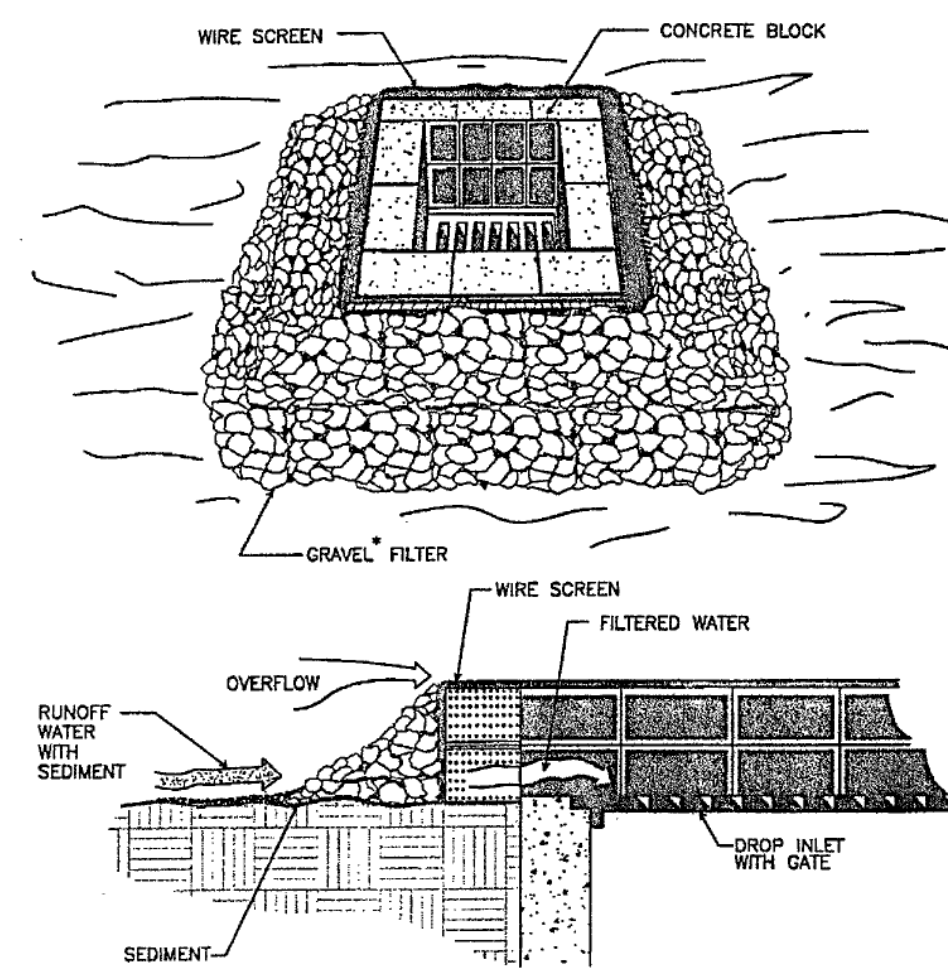


BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER



SPECIFIC APPLICATION

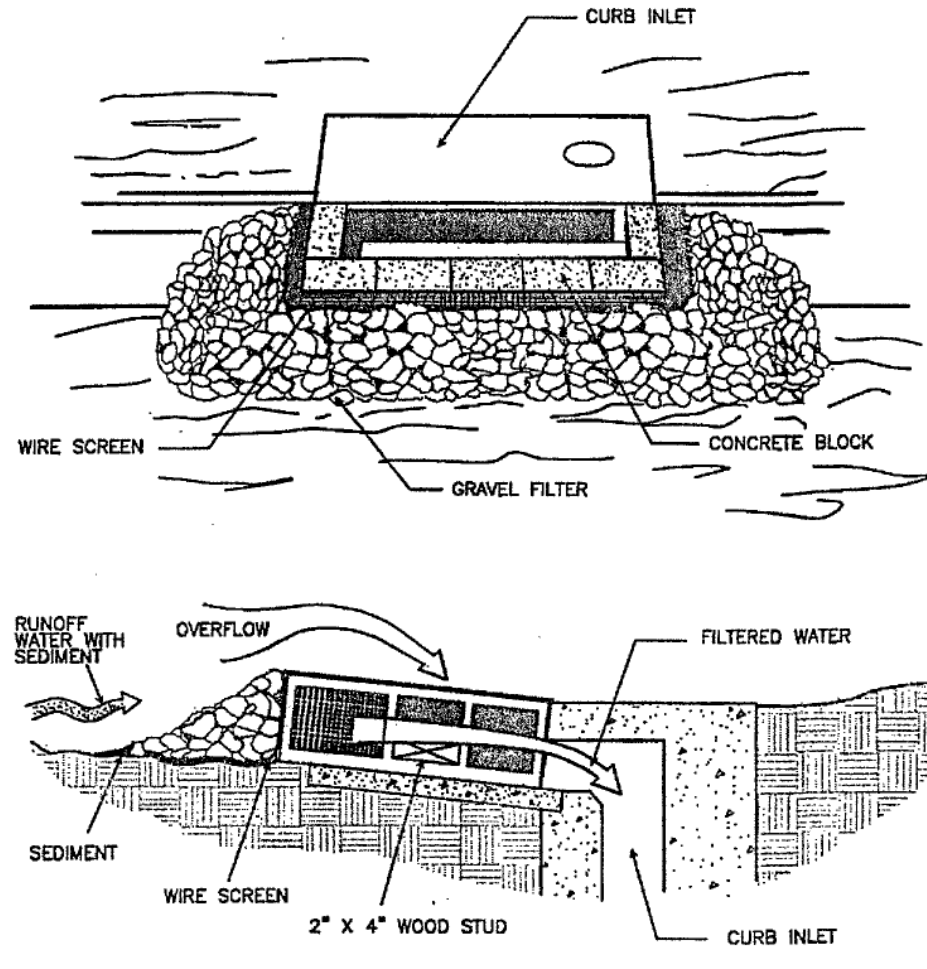
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

