

Contractor shall pay particular attention to the following MINIMUM STANDARDS:

MS-1: Though TS / PS labels are shown generically on the plans, the contractor shall seed all areas not indicated to be otherwise stabilized with permanent seed mixture within 7 days of reaching final grade or with temporary seed mixture any area yet to reach final grade but that is not proposed to be actively involved in the work within 30 days. These seed mixtures and application specifications are shown herein. The contractor shall honor the clearing and grading limits shown on the plan.

MS-2: The contractor shall stabilize with TS and protect from erosion, with any applicable method, all stockpiles and any on-site or off-site borrow or spoil areas, as applicable. Approval of this plan does not cover off-site borrow or spoil areas. Prior to commencing land disturbing activities in areas other than indicated on these plans (including but not limited to, off-site borrow or waste areas), the contractor shall submit a Supplementary Erosion Control Plan for review and approval by the Plan Approving Authority.

MS-3: Where TS/PS are not applicable provide other means of stabilization (CRS, etc.) within 7 days of reaching final grade or within 30 days where the area is yet to reach final grade but is not proposed to be actively involved in the work.

MS-4: All soil erosion and sediment control measures shall be placed in advance of the work they are intended to protect.

MS-5: Erosion controls and structures shall be stabilized immediately upon installation.

MS-6: Where a sediment trap (<3 acres of drainage) or sediment basin (>3 acres of drainage) are indicated calculations shown are based on outlined drainage areas. Contractor shall honor indicated drainage divides and conform to volumes, details, etc. provided on plans.

Where applicable, show drainage areas and calculations on plans.

MS-7: Care has been taken in design to minimize drainage over slopes and provide a suitable protective stabilization method. Contractor shall protect slope areas during and after construction from concentrated runoff and the erosion effects of wind and rain. Stabilize as soon as practical to minimize erosion.

MS-8: Where concentrated runoff has been routed down slopes care has been taken to design an adequate channel or drain. Contractor shall install these measures along with their stabilization as soon as practical to protect slopes.

NOT APPLICABLE: no channels or drains are proposed over slopes.

MS-9: NOT APPLICABLE: seepage through slopes is not anticipated to be encountered on this project.

MS-10: Inlet or culvert inlet protection is proposed for the inlets of all storm sewers or culverts on-site. RLD shall insure proper installation and ensure adequate slope based on drainage area of each inlet.

MS-11: RLD shall verify that adequate channel linings and proper outlet protection is in place prior to operation of storm sewer system.

NOT APPLICABLE: no channels or outlet protection is proposed.

MS-12: When working in and around a live watercourse, the contractor shall take great care to minimize impact on the stream. Assume that proper permits from DER / OCE are in hand prior to commencing such work.

Live watercourse protection and permits are NOT APPLICABLE; no live watercourses exist within or adjacent to this project.

MS-13: Where more than 2 trips in 6 months are expected across a live watercourse obtain the necessary permit and install a temporary stream crossing.

Stream crossing is NOT APPLICABLE; no live watercourses exist within or adjacent to this project.

MS-14: Other federal, state, and local regulations must be met when working in live watercourses.

Regulations pertaining to live watercourses are NOT APPLICABLE; no live watercourses exist within or adjacent to this project.

MS-15: The bed and banks of disturbed watercourses must be stabilized immediately.

Live watercourse bed and bank stabilization are NOT APPLICABLE; no live watercourses exist within or adjacent to this project.

MS-16: Regarding utility installations, no more than 500 LF of trench may be open at a given time. Excavated material shall be placed on uphill side of trench. Effluent of any dewatering system used must be filtered. Trenches shall be properly backfilled and compacted per detail and specs. Completed installation shall be re-established immediately.

