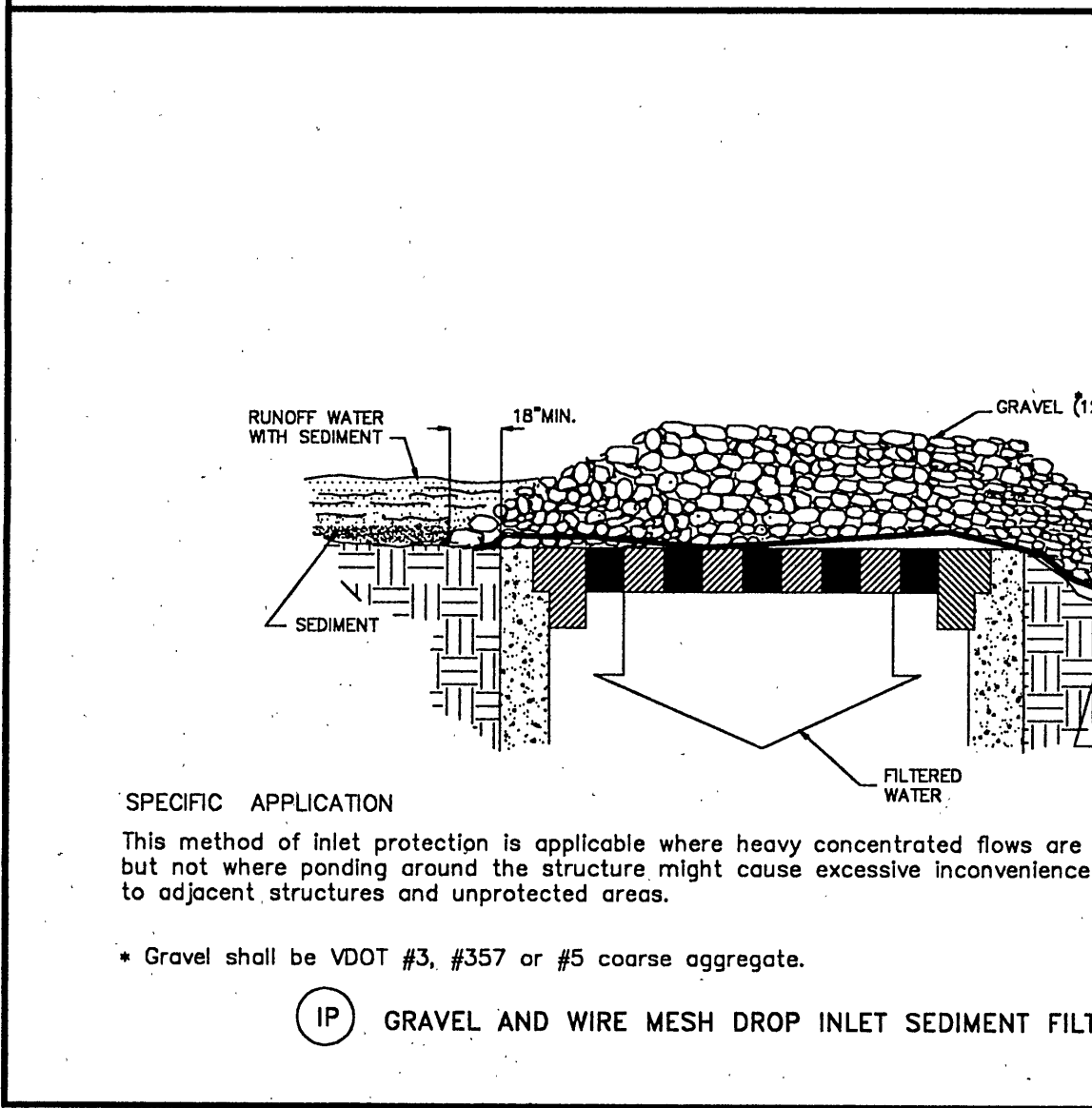
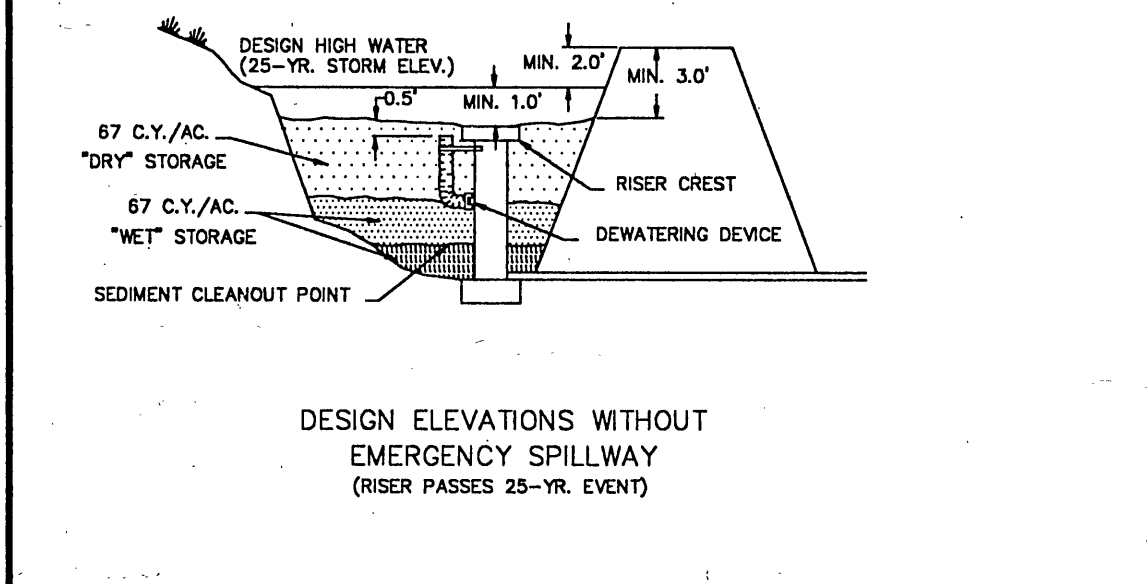
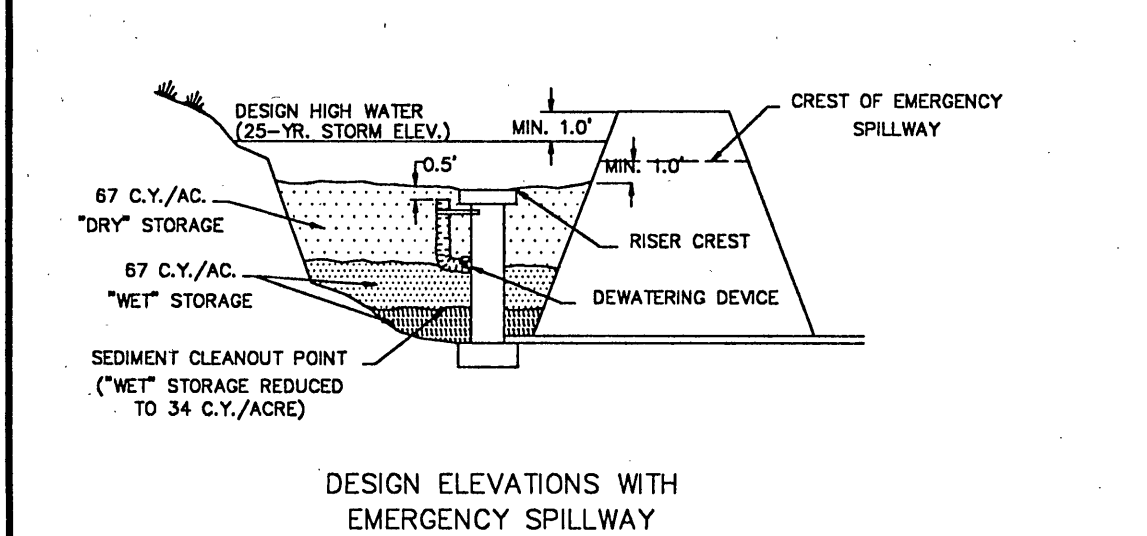
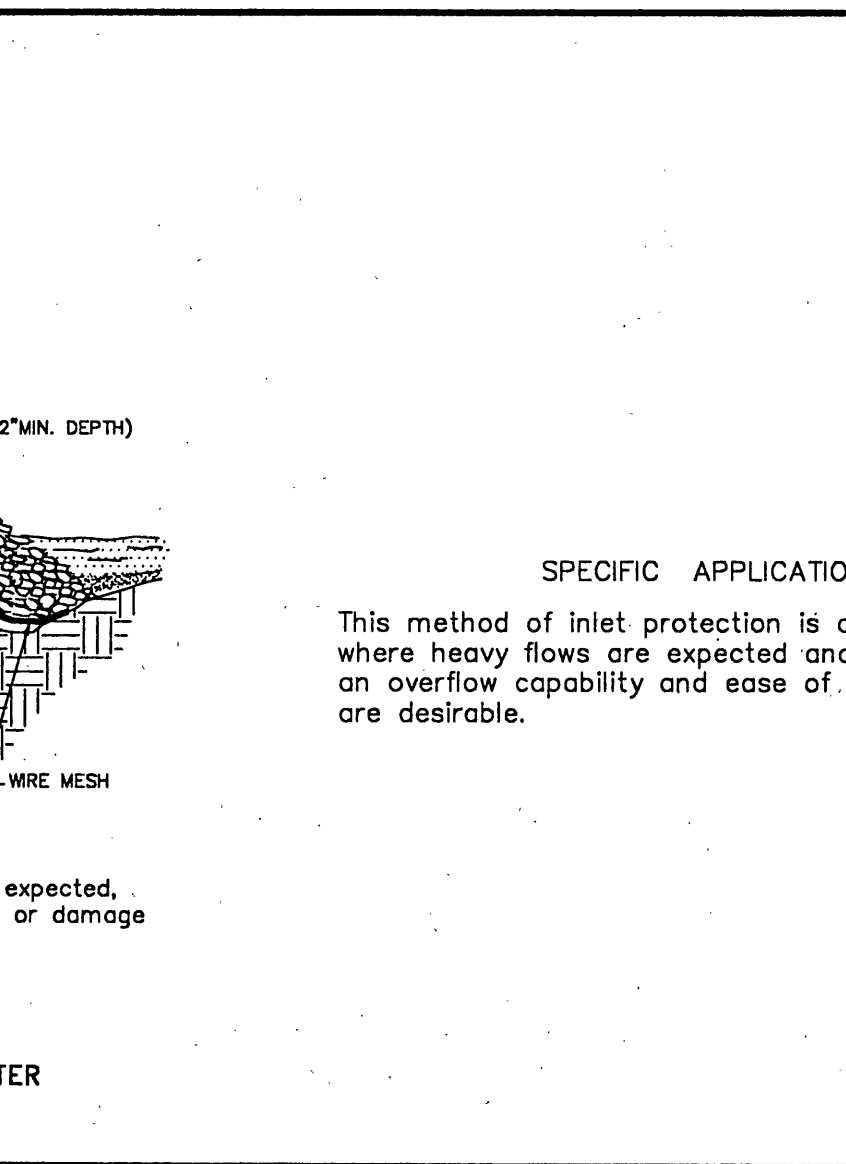
