

EROSION & SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

The purpose of this project is to construct a proposed five pump, kiosk fuel center. This project will include all necessary grading and utility construction to serve the project site.

EXISTING SITE CONDITIONS

The proposed site is located on approximately 5.82 acres (1.48 acres developed) of property that crosses 23rd St., located north of Towers Shopping Mall in Roanoke, VA. The site is currently vacant (formerly a fuel center) and consists of mostly grassy with a concrete pad. The terrain slopes being in the 2% to 50% range.

ADJACENT AREAS

The project site is bordered to the north by Brandon Ave., to the west by a residential lot, to the east and south by Towers Shopping Center

SOILS

The Roanoke City and County Soil Survey classifies the soils in this area as 1) Speedwell-Urban land complex, 0-2% slopes, occasionally flooded, 2) Udorthents-Urban land complex, 3) Urban land. Onsite investigation is generally required to determine specifics of the soil in particular area.

CRITICAL EROSION AREAS

1. The potential critical erosion areas are excavated 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

1. Temporary Construction Entrance (Section 3.02) The two temporary construction entrances will be installed to limit tracking onto public roads. Should tracking occur the road will be immediately cleaned.
2. Construction Road Stabilization (Section 3.03) Construction Road Stabilization will be applied to all areas that are to receive pavement.
3. Silt Fence (Section 3.05) Temporary silt fences will be installed as indicated on the site plan.
4. Inlet Protection (Section 3.07) Inlet protection will be placed at all storm structure inlets to prevent sediment from entering the system.
5. Surface Roughening (Section 3.29) Surface roughening will be employed on all slopes at or exceeding 2:1.
6. 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.
7. 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, blend 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
8. Mulching (Section 3.35) Application of plant residues or other suitable materials to the soil surface to prevent erosion by protecting the soil surface from raindrop impact and reducing the velocity of overland flow, to foster the growth of vegetation by increasing available moisture and providing insulation against extreme heat and cold. Areas which have been permanently seeded should be mulched immediately following seeding.
9. Dust Control (Section 3.39) If arid conditions prevail dust control practices will be employed as required.

MANAGEMENT

1. Construction should be sequenced so that grading operations can begin and end as quickly as possible.
2. Erosion and Sediment control devices shall be installed as the first step of construction.
3. Areas which are not to be disturbed shall be clearly marked by flags, signs, etc.
4. 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.
5. 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 OF DETENTION FACILITIES

The applicant shall obtain approval from the locality of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.

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 an underground stormwater management facility built as a part of this project.

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 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.
2. The seeded areas will be checked regularly to ensure that a good stand is maintained. Areas should be fertilized and re-seeded as needed.
3. All soil stockpile areas shall be stabilized in accordance with Virginia Erosion and Sediment Control Handbook, Latest Edition.

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.

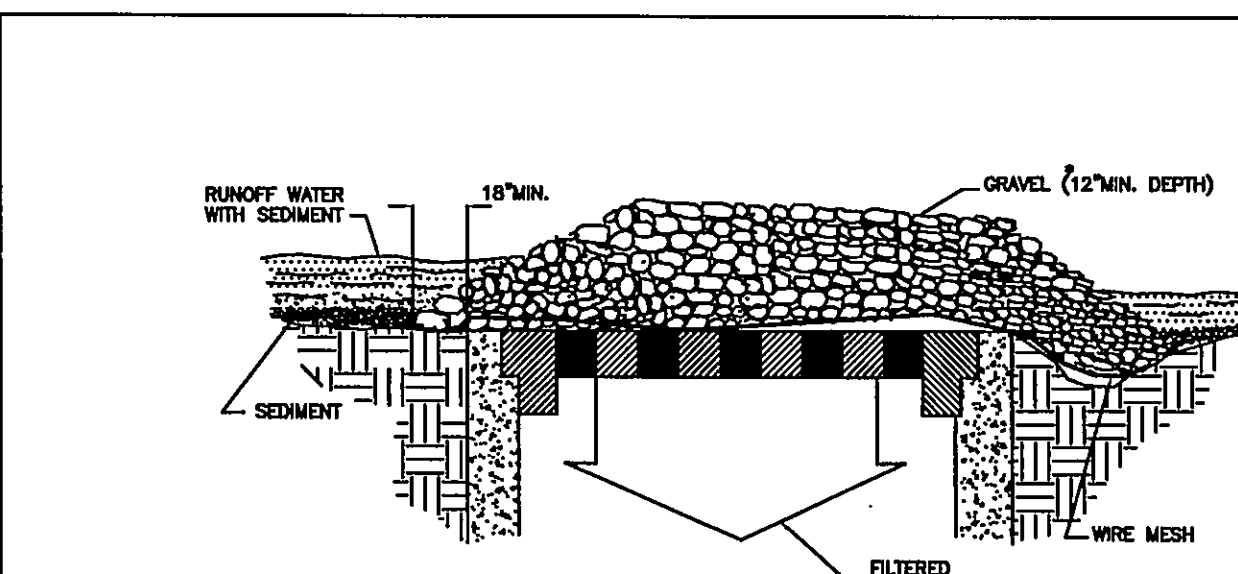
All materials and measures employed for erosion and sediment control will be in accordance with the Virginia Erosion and Sediment Control Handbook, latest edition.

