Litz complex. Chiswell-Litz soils consist of strongly sloping, well drained soils, and consist of about 45%

Chiswell, 30% Litz and 25% other soils. Groseclose-Litz soils consist o moderately steep, well drained soils, and consist of about 45% Groseclose, 30% Litz and 25% other soils. Both soils have high erosion potential. Onsite investigation is generally required to determine specifics of the soil in a particular area. OFF—SITE AREAS

No off-site work is proposed at this time. The location of all off-site fill or borrow areas associated with the construction of this project will provided to Roanoke County department of Community Development. An Frosion Control Plan or measures may be required for this area. All soil stockpile areas are to be stabilized. CRITICAL EROSION AREAS

The potential critical erosion areas are at the banks of the stream and at the adjoining property owned by Michael Malone, Frances Thrasher Estate, and Roanoke Gateway, LLC.

EROSION AND SEDIMENT CONTROL MEASURES Unless otherwise indicated, all vegetative and structural erosion and sediment control practices shall be constructed and maintained according to minimum standards and specifications of the handbook. the minimum standards of the VESCR shall be adhered to unless otherwise waived or approved by a variance. STRUCTURAL PRACTICES

Temporary Construction Entrance (Section 3.02) One temporary construction entrance will be installed. Vehicles will be washed to limit tracking onto public roads. Should tracking occur the road will be immediately cleaned.

Silt Fence (Section 3.05) Temporary silt fences will be installed as indicated on the site

Temporary Seeding (Section 3.31) Temporary seeding will be placed on all disturbed areas that will not be brought to final grade within one year or less. Temporary seeding will aid in the reduction of dust and sediment. Temporary seeding will be Annual Ryegrass (100#/ac), Feb 16 - April 30, German Millet (60#/ac), May 1 — Aug. 31. Permanent Seeding (Section 3.32)

After final grading permanent seeding will be employed to reduce erosion and sediment yield. seeding specifications: permanent seeding will be Kentucky Bluegrass, blended to contain 4 or more varieties, with no one variety exceeding 30%. The seeding will be applied at 140 lb. per acre. on slopes 2:1 or greater a mixture of Crown Vetch (50%), Perennial Ryegrass (40%), and Redtop (10%) will be used. All seeding, with required associated practices will be in accordance with all applicable sections of the Virginia Erosion and Sediment Control

Inlet Protection (Section 3.07) Inlet protection will be placed at all storm structure inlets to prevent sediment from entering the system. Outlet Protection (Section 3.18)

Outlet Protection will be placed at all storm structure outlets to clean and slow sediment laden runoff. Construction Road Stabilization (Section 3.03)

All roads and parking areas on the site shall be stabilized with gravel immediately after grading. Traffic is prohibited from entering drainage swales or streams unless absolutely necessary. Surface Roughening (Section 3.29)

Surface Roughening will provide a rough soil surface with horizontal depressions that will promote a vegetative stand. Stoil Stabilization Blanket (Section 3.36)

Stoil Stabilization Blankets will stabilize steep slopes and help prevent erosion.

Diversion Dike (Section 3.52) 2 Diversion Dikes will divert sediment laden runoff to collecting measures. All diversion dikes that exceed 2% in slope must be stabilized in accordance with vesch std. & spec. 3.17 (stormwater conveyance channel.

Check Dam (Section 3.20) Check Dams will filter and slow sediment laden runoff in

stormwater conveyance channels. Sediment Basin (Section 3.14) The Sediment Basin will collect sediment laden runoff from the site

and allow the sediment to settle out before leaving the site. Temporary Slope Drains (Section 3.15) Temporary slope drains will direct concentrated runoff down the fill

slope while preventing erosion.
Right-Of-Diversion (Section 3.11) Right-Of-Diversions will prevent sediment laden runoff from entering the public right-of-way.

GENERAL EROSION AND SEDIMENT CONTROL NOTES ALL SOIL EROSION & SEDIMENT CONTROL MEASURES SHALL BE ACCOMPLISHED IN

STRICT ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

THE APPROVING AUTHORITY MAY ADD TO, DELETE, RELOCATE, CHANGE, OR OTHERWISE MODIFY CERTAIN EROSION AND SEDIMENT CONTROL MEASURES WHERE FIELD CONDITIONS ARE ENCOUNTERED THAT WARRANT SUCH MODIFICATIONS.

ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON THE PLAN SHALL BE PLACED IN ADVANCE OF THE WORK BEING PERFORMED, AS FAR AS

4. IN NO CASE DURING CONSTRUCTION SHALL WATER RUNOFF BE DIVERTED OR ALLOWED TO FLOW TO LOCATIONS WHERE ADEQUATE PROTECTION HAS NOT BEEN

. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LEAVE THE SITE ADEQUATELY PROTECTED AGAINST EROSION, SEDIMENTATION, OR ANY DAMAGE TO ANY ADJACENT PROPERTY AT THE END OF EACH DAY'S WORK.

FOR THE EROSION CONTROL KEY SYMBOLS SHOWN ON THE PLANS, REFER TO THE VIRGINIA UNIFORM CODING SYSTEM FOR EROSION AND SEDIMENT CONTROL PRACTICES CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. THESE SYMBOLS AND KEYS ARE TO BE UTILIZED ON ALL EROSION CONTROL PLANS SUBMITTED TO ROANOKE COUNTY.



ALL DIVERSION DIKES THAT EXCEED 2% IN SLOPE MUST BE STABILIZED IN ACCORDANCE WITH VESCH STD. & SPEC. 3.17 (STORMWATER CONVEYANCE CHANNEL.

MANAGEMENT Construction should be sequenced so that grading operations

can begin and end as quickly as possible. Erosion and Sediment control devices shall be installed as

the first step of construction. Areas which are not to be disturbed shall be clearly marked by flags, signs, etc.

The grading contractor shall be responsible for the installation and maintenance of all erosion and sediment control practices. Inspections are to be made periodically and after every significant rainfall.

After achieving adequate stabilization, the temporary E&S controls will be cleaned up and removed.

PERMANENT STABILIZATION

All areas disturbed by construction shall be stabilized with permanent seeding immediately following finish grading. Seeding shall be done with Kentucky 31 Tall Fescue according to Std. & Spec. 3.32, PERMANENT SEEDING, of the handbook. Erosion control blankets will be installed over fill slopes which have been brought to final grade and have been seeded to protect the slopes from rill and gully erosion and to allow seed to germinate properly. Mulch (straw or fiber) will be used on relatively flat areas. In all seeding operations, seed, fertilizer and lime will be applied prior to mulching.

MAINTENANCE

In general, all erosion and sediment control measures will be checked daily and after each significant rainfall. Any items not found in accordance with the Virginia Erosion and Sediment Control Handbook will be immediately replaced and/or repaired. The following items will be checked in particular:

1. The gravel outlets will be checked regularly for sediment buildup which will prevent drainage. If the gravel is clogged by sediment, it shall be removed and cleaned or replaced.

2. The silt fence barrier will be checked regularly for undermining or deterioration of the fabric. Sediment shall be removed when the level of sediment deposition reaches half way to the top of the barrier.

The seeded areas will be checked regularly to ensure that a good stand is maintained. Areas should be fertilized and re-

The seeded areas will be checked regularly to ensure that a good stand is maintained. Areas should be fertilized and re-seeded as needed.

5. All soil stockpile areas are to be stabilized.

The erosion and sediment control measures shown on the construction plans are the minimum measures required. Due to construction phasing and other considerations all measures can not be shown. The owner, through his contractor, will employ whatever measures which may be required to assure that sediment laden runoff does not leave the site.

All materials and measures employed for erosion and sediment control will be in accordance with the Virginia Erosion and Sediment Control Handbook, latest edition.

If, during construction, additional Erosion and Sediment Control measures are deemed necessary, they shall be installed as directed by the Owner, Engineer or County agent.

Seed specifications? YES, IN NARRATIVE

Mulching? YES, IN NARRATIVE

Gravel? YES, IN NARRATIVE

CALCULATIONS

STORMWATER MANAGEMENT

Calculation of runoff before and after development indicates that there will be a net increase in peak runoff as a result of project development. Consequently, stormwater will be managed by stormwater detention.

VESCH STATE MINIMUM STANDARDS

MS-3 Has maintenance of permanent stabilization been addressed? YES, THIS SHEET.

MS-4 Are sediment trapping facilities to be constructed as a first step in LDA? YES

MS-7,8 Has stabilization of cut and fill slopes been adequately addressed? YES, IN NARRATIVE.

MS-10 is adequate inlet protection required on all operational storm sewer inlets? YES, SEE PLAN.

Detailed specifications included for all required instances of outlet protection? YES THIS SHEET.

MS-5 Has stabilization of earthen structures been addressed? YES, IN NARRATIVE

MS-8 Are paved flumes, channels, or slope drains required where necessary?YES.

crossing live watercourses be followed.)YES, PLANS TO BE REVIEWED BY DEQ, & DCR.

