

DESIGN HIGH WATER (25-YR. STORM ELEV.) MIN. 2.0' MIN. 3.0'

67 C.Y./AC. -'DRY' STORAGE

'WET' STORAGE

SEDIMENT CLEANOUT POINT

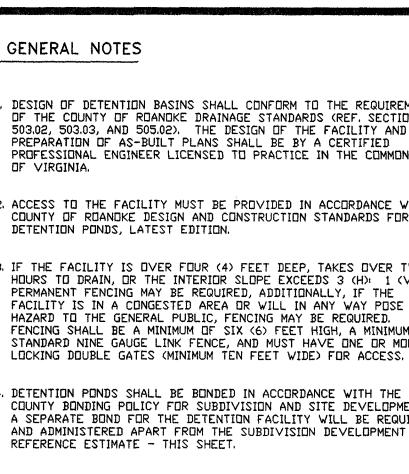
MIN. 1.0' /

DESIGN ELEVATIONS WITHOUT

EMERGENCY SPILLWAY

(RISER PASSES 25-YR, EVENT)

DEWATERING DEVICE



DESIGN OF DETENTION BASINS SHALL CONFORM TO THE REQUIREMENTS OF THE COUNTY OF ROANOKE DRAINAGE STANDARDS (REF. SECTIONS 503.02, 503.03, AND 505.02). THE DESIGN OF THE FACILITY AND PREPARATION OF AS-BUILT PLANS SHALL BE BY A CERTIFIED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE COMMONWEALTH OF VIRGINIA.

NO.

3.01

3.02

3.03

3.04

3.05

3,06

TITLE

TEMPORARY GRAVEL

<u>CONSTRUCTION ENTRANCE</u>

CONSTRUCTION ROAD

STABILIZATION

STRAW BALE BARRIER

SILT FENCE

BRUSH BARRIER

SAFETY FENCE

- ACCESS TO THE FACILITY MUST BE PROVIDED IN ACCORDANCE WITH THE COUNTY OF ROANDKE DESIGN AND CONSTRUCTION STANDARDS FOR DETENTION PONDS, LATEST EDITION.
- 3. IF THE FACILITY IS OVER FOUR (4) FEET DEEP, TAKES OVER TWO (2) HOURS TO DRAIN, OR THE INTERIOR SLOPE EXCEEDS 3 (H): 1 (V), PERMANENT FENCING MAY BE REQUIRED, ADDITIONALLY, IF THE FACILITY IS IN A CONGESTED AREA OR WILL IN ANY WAY POSE A HAZARD TO THE GENERAL PUBLIC, FENCING MAY BE REQUIRED. FENCING SHALL BE A MINIMUM OF SIX (6) FEET HIGH, A MINIMUM OF STANDARD NINE GAUGE LINK FENCE, AND MUST HAVE DNE DR MORE
- 4. DETENTION PONDS SHALL BE BONDED IN ACCORDANCE WITH THE ROANOKE COUNTY BONDING POLICY FOR SUBDIVISION AND SITE DEVELOPMENT. A SEPARATE BOND FOR THE DETENTION FACILITY WILL BE REQUIRED AND ADMINISTERED APART FROM THE SUBDIVISION DEVELOPMENT BOND. REFERENCE ESTIMATE - THIS SHEET
- 5. REFERENCE THE COUNTY OF ROANDKE DESIGN AND CONSTRUCTION STANDARDS FOR DETENTION PONDS, LATEST EDITION, FOR ACCEPTANCE AND MAINTENANCE OF THE FACILITY. CERTIFIED AS-BUILTS ARE REQUIRED AND MUST INCLUDE:
- A. DIMENSIONS OF THE FACILITY
- VOLUME @ MAXIMUM DEPTH
- C. ELEVATIONS OF STRUCTURES, SPILLWAYS, AND TOP
- MATERIALS VERIFICATION INCLUDING RESULTS OF DENSITY TESTS CONDUCTED BY AN INDEPENDENT SOIL TESTING LABORATORY E. LOCATION AND ELEVATION OF BENCHMARK.
- 6. DNE FOOT MINIMUM FREEBOARD REQUIRED FOR THE 100 YR WATER SURFACE ELEVATION.

