

Erosion and Control Narrative

Project Description

The project is located in the Fincastle area of Botetourt County, Virginia. This plans shows the construction of roadways associated with a +/- 18 lot subdivision. The disturbed area consists of approximately 4.2 acres. It will take approximately 8 months, to grade the road and install the water, sewer and drainage utilities.

Existing Site Condition

Most of the site consists of sparse trees & fields. The terrain slopes in the 0.5% to 15% range.

Adjacent areas

The site is bordered on the west, east and south by woods, and to the north by a state road.

Soils

Soils found at this site are common to the area. None of these soils have high erosion tendencies.

Critical Areas

There are no critical erosion areas.

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

a. Temporary Construction Entrance (Section 3.02) ; One temporary construction entrance will be installed.

b. Silt Fence (Section 3.05) Temporary silt fence will be installed as indicated on the site plan.

c. Culvert Inlet Protection (Section 3.08) Culvert Inlet Protection will be installed as indicated on the site plan.

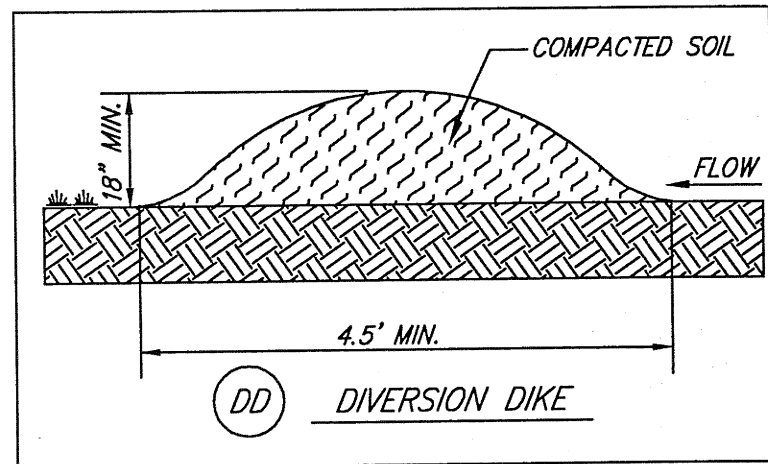
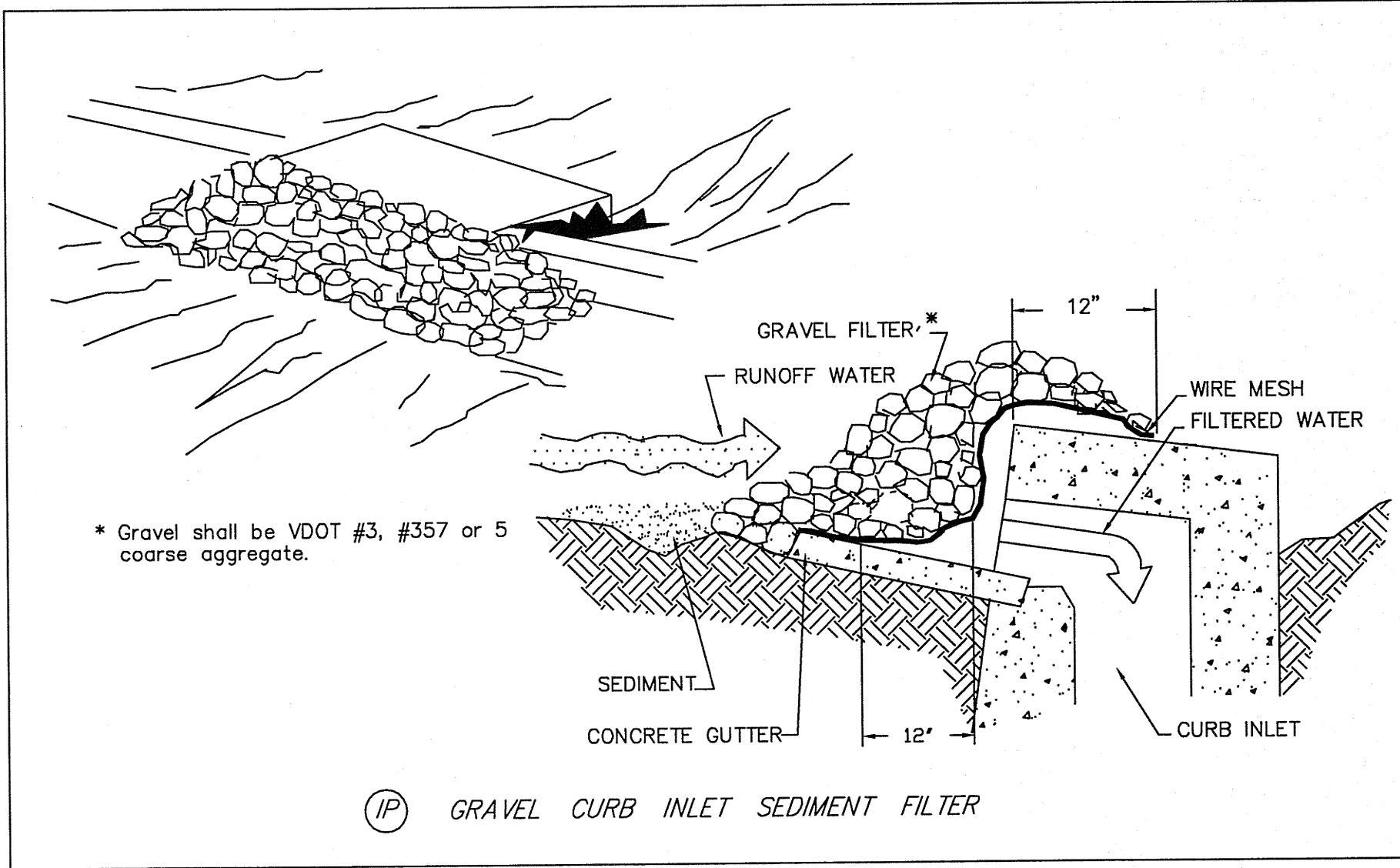
d. Outlet Protection (Section 3.18) Outlet Protection will be installed as indicated on the site plan.

