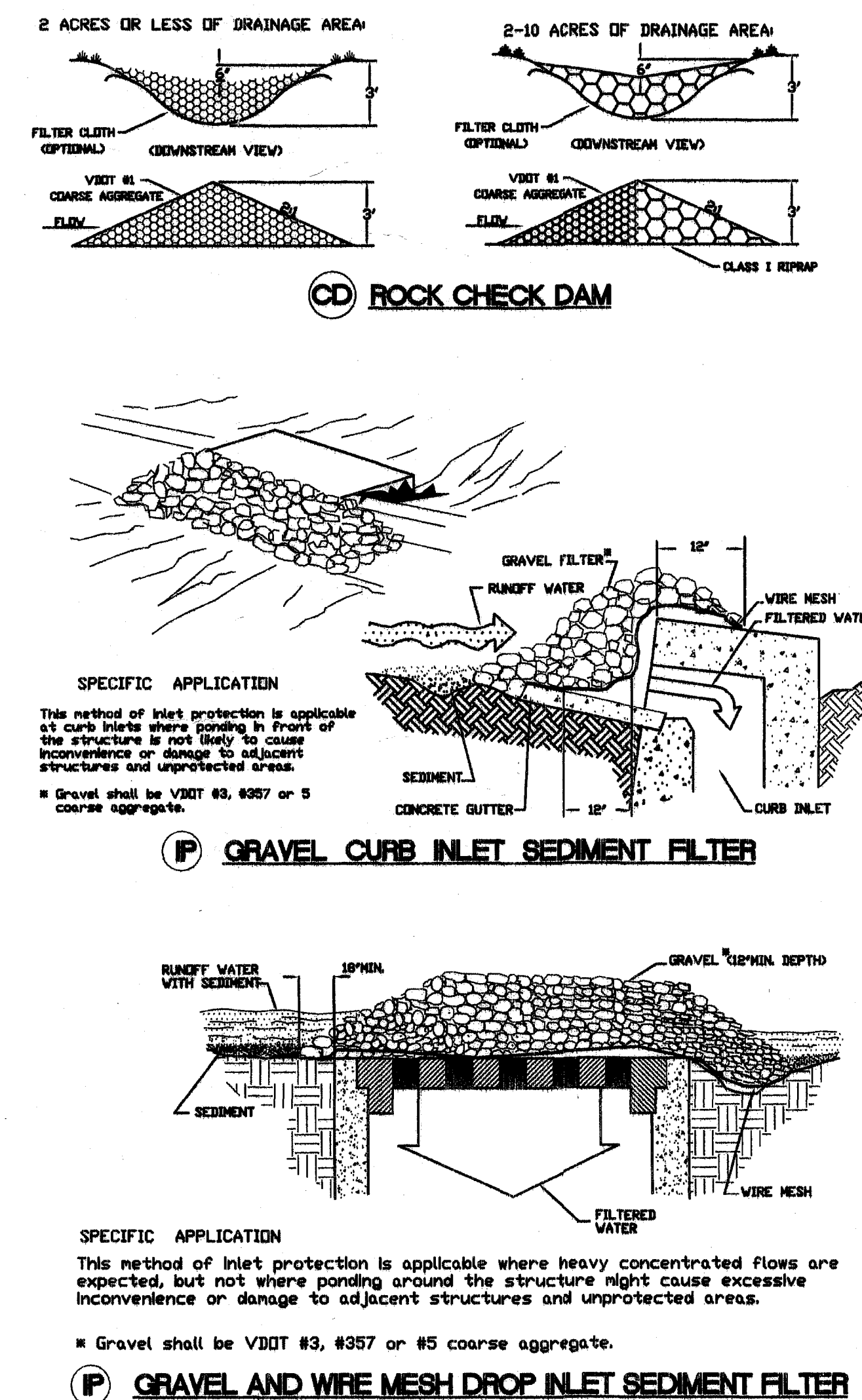
