SYMBOL TITLE TITLE EROSION-SILTATION CONTROL GENERAL NOTES --) --- } SAFETY FENCE ROCK CHECK DAMS 1. DESIGN OF DETENTION BASINS SHALL CONFORM TO THE REQUIREMENTS TEMPORARY GRAVEL L COSTS GIVEN ARE COMPLETE IN PLACE LEVEL SPREADER OF THE COUNTY OF ROANDKE DRAINAGE STANDARDS (REF. SECTIONS CONSTRUCTION ENTRANCE VARIABLE 503.02, 503.03, AND 505.02). THE DESIGN OF THE FACILITY AND PREPARATION OF AS-BUILT PLANS SHALL BE BY A CERTIFIED VEGETATIVE STREAMBANK CONSTRUCTION ROAD DESCRIPTION PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE COMMONWEALTH 三三三 STABILIZATION STABILIZATION OF VIRGINIA. RUCTURAL STREAMBANK CONSTRUCTION STRAW BALE BARRIER VARIABLE * INTRANCE STABILIZATION 2. ACCESS TO THE FACILITY MUST BE PROVIDED IN ACCORDANCE WITH THE 7 CU. YD./ACRE EMPORARY VEHICULAR COUNTY OF ROANOKE DESIGN AND CONSTRUCTION STANDARDS FOR 3.05 ILT FENCE SILT FENCE 67 CU. YD./ACRI (EXCAVATED) DETENTION PONDS, LATEST EDITION. STREAM CROSSING -FILTER CLOTH - ORIGINAL GROUNI SEDIMENT BASIN SCHEMATIC 三排三 - COARSE AGGREGATE ** NLET PROTECTION BRUSH BARRIER (20000000) UTILITY STREAM CROSSING 3,06 3. IF THE FACILITY IS OVER FOUR (4) FEET DEEP, TAKES OVER TWO (2) **ELEVATIONS** CROSS-SECTION HOURS TO DRAIN, OR THE INTERIOR SLOPE EXCEEDS 3 (H): 1 (V), STORM DRAIN EMPORARY PERMANENT FENCING MAY BE REQUIRED, ADDITIONALLY, IF THE 3.07 DEWATERING STRUCTURE IVERSION DIKE INLET PROTECTION FACILITY IS IN A CONGESTED AREA OR WILL IN ANY WAY POSE A * SEE PLATE 3.13-1 HAZARD TO THE GENERAL PUBLIC, FENCING MAY BE REQUIRED. IGHT OF WAY FENCING SHALL BE A MINIMUM OF SIX (6) FEET HIGH, A MINIMUM OF CULVERT INLET PROTECTION(CI TURBIDITY CURTAIN DIVERSION STANDARD NINE GAUGE LINK FENCE, AND MUST HAVE DNE OR MORE CLASS I RIP-RAP-LUCKING DOUBLE GATES (MINIMUM TEN FEET WIDE) FOR ACCESS. -Length(ft) = 6 x Dralnage Area (ac.) EDIMENT TRAP TEMPORARY DIVERSION DIK SUBSURFACE DRAIN COARSE AGGREGATE **----4. DETENTION PONDS SHALL BE BONDED IN ACCORDANCE WITH THE ROANOKE HECK DAM COUNTY BONDING POLICY FOR SUBDIVISION AND SITE DEVELOPMENT. ----(3R)-----3.10 TEMPORARY FILL DIVERSION(F SURFACE ROUGHENING CREST OF EMERGENCY DESIGN HIGH WATER (25-YR, STORM ELEV.) A SEPARATE BOND FOR THE DETENTION FACILITY WILL BE REQUIRED MIN. 1.0' SPILLWAY AND ADMINISTERED APART FROM THE SUBDIVISION DEVELOPMENT BOND. EMPORARY RIGHT-OF-WAY ----(TD)----REFERENCE ESTIMATE - THIS SHEET, TOPSOILING PERMANENT SEEDING DIVERSION 67 C.Y./AC. -"DRY" STORAGE ---(15)----DUTLET PROTECTION 5. REFERENCE THE COUNTY OF ROANDKE DESIGN AND CONSTRUCTION 3.12 DIVERSION TEMPORARY SEEDING - RISER CRES STANDARDS FOR DETENTION PONDS, LATEST EDITION, FOR ACCEPTANCE 67 C.Y./AC. ---AND MAINTENANCE OF THE FACILITY, CERTIFIED AS-BUILTS ARE 'VET' STORAGE - DEWATERING DEVICE FILTER CLOTH -TEMPORARY SEDIMENT TRAP PERMANENT SEEDING —— PS—— SEDIMENT