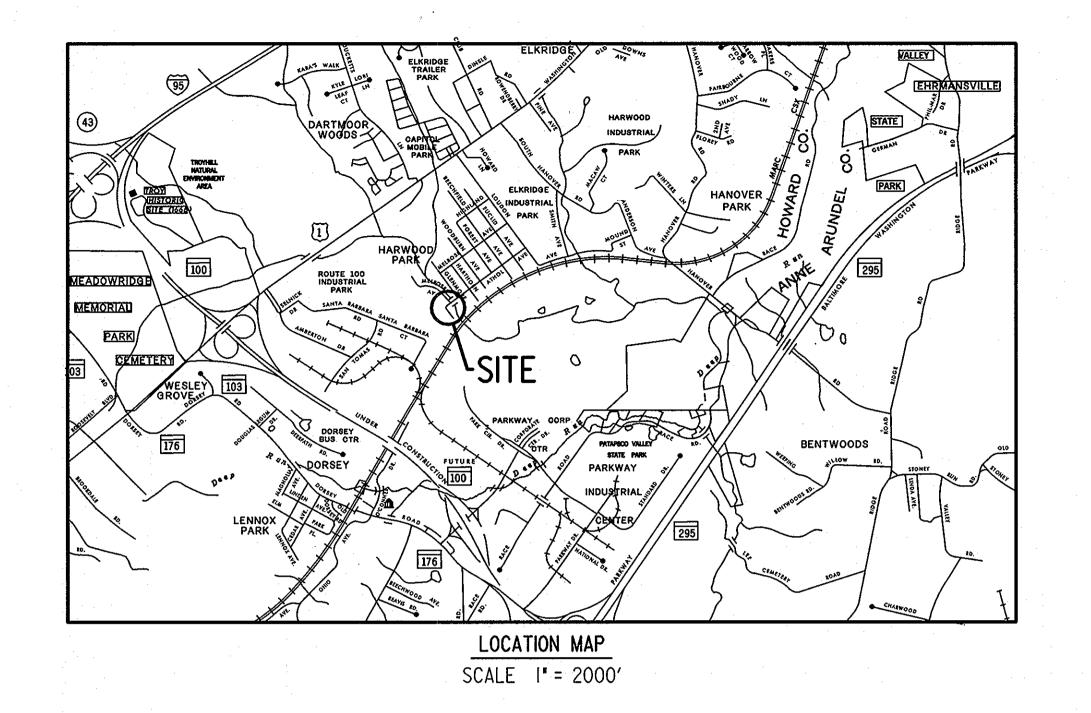
INDEX OF SHEETS

HEET	NO.		DESCRIPTION
1			TITLE SHEET
2			PLAN SHEET
. 3			STORM DRAIN PROFILES
4			SEDIMENT AND EROSION CONTROL PLAN
5		s.	SEDIMENT AND EROSION CONTROL DETAILS AND NOTES



CAPITAL PROJECT NO. D-1118-54

ATHOL AVENUE - STORM DRAIN IMPROVEMENTS

HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

GENERAL NOTES

- ALL INFORMATION AND DETAILS ON THESE DRAWINGS SHALL BE CONSTRUCTED AS PER THE PLANS OR AS DIRECTED BY THE HOWARD
- 2. ALL STATIONING AND DIMENSIONING ARE TO FIELD VERIFIED BY THE CONTRACTOR

MISS UTILITY 1-800-257-7777

BALTIMORE GAS & ELECTRIC CO. - ELECTRIC DISTRIBUTION 410-291-3096

VERIZON - TELECOMMUNICATIONS 410-224-9500

COMCAST CABLE - 410-461-0444 HOWARD COUNTY D.P.W. 410-313-4900

THE CONTRACTOR SHALL CONTACT THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION OF ENGINEERING FOR VERIFICATION AND/OR