MS-18 Has the removal of temporary practices been addressed? YES, IN NARRATIVE.

(OPTIONAL)

MS-9 (i. e. Surface Roughening, Outlet Protection.IMPLEMENTED ON PLAN.

MS-16 is stabilization of utility trenches addressed? YES, VESCH SEC 3.25.

deposition due to increases in peak stormwater runoff? YES.

Are practices shown on the plan? YES, DENOTED WITH SYMBOLS

MS-6 Are sediment basins required where needed? YES

Are sediment trapping measures provided? YES, FOUR SEDIMENT BASINS AND FOUR TRAPS ARE PROPOSED

Detailed design calculations and specifications included for all proposed sediment traps and basins?PROVIDED IN

MS-11 Are channel lining and/or outlet protection required on stormwater conveyance channels?NOT APPLICABLE.

MS-14 (NOTE: This regulation requires that all applicable federal, state and local regulations pertaining to working in or

Racks, daily cleaning of road ways, transport of sediment to a trapping facility)? YES, CONSTRUCTION ENTRANCE PROVIDED.

MS-15 Has restabilization of areas subject to in-stream construction been adequately addressed?NOT APPLICABLE.

MS-17 is the transport of soil and mud onto public roadways properly controlled? (i.e. Construction Entrances, Wash

M [] [] MS-18 Has the removal of temporary practices been addressed? TES, IN NARRATIVE.
[N [] [] Has maintenance of practices been addressed? (i. e. repair of structures and removal of accumulated sediment)? YES, IN

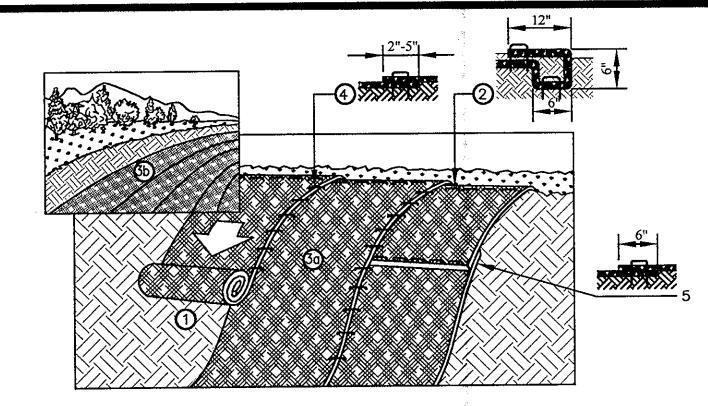
2-10 ACRES OF DRAINAGE AREA:

MS-19 Are properties and waterways downstream from development adequately protected from erosion and sediment

MS-12 Are in-stream construction measures required so that channel damage is minimized? NOT APPLICABLE

MS-13 Are temporary stream crossings of non-erodible material required where applicable? NOT APPLICABLE.

MS-2 Has stabilization of soil stockpiles been addressed in the narrative? YES, AS SHOWN ON PHASE 1 GRADING PLAN



ROLLED EROSION CONTROL PRODUCTS (RECP's) ARE REQUIRED ON AND ON ALL NEW 2:1 OR GREATER SLOPES. PREPARE SOIL BEFORE INSTALLING RECP'S, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED, DO NOT SEED PREPARED AREA-CELL-O-SEED MUST BE

INSTALLED WITH PAPER SIDE DOWN. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAKING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP's.

ROLL THE RECP'S (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. IF SLOPE IS 2:1 OR GREATER, ROLL DOWN THE SLOPE. THE RECP'S WILL UNROLL WITH THE APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE, OR APPROXIMATELY 12" APART HORIZONTALLY AND VERTICALLY.

THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON RECP'S TYPE. CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECP'S WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTH GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE RECP's.

1. DESIGN OF DETENTION BASINS SHALL CONFORM TO THE REQUIREMENTS OF THE COUNTY OF ROANOKE DRAWAGE STANDARDS (REF. SECTIONS

503.02, 503.03, AND 505.02). THE DESIGN OF THE FACILITY AND

PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE COMMONWEALTH

, ACCESS TO THE FACILITY MUST BE PROVIDED IN ACCORDANCE WITH THE

COUNTY OF ROANOKE DESIGN AND CONSTRUCTION STANDARDS FOR

3. IF THE FACILITY IS OVER FOUR (4) FEET DEEP, TAKES OVER TWO (2) HOURS TO DRAIN, OR THE INTERIOR SLOPE EXCEEDS 3 (H): 1 (V).