SOURCE: VA. DSWC

PLATE: 3.07-3

BLOCK & GRAVEL CURB INLET SEDIMENT FILTER



SPECIAL APPLICATION

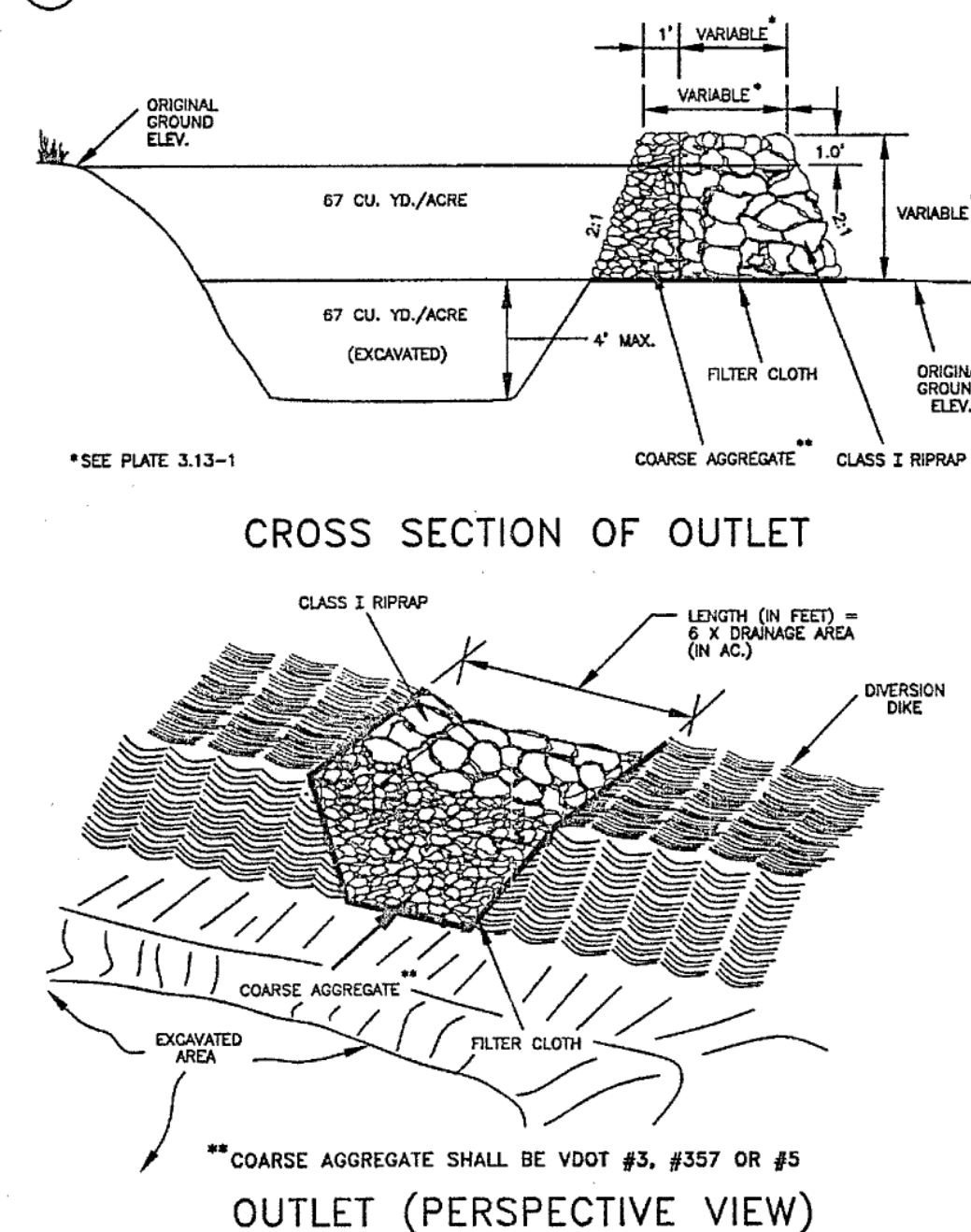
THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE

SOURCE: VA. DSWC

PLATE: 3.07-3

TEMPORARY SEDIMENT TRAP



*SEE PLATE 3.13-1

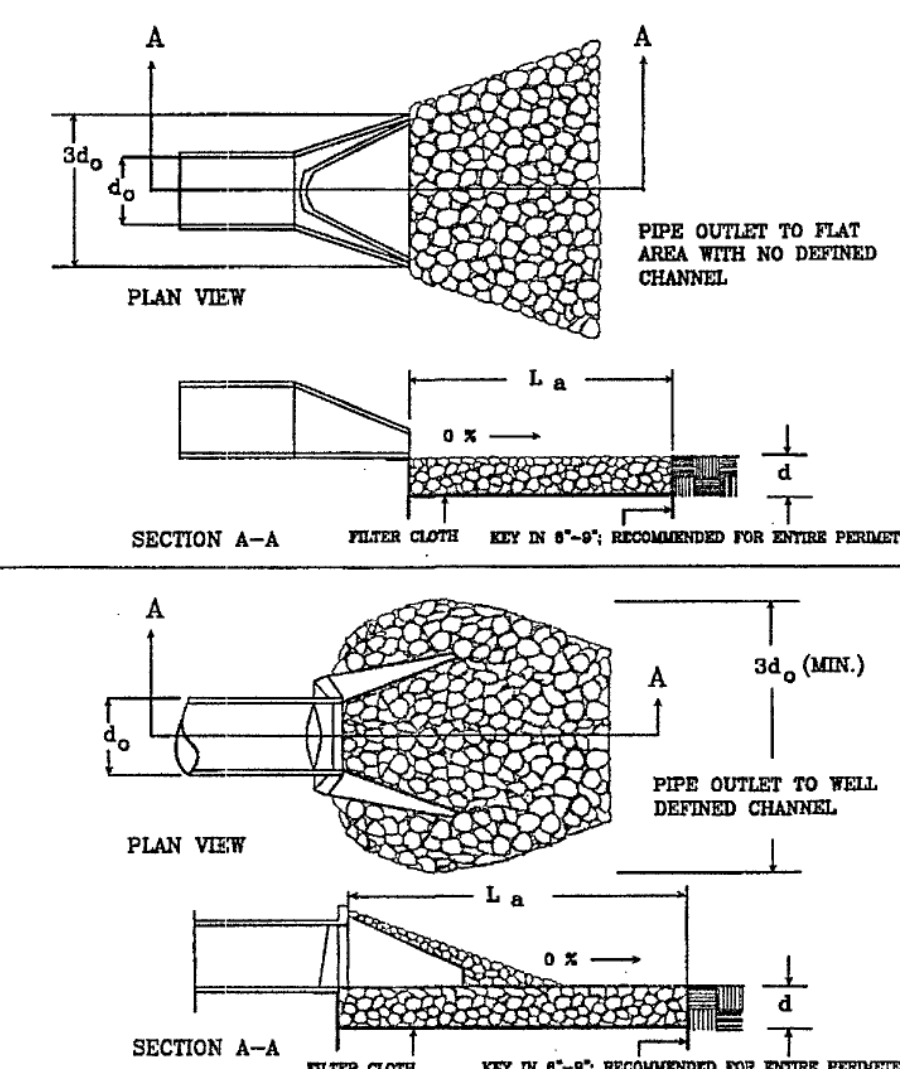
SOURCE: VA. DSWC

PLATE: 3.13-2

SEDIMENT BASIN SCHEMATIC IS SHOWN ON "SEDIMENT BASIN - SWM POND DETAILS" PLAN SHEET. SCHEMATIC IS SHOWN ALONG WITH PIPE PROFILE, SEQUENCE OF CONSTRUCTION FOR POND AREA, AND CONVERSION FROM SEDIMENT BASIN TO SWM POND.

OUTLET PROTECTION

PIPE OUTLET CONDITIONS



NOTES: 1. APRON LANDING MAY BE RIPRAP, GROUTED RIPRAP, GABION BASKET, OR CONCRETE.
2. L_a IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED.
3. USING PLATES 3.13-3 AND 3.13-4.
4. d_o = 4" TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 6" INCHES.

SOURCE: VA. DSWC

PLATE: 3.13-1

OP#2 - STRUCTURE #1
25-YR FLOW IS 8 CFS;
FLOW IS LESS THAN 0.5
TIMES PIPE DIA.
 $3d_o = 6'$; $L = 10'$; $W = 12'$
PROVIDE 15 TONS OF
CLASS AI RIPRAP, 2' DEEP,
INSTALLED ON FILTER
FABRIC.

OP#1 - STRUCTURE #11
25-YR FLOW IS 23 CFS; FLOW IS
GREATER THAN 0.5 TIMES DIA.
 $3d_o = 6'$; $L = 20'$; $W = 10'$
PROVIDE 27 TONS OF CLASS AI
RIPRAP, 2' DEEP, INSTALLED ON
FILTER FABRIC.

01 MARCH TO 30 APRIL
WINTER RYE (SECALE CERALE) @ 2 1/2 LB / 1000 SF
OR ANNUAL RYEGRASS (LOLIUM MULTI-FLOSUM) @ 1 1/2 LB / 1000 SF
OR KOREAN LESPEDEZA (LESPEDEZA STIPULACEA) @ 1 1/2 LB / 1000 SF

