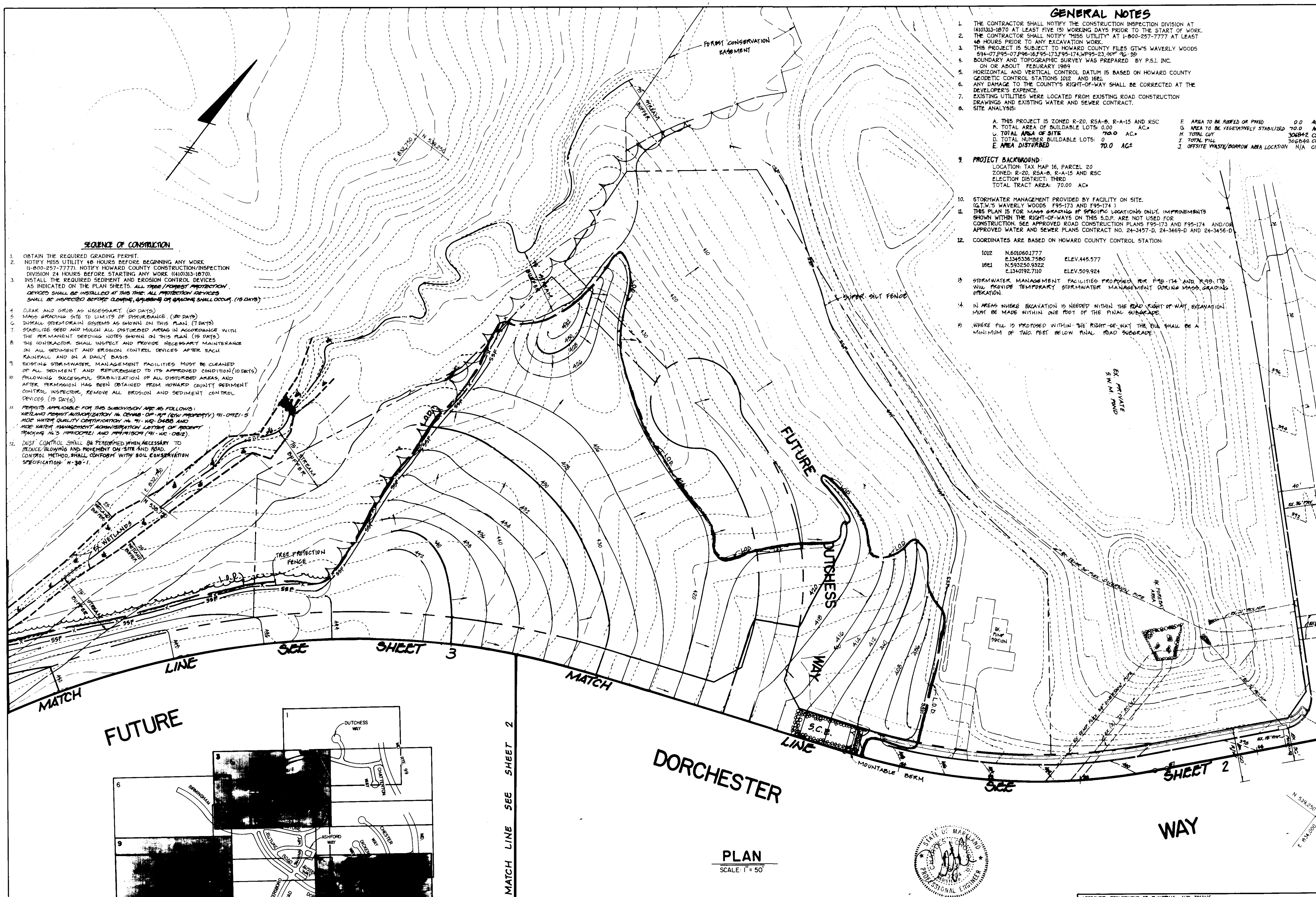


PLAN

SCALE: 1" = 50'

GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410)313-1870 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
2. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3. THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES GTW'S WAVERLY WOODS S94-07,P95-07,P96-16,F95-173,F95-174,WP95-23, SDP 96-35
4. BOUNDARY AND TOPOGRAPHIC SURVEY WAS PREPARED BY P.S.I. INC. ON OR ABOUT FEBURARY 1989
5. HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON HOWARD COUNTY GEODETIC CONTROL STATIONS 1012 AND 16E1.
6. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENCE.
7. EXISTING UTILITIES WERE LOCATED FROM EXISTING ROAD CONSTRUCTION DRAWINGS AND EXISTING WATER AND SEWER CONTRACT.
8. SITE ANALYSIS:

   A. THIS PROJECT IS ZONED R-20, RSA-8, R-A-15 AND RSC
   B. TOTAL AREA OF BUILDABLE LOTS: 0.00 AC.±
   C. ***TOTAL AREA OF SITE*** 70.0 AC.±
   D. TOTAL NUMBER BUILDABLE LOTS: 0
   E. ***AREA DISTURBED*** 70.0 AC±
   F. *AREA TO BE ROOFED OR PAVED* 0.0 AC±
   G. *AREA TO BE VEGETATIVELY STABILIZED* 70.0 AC±
   H. *TOTAL CUT* 306842 CYDS.
   I. *TOTAL FILL* 306842 CYDS.
   J. *OFFSITE WASTE/BORROW AREA LOCATION* N/A CYDS.