FACILITY IS IN A CONGESTED AREA OR WILL IN ANY WAY POSE A

FENCING SHALL BE A MINIMUM OF SIX (8) FEET HIGH, A MINIMUM OF STANDARD NINE GAUGE LINK FENCE, AND MUST HAVE ONE OR MORE

OCKING DOUBLE GATES (MINIMUM TEN FEET WIDE) FOR ACCESS.

COUNTY BONDING POLICY FOR SUBDIVISION AND SITE DEVELOPMENT.

AND ADMINISTERED APART FROM THE SUBDIVISION DEVELOPMENT BOND.

STANDARDS FOR DETENTION PONDS, LATEST EDITION, FOR ACCEPTANCE

MATERIALS VERIFICATION INCLUDING RESULTS OF DENSITY TESTS

DESIGN HIGH WATER (25-YR. STORM ELEV.)

MIN. 1.0'

A SEPARATE BOND FOR THE DETENTION FACILITY WILL BE REQUIRED

5. REFERENCE THE COUNTY OF ROANOKE DESIGN AND CONSTRUCTION

AND MAINTENANCE OF THE FACILITY. CERTIFIED AS-BUILTS ARE

ELEVATIONS OF STRUCTURES, SPILLWAYS, AND TOP

CONDUCTED BY AN INDEPENDENT SOIL TESTING LABORATORY

I. ONE FOOT MINIMUM FREEBOARD REQUIRED FOR THE 100 YR WATER

LOCATION AND ELEVATION OF BENCHMARK.

REFERENCE ESTIMATE - THIS SHEET.

A. DIMENSIONS OF THE FACILITY

B. VOLUME O MAXIMUM DEPTH

SURFACE ELEVATION.

ELEV. (A)

ELEV. (B)

2

3

67 C.Y./AC. "DRY" STORAGE

PERMANENT FENCING MAY BE REQUIRED, ADDITIONALLY, IF THE

HAZARD TO THE GENERAL PUBLIC, FENCING MAY BE REQUIRED.

PREPARATION OF AS-BUILT PLANS SHALL BE BY A CERTIFIED

(ADAPTED FROM NORTH AMERICAN GREEN, EVANSVILLE, IN

CROSS-SECTION

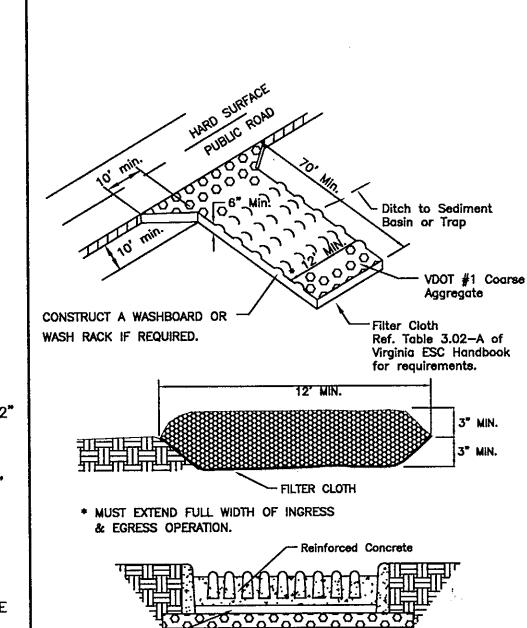
(SF) CONSTRUCTION OF A SILT FENCE

CD ROCK CHECK DAM

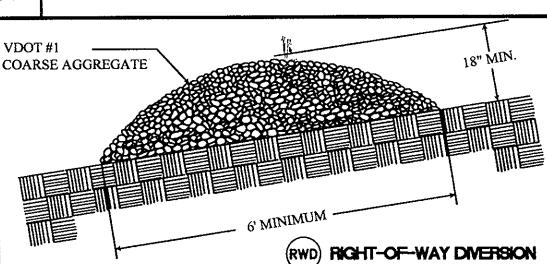
10' IF WIRE IS

6' IF WIRE IS

(B) **SOIL STABILIZATION BLANKE**



WASH RACK DETAIL (IF REQUIRED) TEMPORARY GRAVEL. CONSTRUCTION ENTRANCE



CONSTRUCTION NOTES

1. SITE PREPARATION SHALL BE IN ACCORDANCE WITH THE COUNTY OF ROANOKE DESIGN AND CONSTRUCTION STANDARDS FOR DETENTION PONDS