e. Temporary & Permanent Seeding (Section 3.31 & 3.32) Temporary seeding will be placed on all disturbed areas that will not be brought to final grade within 30 days or less. Temporary seeding will aid in the reduction of dust and sediment.

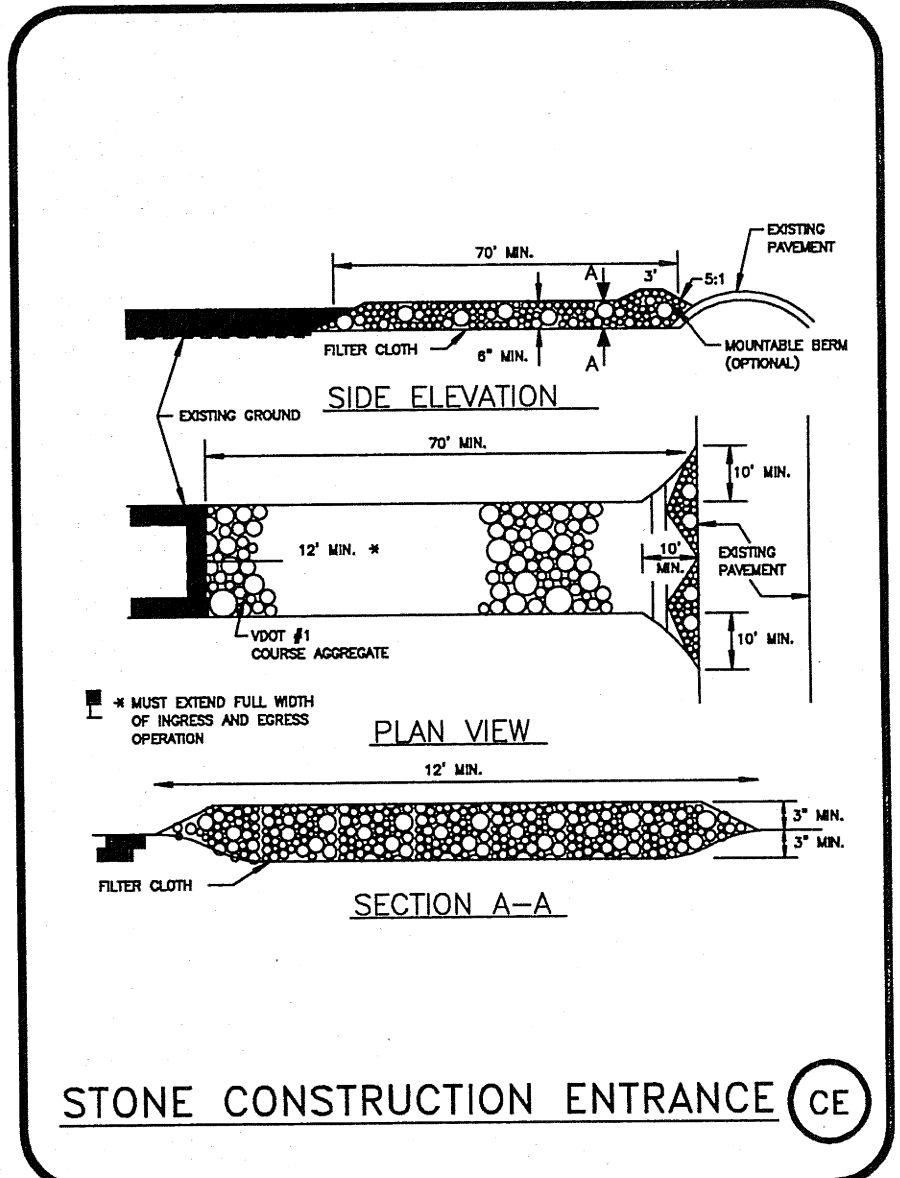
Temporary Seeding (Section 3.31)
Rates per acre:
Winter - 40 lbs. annual rye and 40 lbs. cereal rye.
Summer - 40 lbs. annual rye and 40 lbs. foxtail millet.
Fertilizer - 1500 lbs. of 10-18-10 per acre.
Lime - 2 tons per acre.