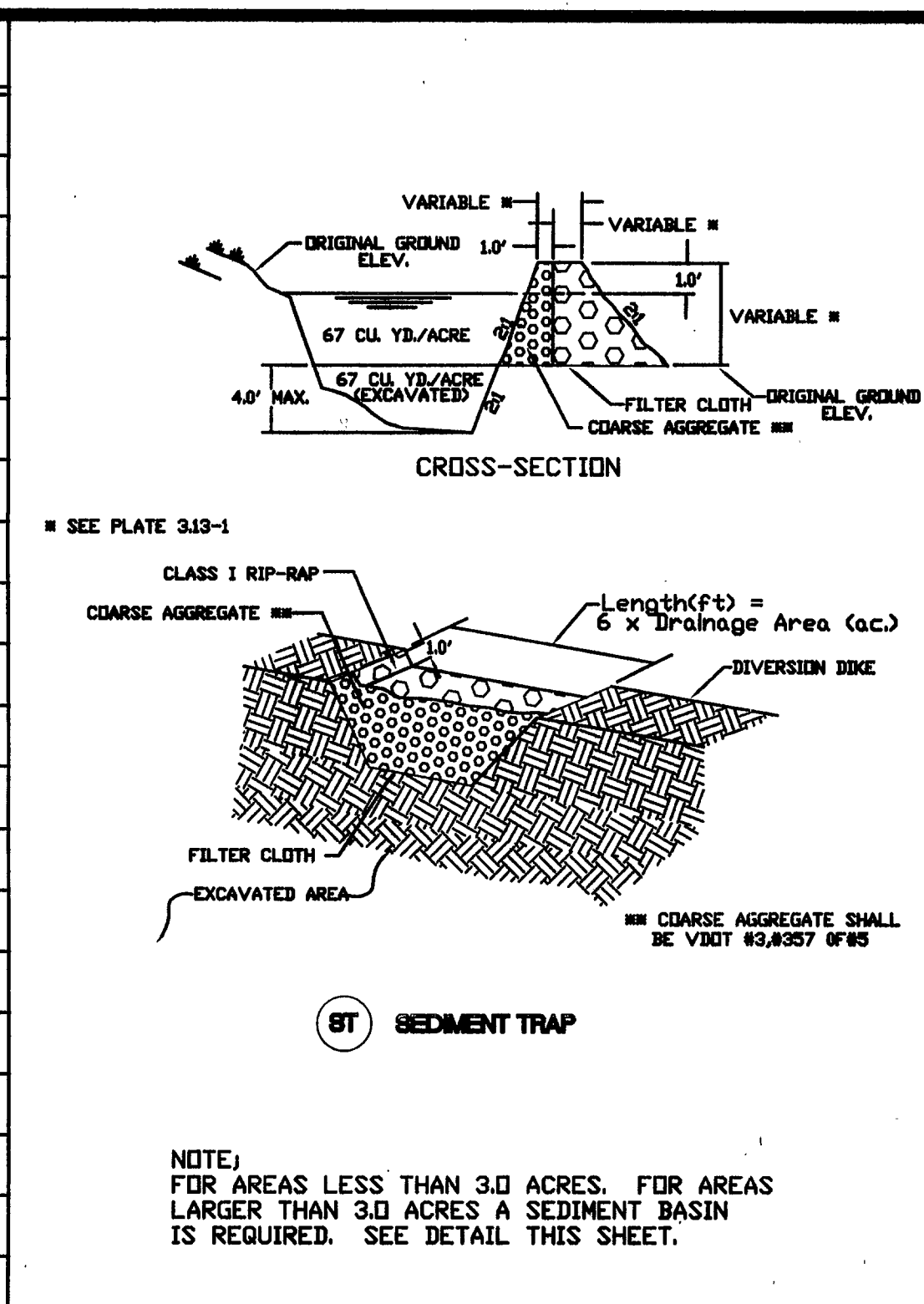
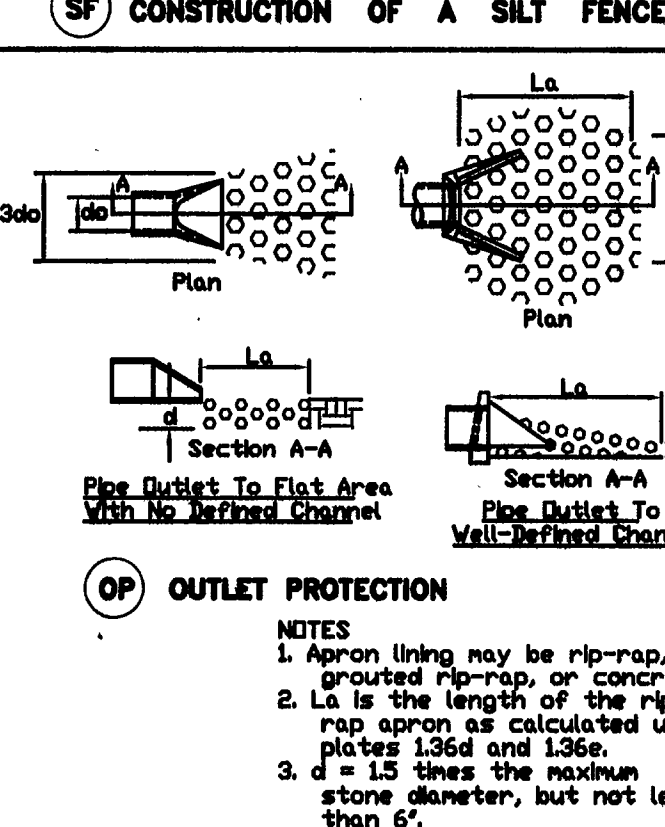
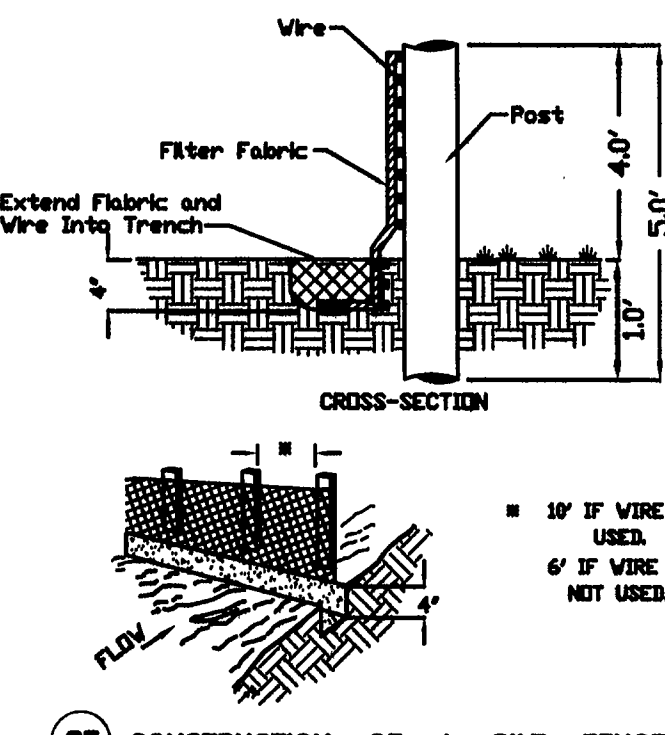