2. SLOPES STEEPER THAN 3 TO 1 (HORIZONTAL TO VERTICAL) SHALL BE BENCHED OR STEPPED PRIOR TO PLACING FILL ON THEM. 3. ON-SITE FILL MATERIAL OR BORROW FILL MATERIAL MAY BE FILL MATERIAL SOILS, IN GENERAL: A. SHALL BE COMPACTABLE

SHALL BE WITHIN AN ACCEPTABLE RANGE OF MOISTURE CONTENT WHICH IS READILY CONTROLLED SHALL NOT BE HIGHLY SUSCEPTIBLE TO VOLUME CHANGE

(SHRINKAGE OR SWELL) OR SETTLEMENT 4. FILL MATERIALS CONTAINING ROCKS LARGER THAN SIX (6) INCHES (15.2 CM) SHALL NOT BE USED. THE UPPERMOST TWO (2) FEET (61 CM) SHALL NOT HAVE ANY ROCK LARGER THAN TWO (2) INCHES (5.1 CM) IN DIAMETER.

5. THE APPROVED FILL SHALL BE PLACED IN EIGHT (8) INCH (20 CM) LOOSE LIFTS. EACH LIFT SHALL BE SPREAD IN UNIFORM LAYERS. FILL SOIL SHALL BE UTILIZED ONLY WITHIN A MOISTURE RANGE OF +/- 5% OF THE OPTIMUM MOISTURE CONTENT. COMPACTION OF THE FILL SHALL BE PERFORMED WITH APPROVED EQUIPMENT. COMPACTION OF THE LAYERS SHALL BE CONTINUOUS AND UNIFORM. 6. EMBANKMENT MATERIAL IN FILL AREAS SHALL BE PLACED IN LIFTS NOT

EXCEEDING EIGHT (8) INCHES AND SHALL BE COMPACTED TO A MINIMUM 95% DENSITY IN ACCORDANCE WITH SECTION 303 OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS. 7. FIELD DENSITY TESTS ARE TO BE CONDUCTED BY AN INDEPENDENT SOILS TESTING LABORATORY UNDER THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER. THE RESULTS OF THESE TESTS SHALL BE SUBMITTED TO THE COUNTY OF ROANOKE WITH AS-BUILT PLANS AS A CONDITION OF ACCEPTANCE OF THE FACILITY BY THE COUNTY. FIELD DENSITY TESTS, AS DIRECTED BY THE ENGINEER SHALL BE PERFORMED PERIODICALLY TO DETERMINE THE DEGREE OF COMPACTION. ANY AREAS FAILING TO MEET THE ABOVE REQUIREMENTS SHALL BE REWORKED

AND/OR RECOMPACTED UNTIL THE REQUIRED DEGREE OF COMPACTION I 8. ANTI-SEEP COLLARS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

9. ALL DISTURBED AREAS SHALL BE COVERED WITH FOUR (4) INCHES OF TOPSOIL AND SEEDED. 10. THE MINIMUM SLOPE OF THE BASIN "FLOOR SHALL BE ONE (1) PERCENT

GRADED TO DRAIN TO THE PRINCIPAL SPILLWAY.

DEWATERING DEVICE(L) 67 C.Y./AC."WET" STORAGE -RISER DIAMÉTER (K) ELEV. (C) ELEV. (D) (G) ANTI-SEEP COLLARS (F'XF') SEDIMENT CLEANOUT POINT ("WET" STORAGE REDUCED (H) LF - (I)" CMP TO 34 C.Y./ACRE) TEMPORARY SEDIMENT BASIN DATA STRUCTURI

1007.0

1017.0

ELEV. (E)

I P	● (J)%]							
						o			
	E	F	G	н	1	J	к	L	
1	1010.0	7.25	2	115	24*	9%	<u> </u>	10*	
٥	1026.0	4.0	2	100	18*	16%	36"	8"	
0	1026.0	4.0	1	171	15"	1.16%	24*	6"	
				4					

GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER NOTE: FOR AREAS LESS THAN 3.0 ACRES. FOR AREAS LARGER THAN 3.0 ACRES A SEDIMENT BASIN IS REQUIRED. SEE DETAIL THIS SHEET SEDIMENT TRAF

This method of inlet protection is applicable where heavy concentrated flows are

expected, but not where ponding around the structure might cause excessive

inconvenience or damage to adjacent structures and unprotected areas.

* Gravel shall be VDOT #3, #357 or #5 coarse aggregate.