Permanent Seeding (Section 3.32)
After final grading, permanent seeding will be employed to reduce erosion and sediment.

KEY	TITLE	NO.	SYMBOL
CE	CONSTRUCTION ENTRANCE	3.02	
CRS	CONSTRUCTION ROAD STABILIZATION	3.03	
SF	SILT FENCE	3.05	
IP	STORM DRAIN INLET PROTECTION	3.07	
CIP	CULVERT INLET PROTECTION	3.08	
DD	TEMPORARY DIVERSION DIKE	3.09	
ST	TEMPORARY SEDIMENT TRAP	3.13	
OP	OUTLET PROTECTION	3.18	
CD	ROCK CHECK DAM	3.20	
PS	PERMANENT SEEDING	3.35	



QUANTITIES E & S AND COST ESTIMATE			
ITEM	QUANTITY	UNIT PRICE	COST
CONSTRUCTION ENTRANCE	1	\$700.00	\$700
SILT FENCE	2000 LF	2.00/LF	\$4000
PERM. SEEDING	3Ac.	\$2000Ac.	\$6,000
OUTLET PROTECTION	3	\$100	\$300
SD. INLET PROTECTION	90	\$100	\$9000
RIP RAP	100/TN	\$15/TN	\$1500
EC-2 MAT	200 LF	\$2.50/LF	\$500
EC-3 MAT	LF	\$4.00/LF	
MULCHING	LS	LS	\$8,000
CONSTRUCTION ROAD STAB.	350tons	\$15/ton	\$5250
DIVERSION DITCH	300LF	\$3/LF	\$900
ROCK CHK. DAM		\$50EA	
TEMP. SEEDING	4Ac.	\$500Ac.	\$2000
SUBTOTAL			\$38,150
20% CONTINGENCY			\$7630
TOTAL COST			\$45,780



SPECIAL EMPHASES

- Seeding Specifications:
- Seasonal rates per acre:
- Feb. 1 to May 15
- 100 lbs. tall fescue
- 15 lbs. annual rye
- 2 lbs. red clover
- May 16 to July 31
- 120 lbs. tall fescue
- 10 lbs. foxtail millet
- 2 lbs. red clover
- Aug. 1 to Sept. 15
- 100 lbs. tall fescue
- 15 lbs. annual rye
- 2 lbs. red clover
- Sept. 16 to Jan. 31
- 120 lbs. tall fescue
- 10 lbs. cereal rye
- 2 lbs. red clover
- Fertilizer - all seasons - 1500 lbs. of 10-18-10 per acre
- Lime - all seasons - 2 tons per acre
- A mulch cover is required on every seeding:
- Straw at 80 bales per acre or an approved manufactured mulch/stabilization material.
- All seeding, with required associated practices, will be in accordance with all applicable sections of the Virginia Erosion and Sediment Control Handbook.
- g. Mulching (Section 3.35)
To prevent erosion by protecting the soil surface from raindrop impact and reducing velocity of overland flow. Areas which have been permanently seeded shall be mulched immediately following seeding. If fiber mulch is used as part of hydroseding, no tacking is required. If straw is utilized as mulch, fiber mulch shall be utilized as anchor material and applied by means of a hydrosprayer.
- h. Dust Control (Section 3.39)
If arid condition prevail, dust control practices will be employed as required.
- i. Construction Road Stabilization (Section 3.03)
Temporary stabilization of roadways with stone immediately after grading.