## CONSTRUCTION NOTES

- SITE PREPARATION SHALL BE IN ACCORDANCE WITH THE COUNTY OF ROANOKE DESIGN AND CONSTRUCTION STANDARDS FOR DETENTION PONDS,
- 2. SLOPES STEEPER THAN 3 TO 1 (HORIZONTAL TO VERTICAL) SHALL BE BENCHED OR STEPPED PRIOR TO PLACING FILL ON THEM,
- 3. ON-SITE FILL MATERIAL OR BORROW FILL MATERIAL MAY BE UTILIZED. FILL MATERIAL SUILS, IN GENERAL
- SHALL BE WITHIN AN ACCEPTABLE RANGE OF MOISTURE CONTENT
- WHICH IS READILY CONTROLLED SHALL NOT BE HIGHLY SUSCEPTIBLE TO VOLUME CHANGE (SHRINKAGE OR SWELL) OR SETTLEMENT
- 4. FILL MATERIALS CONTAINING ROCKS LARGER THAN SIX (6) INCHES (15.2 CM) SHALL NOT BE USED. THE UPPERMOST TWO (2) FEET (61 CM) SHALL NOT HAVE ANY ROCK LARGER THAN TWO (2) INCHES (5.1 CM) IN DIAMETER.
- 5. THE APPROVED FILL SHALL BE PLACED IN EIGHT (8) INCH (20 CM) LODSE LIFTS. EACH LIFT SHALL BE SPREAD IN UNIFORM LAYERS. FILL SOIL SHALL BE UTILIZED ONLY WITHIN A MOISTURE RANGE OF +/- 5% OF THE OPTIMUM MOISTURE CONTENT. COMPACTION OF THE FILL SHALL BE PERFORMED WITH APPROVED EQUIPMENT. COMPACTION OF THE LAYERS SHALL BE CONTINUOUS AND UNIFORM.
- 6. EMBANKMENT MATERIAL IN FILL AREAS SHALL BE PLACED IN LIFTS NOT EXCEEDING EIGHT (8) INCHES AND SHALL BE COMPACTED TO A MINIMUM 95% DENSITY IN ACCORDANCE WITH SECTION 303 OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS.
- 7. FIELD DENSITY TESTS ARE TO BE CONDUCTED BY AN INDEPENDENT SOILS TESTING LABORATORY UNDER THE DIRECTION OF A QUALIFIED GEDTECHNICAL ENGINEER. THE RESULTS OF THESE TESTS SHALL BE SUBMITTED TO THE COUNTY OF ROANOKE WITH AS-BUILT PLANS AS A CONDITION OF ACCEPTANCE OF THE FACILITY BY THE COUNTY. FIELD DENSITY TESTS, AS DIRECTED BY THE ENGINEER SHALL BE PERFORMED PERIODICALLY TO DETERMINE THE DEGREE OF COMPACTION. ANY AREAS FAILING TO MEET THE ABOVE REQUIREMENTS SHALL BE REWORKED AND/OR RECOMPACTED UNTIL THE REQUIRED DEGREE OF COMPACTION IS
- 8. ANTI-SEEP COLLARS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
- 9. ALL DISTURBED AREAS SHALL BE COVERED WITH FOUR (4) INCHES OF TOPSOIL AND SEEDED.
- 10. THE MINIMUM SLOPE OF THE BASIN 'FLOOR SHALL BE ONE (1) PERCENT GRADED TO DRAIN TO THE PRINCIPAL SPILLWAY.