BASIN 3.13 REQUIRED AND MUST INCLUDE: -EXCAVATED AREA-A. DIMENSIONS OF THE FACILITY SEDIMENT CLEANOUT POINT ** CDARSE AGGREGATE SHALL ----(30)---- TEMPORARY SEDIMENT BASI SODDING ("WET" STORAGE REDUCED BE VDOT #3,#357 OR #5 TO 34 C.Y./ACRE) B. VOLUME @ MAXIMUM DEPTH BERMUDA GRASS AND B DR TEMPORARY SLOPE DRAIN C. ELEVATIONS OF STRUCTURES, SPILLWAYS, AND TOP 'DYSIAURASS ESTABLISHMENT' DESIGN ELEVATIONS WITH (ST) SEDIMENT TRAP D. MATERIALS VERIFICATION INCLUDING RESULTS OF DENSITY TESTS EMERGENCY SPILLWAY SUB-TOTAL ----(N)------3.16 PAVED FLUME MULCHING CONDUCTED BY AN INDEPENDENT SOIL TESTING LABORATORY TORMWATER CONVEYANCE SOIL STABILIZATION E. LOCATION AND ELEVATION OF BENCHMARK. LO% CONTINGENCY CHANNEL BLANKETS AND MATTING FREES, SHRUBS, VINES TOTAL PROJECT COST 6. ONE FOOT MINIMUM FREEBOARD REQUIRED FOR THE 100 YR WATER DUTLET PROTECTION ——(E)—— 3.18 AND GROUND COVERS FOR AREAS LESS THAN 3.0 ACRES. FOR AREAS SURFACE ELEVATION. LARGER THAN 3.0 ACRES A SEDIMENT BASIN TREE PRESERVATION RIPRAP . -----(P) ----- IS REQUIRED. SEE DETAIL THIS SHEET. AND PROTECTION ____(DC) DUST CONTROL CONSTRUCTION NOTES 2 ACRES OR LESS OF DRAINAGE AREA 2-10 ACRES OF DRAINAGE AREA (25-YR. STORM ELEV.) | MIN. 2.0' TEMPORARY SEDIMENT TRAP DATA MIN. 1.0' GENERAL EROSION AND SEDIMENT CONTROL NOTES DRAINAGE STORAGE (C.Y.) 67 C.Y./AC. — 1. SITE PREPARATION SHALL BE IN ACCORDANCE WITH THE COUNTY OF TRUCTUR ROANDKE DESIGN AND CONSTRUCTION STANDARDS FOR DETENTION PONDS, REQ'D - RISER CREST LATEST EDITION. FILTER CLOTH 67 C.Y./AC. ---WET 18X58X3.5 3.0 ST-1 18' 'VET' STORAGE (OPTIONAL) (DOWNSTREAM VIEW) - DEWATERING DEVICE 1, ALL SOIL EROSION & SEDIMENT CONTROL MEASURES SHALL BE ACCOMPLISHED` (OPTIONAL) (DOWNSTREAM VIEW) IN STRICT ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS CONTAINED 2. SLOPES STEEPER THAN 3 TO 1 (HORIZONTAL TO VERTICAL) SHALL BE IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION SEDIMENT CLEANOUT POINT BENCHED OR STEPPED PRIOR TO PLACING FILL ON THEM. COARSE AGGREGAT THE APPROVING AUTHORITY MAY ADD TO, DELETE, RELOCATE, CHANGE, OR OTHERWISE MODIFY CERTAIN EROSION AND SEDIMENT CONTROL MEASURES WHERE 3. DN-SITE FILL MATERIAL DR BORROW FILL MATERIAL MAY BE UTILIZED. FIELD CONDITIONS ARE ENCOUNTERED THAT WARRANT SUCH MODIFICATIONS. FILL MATERIAL SUILS, IN GENERAL DESIGN ELEVATIONS WITHOUT CLASS I RIPRA , ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON THE PLAN EMERGENCY SPILLWAY SHALL BE PLACED IN ADVANCE OF THE WORK BEING PERFORMED, AS FAR AS (CD) ROCK CHECK DAM SHALL BE WITHIN AN ACCEPTABLE RANGE OF MOISTURE CONTENT TEMPORARY DIVERSION DIKE (RISER PASSES 25-YR. EVENT) WHICH IS READILY CONTROLLED H. IN NO CASE DURING CONSTRUCTION SHALL WATER RUNOFF BE DIVERTED OR SHALL NOT BE HIGHLY SUSCEPTIBLE TO VOLUME CHANGE ALLOWED TO FLOW TO LOCATIONS