A. PROPOSED/EXISTING RIGHT-OF-WAY.

B. UTILITY RELOCATION.

C. MAINTENANCE OF TRAFFIC DURING CONSTRUCTION.

D. EROSION/SEDIMENT CONTROL CERTIFICATION AND PERMIT.

E. HORIZONTAL/VERTICAL SURVEY CONTROL.

F. GRADING PERMIT.

- 5. SEE HOWARD COUNTY STANDARD DETAILS NO'S G-I.OI AND G-I.O2 FOR STANDARD SYMBOLS.
- HORIZONTAL COORDINATES ARE BASED ON MD NAD 83/91 DATUM AND VERTICAL ELEVATIONS ARE BASED ON NAVD 1988 ELEVATIONS. TRANSFERRED FROM N.G.S. CONTROL STATION HARWOOD MDBCSM RESET. PID NO. JV0910.

N 558,479.01 E 1,386,642.06 ELEV. 189.56

- 7. A STAGING AND STOCKPILE AREA WILL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE HOWARD COUNTY ENGINEER.
- TOPOGRAPHY SURVEY INFORMATION BASED ON FIELD SURVEY PERFORMED BY JOHNSON, MIRMIRAN & THOMPSON DATED JANUARY 2004.

APPROVED: FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Steve Shavar

CHIEF, DIVISION OF TRANSPORTATION
AND SPECIAL PROJECTS 10/6/04

Steve Shavar 10/6/04

Engineering A Brighter Future ~ 72 Loveton Circle Baltimore, Maryland 21152-0949



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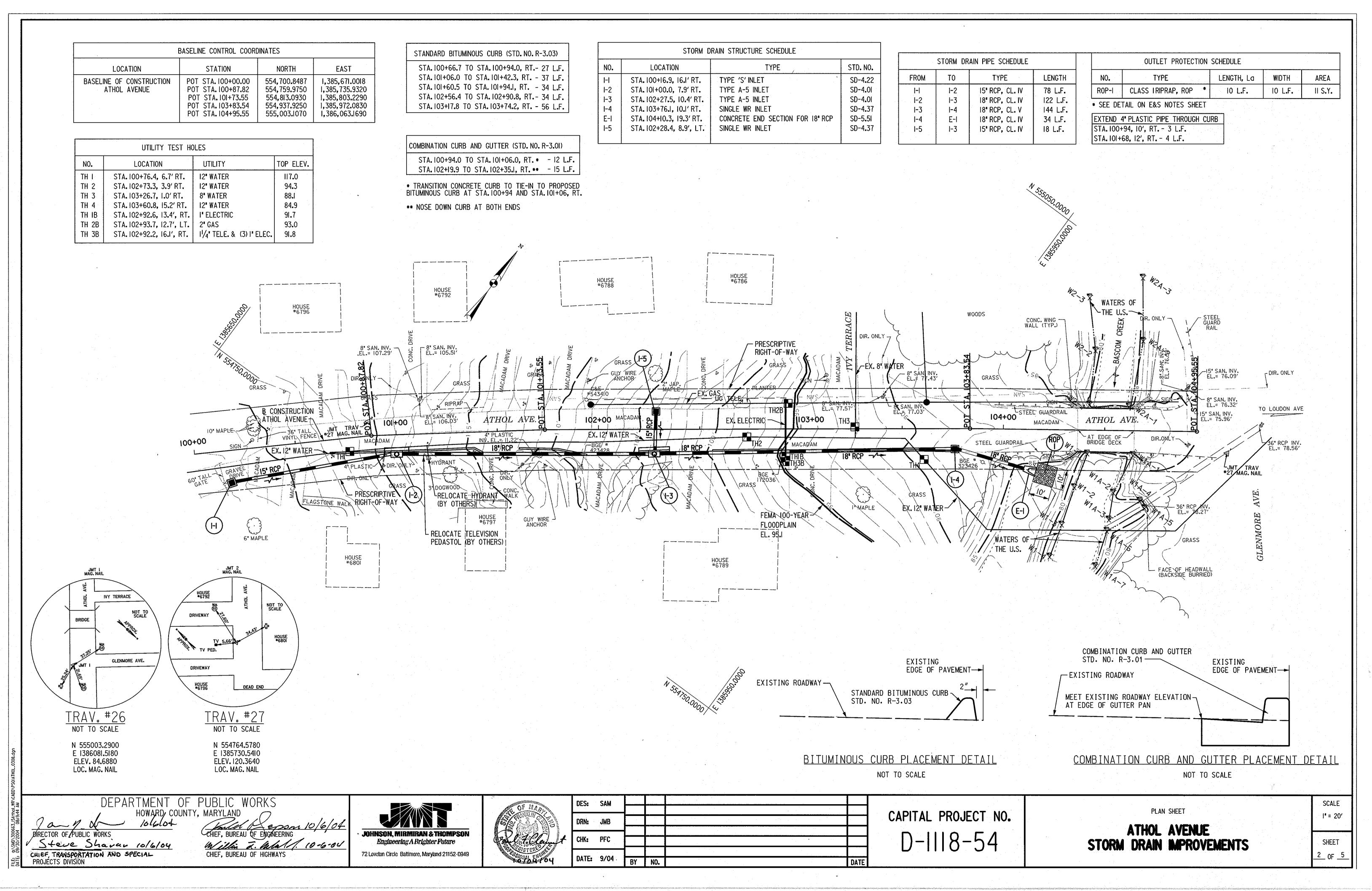
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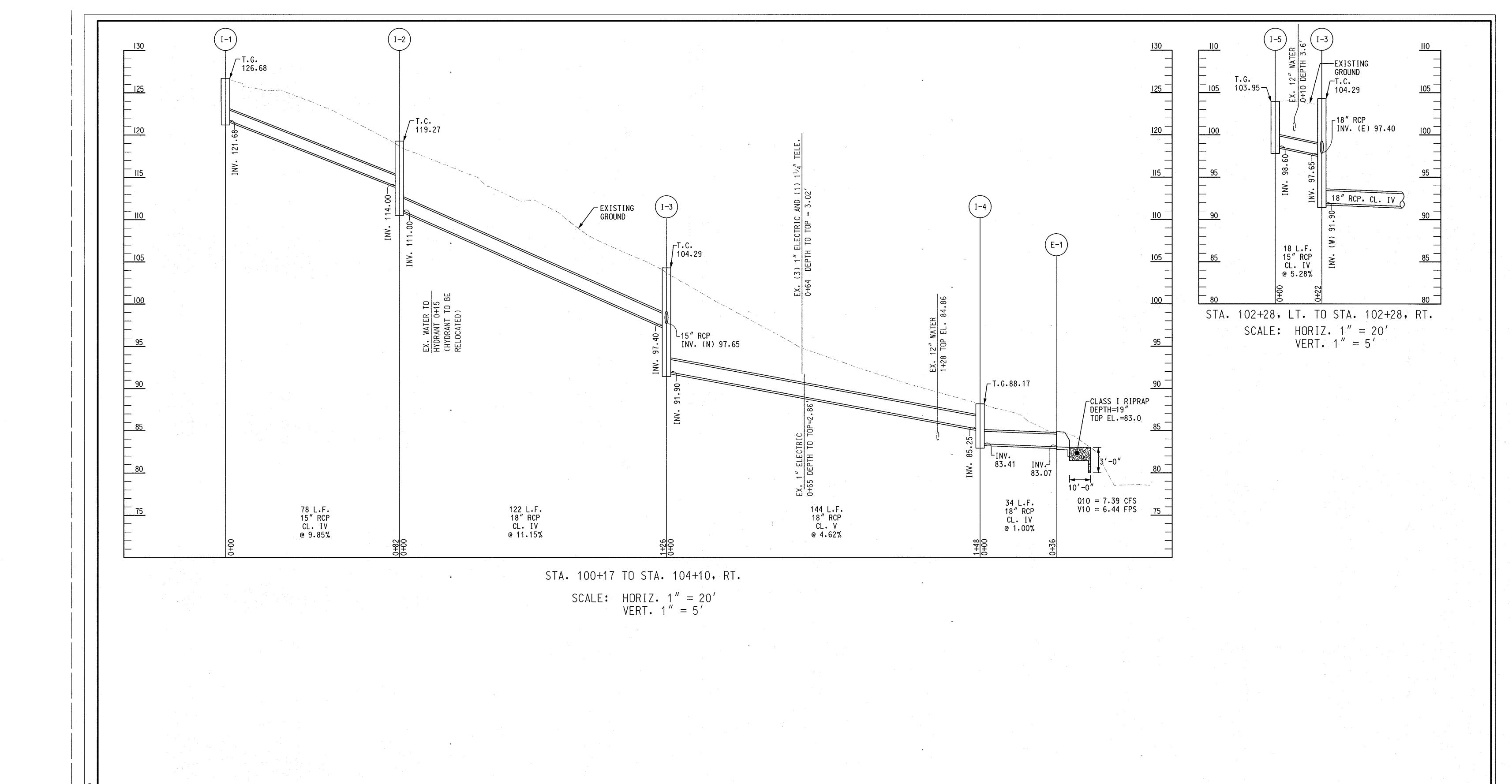
TITLE SHEET