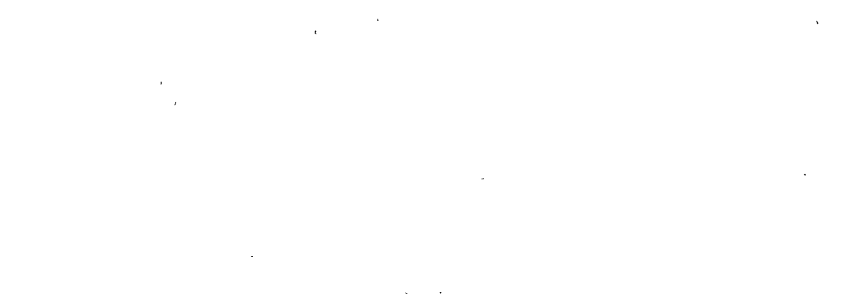
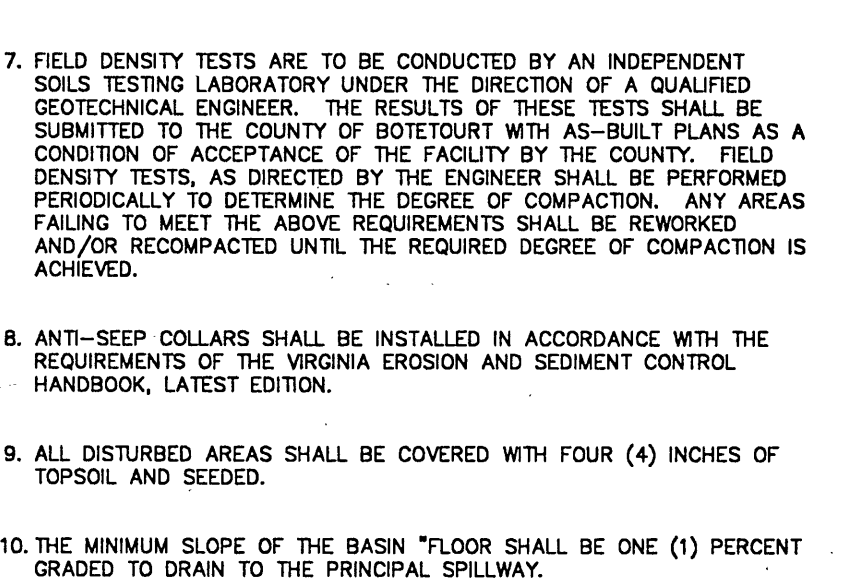
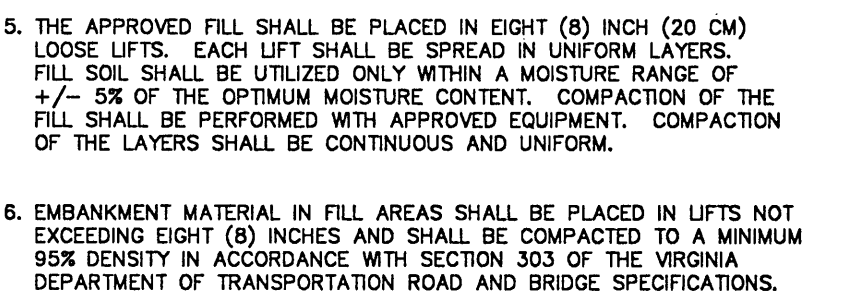
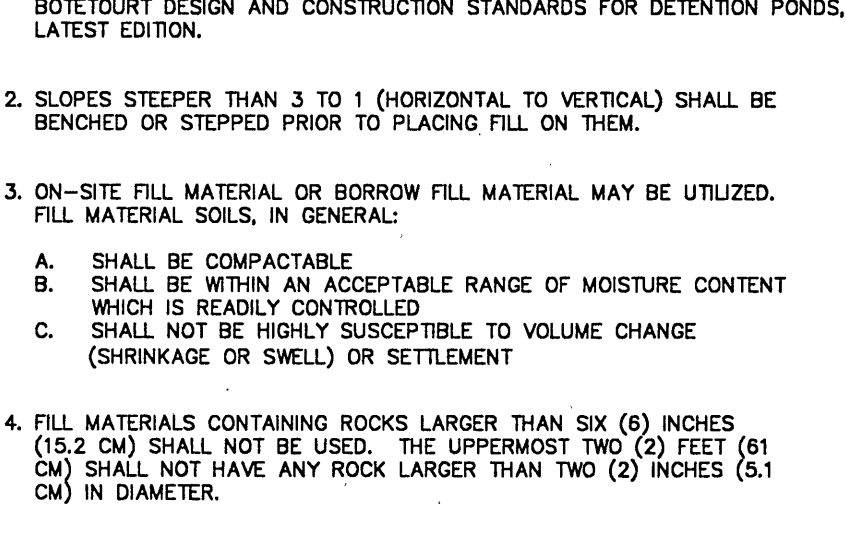