01 MAY TO 15 AUGUST
GERMAN MILLET (SETARIA ITALICA) @ 1 LB / 1000 SF
OR WEEPING LOVEGRASS (ERAGROSTIS CLIVIALA) @ 5 1/2 OZ / 1000 SF
OR KOREAN LESPEDEZA (LESPEDEZA STIPULACEA) @ 1 1/2 LB / 1000 SF

15 AUGUST TO 01 NOVEMBER
WINTER RYE (SECALE CERALE) @ 1 LB / 1000 SF
AND ANNUAL RYEGRASS (LOLIUM MULTI-FLOSUM) @ 1 LB / 1000 SF

MULCH:
SHALL BE USED OVER ALL SEEDING AREAS AND SHALL BE
APPLIED IN ACCORDANCE WITH SECTION 3.35 OF THE VIR-
GINIA EROSION AND SEDIMENT CONTROL HANDBOOK, 3rd ED.

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

TS TEMPORARY SEEDING MIXTURE
VA ESCH STD & SPEC 3.31

PLAN REVISION #1 10/15/2014
ADD PHASES

EROSION-SILTATION CONTROL COST ESTIMATE (SECTION 1)

ALL COSTS GIVEN ARE COMPLETE IN PLACE

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
CONSTRUCTION ENTRANCE	EA	1	\$ 1,200.00	\$ 1,200.00
SILT FENCE	LF	2,526	4.00	\$ 10,104.00
TEMPORARY DIVERSION DIKE	LF	274	5.00	\$ 1,370.00
TEMPORARY SEEDING	1000 SF	100	22.00	\$ 2,200.00
PERMANENT SEEDING	1000 SF	100	45.00	\$ 4,500.00
OUTLET PROTECTION	EA	1	750.00	\$ 750.00
BLANKET MATTING	SY	1,600	3.00	\$ 4,800.00
RIPRAP	TONS	87	30.00	\$ 2,610.00
CULVERT INLET PROTECTION	EA	3	500.00	\$ 1,500.00
SUB-TOTAL				\$ 27,664.00
10% CONTINGENCY				\$ 2,767.00
TOTAL PROJECT COST				\$ 30,431.00