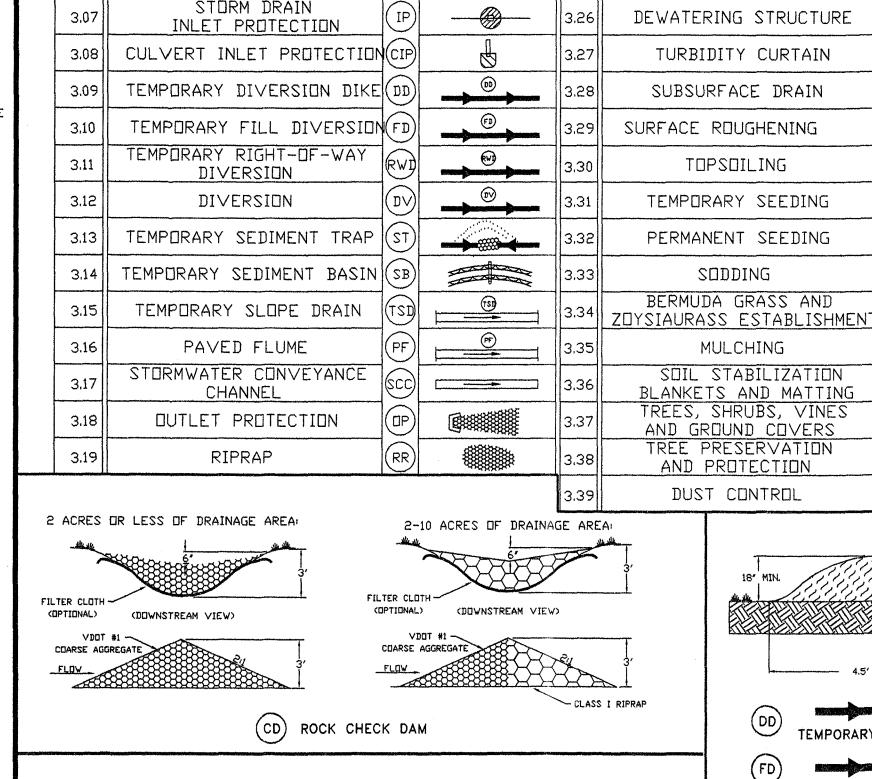
are desirable.

SPECIFIC APPLICATION

an overflow capability and ease of maintenance

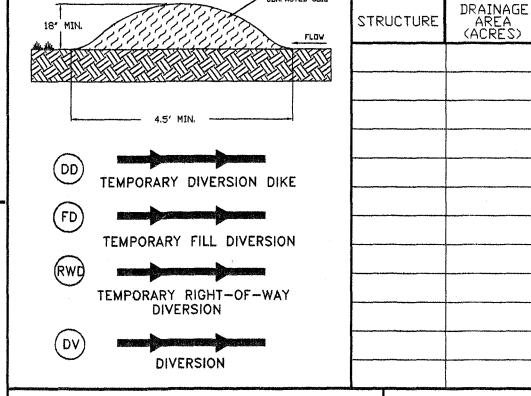
This method of inlet protection is applicable