STORMWATER MANAGEMENT COST ESTIMATE				
ALL COSTS GIVEN ARE COMPLETE IN PLACE				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
CLEARING & GRUBBING	LS		\$	\$
EXCAVATION	CY		\$	\$
EMBANKMENT	CY		\$	\$
FENCING	LF		\$	\$
STRUCTURES	LS		\$	\$
ACCESS ROAD				
AS-BUILTS	LS		\$	\$
SUB-TOTAL				\$
10% CONTINGENCY				\$
TOTAL PROJECT COST				\$

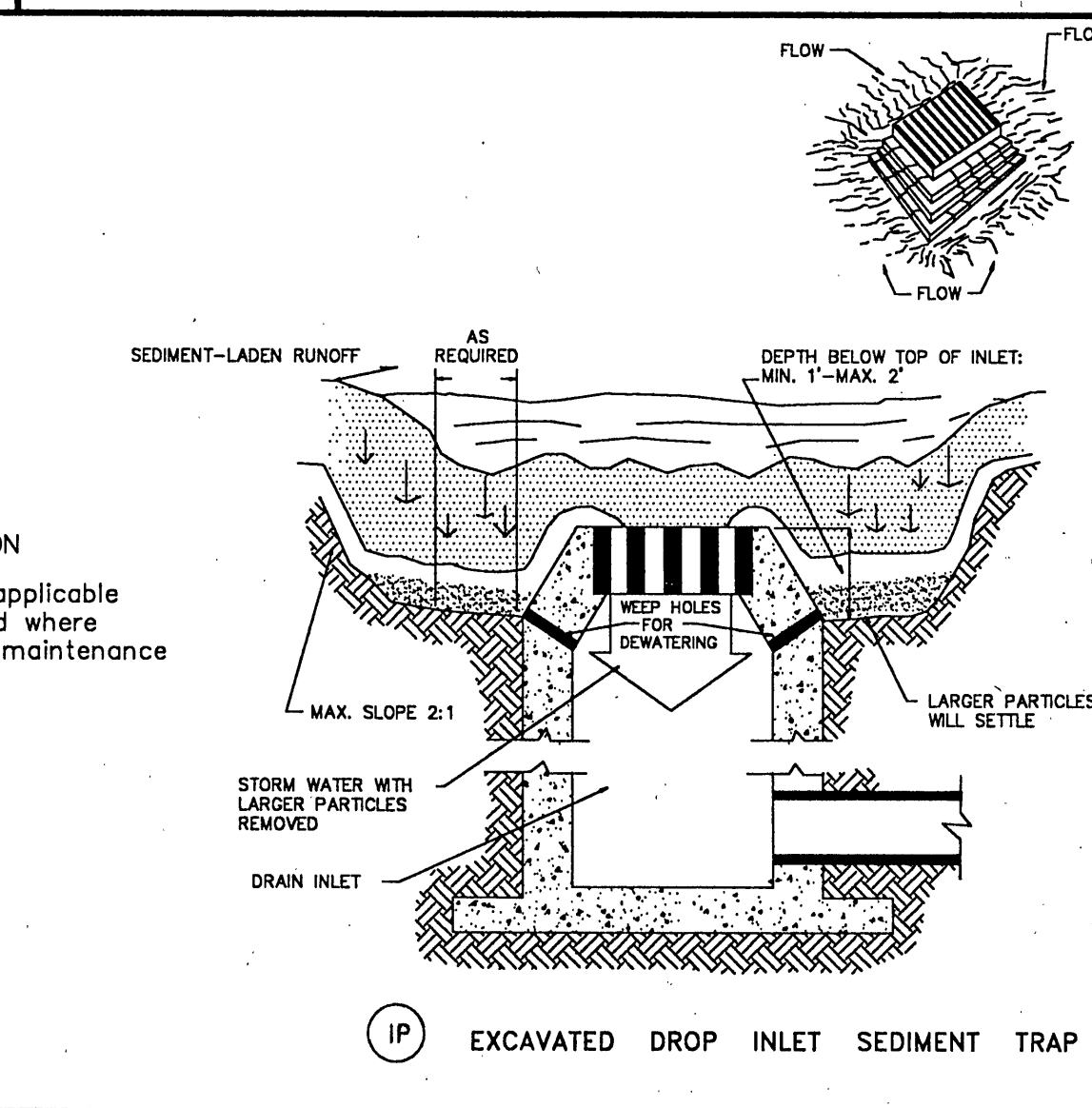
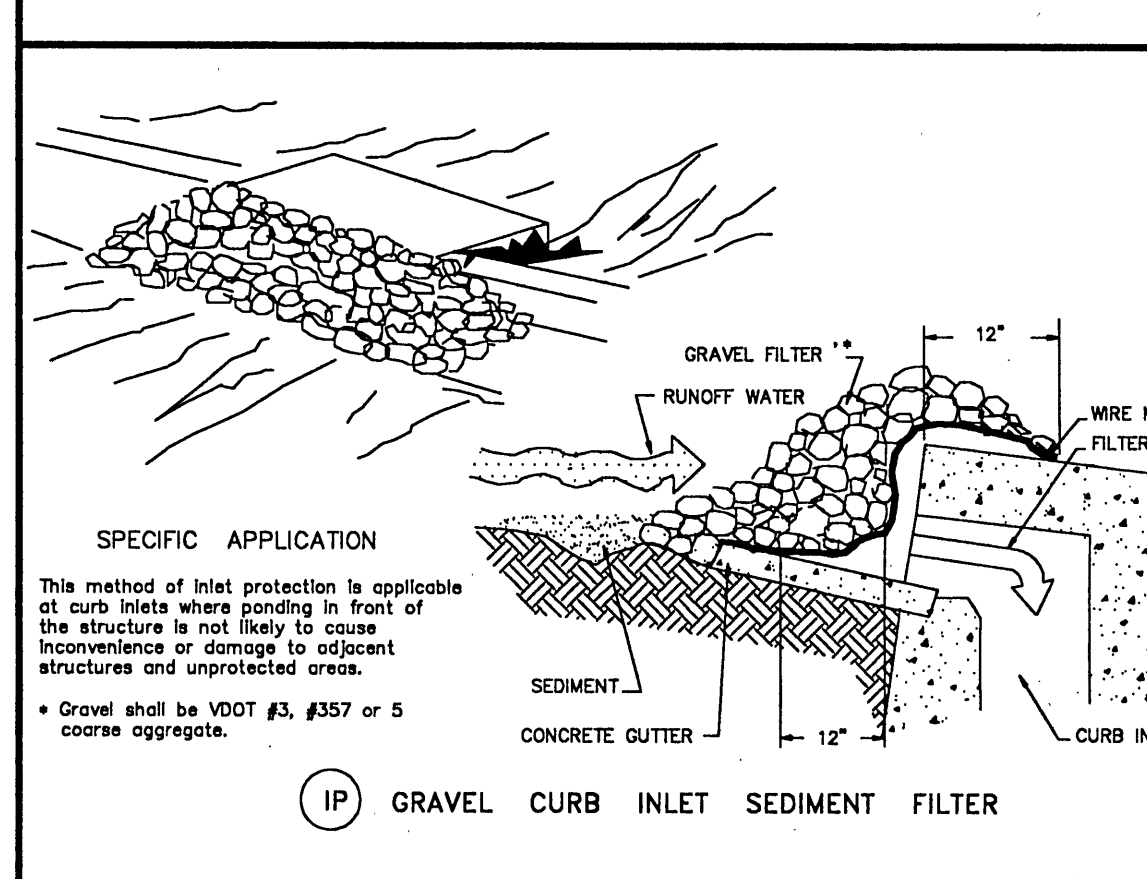
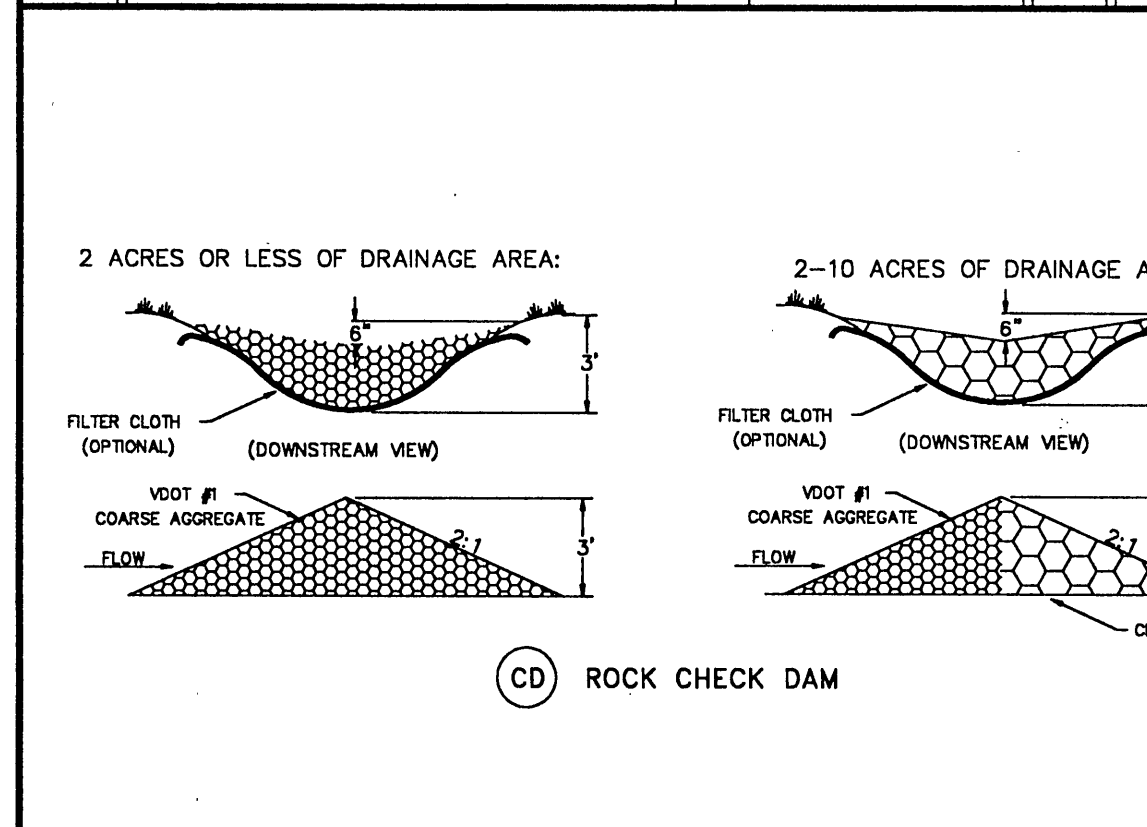
STORMWATER MANAGEMENT COST ESTIMATE				
ALL COSTS GIVEN ARE COMPLETE IN PLACE				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
CLEARING & GRUBBING	LS		\$	\$
EXCAVATION	CY		\$	\$
EMBANKMENT	CY		\$	\$
FENCING	LF		\$	\$
STRUCTURES	LS		\$	\$
ACCESS ROAD				
AS-BUILTS	LS		\$	\$
SUB-TOTAL				\$
10% CONTINGENCY				\$
TOTAL PROJECT COST				\$