ATHOL AVENUE STORM DRAIN IMPROVEMENTS AS SHOWN

SHEET

CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION





DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

JOHNSON CHIEF, BUREAU OF ENGINEERING

CHIEF, TRANSPORTATION AND SPECIAL CHIEF, BUREAU OF HIGHWAYS

PROJECTS DIVISION





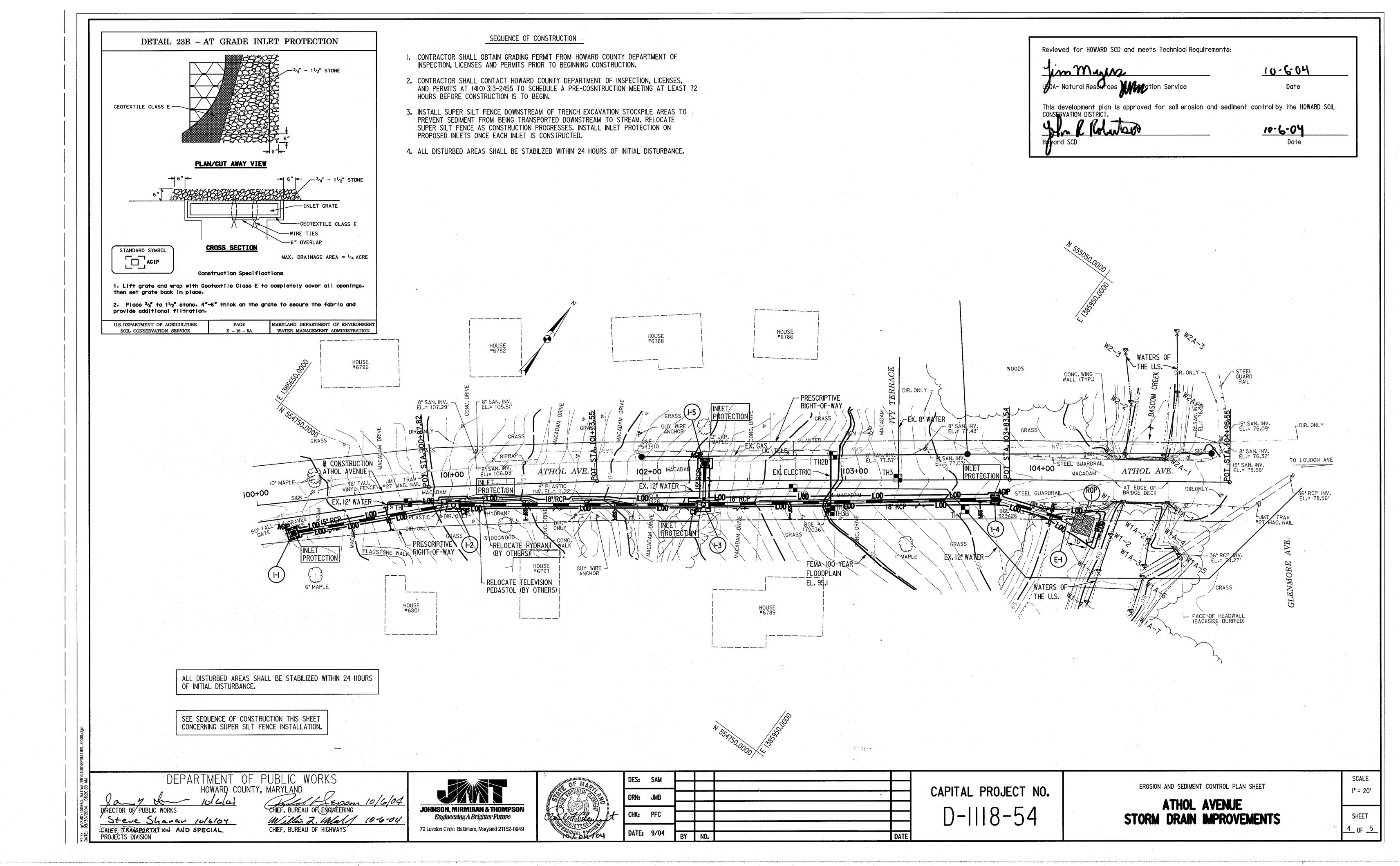
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CAPITAL PROJECT NO. D-1118-54