where heavy flows are expected and where



SYMBOL

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SYMBOL

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**TS** 

\$0

B GR

- (/E) -

TP ---

---(DC)---

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TITLE

ROCK CHECK DAMS

LEVEL SPREADER

/EGETATIVE STREAMBANK

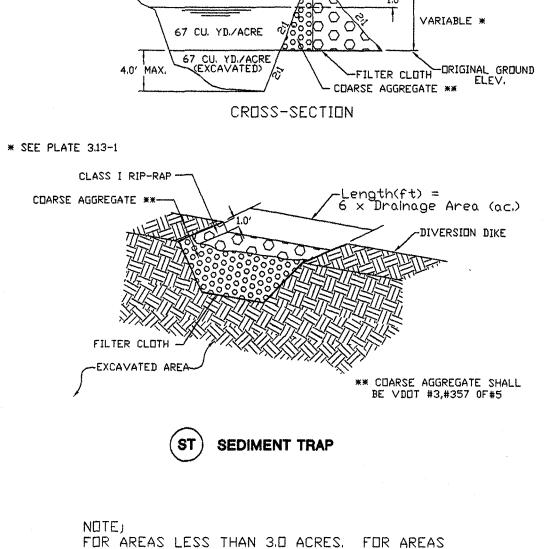
STABILIZATION

STRUCTURAL STREAMBANK

EMPORARY VEHICULAR

UTILITY STREAM CROSSING

STREAM CROSSING



LARGER THAN 3.0 ACRES A SEDIMENT BASIN

TEMPORARY SEDIMENT TRAP DATA

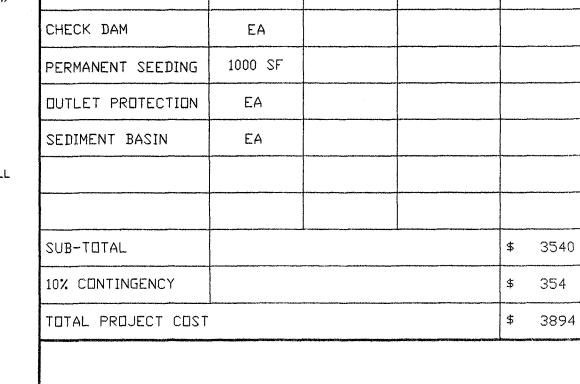
STORAGE (C.Y.)

DESIGN

IS REQUIRED. SEE DETAIL THIS SHEET.

- ORIGINAL GROUND 1.0' -

- VARIABLE \*



**EROSION-SILTATION CONTROL** 

**COST ESTIMATE** 

QUANTITY

260

TOTAL COST

500

1040

2000

UNIT COST

500

ALL COSTS GIVEN ARE COMPLETE IN PLACE

EA

LF

EΑ

LF

LF

EΑ

DESCRIPTION

NLET PROTECTION

CONSTRUCTION

ENTRANCE

SILT FENCE

TEMPORARY

TEMPORARY

BERM HEIGHT (FT.)

DIVERSION DIKE

FILL DIVERSION

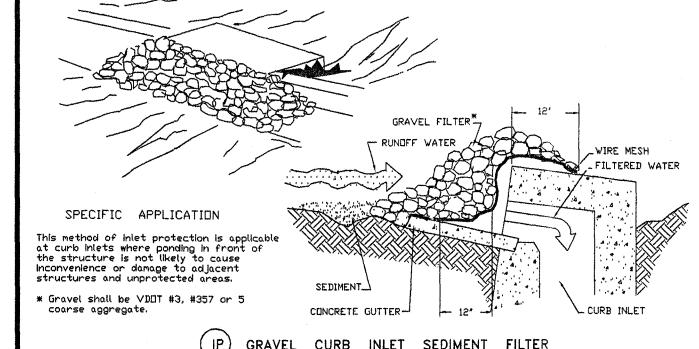
SEDIMENT TRAP

GENERAL EROSION AND SEDIMENT CONTROL NOTES

- . ALL SOIL EROSION & SEDIMENT CONTROL MEASURES SHALL BE ACCOMPLISHED IN STRICT ACCURDANCE 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
- . IN NO CASE DURING CONSTRUCTION SHALL WATER RUNOFF BE DIVERTED OR
- ALLOWED TO FLOW TO LOCATIONS WHERE ADEQUATE PROTECTION HAS NOT BEEN 5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LEAVE THE SITE ADEQUATELY PROTECTED AGAINST EROSION, SEDIMENTATION, OR ANY DAMAGE TO ANY ADJACENT

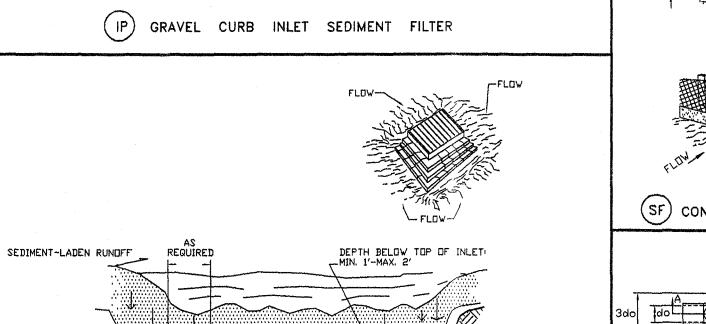
PROPERTY AT THE END OF EACH DAY'S WORK.