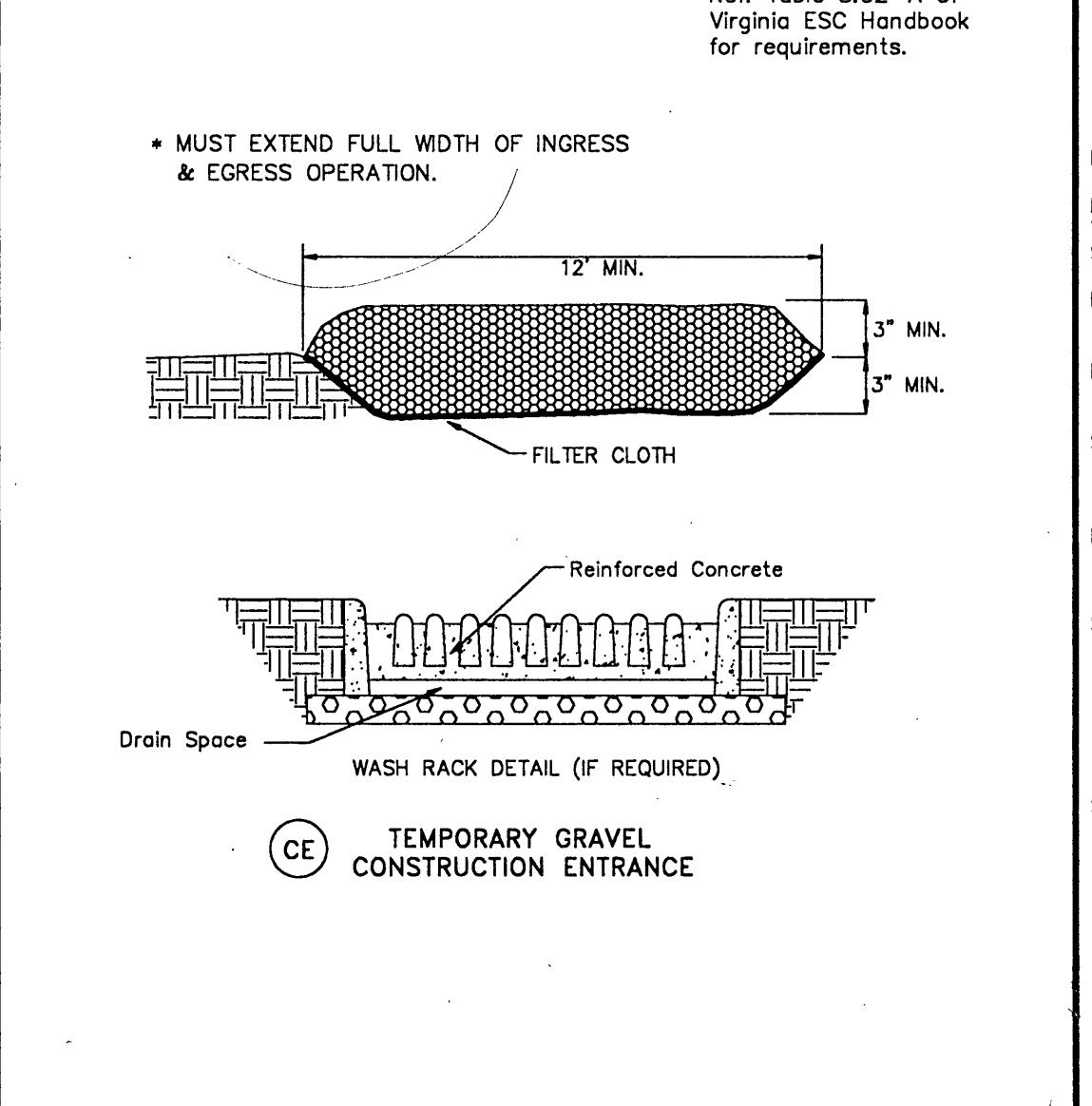
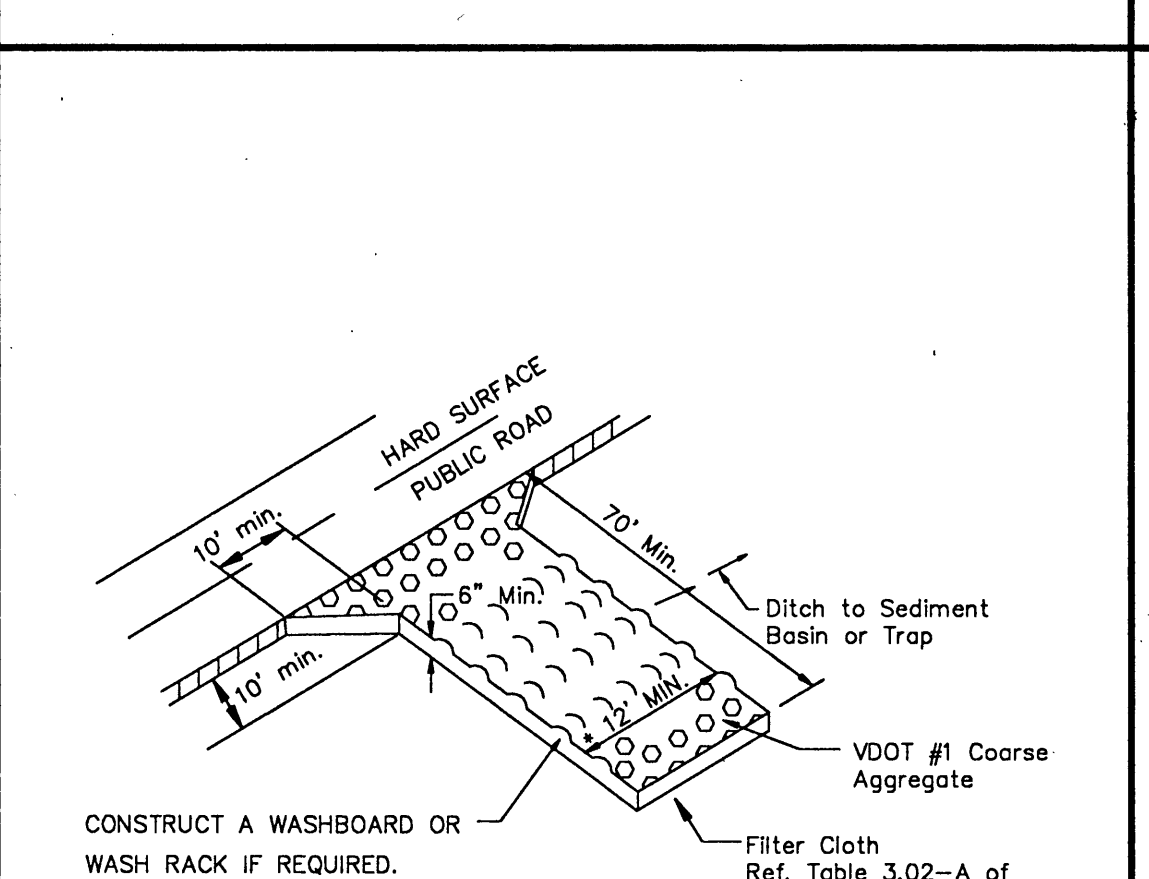
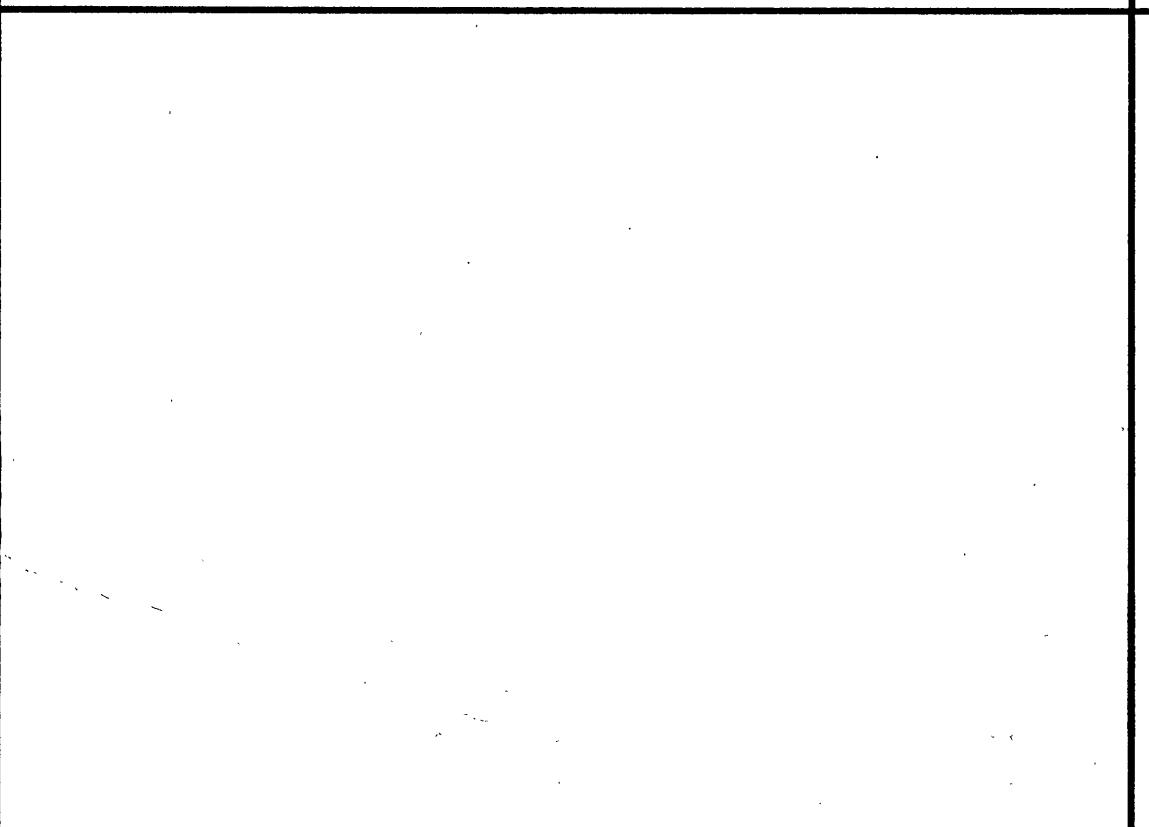
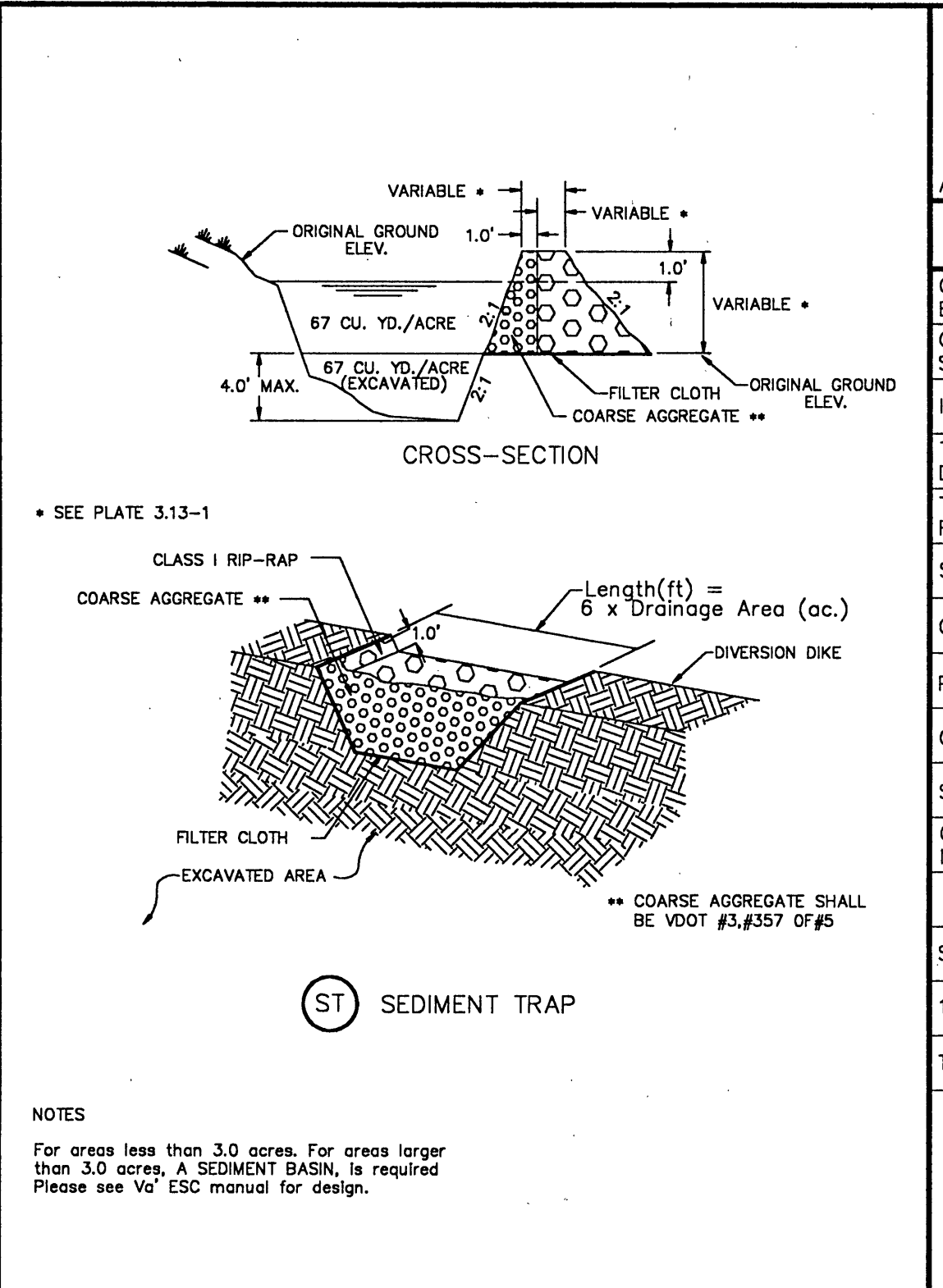
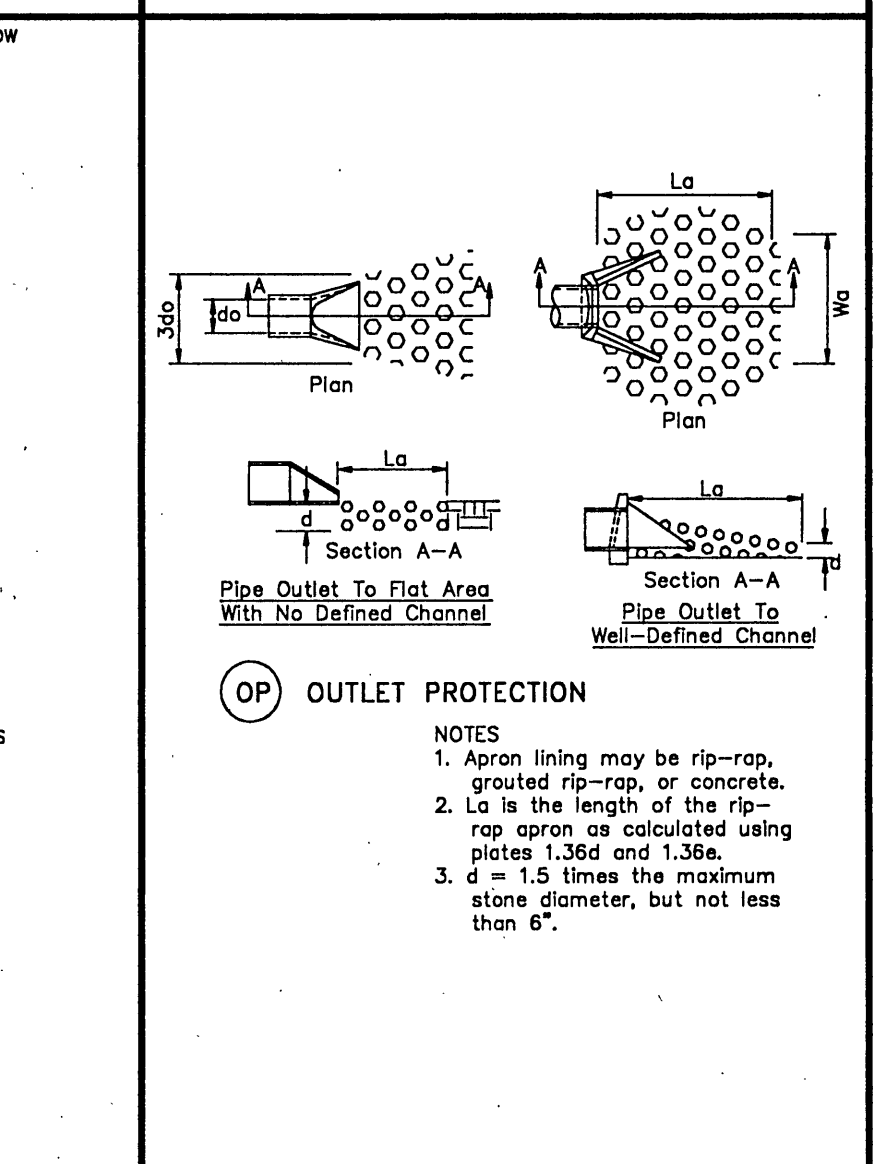
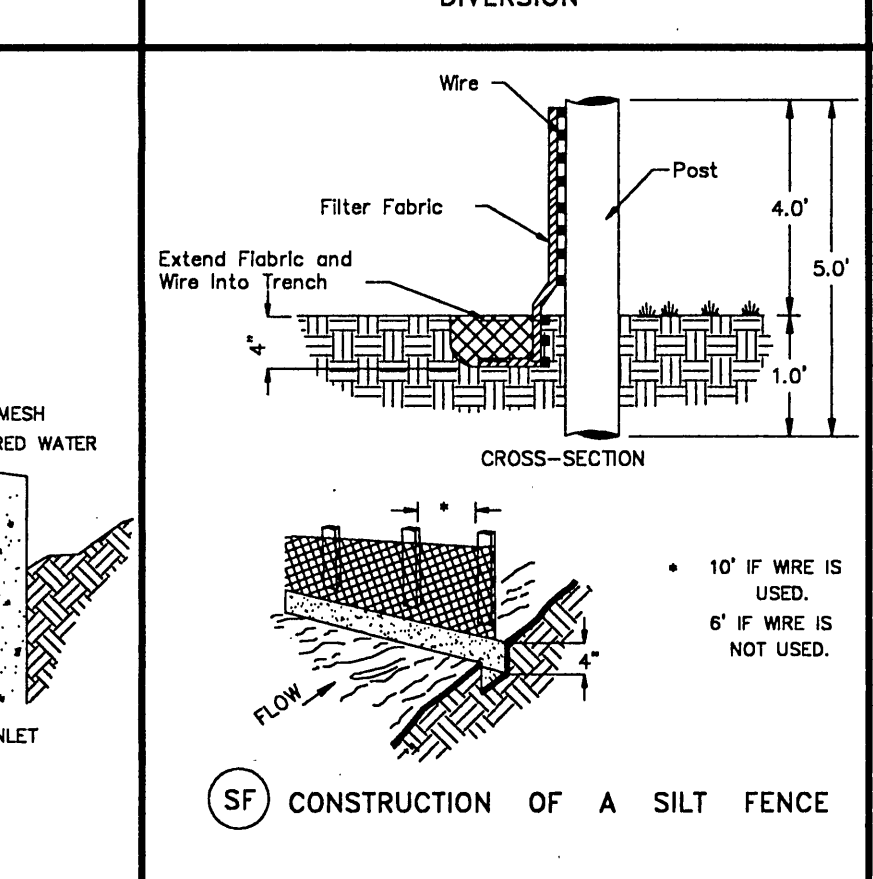
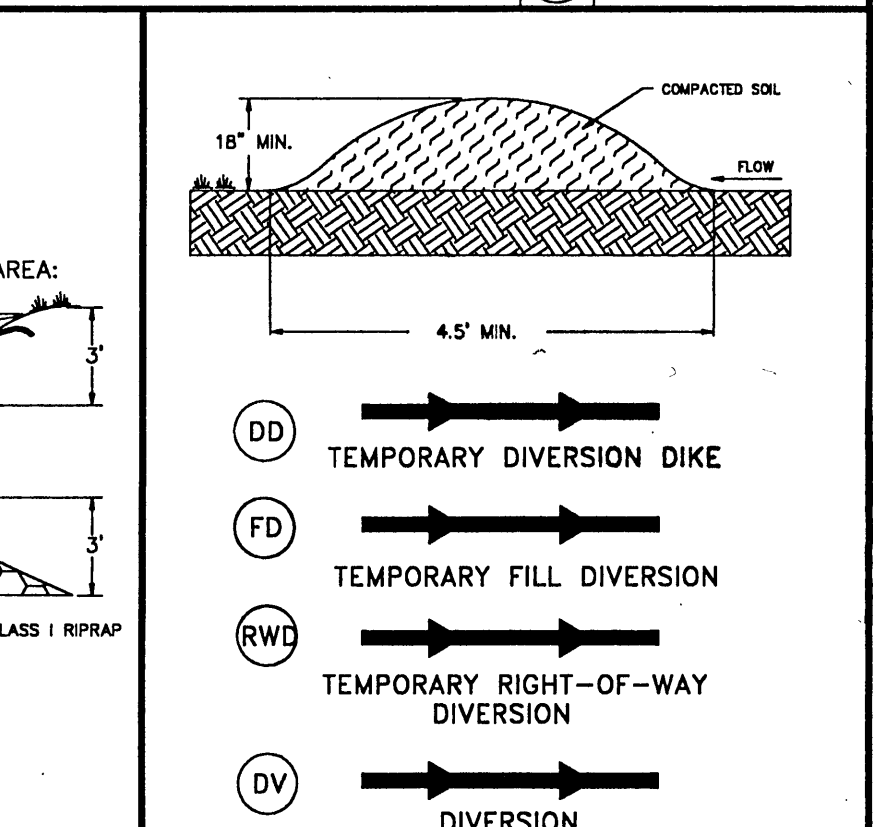
STORMWATER MANAGEMENT COST ESTIMATE				
ALL COSTS GIVEN ARE COMPLETE IN PLACE				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
CLEARING & GRUBBING	LS		\$	\$
EXCAVATION	CY		\$	\$
EMBANKMENT	CY		\$	\$
FENCING	LF		\$	\$
STRUCTURES	LS		\$	\$
ACCESS ROAD				
AS-BUILTS	LS		\$	\$
SUB-TOTAL				\$
10% CONTINGENCY				\$
TOTAL PROJECT COST				\$