Management

- a. Construction should be sequenced so that grading operations can begin and end as quickly as possible.
- b. Erosion and Sediment control devices shall be installed as the first step of construction.
- c. Areas which are not to be disturbed shall be clearly marked by flags, signs, etc.
- d. 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.

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:

- a. 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.
- b. The seeded areas will be checked regularly to ensure that a good stand is maintained. Areas should be fertilized, limed and reseeded as needed.
- c. All graveled areas shall be checked for a uniform grade with no ruts or channels and top dressed with new gravel as required.

- d. All erosion and sediment control measures shall remain in place until their removal has been approved by the Botetourt County Erosion and Sediment Control Administrator.
- e. If, during construction, the Erosion and Sediment Control reviewing Officers considers the Erosion and Sediment items to be inadequate, he or she, at their discretion require the addition of other control measures.

General

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.

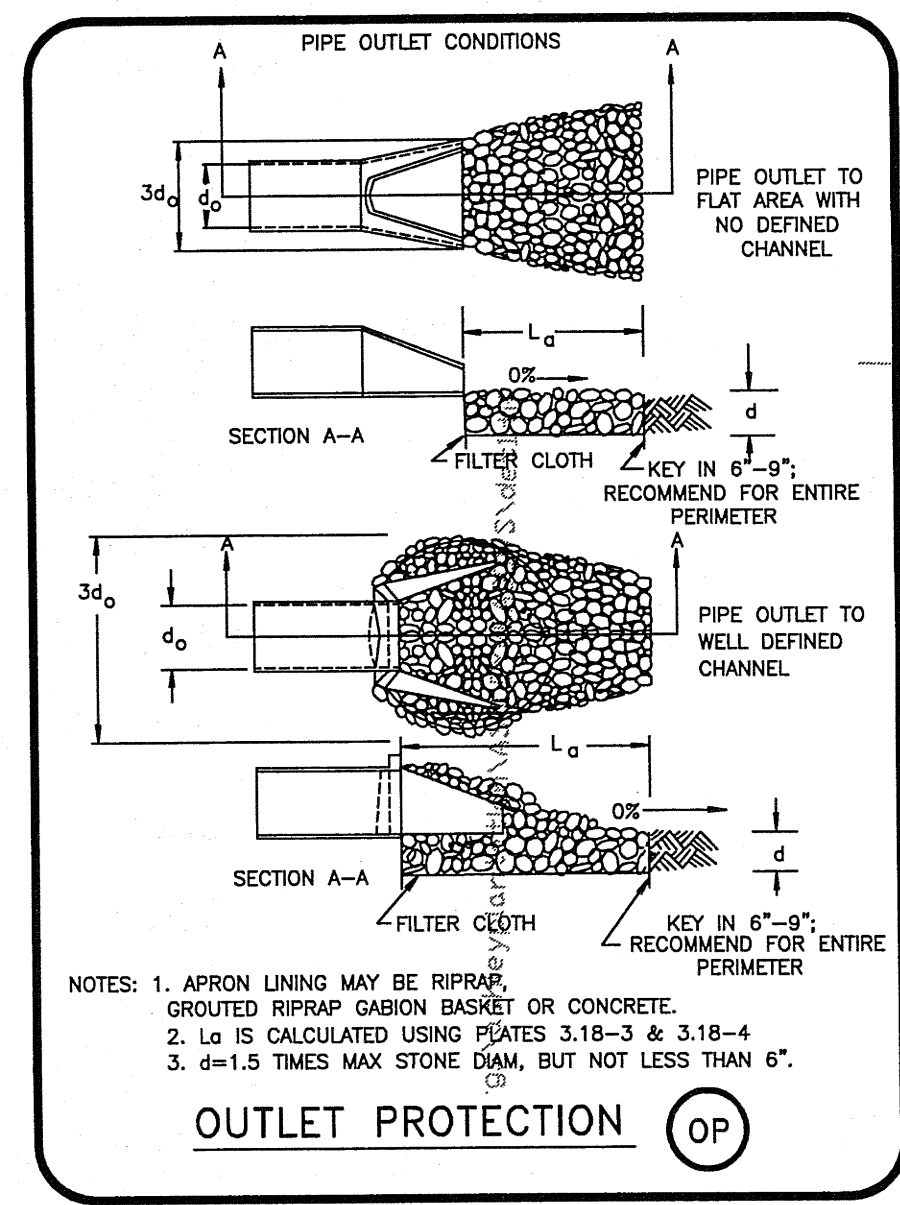
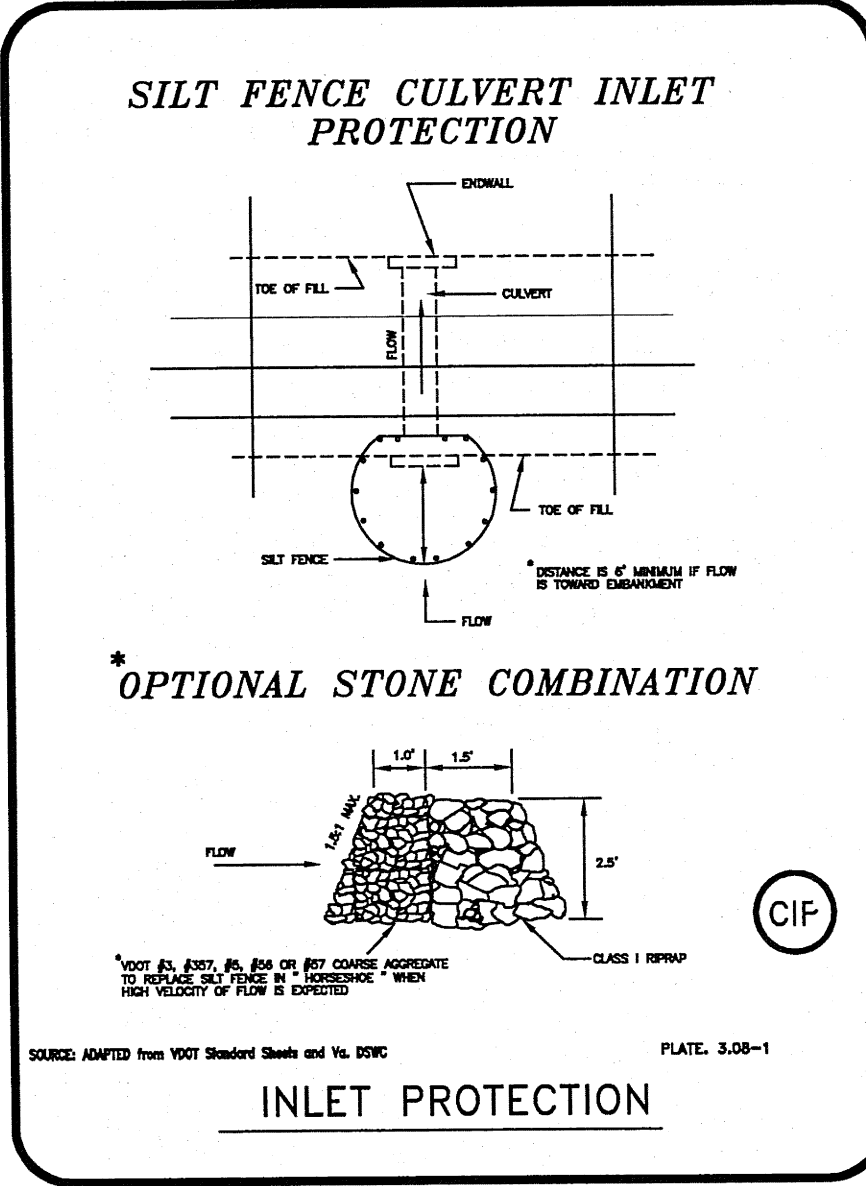
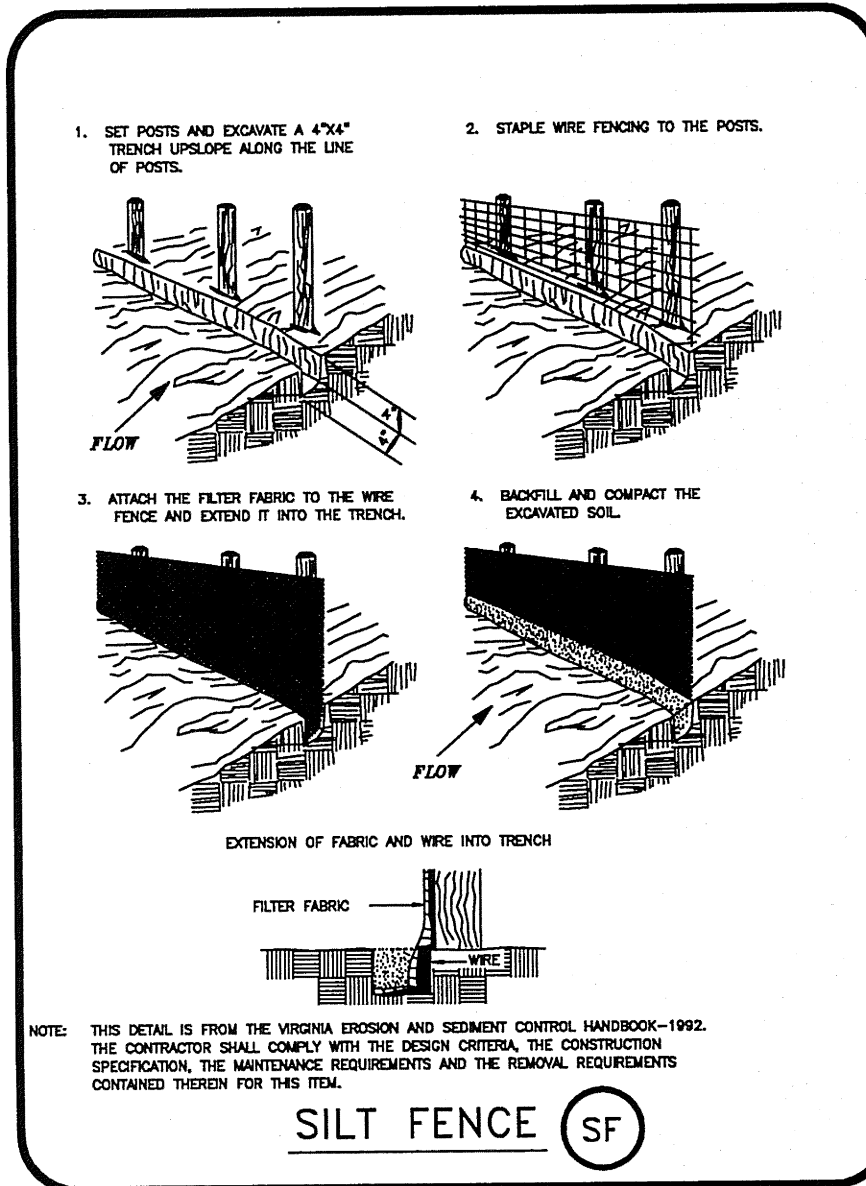