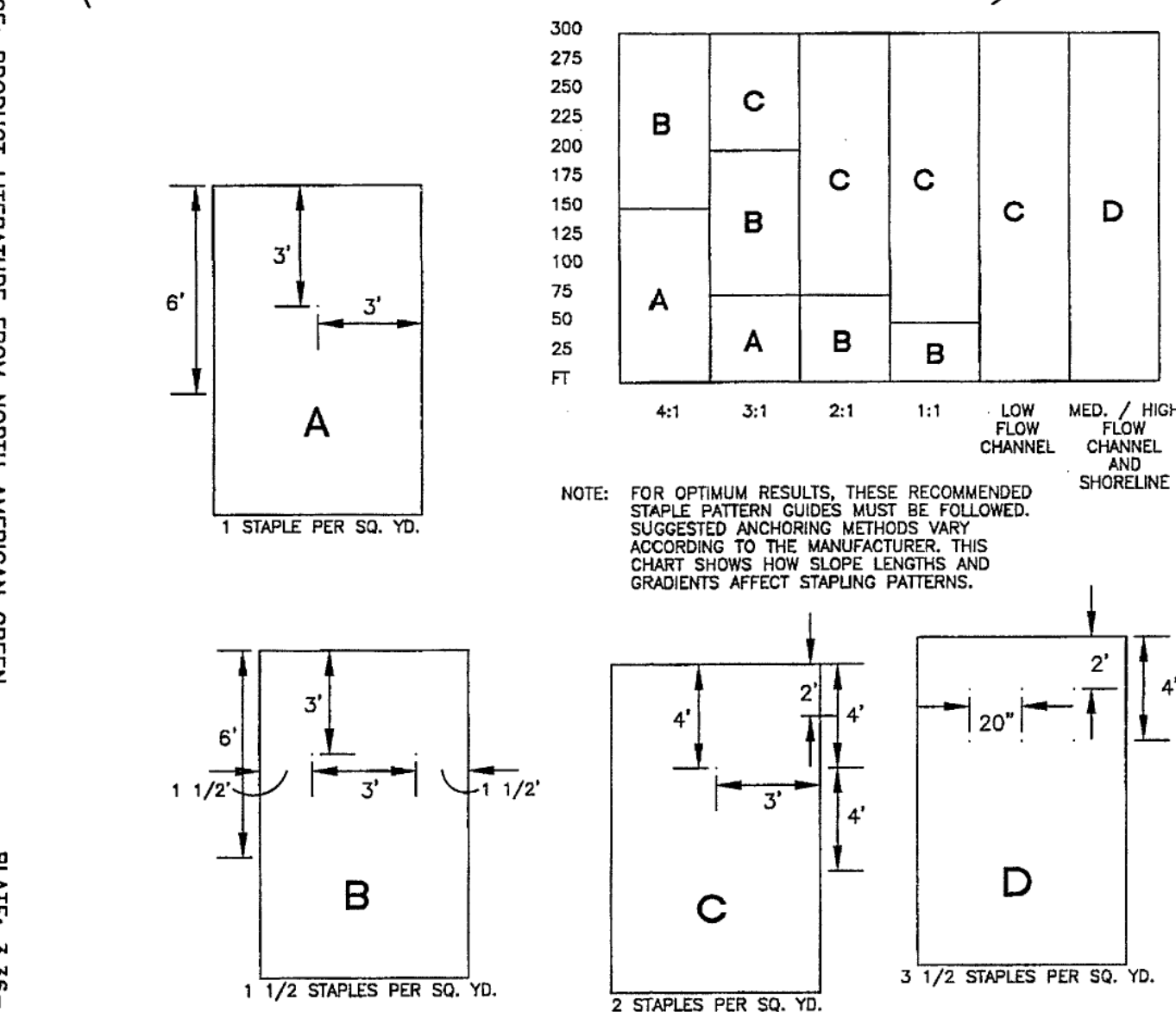
TOTAL DISTURBED AREA = 6.2 AC. = 271,814 SQ. FT.