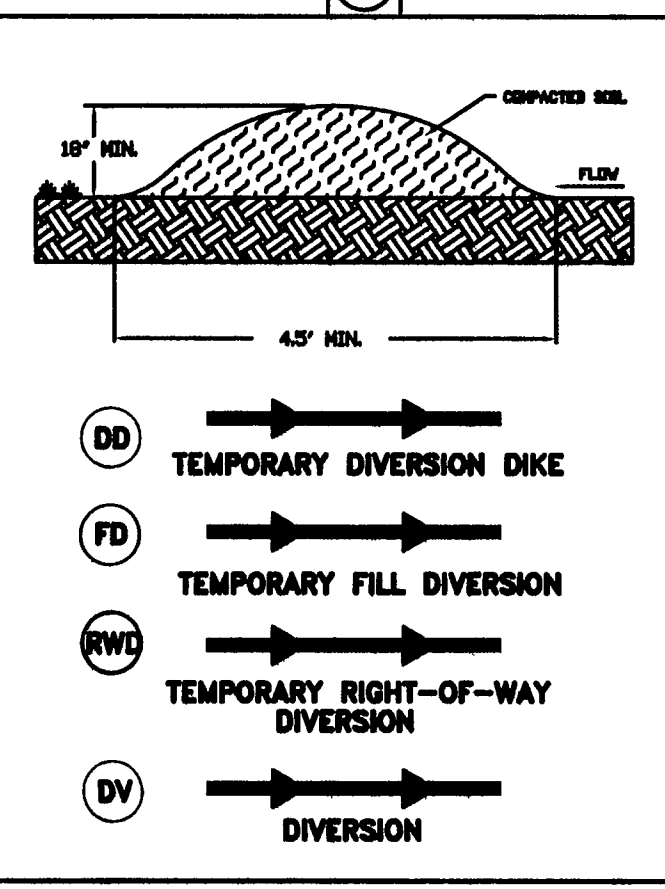
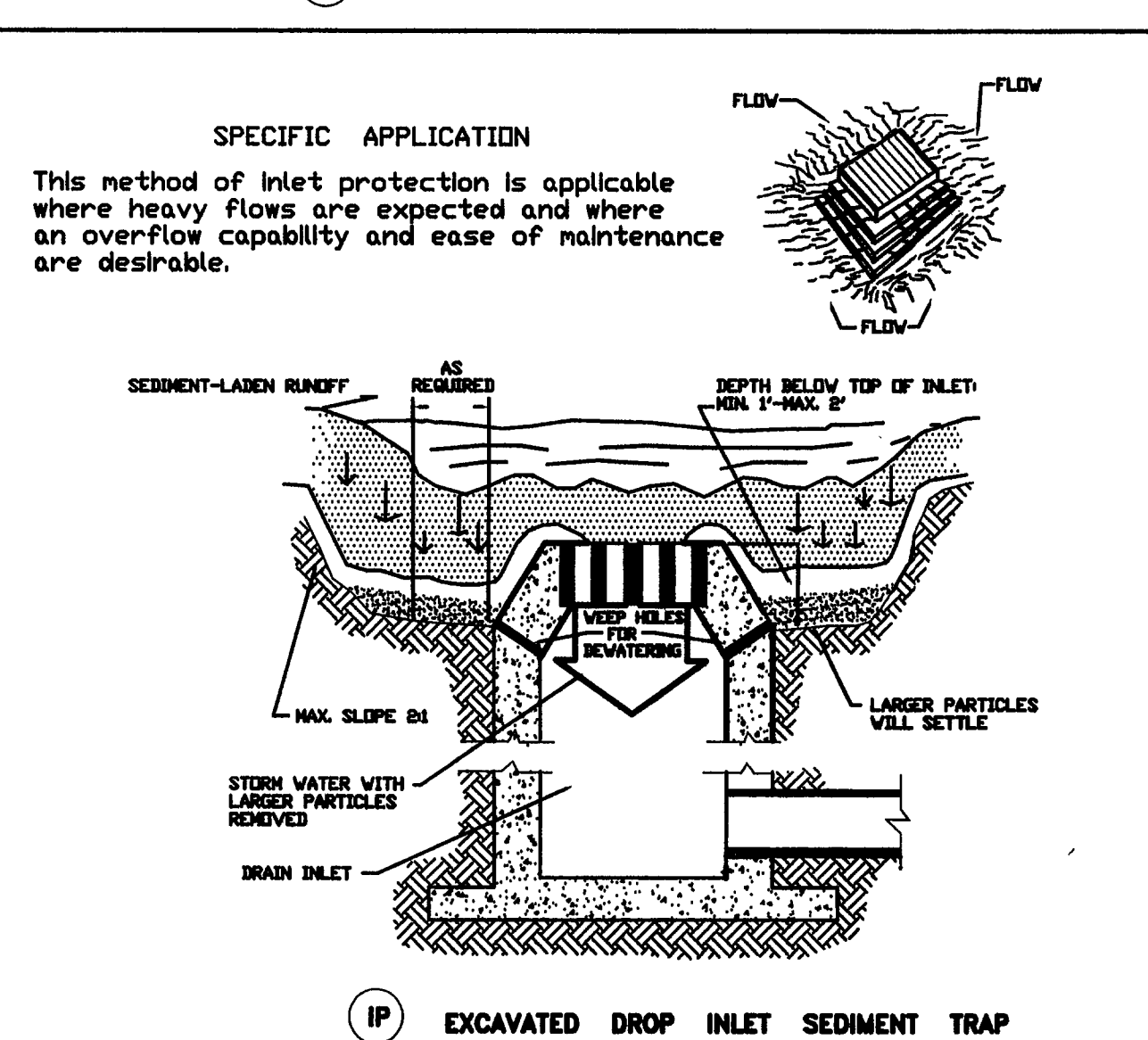
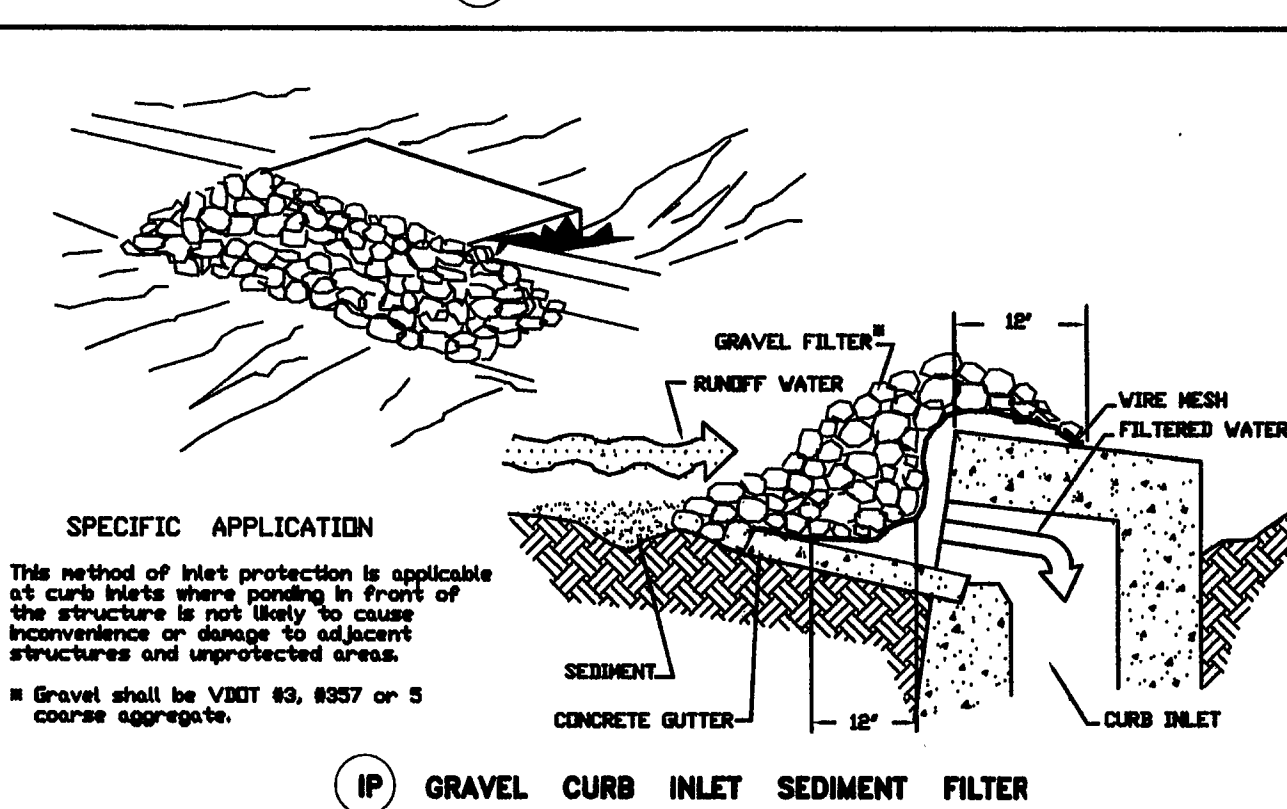
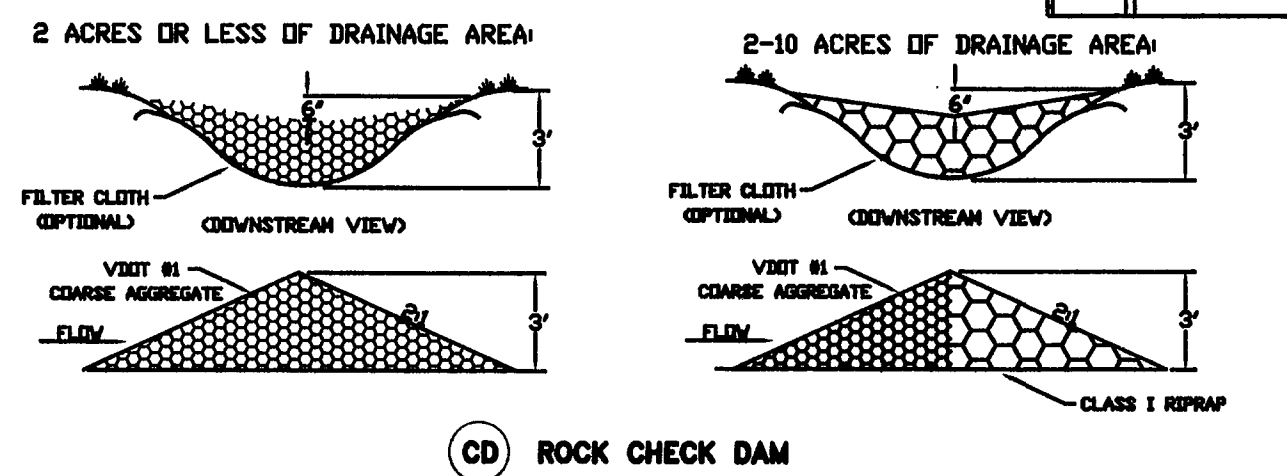
MS-17: The contractor shall provide adequate means of cleaning mud from trucks and / or other equipment prior to entering public streets. It is the contractor's responsibility to insure that the streets are in a clean, mud and dust free condition at all times.