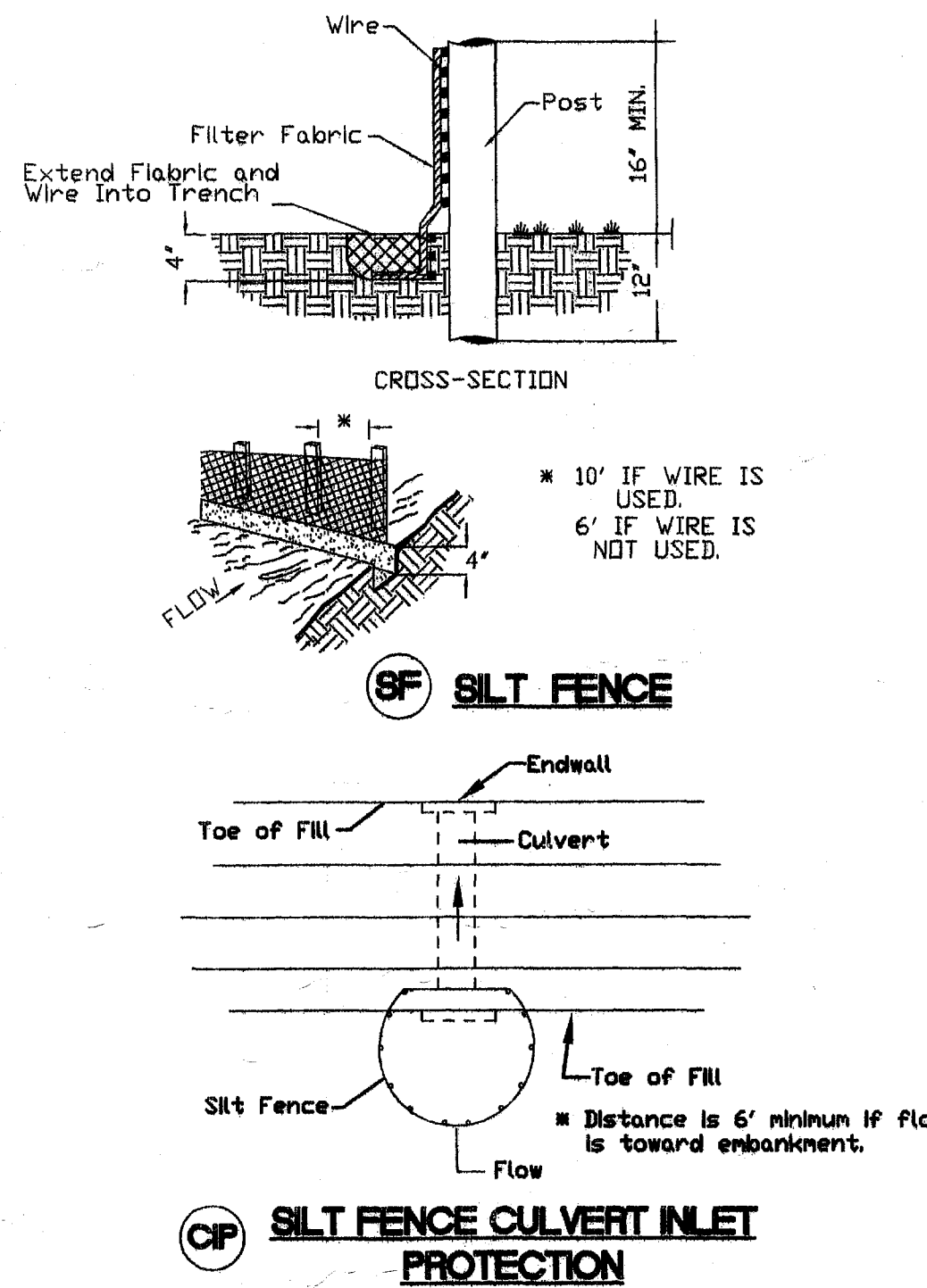




ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS, LATEST EDITION. THE EROSION CONTROL KEY SYMBOLS SHOWN ON THE PLANS ARE FROM THE VIRGINIA UNIFORM CODING SYSTEM FOR ESC PRACTICES.

ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE ONSITE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED IN ADVANCE OF THE WORK THEY ARE INTENDED TO PROTECT. THIS INCLUDES CLEARING IN NO CASE DURING CONSTRUCTION SHALL 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.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND NARRATIVE, AS WELL AS A COPY OF THE LAND DISTURBING PERMIT, SHALL BE MAINTAINED ON THE SITE AT ALL TIMES. THE EROSION AND SEDIMENT CONTROL ADMINISTRATOR WILL DELIVER THESE MATERIALS AT THE ONSITE PRECONSTRUCTION CONFERENCE.

ES-5: 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.

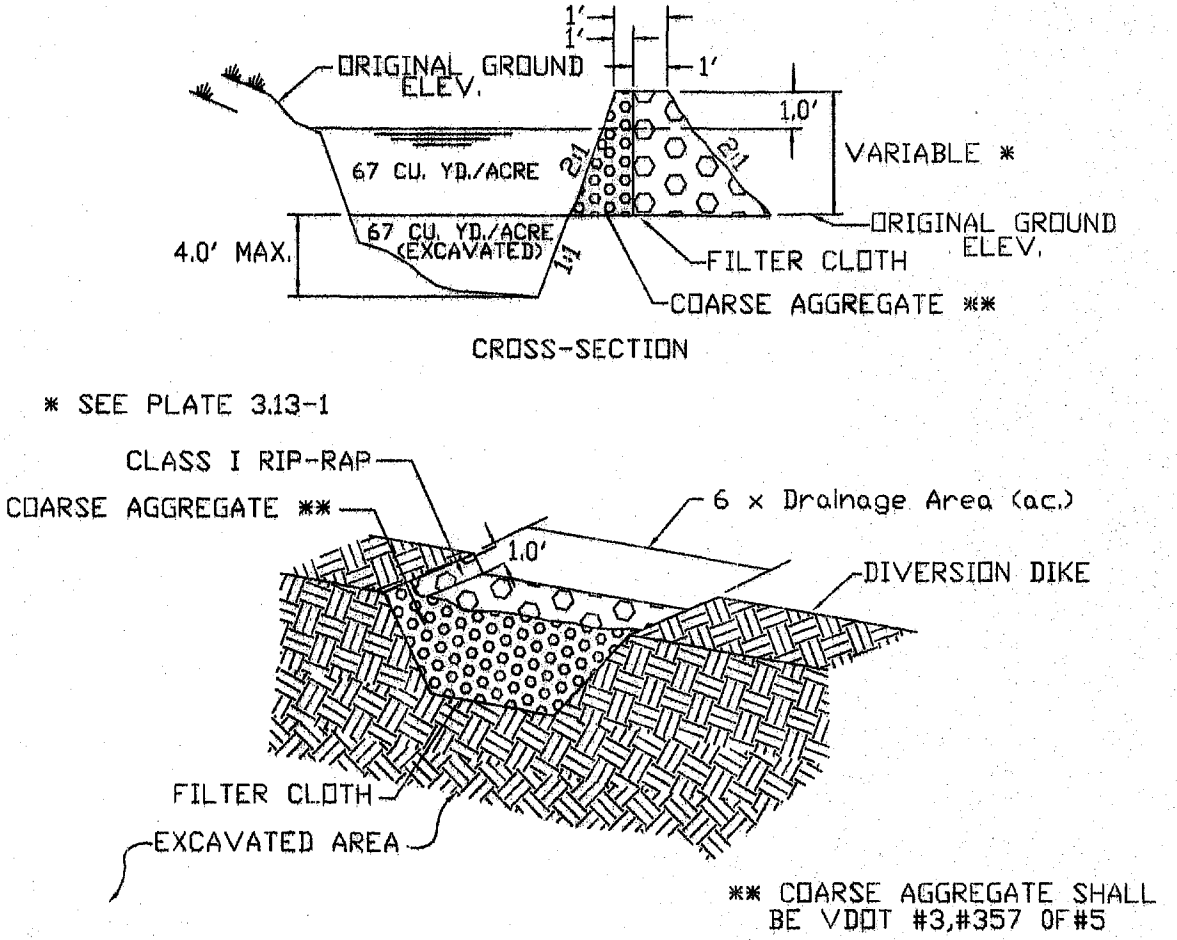
ES-6: THE APPROVING AUTHORITY MAY ADD TO, DELETE, CHANGE, OR OTHERWISE MODIFY CERTAIN ESC MEASURES WHERE FIELD CONDITIONS ARE ENCOUNTERED THAT WARRANT SUCH MODIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING THE LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8: DURING DEWATERING OPERATION, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