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

This project is to be constructed consistent with the 1992 Virginia Erosion And Sediment Control Regulations.

VESCH STATE MINIMUM STANDARDS

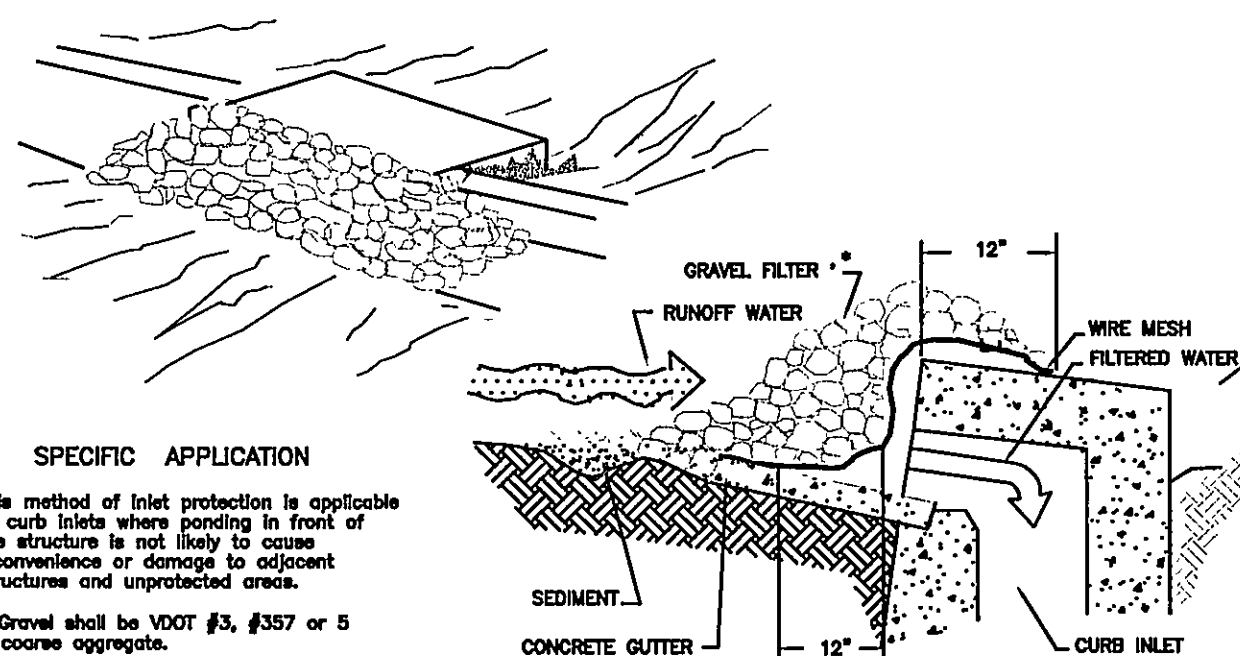
- YES NO N/A
- ☒ ☐ ☐ MS-1 Have temporary and permanent stabilization been addressed in the narrative? YES-VESCH SECTION NOTED.
- Are practices shown on the plan? YES, DENOTED WITH SYMBOLS
- Seed specifications? YES, IN NARRATIVE
- Mulching? YES, IN NARRATIVE
- Gravel? NO, NOT APPLICABLE
- ☒ ☐ ☐ MS-2 Has stabilization of soil stockpiles been addressed in the narrative? YES, UNDER MAINTENANCE.
- ☒ ☐ ☐ Are sediment trapping measures provided?
- ☒ ☐ ☐ MS-3 Has maintenance of permanent stabilization been addressed? YES, IN NARRATIVE.
- ☒ ☐ ☐ MS-4 Are sediment trapping facilities to be constructed as a first step in LDA?
- ☒ ☐ ☐ MS-5 Has stabilization of earthen structures been addressed? YES, IN NARRATIVE
- ☒ ☐ ☐ MS-6 Are sediment basins required where needed?
- ☒ ☐ ☐ Detailed design calculations included for all proposed sediment traps and basins?
- ☒ ☐ ☐ MS-7,8 Has stabilization of cut and fill slopes been adequately addressed? YES, IN NARRATIVE.
- ☒ ☐ ☐ MS-9 (i. e. Surface Roughening, Outlet Protection.
- ☒ ☐ ☐ MS-8 Are paved flumes, channels, or slope drains required where necessary?
- ☒ ☐ ☐ MS-10 Is adequate inlet protection required on all operational storm sewer inlets? YES, SEE PLAN.
- ☒ ☐ ☐ MS-11 Are channel lining and/or outlet protection required on stormwater conveyance channels?
- ☒ ☐ ☐ MS-12 Are in-stream construction measures required so that channel damage is minimized?
- ☒ ☐ ☐ MS-13 Are temporary stream crossings of non-erodible material required where applicable?
- ☒ ☐ ☐ MS-14 (NOTE: This regulation requires that all applicable federal, state and local regulations pertaining to working in or crossing live watercourses be followed.)
- ☒ ☐ ☐ MS-15 Has restabilization of areas subject to in-stream construction been adequately addressed?
- ☒ ☐ ☐ MS-16 Is stabilization of utility trenches addressed?
- ☒ ☐ ☐ MS-17 Is the transport of soil and mud onto public roadways properly controlled? (i.e. Construction Entrances, Wash Racks, daily cleaning of road ways, transport of sediment to a trapping facility)? YES, CONSTRUCTION ENTRANCE PROVIDED.
- ☒ ☐ ☐ MS-18 Has the removal of temporary practices been addressed? YES, IN NARRATIVE.
- ☒ ☐ ☐ Has maintenance of practices been addressed? (i. e. repair of structures and removal of accumulated sediment)? YES, IN NARRATIVE.
- ☒ ☐ ☐ MS-19 Are properties and waterways downstream from development adequately protected from erosion and sediment deposition due to increases in peak stormwater runoff? YES. SEE CALCULATIONS.