MS-18: See Maintenance under ESC Narrative for removal of temporary measure.

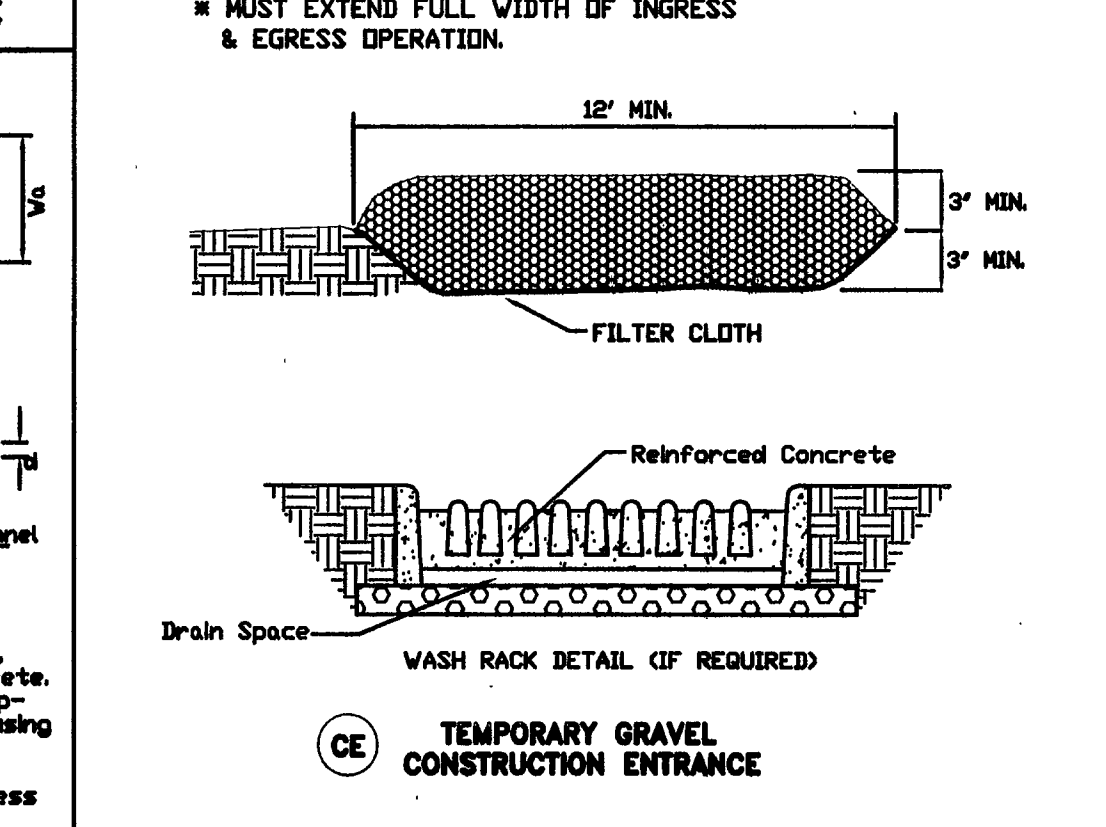
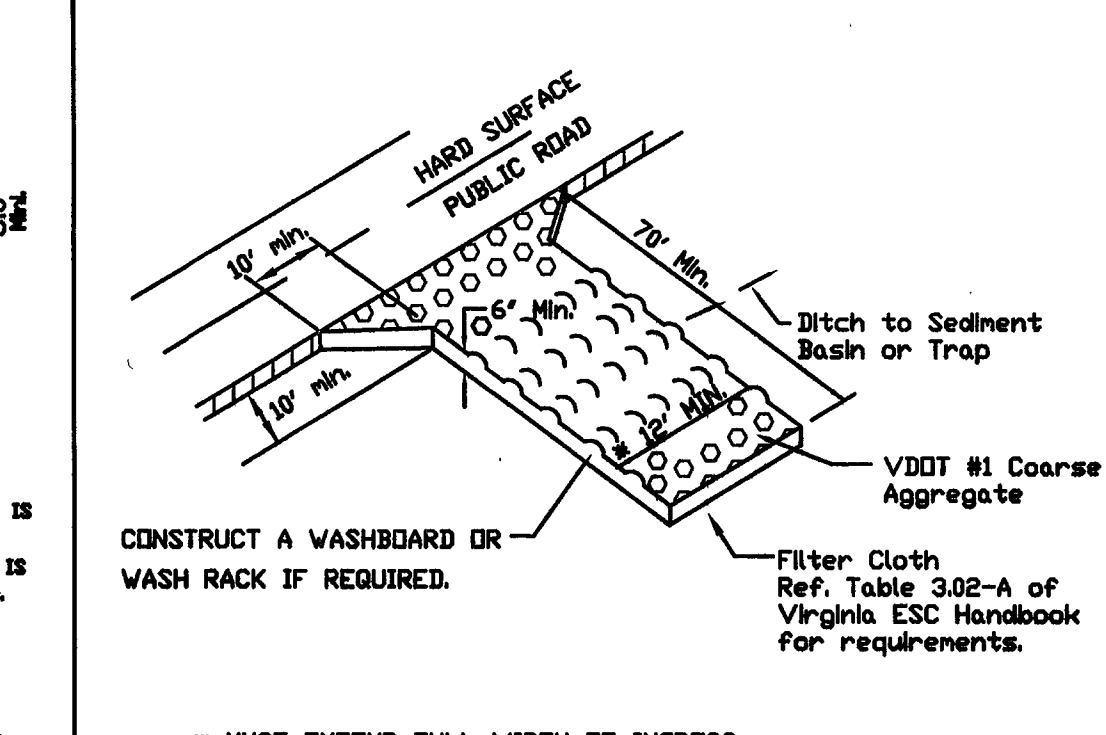
Include in maintenance schedule that RLD shall observe off-site receiving channel regularly and correct any problems (even downstream).