EROSION-SILTATION CONTROL COST ESTIMATE (SECTION 2)

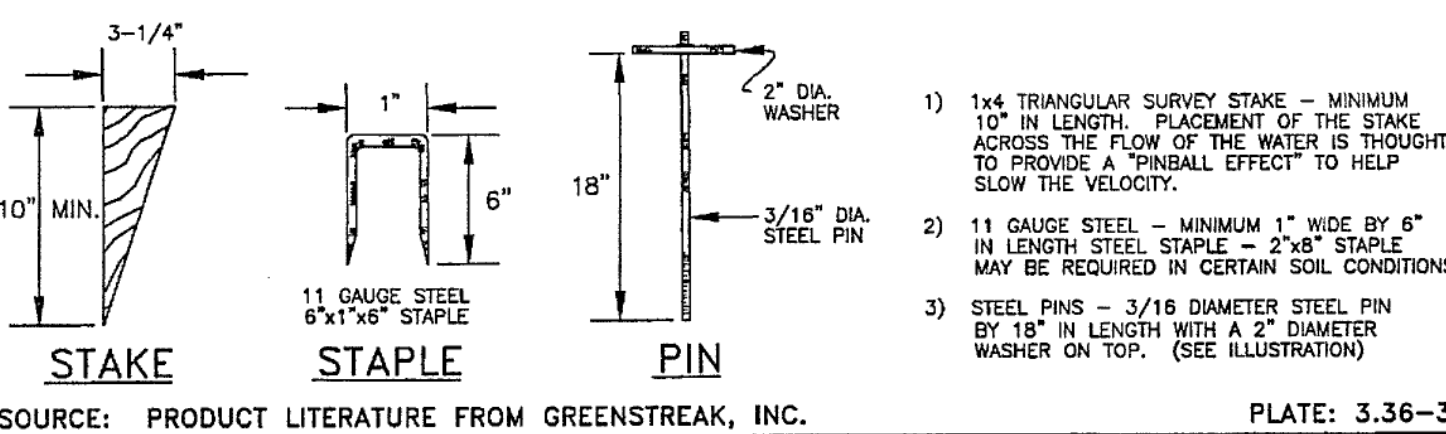
ALL COSTS GIVEN ARE COMPLETE IN PLACE

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
INLET PROTECTION	EA	8	500.00	\$ 4,000.00
TEMPORARY DIVERSION DIKE	LF	274	5.00	\$ 1,370.00
SEDIMENT TRAP	EA	1	2,500.00	\$ 2,500.00
TEMPORARY SEEDING	1000 SF	100	22.00	\$ 2,200.00
PERMANENT SEEDING	1000 SF	100	45.00	\$ 4,500.00
OUTLET PROTECTION	EA	1	750.00	\$ 750.00
BLANKET MATTING	SY	850	3.00	\$ 2,550.00
RIPRAP	TONS	123	30.00	\$ 3,690.00
CULVERT INLET PROTECTION	EA	1	500.00	\$ 500.00
SUB-TOTAL				\$ 22,060.00
10% CONTINGENCY				\$ 2,206.00
TOTAL PROJECT COST				\$ 24,266.00

GENERAL STAPLE PATTERN GUIDE FOR TREATMENT - 2 (SOIL STABILIZATION MATTING)



STAKES, STAPLES, & PINS TREATMENT - 2 SOIL STABILIZATION MATTING



SOURCE: PRODUCT LITERATURE FROM GREENSTREAK, INC.

PLATE: 3.36-3

THE CONTRACTOR SHALL UTILIZE SOME MEASURE OF BLANKET MATTING, SOIL STABILIZATION, OR HYDROMULCH MATERIAL TO STABILIZE DISTURBED SLOPES AT 3:1 SLOPE OR STEEPER.

SOIL STABILIZATION BLANKETS & MATTING: VESCH STD & SPEC 3.36

TREATMENT-1: DEGRADABLE SOIL STABILIZATION BLANKET
EXAMPLES: JUTE MESH, LANDSCAPE SUPPLY (NORTH AMERICAN GREEN) P300, C350, C125 EQUIVALENT SUPPLIERS
USE TO HELP ESTABLISH VEGETATIVE GROWTH, TEMPORARY MEASURES.