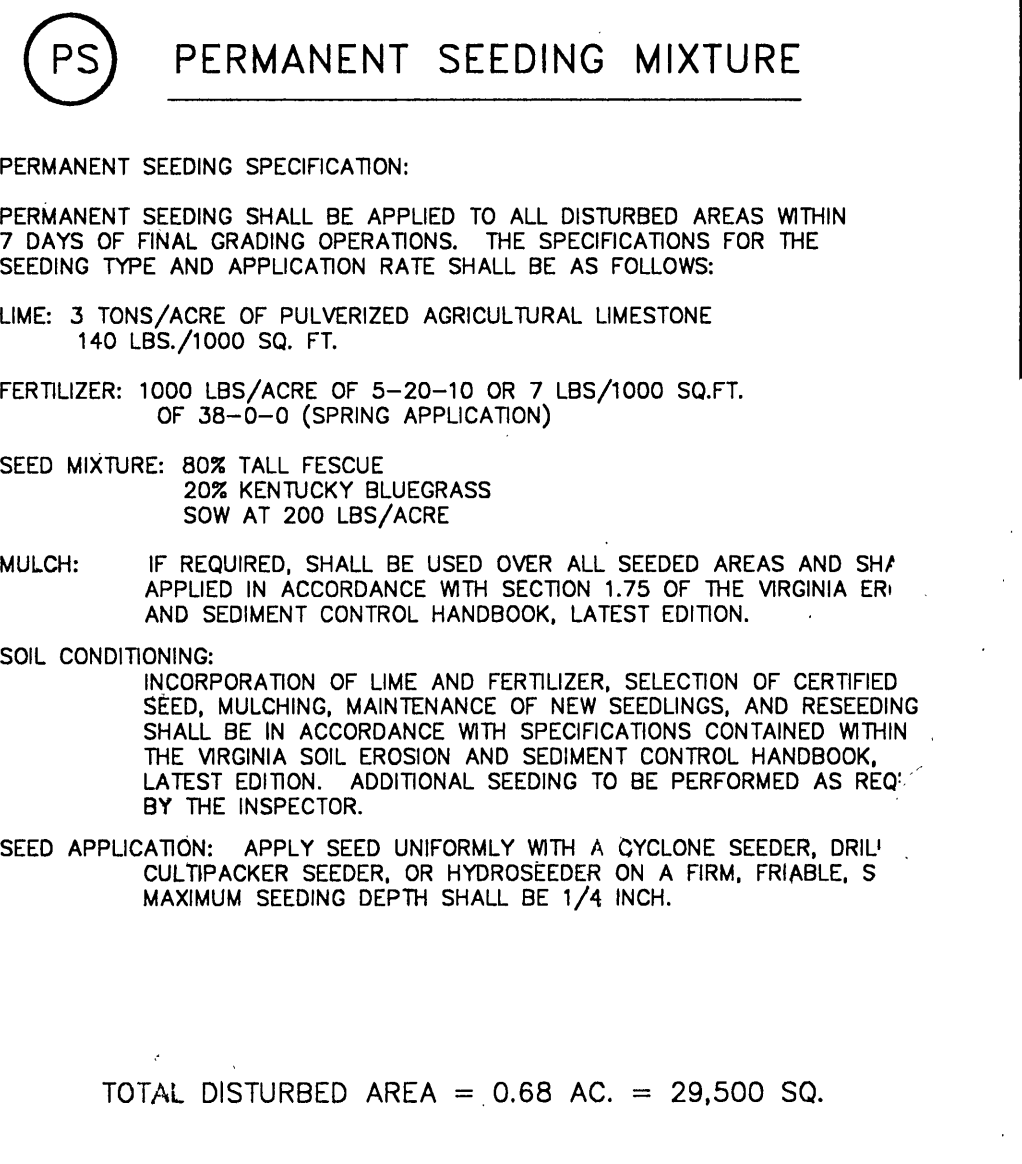
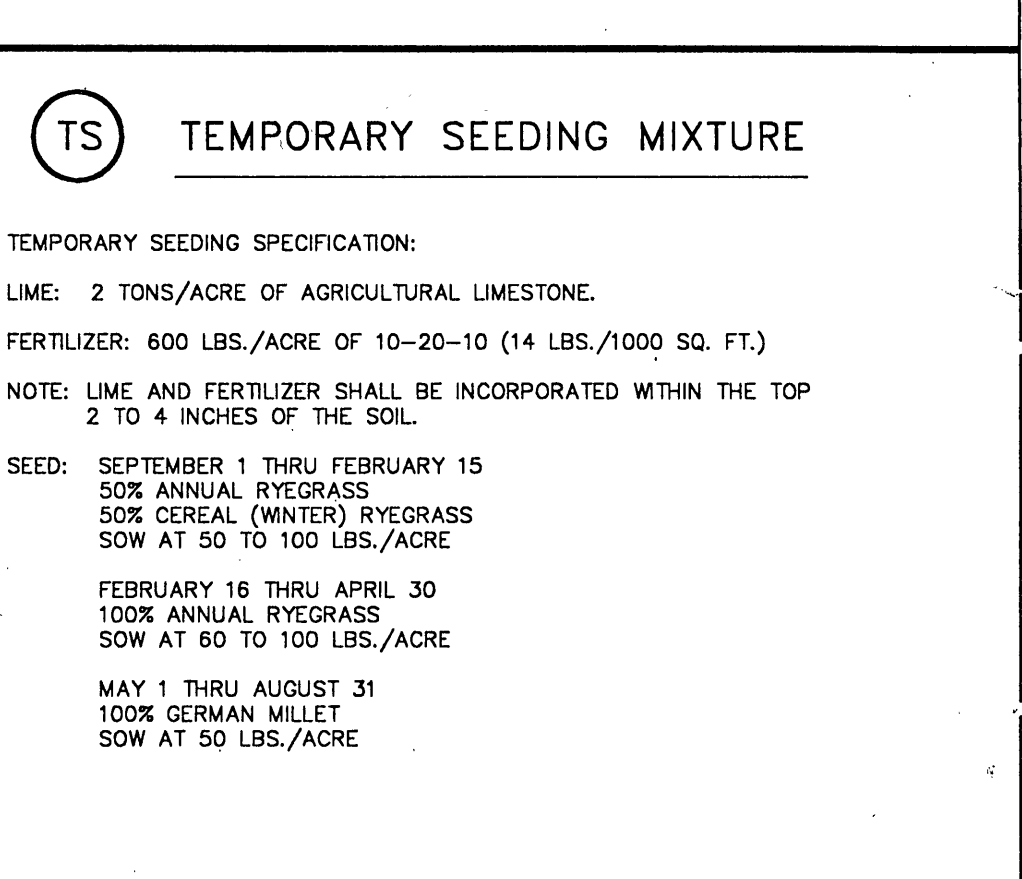
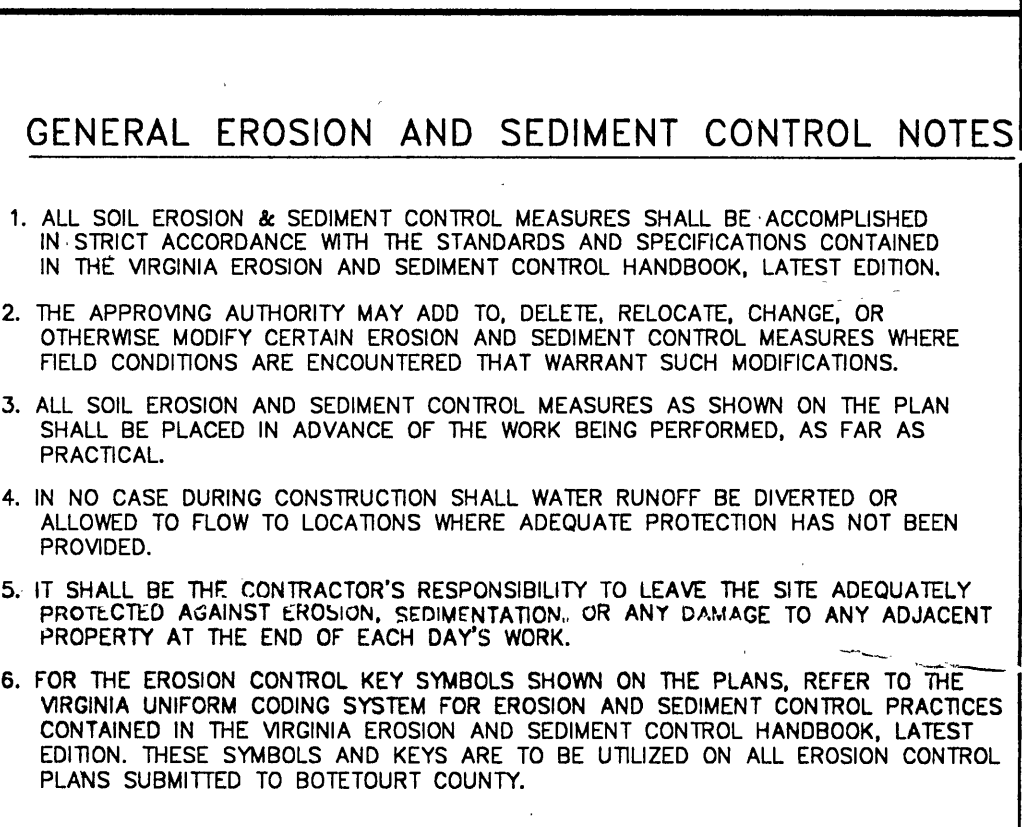
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3.01	SAFETY FENCE	SAF		3.20	ROCK CHECK DAMS	CD	
3.02	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE	CE		3.21	LEVEL SPREADER	LS	
3.03	CONSTRUCTION ROAD STABILIZATION	CRS		3.22	VEGETATIVE STREAMBANK STABILIZATION	VSS	
3.04	STRAW BALE BARRIER	STB		3.23	STRUCTURAL STREAMBANK STABILIZATION	SSS	
3.05	SILT FENCE	SF		3.24	TEMPORARY VEHICULAR STREAM CROSSING	VSC	
3.06	BRUSH BARRIER	BB		3.25	UTILITY STREAM CROSSING	USC	
3.07	STORM DRAIN INLET PROTECTION	IP		3.26	DEWATERING STRUCTURE	DS	
3.08	CULVERT INLET PROTECTION	CIP		3.27	TURBIDITY CURTAIN	TC	
3.09	TEMPORARY DIVERSION DIKE	DD		3.28	SUBSURFACE DRAIN	SD	
3.10	TEMPORARY FILL DIVERSION	FD		3.29	SURFACE ROUGHENING	SR	
3.11	TEMPORARY RIGHT-OF-WAY DIVERSION	RWD		3.30	TOPSOILING	TO	
3.12	DIVERSION	DV		3.31	TEMPORARY SEEDING	TS	
3.13	TEMPORARY SEDIMENT TRAP	ST		3.32	PERMANENT SEEDING	PS	
3.14	TEMPORARY SEDIMENT BASIN	SB		3.33	SODDING	SO	
3.15	TEMPORARY SLOPE DRAIN	TS		3.34	BERMUDA GRASS AND ZOYSIAURASS ESTABLISHMENT	BZ	
3.16	PAVED FLUME	PF		3.35	MULCHING	MU	
3.17	STORMWATER CONVEYANCE CHANNEL	SCC		3.36	SOIL STABILIZATION BLANKETS AND MATTING	SB	
3.18	OUTLET PROTECTION	OP		3.37	TREES, SHRUBS, VINES AND GROUND COVERS	VEG	
3.19	RIPRAP	RR		3.38	TREE PRESERVATION AND PROTECTION	TP	
				3.39	DUST CONTROL	DC	