STORM DRAIN PROFILES

ATHOL AVENUE STORM DRAIN IMPROVEMENTS SCALE AS SHOWN

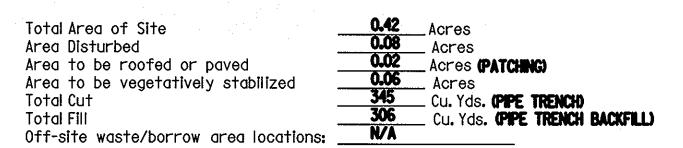
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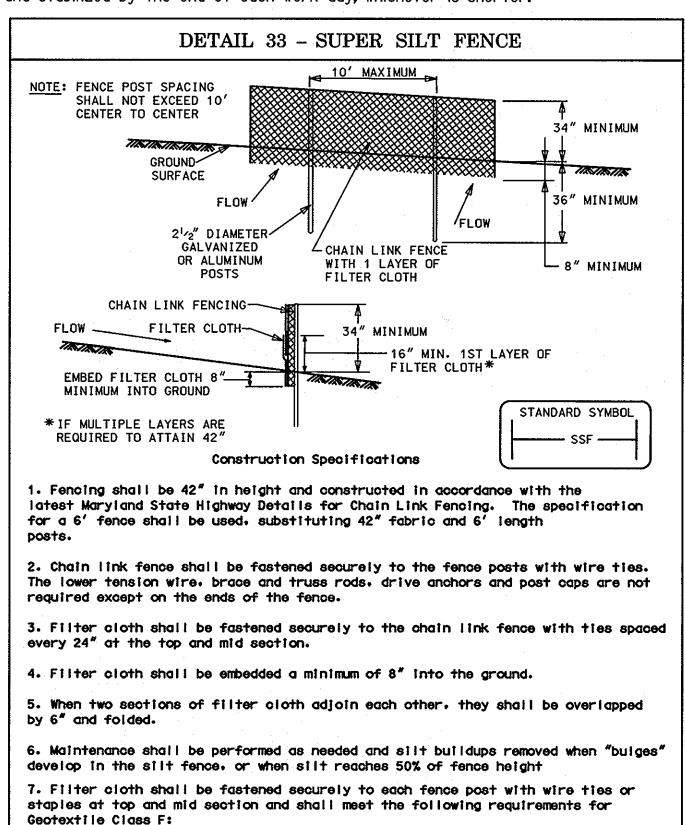
STANDARD SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections. Licenses and Permits, Sediment Control Division prior to the start of any construction (410-313-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calender days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b)14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL. Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

Site Analysis:



- 8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.