TREATMENT-2: NON-DEGRADABLE SOIL STABILIZATION BLANKET
EXAMPLES: LANDSCAPE SUPPLY (NORTH AMERICAN GREEN) P550 PYRAMAT

HYDRO MULCH: COMBINATION OF THERMALLY REFINED WOOD AND MULTI DIMENSIONAL TACKIFIER INSTALLED DURING THE HYDROSEEDING PROCESS OF STEEP SLOPES. MATERIAL CAN BE USED IN PLACE OF TREATMENT-1.

EXAMPLES: CONVED FIBERS HYDRO MULCH 2500 MAT, INC SOIL GUARD HYDROGRASS - GEOPERM EQUIVALENT SUPPLIERS

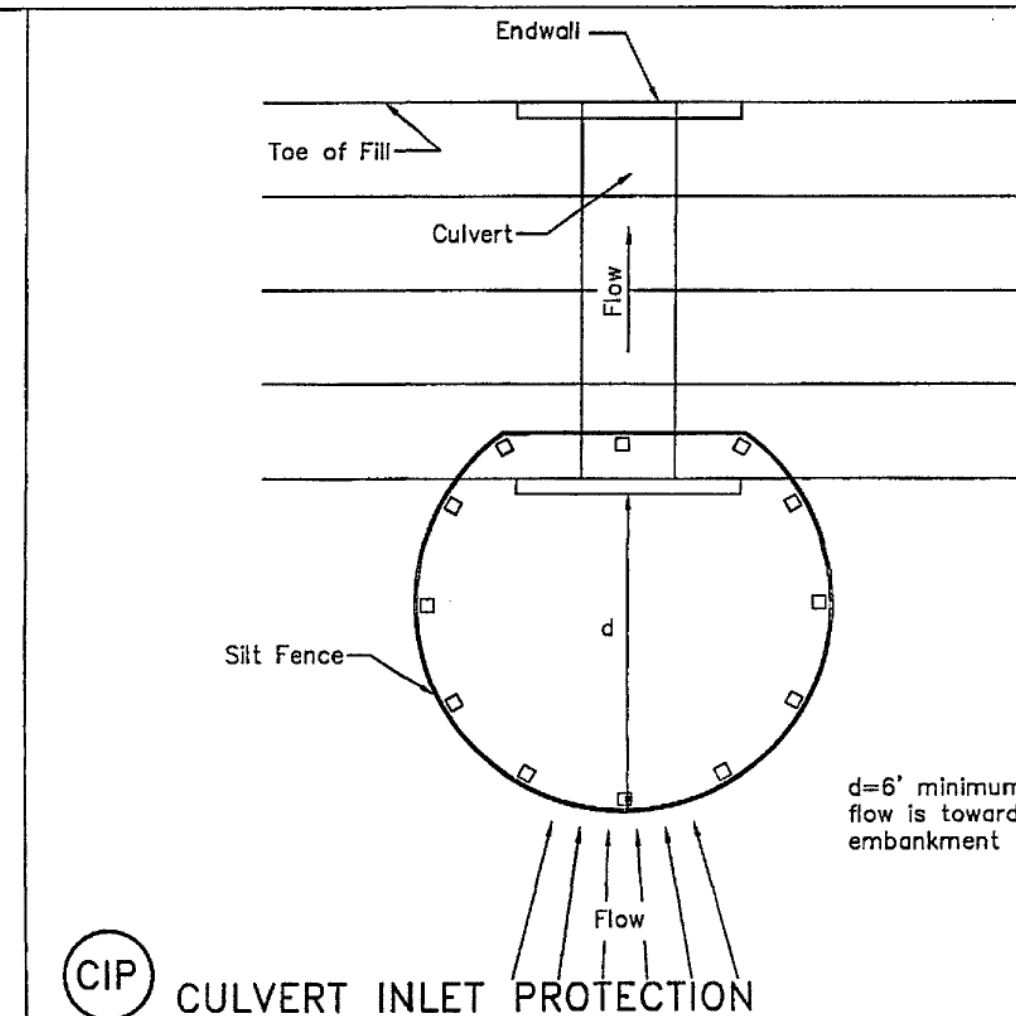
INSTALLATION RATE PER MANUFACTURER RECOMMENDATIONS
INSTALLATION: USE 50' AN TYPE NOZZLE
APPLICATION RATES: 3:1 OR FLATTER, USE 3,000 LBS/AC
2:1 USE 3,500 LBS/AC

PRODUCT CONTENTS: THERMALLY REFINED WOOD FIBER = 90% BLENDED MULTI-DIMENSIONAL HYDRO-COLLOID BASED TACKIFIER = 10% GREEN COLOR

MOISTURE: 10-13% +/- 2%
APPLICATION: RAIN DOWN ON SURFACE TO IMPROVE SOIL COVERAGE. APPLY FROM OPPOSING DIRECTIONS TO MUST CURE OR DRY COMPLETELY TO BE EFFECTIVE. SHOULD NOT BE APPLIED WITHIN 24 HOURS OF EXPECTED RAINFALL.