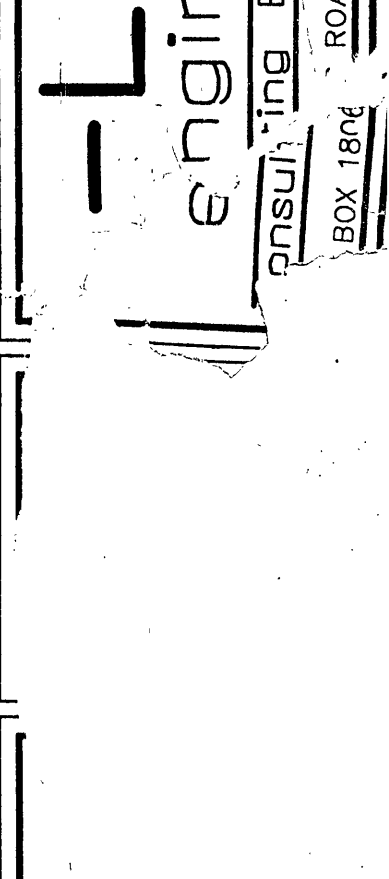
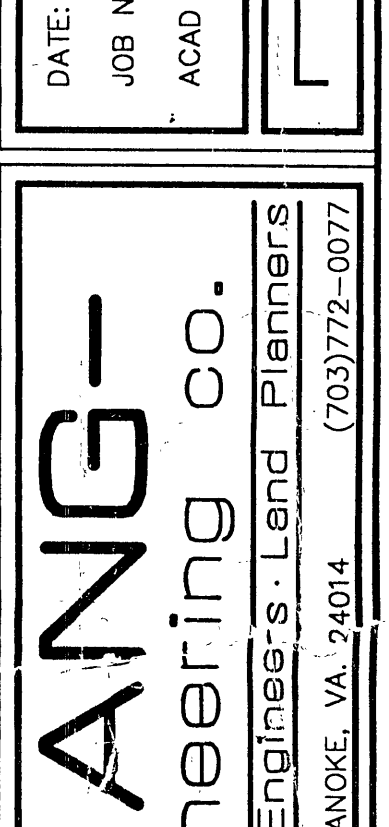
NO.	TITLE	KEY	SYMBOL	NO.	TITLE	KEY	SYMBOL
3.20	ROCK CHECK DAMS	CD		3.39	DUST CONTROL	DC	
3.21	LEVEL SPREADER	LS					
3.22	VEGETATIVE STREAMBANK STABILIZATION	VSS					
3.23	STRUCTURAL STREAMBANK STABILIZATION	SSS					
3.24	TEMPORARY VEHICULAR STREAM CROSSING	VSC					
3.25	UTILITY STREAM CROSSING	USC					
3.26	DEWATERING STRUCTURE	DS					
3.27	TURBIDITY CURTAIN	TC					
3.28	SUBSURFACE DRAIN	SD					
3.29	SURFACE ROUGHENING	SR					
3.30	TOPSOILING	TO					
3.31	TEMPORARY SEEDING	TS					
3.32	PERMANENT SEEDING	PS					
3.33	SODDING	SO					
3.34	BERMUDA GRASS AND ZOYSIAURASS ESTABLISHMENT	BZ					
3.35	MULCHING	MU					
3.36	SOIL STABILIZATION BLANKETS AND MATTING	SB					
3.37	TREES, SHRUBS, VINES AND GROUND COVERS	VEG					
3.38	TREE PRESERVATION AND PROTECTION	TP					