SPECIFIC APPLICATION

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.

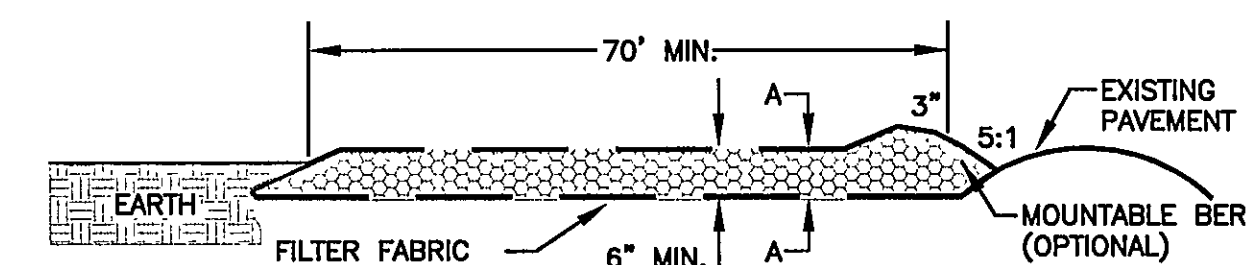


SPECIFIC APPLICATION

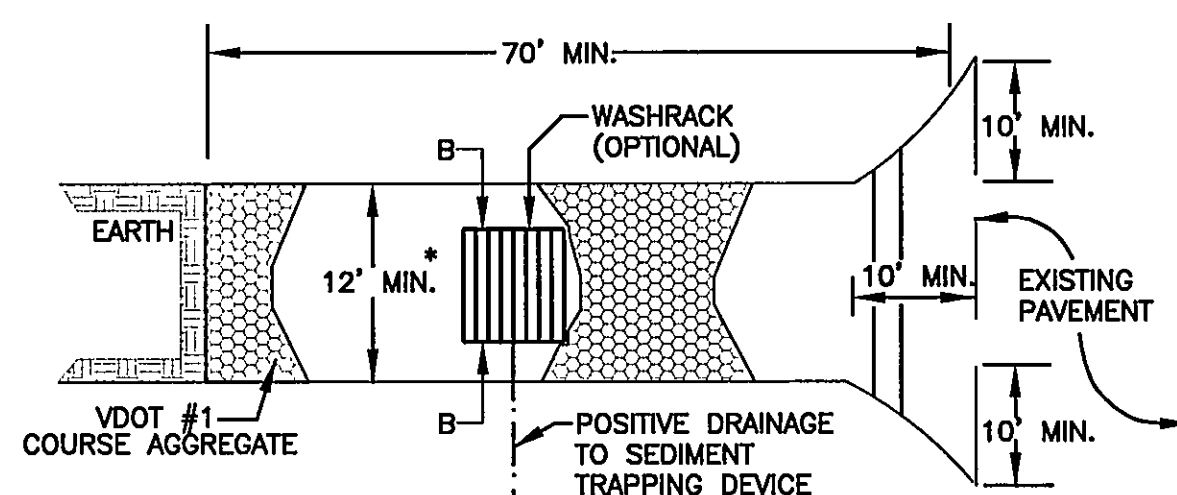
This method of inlet protection is applicable at curb inlets where ponding in front of the structure is not likely to cause inconvenience or damage to adjacent structures and unprotected areas.