5. 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 ROANDKE COUNTY.



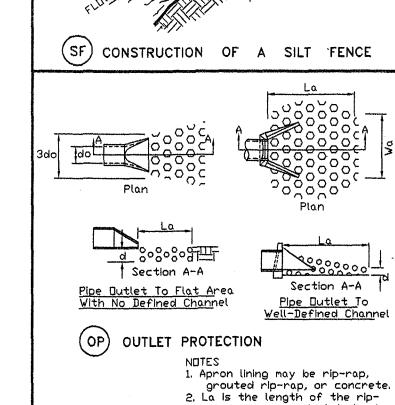
STORM WATER WITH ~ LARGER PARTICLES REMOVED

DRAIN INLET -



LARGER PARTICLES

WILL SETTLE



CROSS-SECTION

\* 10' IF WIRE IS

rap apron as calculated using

stone diameter, but not less

plates 1.36d and 1.36e.

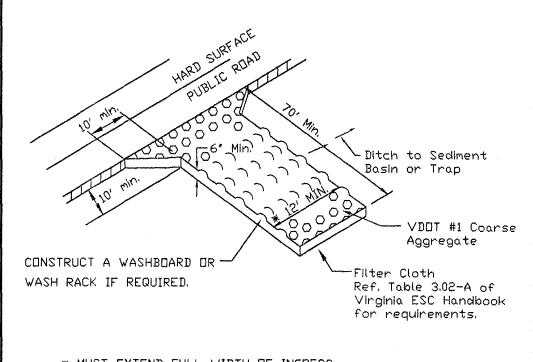
3. d = 1.5 times the maximum

USED.

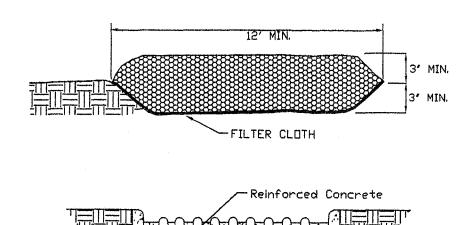
6' IF WIRE IS

Extend Flabric and

Wire Into Trench



\* MUST EXTEND FULL WIDTH OF INGRESS & EGRESS OPERATION.



Drain Space-WASH RACK DETAIL (IF REQUIRED)

> TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

## PERMANENT SEEDING MIXTURE

TYPE B (SLOPES 3:1 OR STEEPER) 15 OCTOBER TO 1 FEBRUARY 15 MARCH TO 1 MAY K-31 FESCUE @ 5 LB / 1000 SF CROWN VETCH @ 1/2 LB / 1000 SF PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF RED TOP @ 1/8 LB / 1000 SF BURZY WINTER RYE @ 1/2 LB / 1000 SF FEBRUARY TO 1 JUNE K-31 FESCUE @ 5 LB / 1000 SF 15 AUGUST TO 1 OCTOBER ANNUAL RYE @ 1/2 LB / 1000 SF CROWN VETCH @ 1/2 LB / 1000 SF PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF JUNE TO 1 SEPTEMBER RED TOP @ 1/8 LB / 1000 SF 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

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

IF REQUIRED, SHALL BE USED OVER ALL SEEDED 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

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.

TOTAL DISTURBED AREA =

AC. = SQ, FT,

## GRAVEL (12'MIN. DEPTH) 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.

(IP) GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER

DEPARTMENT ENGINEERING AND INSPECTIONS

4	1	ENGR. & INSPEC.	04-10-93
	2	ENGR. & INSPEC.	08-05-93
	3	ENGR. & INSPEC.	10-27-93
	4		
	5		
	6		
	NO.	REVISIONS	DATE

ROANOKE COUNTY OF

EXCAVATED DROP INLET SEDIMENT TRAP

DATE: 11/02/	93
SCALE: NO S	CALE
DRAWING BY:	CLN,AF
DESIGNED BY:	G:\CAD\DETAILS\EROSION\EROSION)
APPROVED BY:	GWS,III

**EROSION & SEDIMENT CONTROL** STORMWATER MANAGEMENT DETAILS