All materials and measures employed for erosion and sediment control will be in accordance with the Virginia Erosion and Sediment Control Handbook, latest edition.

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.

This project is to be constructed consistent with the Virginia Erosion and Sediment Control Regulations, (Latest Edition).

GENERAL NOTES:

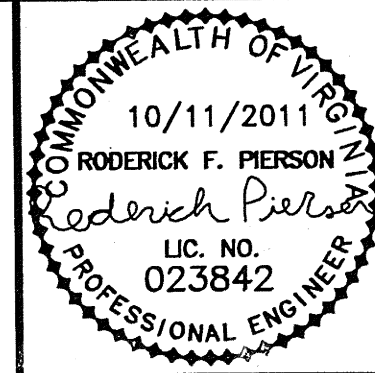
1. NO SEARCH OF UNDERGROUND UTILITIES WAS CONDUCTED.
2. CONTRACTOR SHALL CONTACT THE COUNTY OF BOTETOURT AND MISS UTILITY PRIOR TO WORK FOR LOCATION OF UNDERGROUND UTILITIES.



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REV	DATE	DESCRIPTION	BY	APP

E & S DETAIL SHEET
SANTILLANE TOWNHOMES
BOTETOURT COUNTY, VIRGINIA



SCALE: -
COMM. NO.
DATE: 11/12/09
SHEET 14