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

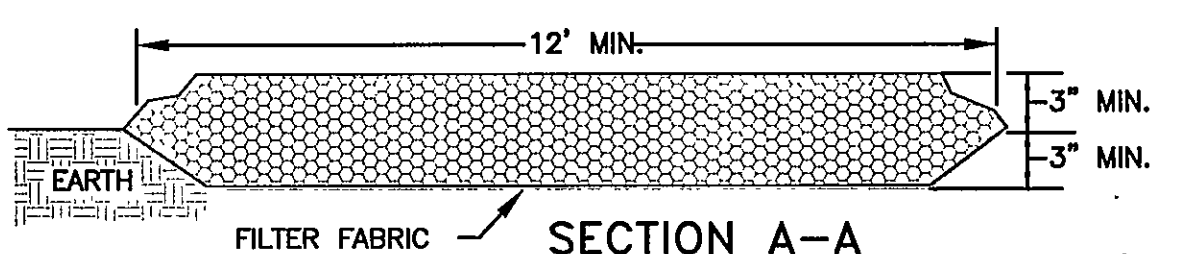
STONE CONSTRUCTION ENTRANCE



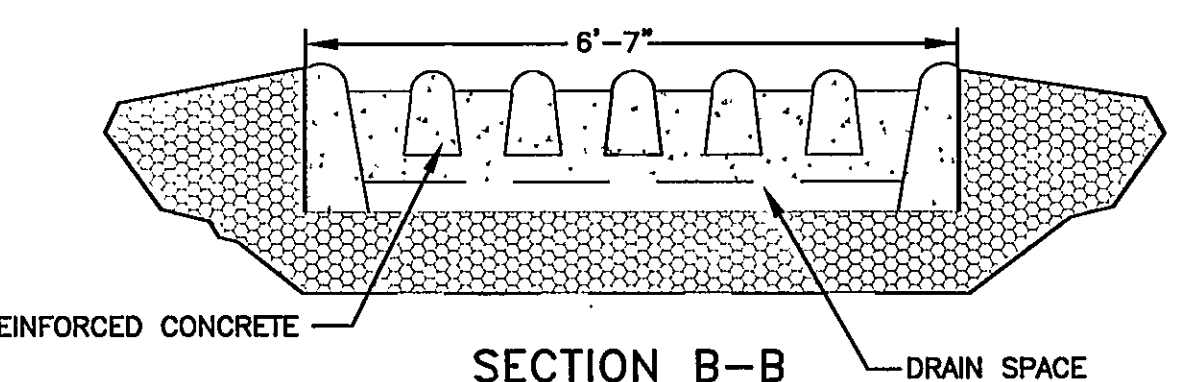
SIDE ELEVATION



PLAN VIEW

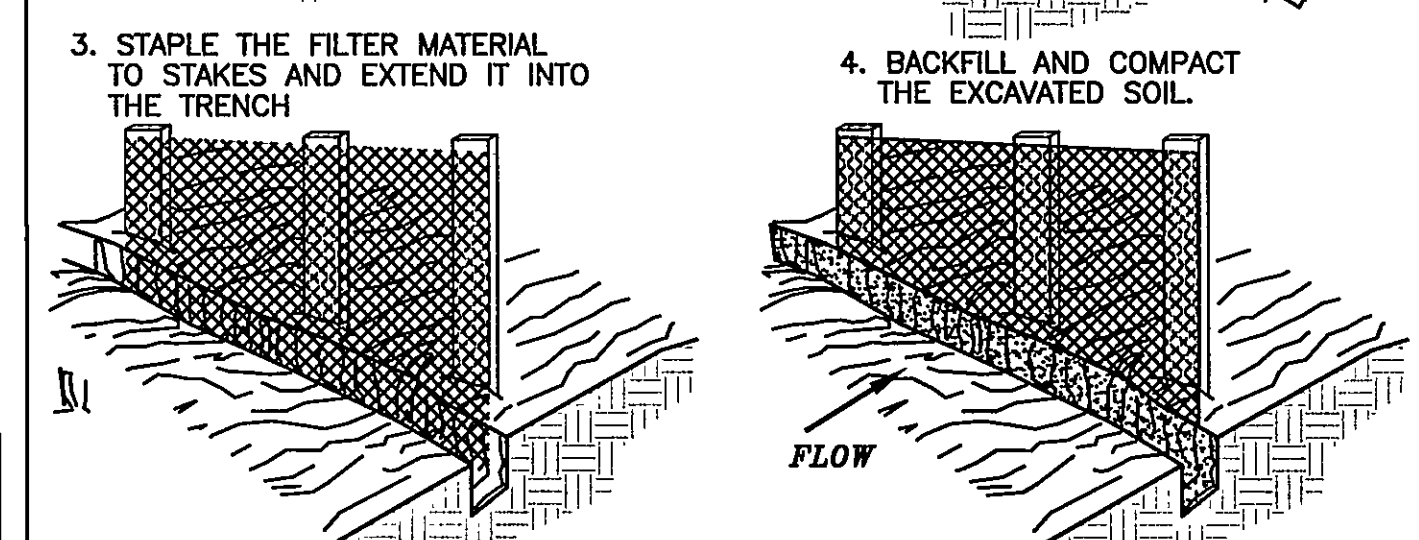
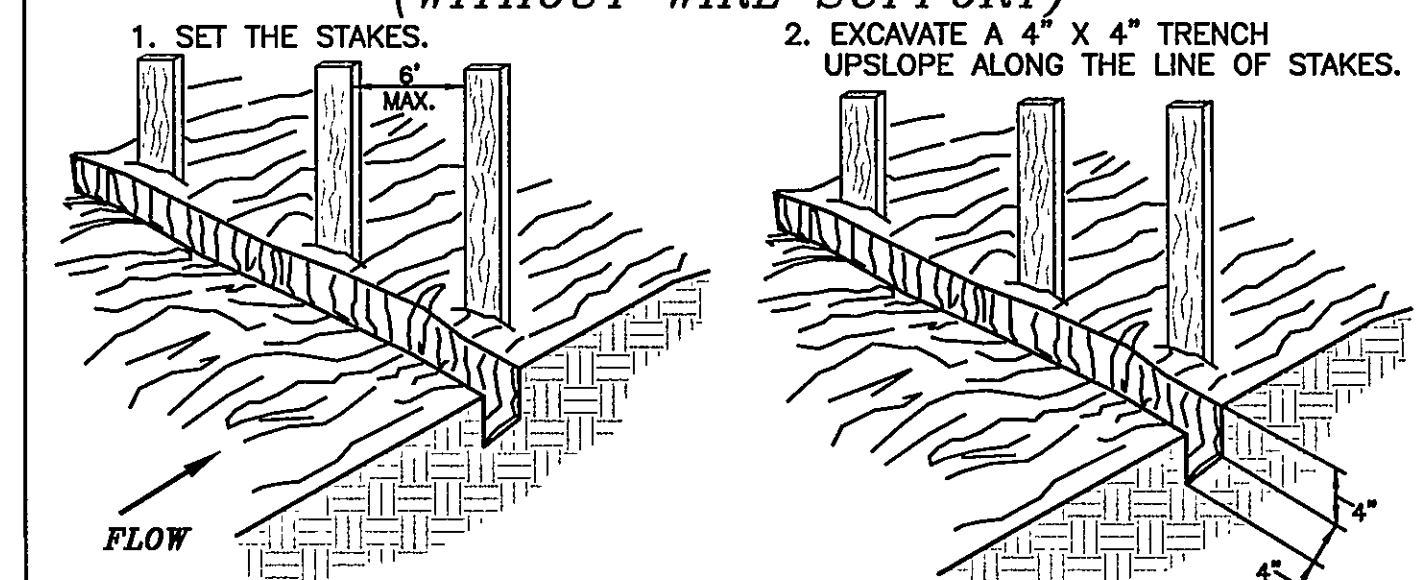