WHERE ADEQUATE PROTECTION HAS NOT BEEN (SHRINKAGE OR SWELL) OR SETTLEMENT PROVIDED. TEMPORARY FILL DIVERSION , IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LEAVE THE SITE ADEQUATELY 4. FILL MATERIALS CONTAINING ROCKS LARGER THAN SIX (6) INCHES PROTECTED AGAINST EROSION, SEDIMENTATION, OR ANY DAMAGE TO ANY ADJACENT (15.2 CM) SHALL NOT BE USED. THE UPPERMOST TWO (2) FEET (61 PROPERTY AT THE END OF EACH DAY'S WORK, CM) SHALL NOT HAVE ANY ROCK LARGER THAN TWO (2) INCHES (5.1 CM) IN DIAMETER. TEMPORARY RIGHT-OF-WAY , FOR THE EROSION CONTROL KEY SYMBOLS SHOWN ON THE PLANS, REFER TO THE. DIVERSION VIRGINIA UNIFORM CODING SYSTEM FOR EROSION AND SEDIMENT CONTROL PRACTICES: CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL 5. THE APPROVED FILL SHALL BE PLACED IN EIGHT (8) INCH (20 CM) EDITION: THESE SYMBOLS AND KEYS ARE TO BE UTILIZED ON ALL EROSION CONTROL LODSE LIFTS, EACH LIFT SHALL BE SPREAD IN UNIFORM LAYERS. PLANS SUBMITTED TO ROANOKE COUNTY. FILL SOIL SHALL BE UTILIZED ONLY WITHIN A MOISTURE RANGE OF DIVERSION +/- 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. FILTERED WATER 6. EMBANKMENT MATERIAL IN FILL AREAS SHALL BE PLACED IN LIFTS NOT EXCEEDING EIGHT (8) INCHES AND SHALL BE COMPACTED TO A MINIMUM SPECIFIC APPLICATION 95% DENSITY IN ACCORDANCE WITH SECTION 303 OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS. 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. 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 Gravel shall be VDOT #3, #357 or 5 SUBMITTED TO THE COUNTY OF ROANOKE WITH AS-BUILT PLANS AS A PERMANENT SEEDING MIXTURE CONCRETE GUTTER-CONDITION OF ACCEPTANCE OF THE FACILITY BY THE COUNTY. FIELD Ditch to Sediment DENSITY TESTS, AS DIRECTED BY THE ENGINEER SHALL BE PERFORMED PERIODICALLY TO DETERMINE THE DEGREE OF COMPACTION. ANY AREAS (IP) GRAVEL CURB INLET SEDIMENT FILTER FAILING TO MEET THE ABOVE REQUIREMENTS SHALL BE REWORKED CROSS-SECTION 1 0/ AND/OR RECOMPACTED UNTIL THE REQUIRED DEGREE OF COMPACTION IS ACHIEVED. VDOT #1 Coarse 15 OCTOBER TO 1 FEBRUARY Aggregate K-31 FESCUE @ 5 LB / 1000 SF ₩ 10' IF WIRE IS 8. ANTI-SEEP COLLARS SHALL BE INSTALLED IN ACCORDANCE WITH THE BORZY WINTER RYE @ 1/2 LB / 1000 USED. CONSTRUCT A WASHBOARD OR REQUIREMENTS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL Filter Cloth 6' IF WIRE IS L FEBRUARY TO 1 JUNE HANDBOOK, LATEST EDITION. WASH RACK IF REQUIRED. Ref. Table 3.02-A of K-31 FESCUE @ 5 LB / 1000 SF NOT USED. Virginia ESC Handbook ANNUAL RYE @ 1/2 LB / 1000 SF for requirements. 