50 lbs/in (min.)

20 lbs/in (min.)

0.3 gai/ft²/minute (max.)

Tensile Strength

Filtering Efficiency 75% (min.)

Tensile Modulus

Flow Rate

CHIEF, TRANSPORTATION AND SPECIAL

PROJECTS DIVISION

SOIL CONSERVATION SERVICE

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

- Preferred -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 bs/1000 sq.ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.).
- Acceptable -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding -- For the period March I -- April 30, and August I -- October 15, seed with 60 lbs/acre (I.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 -- July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq.ft.) of weeping lovegrass. During the period of October 16 -- February 28, protect site by: Option I -- Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2 -- Use sod.

Option 3 -- Seed with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching -- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance -- Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

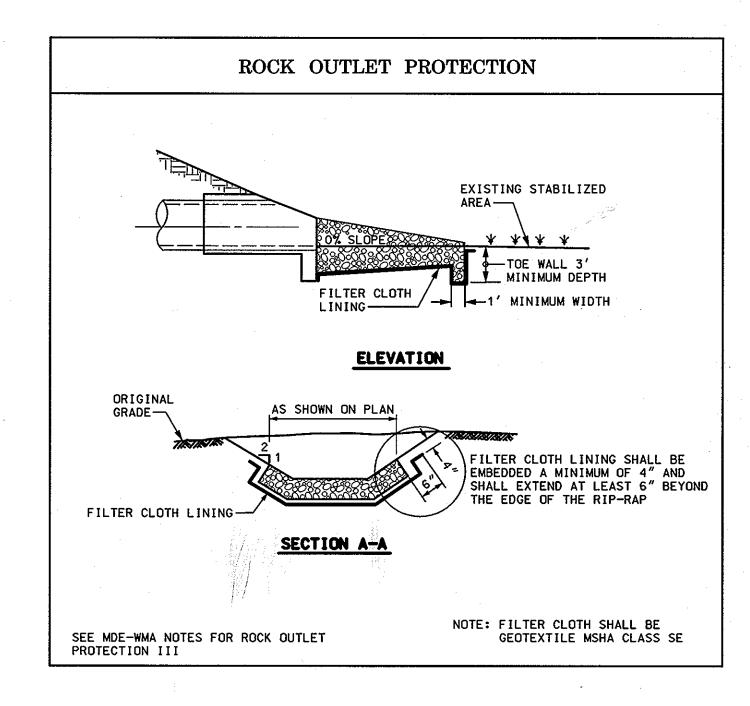
Seedbed preparation: -- Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: -- Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq.ft.).

Seeding: -- For periods March I -- April 30 and from August 15 -- October 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs/1000 sq.ft.). For the period May I -- August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 -- February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: -- Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/ 1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