B/M SOIL STABILIZATION BLANKETS/MATTING/HYDROMULCH
VA ESCH STD & SPEC 3.36

FOR THE PURPOSE OF THIS PROJECT, THE CONTRACTOR SHALL ANTICIPATE UTILIZATION OF EC-2, TREATMENT 1 (NORTH AMERICAN GREEN C125 OR APPROVED EQUAL)



CIP CULVERT INLET PROTECTION

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 PRACTICAL.
- IN NO CASE DURING CONSTRUCTION SHALL WATER RUNOFF BE DIVERTED OR ALLOWED TO FLOW TO LOCATIONS WHERE ADEQUATE PROTECTION HAS NOT BEEN PROVIDED.
- 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, LATEST EDITION, 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.

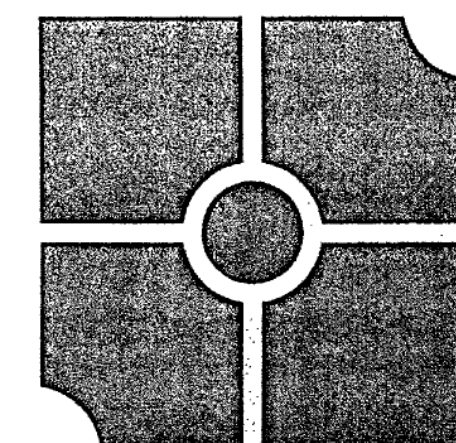
PERMANENT SEEDING MIXTURE

- 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
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
- TYPE B (SLOPES 3:1 OR STEEPER)
- 15 MARCH TO 1 MAY
CROWN VETCH @ 1/2 LB / 1000 SF
PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF
RED TOP @ 1/8 LB / 1000 SF
- 15 AUGUST TO 1 OCTOBER
CROWN VETCH @ 1/2 LB / 1000 SF
PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF
RED TOP @ 1/8 LB / 1000 SF

MULCH: IF REQUIRED, SHALL BE USED OVER ALL SEEDING AREAS AND SHALL BE APPLIED IN ACCORDANCE WITH SECTION 3.35 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 SEEDINGS, AND RESEEDING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE VIRGINIA 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.

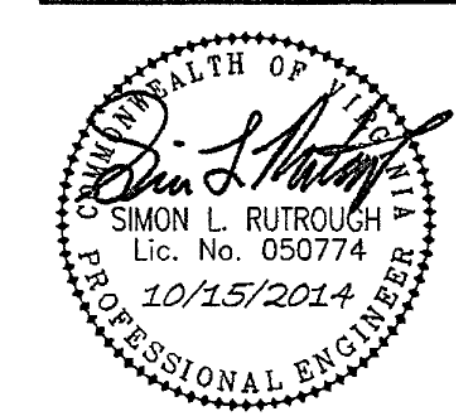


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DESIGN GROUP

ENGINEERS • SURVEYORS • PLANNERS • LANDSCAPE ARCHITECTS
816 Boulevard 1915-B W. Cary Street
Salem, VA 24153 Richmond, VA 23220
Ph: 540-387-1153 Phone: 804-358-2947
Fax: 540-389-5767 Fax: 804-359-9645

www.parkerdgm.com

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BUCKLAND SOUTH
SUBDIVISION

Hollins Magisterial District
Roanoke County, Virginia

APPROVED

REVISIONS:

Revisions Per Review Comments
P.B. June 13, 2014
Add Culvert Inlet Protection Costs
P.B. June 24, 2014
Change Plan
October 15, 2014

DESIGNED BY: DFG/PJB

DRAWN BY: DGF

CHECKED BY: SLR

SCALE: N/A

DATE: 11 April 2014

SHEET TITLE:
EROSION CONTROL
DETAILS

C10
10 OF 20
PROJECT NUMBER:
13-0087-03