9. ALL DISTURBED AREAS SHALL BE COVERED WITH FOUR (4) INCHES OF JUNE TO 1 SEPTEMBER TOPSOIL AND SEEDED. K-31 FESCUE @ 5 LB / 1000 SF GERMAN MILLET @ 1/2 LB / 1000 SF * MUST EXTEND FULL WIDTH OF INGRESS (SF) CONSTRUCTION OF A SILT FENCE 10. THE MINIMUM SLOPE OF THE BASIN 'FLOOR SHALL BE ONE (1) PERCENT SEPTEMBER TO 15 OCTOBER & EGRESS OPERATION. GRADED TO DRAIN TO THE PRINCIPAL SPILLWAY. K-31 FESCUE @ 5 LB / 1000 SF ANNUAL RYE @ 1/2 LB / 1000 SF DEPTH BELOW TOP OF INLET: SEDIMENT-LADEN RUNOFF 140 LB / 1000 SF PULVERIZED AGRICULTURAL LIMESTONE RAVEL (12'MIN. DEPTH) 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 MULCH SPECIFIC APPLICATION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. -FILTER CLOTH This method of inlet protection is applicable SOIL CONDITIONING 🥞 INCORPORATION OF LIME AND FERTILIZER, SELECTION OF CERTIFIED where heavy flows are expected and where SEED, MULCHING, MAINTENANCE OF NEW SEEDLINGS, AND RESEEDING an overflow capability and ease of maintenance SHALL BE IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN are desirable. Section A-A THE VIRGINIA SUIL ERUSION AND SEDIMENT CONTROL HANDBOOK, LARGER PARTICLES -Reinforced Concrete - MAX. SLOPE 20 WILL SETTLE Section A-A LATEST EDITION. ADDITIONAL SEEDING TO BE PERFORMED AS REQUIRED <u>Pipe Dutlet To Flat Area With No Defined Chann</u>el BY THE INSPECTOR. <u>Pipe Dutlet To</u> <u>Well-Defined Chan</u>ne STORM WATER WITH -LARGER PARTICLES REMOVED SEED APPLICATION: APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL SPECIFIC APPLICATION CULTIPACKER SEEDER, OR HYDROSEEDER ON A FIRM, FRIABLE, SEEDBED. (OP) OUTLET PROTECTION MAXIMUM SEEDING DEPTH SHALL BE 1/4 INCH. 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 DRAIN INLET - Apron lining may be rip-rap, grouted rip-rap, or concrete. La is the length of the rip-WASH RACK DETAIL (IF REQUIRED) to adjacent structures and unprotected areas. TOTAL DISTURBED AREA = 14.3 * Gravel shall be VDOT #3, #357 or #5 coarse aggregate. rap apron as calculated using TEMPORARY GRAVEL plates 1.36d and 1.36e. CONSTRUCTION ENTRANCE 3. d = 1.5 times the maximum (IP) GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER stone diameter, but not less EXCAVATED DROP INLET SEDIMENT TRAP

DEPARTMENT ENGINEERING AND INSPECTIONS

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

ROANOKE COUNTY OF

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

EROSION & SEDIMENT CONTROL STORMWATER MANAGEMENT DETAILS

COST ESTIMATE

EA

EA

EΑ

1000 SF

EΑ

EΑ

QUANTITY

1,100

10

1,750

100

567

UNIT COS

400.00

2.50

75.00

2.00

2.00

800.00

50.00

17.00

75.00

5,000.00

TYPE B (SLOPES 31 OR STEEPER)

CROWN VETCH @ 1/2 LB / 1000 SF

CROWN VETCH @ 1/2 LB / 1000 SF

RED TOP @ 1/8 LB / 1000 SF

PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF RED TOP @ 1/8 LB / 1000 SF

PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF

15 MARCH TO 1 MAY

15 AUGUST TO 1 DCTOBER

400.00

2,750.00

75.00

3,500.00

200.00

800.00

650.00

9,639.00

225.00

5,000.00

\$ 23,239.00

2,331.00

\$ 25,570.00

WVWA ID# 6PVJHL