GRAVEL CURB INLET SEDIMENT FILTER

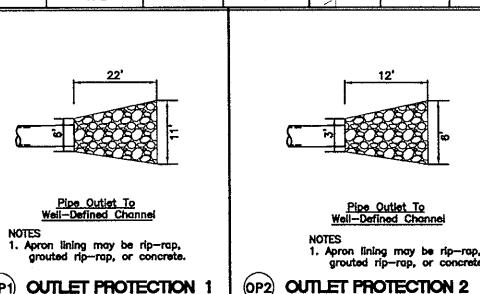
gravel (12'min. Depth)

SPECIFIC APPLICATION

Gravel shall be VDOT #3, #357 or 5

This method of inlet protection is applicable of curb inlets where ponding in front of the structure is not likely to cause inconvenience or damage to adjacent.

TEMPORARY SEDIMENT TRAP DATA												
CTRUCTURE	DRAINAGE	STORAG	E (C.Y.)	WEIR	WEIR HEIGHT (FT.)	BERM HEIGHT (FT.)						
STRUCTURE	DRAINAGE AREA (ACRES)	REQ'D	DESIGN	LENGTH (FT.)								
1	.51	68	135	3	1	2						
2	1.0	134	135	6	1	2						
3	.87	117	135	6	1	2						
4	.78	105	135	5	1	2						
·····	<u>,,,, ,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>											



(OP1) OUTLET PROTECTION

PERMANENT SEEDING MIXTURE

TYPE A 15 OCTOBER TO 1 FEBRUARY K-31 FESCUE ● 5 LB / 1000 SF BORZY WINTER RYE • 1/2 LB / 1000 SF 1 FEBRUARY TO 1 JUNE

CROWN VETCH • 1/2 LB / 1000 SF PERENNIAL RYEGRASS • 1/2 LB / 1000 SF RED TOP • 1/8 LB / 1000 SF CROWN VETCH • 1/2 LB / 1000 SF
PERENNIAL RYEGRASS • 1/2 LB / 1000 SF
RED TOP • 1/8 LB / 1000 SF

15 MARCH TO 1 MAY

TYPE B (SLOPES 3:1 OR STEEPER)

K-31 FESCUE • 5 LB / 1000 SF ANNUAL RYE • 1/2 LB / 1000 SF 1 JUNE TO 1 SEPTEMBER K-31 FESCUE • 5 LB / 1000 SF GERMAN MILLET @ 1/2 LB / 1000 SF

1 SEPTEMBER TO 15 OCTOBER
K-31 FESCUE © 5 LB / 1000 SF
ANNUAL RYE © 1/2 LB / 1000 SF

140 LB / 1000 SF PULVERIZED AGRICULTURAL LIMESTONE 5-20-10 **Q** 25 LB / 1000 SF 38-0-0 **Q** 7 LB / 1000 SF FERTILIZER:

IF REQUIRED, SHALL BE USED OVER ALL SEEDED AREAS AND SHALL BE MULCH: APPLIED IN ACCORDANCE WITH SECTION 1.75 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

SOIL CONDITIONING: INCORPORATION OF LIME AND FERTILIZER, SELECTION OF CERTIFIED SEED, MULCHING, MAINTENANCE OF NEW SEEDLINGS, AND RESEEDING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE VIRGINIA SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. ADDITIONAL SEEDING TO BE PERFORMED AS REQUIRED BY THE INSPECTOR.

SEED APPLICATION: APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER ON A FIRM, FRIABLE, SEEDBED. MAXIMUM SEEDING DEPTH SHALL BE 1/4 INCH.

TOTAL DISTURBED AREA = 10.2 AC. = 445,575 SQ. FT.

EROSION & SEDIMENT CONTROL

STORMWATER MANAGEMENT DETAILS

22

DEPARTMEN ENGINEERING AND INSPECTIONS

04-10-93 ENGR. & INSPEC. 08-05-93 ENGR. & INSPEC 10-27-93 ENGR. & INSPEC. DATE **REVISIONS**

2 ACRES OR LESS OF DRAINAGE AREA

(DOWNSTREAM VIEW)

VINTON MAGISTERIAL DISTRICT COUNTY OF ROANOKE

KROGER R-391

1004.2

1022.5

1022.5

1002.2

1021.5

1021.7

996.0

1019.0

1019.0

DATE: 11/09/06 SCALE: NO SCALE DRAWING BY: CLN.AF DESIGNED BY: G:\CAD\DETAILS\EROSION\EROSION) APPROVED BY: GWS,III