MS-19: Increases in stormwater volume, velocity, and peak runoff have been addressed in the plan per calculations previously submitted for review. Responsible Land Disturber shall pay particular attention to off-site areas contributing runoff to the site and off-site locations receiving runoff from this project. All ditches, swales, and natural watercourses downstream of this project shall be field inspected during and after construction by the RLD to ensure compliance with DOT's MS-19. If erosion or scour is occurring the developer shall be responsible for all corrective measures.

NO.	TITLE	KEY	SYMBOL	NO.	TITLE	KEY	SYMBOL
3.01	SAFETY FENCE	SAF		3.20	ROCK CHECK DAMS	CD	
3.02	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE	CE		3.21	LEVEL SPREADER	LS	
3.03	STRAW BALE BARRIER	STB		3.22	VEGETATIVE STREAMBANK STABILIZATION	VSS	
3.04	SILT FENCE	SF		3.23	STRUCTURAL STREAMBANK STABILIZATION	SSS	
3.05	BRUSH BARRIER	BB		3.24	TEMPORARY VEHICULAR STREAM CROSSING	VSC	
3.06	STORM DRAIN INLET PROTECTION	IP		3.25	UTILITY STREAM CROSSING	USC	
3.07	CULVERT INLET PROTECTION	CIP		3.26	DEWATERING STRUCTURE	DS	
3.08	TEMPORARY DIVERSION DIKE	DD		3.27	TURBIDITY CURTAIN	TC	
3.09	TEMPORARY FILL DIVERSION	FD		3.28	SUBSURFACE DRAIN	SD	
3.10	TEMPORARY RIGHT-OF-WAY DIVERSION	RWD		3.29	SURFACE ROUGHENING	SR	
3.11	DIVERSION	DV		3.30	TOPSOILING	TD	
3.12	TEMPORARY SEDIMENT TRAP	ST		3.31	TEMPORARY SEEDING	TS	
3.13	TEMPORARY SEDIMENT BASIN	SB		3.32	PERMANENT SEEDING	PS	
3.14	TEMPORARY SLOPE DRAIN	TS		3.33	SODDING	SD	
3.15	PAVED FLUME	PF		3.34	BERMUDA GRASS AND ZOYSIAGRASS ESTABLISHMENT	ZG	
3.16	STORMWATER CONVEYANCE CHANNEL	SCC		3.35	MULCHING	MU	
3.17	OUTLET PROTECTION	OP		3.36	SOIL STABILIZATION BLANKETS AND MATTING TREES, SHRUBS, VINES AND GROUND COVERS	VEG	
3.18	RIPRAP	RR		3.37	TREE PRESERVATION AND PROTECTION	TP	
3.19				3.38			
				3.39	DUST CONTROL	DC	