EROSION-SILTATION CONTROL COST ESTIMATE				
ALL COSTS GIVEN ARE COMPLETE IN PLACE				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
CONSTRUCTION ENTRANCE	EA	1	\$ 700.00	\$ 700.00
SILT FENCE	LF	503	\$ 3.00	\$ 1509.00
INLET PROTECTION	EA	1	\$ 100.00	\$ 100.00
PERMANENT SEEDING	1000 SF	11	\$ 80.00	\$ 880.00
SOIL STABILIZATION BLANKETS AND MATTING	SY	145	\$ 8.00	\$ 1,160.00
SUB-TOTAL				\$ 4,349.00
10% CONTINGENCY				\$ 435.00
TOTAL PROJECT COST				\$ 4,784.00

[illegible]

NOTE;
THIS APPLIES TO AREAS LESS THAN 3.0 ACRES. FOR AREAS
LARGER THAN 3.0 ACRES A SEDIMENT BASIN IS REQUIRED.

TEMPORARY STABILIZATION

TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

(TS) TEMPORARY SEEDING MIXTURE

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

PERMANENT STABILIZATION

ALL AREAS DISTURBED BY CONSTRUCTION WILL BE STABILIZED WITH PERMANENT SEEDING WITHIN 7 DAYS OR IMMEDIATELY FOLLOWING FINISH GRADING. SEEDING WILL BE DONE ACCORDING TO STANDARD AND SPECIFICATION 3.32 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. PERMANENTLY SEEDER AREAS SHALL BE PROTECTED DURING ESTABLISHMENT WITH STRAW MULCH.

PS 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

FEBRUARY TO 1 JUNE

- K-31 FESCUE @ 5 LB / 1000 SF
- ANNUAL RYE @ 1/2 LB / 1000 SF

JUNE TO 1 SEPTEMBER

- K-31 FESCUE @ 5 LB / 1000 SF
- GERMAN MILLET @ 1/2 LB / 1000 SF

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 3 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