EROSION-SILTATION CONTROL COST ESTIMATE				
ALL COSTS GIVEN ARE COMPLETE IN PLACE				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
CONSTRUCTION ENTRANCE	EA	1	\$ 200.00	\$ 200.00
CONSTRUCTION ROAD STABILIZATION	SY	1700	\$ 1.00	\$1750.00
INLET PROTECTION	EA			
TEMPORARY DIVERSION DIKE	LF			
TEMPORARY FILL DIVERSION	LF			
SEDIMENT TRAP	EA			
CHECK DAM	EA			
PERMANENT SEEDING	1000 SF	40	\$ 30.00	\$1200.00
OUTLET PROTECTION	EA			
SEDIMENT BASIN	EA			
CULVERT INLET PROTECTION	EA			
SUB-TOTAL				\$3100.00
10% CONTINGENCY				\$ 310.00
TOTAL PROJECT COST				\$3410.00



EROSION-SILTATION CONTROL COST ESTIMATE				
ALL COSTS GIVEN ARE COMPLETE IN PLACE				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
CONSTRUCTION ENTRANCE	EA	1	\$ 200.00	\$ 200.00
CONSTRUCTION ROAD STABILIZATION	SY	1700	\$ 1.00	\$1750.00
INLET PROTECTION	EA			
TEMPORARY DIVERSION DIKE	LF			
TEMPORARY FILL DIVERSION	LF			
SEDIMENT TRAP	EA			
CHECK DAM	EA			
PERMANENT SEEDING	1000 SF	40	\$ 30.00	\$1200.00
OUTLET PROTECTION	EA			
SEDIMENT BASIN	EA			
CULVERT INLET PROTECTION	EA			
SUB-TOTAL				\$3100.00
10% CONTINGENCY				\$ 310.00
TOTAL PROJECT COST				\$3410.00



### GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. 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.
2. 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.
3. 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.
4. IN NO CASE DURING CONSTRUCTION SHALL WATER RUNOFF BE DIVERTED OR ALLOWED TO FLOW TO LOCATIONS WHERE ADEQUATE PROTECTION HAS NOT BEEN PROVIDED.
5. 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.
6. 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 BOTETOURT COUNTY.

### TS TEMPORARY SEEDING MIXTURE

- TEMPORARY SEEDING SPECIFICATION:
- LIME: 2 TONS/ACRE OF AGRICULTURAL LIMESTONE.
- FERTILIZER: 600 LBS./ACRE OF 10-20-10 (14 LBS./1000 SQ. FT.)
- NOTE: LIME AND FERTILIZER SHALL BE INCORPORATED WITHIN THE TOP 2 TO 4 INCHES OF THE SOIL.
- SEED:
- SEPTEMBER 1 THRU FEBRUARY 15
- 50% ANNUAL RYEGRASS
- 50% CEREAL (WINTER) RYEGRASS
- SOW AT 50 TO 100 LBS./ACRE
- FEBRUARY 16 THRU APRIL 30
- 100% ANNUAL RYEGRASS
- SOW AT 80 TO 100 LBS./ACRE
- MAY 1 THRU AUGUST 31
- 100% GERMAN MILLET
- SOW AT 50 LBS./ACRE

### PS PERMANENT SEEDING MIXTURE

- PERMANENT SEEDING SPECIFICATION:
- PERMANENT SEEDING SHALL BE APPLIED TO ALL DISTURBED AREAS WITHIN 7 DAYS OF FINAL GRADING OPERATIONS. THE SPECIFICATIONS FOR THE SEEDING TYPE AND APPLICATION RATE SHALL BE AS FOLLOWS:
- LIME: 3 TONS/ACRE OF PULVERIZED AGRICULTURAL LIMESTONE
- 140 LBS./1000 SQ. FT.
- FERTILIZER: 1000 LBS./ACRE OF 5-20-10 OR 7 LBS./1000 SQ.FT. OF 3B-0-0 (SPRING APPLICATION)
- SEED MIXTURE: 80% TALL FESCUE
- 20% KENTUCKY BLUEGRASS
- SOW AT 200 LBS./ACRE
- MULCH: IF REQUIRED, SHALL BE USED OVER ALL SEEDED AREAS AND SH/ APPLIED IN ACCORDANCE WITH SECTION 1.75 OF THE VIRGINIA ER- 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 REQ- BY THE INSPECTOR.
- SEED APPLICATION: APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEDER ON A FIRM, FRIABLE, S MAXIMUM SEEDING DEPTH SHALL BE 1/4 INCH.

TOTAL DISTURBED AREA = 0.68 AC. = 29,500 SQ.

**-LANG-**  
Engineering co.  
Consulting Engineers · Land Planners  
BOX 1804  
ROANOKE, VA. 24014  
(703)772-0077

DETAILS  
JSTP