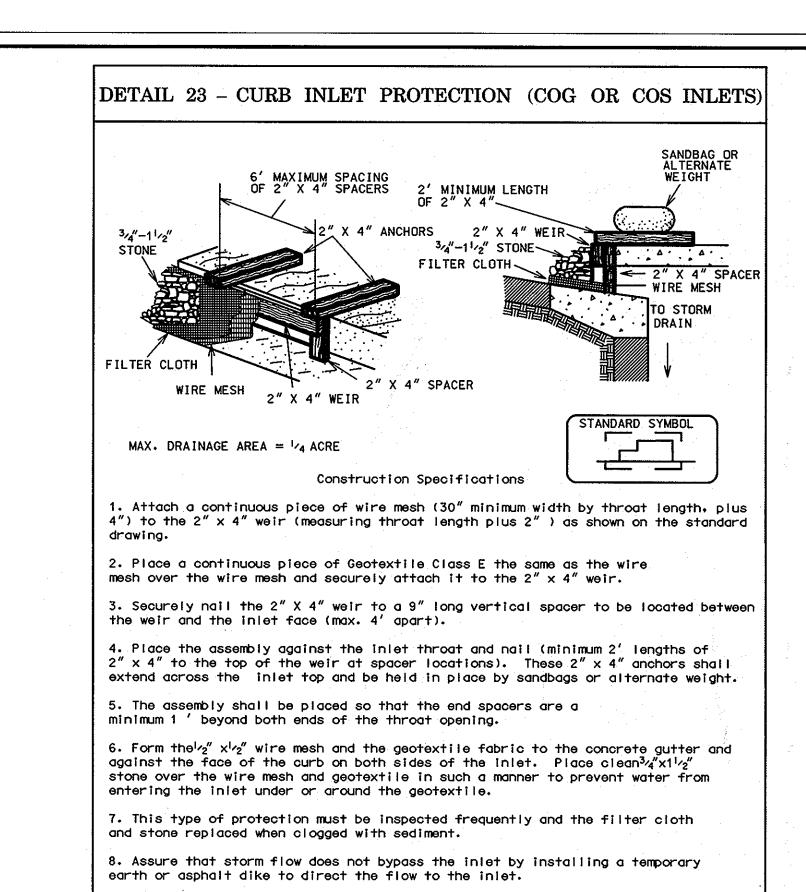


ROCK OUTLET PROTECTION III

Construction Specifications

- 1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- 2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
- 3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
- 4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
- 5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

U.S. DEPARTMENT OF AGRICULTURE	PAGE	MARYLAND DEPARTMENT OF ENVIRONMENT
SOIL CONSERVATION SERVICE	F - 18 - 10A	WATER MANAGEMENT ADMINISTRATION



E - 16 - 5B

U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

	"I/We certify that all development and const any responsible personnel involved in the co Attendance at a Department of the Enviror Sediment and Erosion before beginning the the Howard Soil Conservation District."	enstruction project wil nment approved Trainin	I have a Certificate of g Program for the Control of
	_Steve Shavar		10/6/04
	Steve Sharar		Date
	Signature of Developer Print name below Signature		
1			
	By the Engineer: "Icertify that this plan for erosion and		

MARYLAND DEPARTMENT OF ENVIRONMENT

WATER MANAGEMENT ADMINISTRATION

Signature of Developer Print name below Signature			
By the Engineer:	•	e Maria Para	
"Icertify that this plan for erosion and sedimen plan based on my personal knowledge of the site accordance with the requirements of the Howard	conditions of	and that it was pr	
Paul 7. Clement PE# 15466		10/04/04	
		Date	
Signature of Engineer			
Print name below Signature			
			•

	•
Reviewed for HOWARD SCD and meets Technical Requirement	ts:
SDA- Natural Resources ConstMop Service	10-6-04
SDA- Natural Resources Constitution Service	Date
This development plan is approved for soil erosion and so CONSERVATION DISTRICT.	ediment control by the HOWARD SOIL

John K Kobutall 10-6-04

SEDIMENT AND EROSION CONTROL DETAILS AND NOTES ATHOL AVENUE STORM DRAIN IMPROVEMENTS

AS SHOWN

SHEET 5 OF 5

SCALE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND -CHIEF, BUREAU OF ENGINEERING Stere Shavar 10/6/04

CHIEF. BUREAU OF HIGHWAYS'

Test: MSMT 509 Test: MSMT 509

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WATER MANAGEMENT ADMINISTRATION





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CAPITAL PROJECT NO. D-1118-54