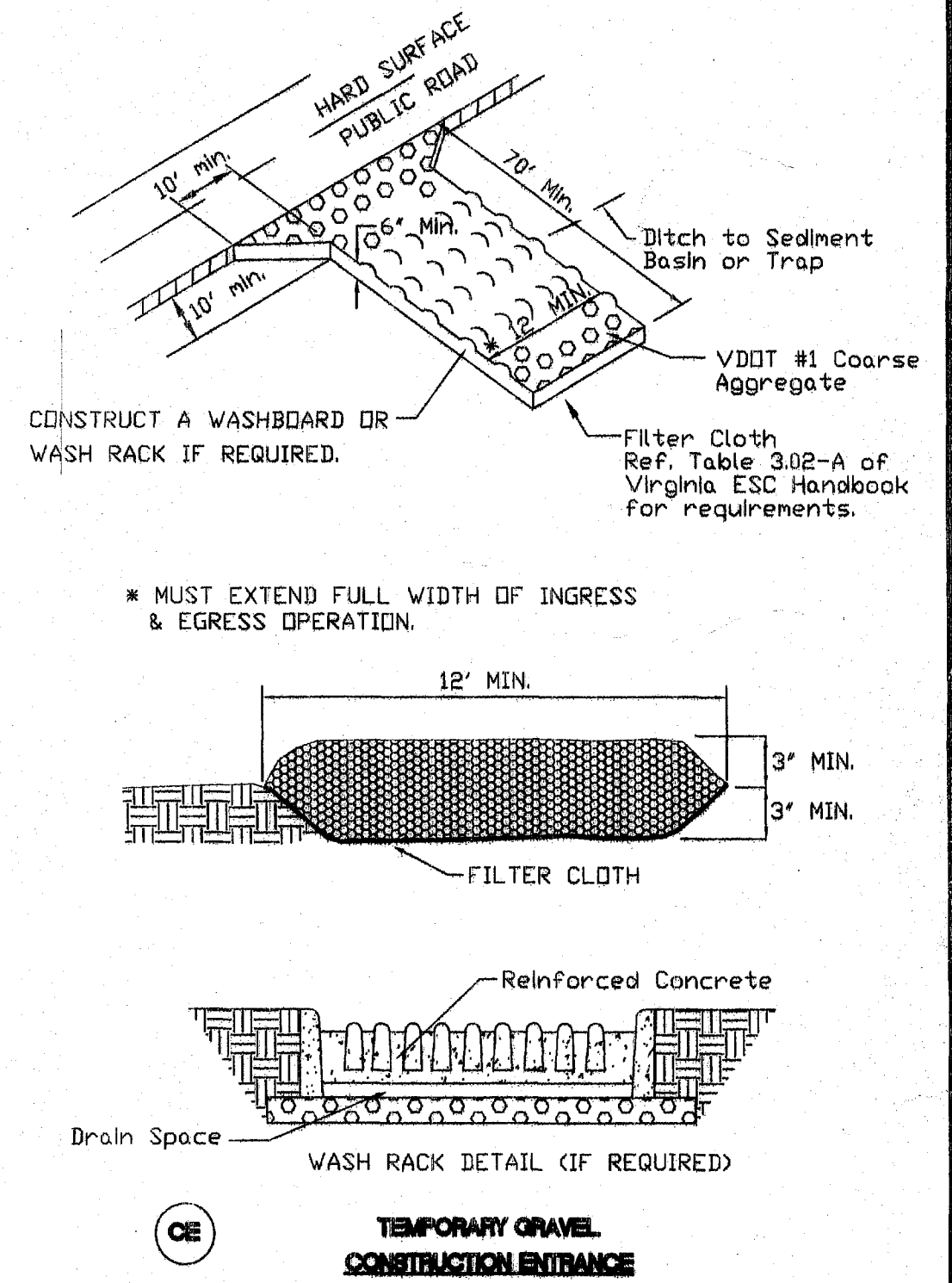
LIME: 140 LB / 1000 SF PULVERIZED AGRICULTURAL LIMESTONE
FERTILIZER: 5-20-10 @ 25 LB / 1000 SF
38-0-0 @ 7 LB / 1000 SF

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.

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.

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



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COMMONWEALTH OF VIRGINIA
 3-14-6
 B. LEE
 HENDERSON, JR.
B. Lee Henderson
 No. 17591
 PROFESSIONAL ENGINEER

EROSION AND SEDIMENT CONTROL DETAILS

**HIGHWAY ROAD SANITARY
SEWER EXTENSION**
PREPARED FOR
FREDERICK THOMAS JR.
ROANOKE, VIRGINIA

REVISIONS		DESCRIPTION				
NO.	DATE					
1	10/16/88	As-Built				
2						
3						
4						

DATE: March 14, 20

SCALE: NON

COMMISSION NO: 05-1

SHEET 4 OF