STRUCTURE	DRAINAGE AREA (ACRES)	STORAGE (C.Y.)		VEIR LENGTH (FT.)	VEIR HEIGHT (FT.)	BERM HEIGHT (FT.)
		REQ'D	DESIGN			
ST ₁	3.0 AC.	402	421	18.0	2.25	3.25
WET:	BOTTOM=	18.5'x45'		DEPTH=	4.0'	
	TOP=	34.5'x61'		STORAGE=	208 C.Y.	
DRY:	BOTTOM=	34.5'x61'		DEPTH=	2.25'	
	TOP=	43.5'x70'		STORAGE=	213 C.Y.	
ST ₂	0.3	40	44	1.8	1.25	2.25
WET:	BOTTOM=	12.5'x12.5'		DEPTH=	2.0'	
	TOP=	20.5'x20.5'		STORAGE=	20 C.Y.	
DRY:	BOTTOM=	20.5'x20.5'		DEPTH=	1.25'	
	TOP=	25.5'x25.5'		STORAGE=	24 C.Y.	



EROSION-SILTATION CONTROL COST ESTIMATE				
ALL COSTS GIVEN ARE COMPLETE IN PLACE				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
CONSTRUCTION ENTRANCE	EA	1	\$ 1,000.00	\$ 1,000.00
SILT FENCE	LF	515	\$ 3.00	\$ 1,545.00
INLET PROTECTION	EA	5	\$ 100.00	\$ 500.00
TEMPORARY DIVERSION DIKE	LF	1,000	\$ 2.00	\$ 2,000.00
RIGHT-OF-WAY DIVERSION	LF	35	\$ 3.00	\$ 105.00
SEDIMENT TRAP	EA	2	\$ 1,000.00	\$ 2,000.00
STORMWATER CONVEYANCE CHANNEL	LF	400	\$ 3.00	\$ 1,200.00
TEMPORARY/AND PERMANENT SEEDING	ACRE	3.4	\$ 2,000.00	\$ 6,800.00
OUTLET PROTECTION	EA	2	\$ 200.00	\$ 400.00
SUB-TOTAL				\$ 15,500.00
10% CONTINGENCY				\$ 1,550.00
TOTAL PROJECT COST				\$ 17,050.00

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 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 ROCKINGHAM COUNTY.

TS TEMPORARY SEEDING MIXTURE		
PLANTING DATES	SPECIES	RATE (LBS./ACRE)
SEPT. 1 - FEB. 15	50/50 MIX OF ANNUAL RYEGRASS (LOULUM MULTI-FLOREM) & CEREAL (WINTER) RYE (SECALE CEREALE)	50 - 100
FEB. 16 - APR. 30	ANNUAL RYEGRASS (LOULUM MULTI-FLOREM)	60 - 100
MAY. 1 - AUG. 31	GERMAN MILLET (SETARIA ITALICA)	50

PS PERMANENT SEEDING MIXTURE	
TYPE A	TYPE B (SLOPES 3:1 OR STEEPER)
15 OCTOBER TO 1 FEBRUARY K-31 FESCUE @ 5 LB / 1000 SF PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF	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
1 FEBRUARY TO 1 JUNE K-31 FESCUE @ 5 LB / 1000 SF ANNUAL RYE @ 1/2 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
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	
LIME: 140 LB / 1000 SF PULVERIZED AGRICULTURAL LIMESTONE	
FERTILIZER: 5-20-10 @ 25 LB / 1000 SF 38-0-0 @ 7 LB / 1000 SF	
MULCH: IF REQUIRED, SHALL BE USED OVER ALL SEEDING AREAS AND SHALL BE 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 IN A FIRM, FRIABLE, SEEDBED. MAXIMUM SEEDING DEPTH SHALL BE 1/4 INCH.	
TOTAL DISTURBED AREA =	3.4 AC.

WVWA ID# 6PEL2M