SECTION A-A

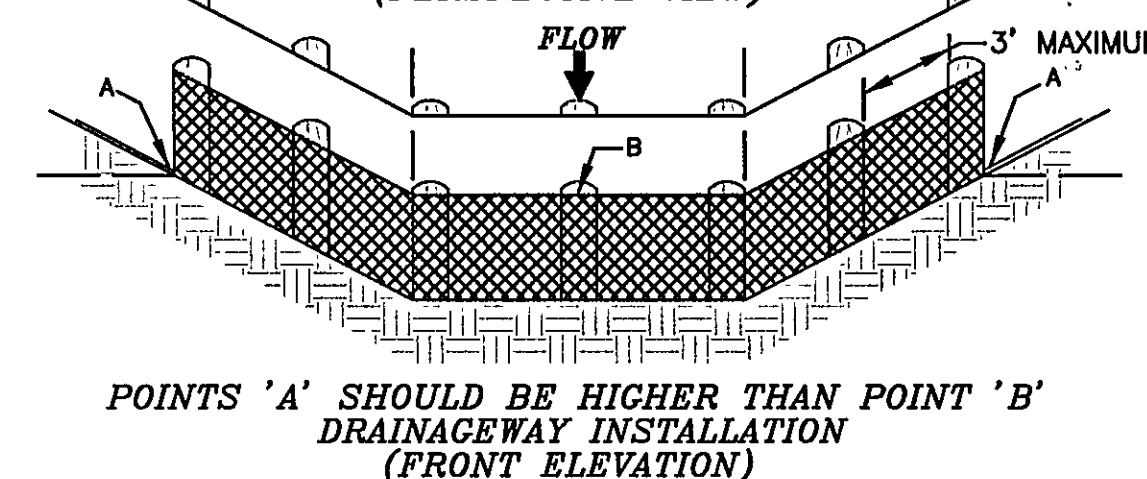


SECTION B-B

CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)



SHEET FLOW INSTALLATION (PERSPECTIVE VIEW)



POINTS 'A' SHOULD BE HIGHER THAN POINT 'B'
DRAINAGEWAY INSTALLATION
(FRONT ELEVATION)

IP GRAVEL AND WIRE MESH DROP
INLET SEDIMENT FILTER

IP GRAVEL CURB INLET
SEDIMENT FILTER

APPROVED
SEP 26 2008

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L M W P.C.

Engineering
Landscape
Surveying
Design

KROGER R-400
FUEL CENTER INSTALLATION
CITY OF ROANOKE, VIRGINIA

NO.	DATE	DESCRIPTION	BY	DATE
1	06/05/08	PER ROANOKE CITY COMMENTS	MCP	

Richard C. White
Lic. No. 20021
Professional Engineer

Designed By	RCW
Drawn By	MCP
Checked By	RCW
Approved By	RCW
Submitted By	RCW
Drawing	1912H
Date	03/03/08
Scale	NONE
Commission No.	1997D
Sheet	3 of 12