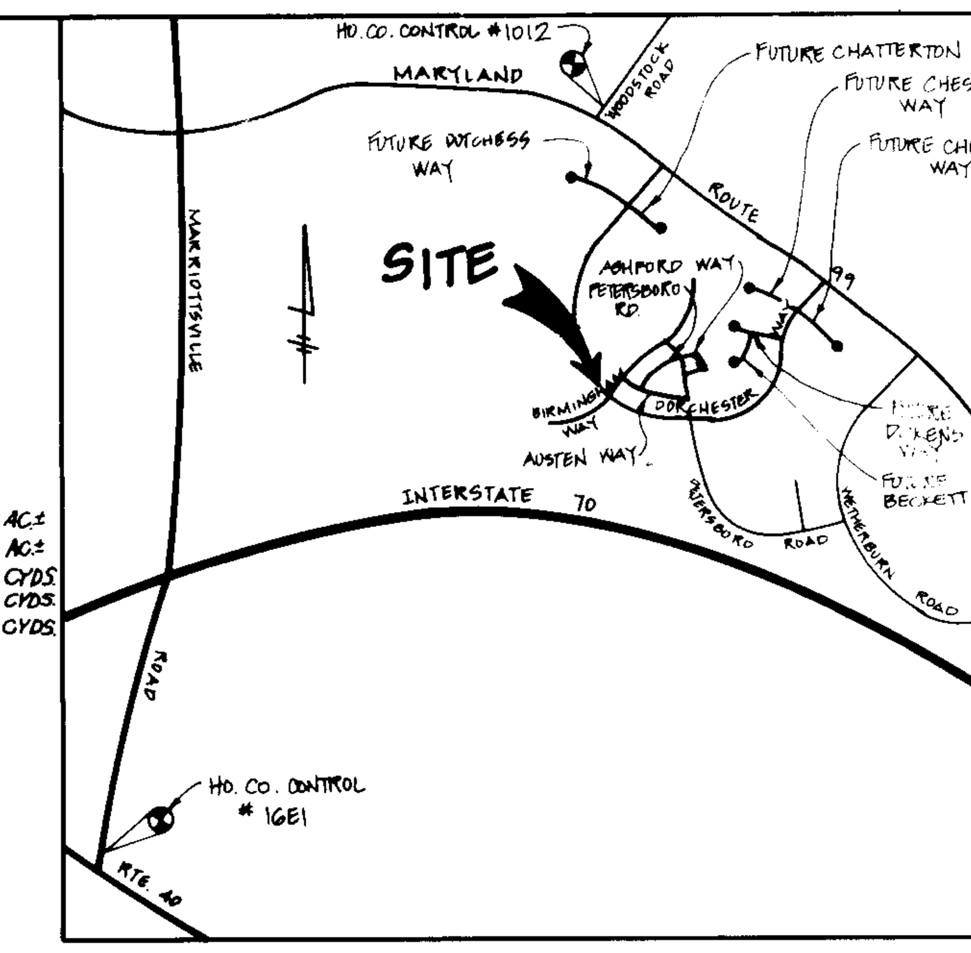
9. ***PROJECT BACKGROUND:***
   LOCATION: TAX MAP 16, PARCEL 20
   ZONED: R-20, RSA-8, R-A-15 AND RSC
   ELECTION DISTRICT: THIRD
   TOTAL TRACT AREA: 70.00 AC±
10. STORMWATER MANAGEMENT PROVIDED BY FACILITY ON SITE. (G.T.W.'S WAVERLY WOODS F95-173 AND F95-174)
11. THIS PLAN IS FOR MASS GRADING OF SPECIFIC LOCATIONS ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHT-OF-WAYS ON THIS S.D.P. ARE NOT USED FOR CONSTRUCTION. SEE APPROVED ROAD CONSTRUCTION PLANS F95-173 AND F95-174 AND/OR APPROVED WATER AND SEWER PLANS CONTRACT NO. 24-3457-D, 24-3469-D AND 24-3456-D
12. COORDINATES ARE BASED ON HOWARD COUNTY CONTROL STATION:

1012	N.601060.1777 E.1345336.7580	ELEV.445.577
16E1	N.593250.9322 E.1340192.7110	ELEV.509.924

13. STORMWATER MANAGEMENT FACILITIES PROPOSED FOR F95-174 AND F95-173 WILL PROVIDE TEMPORARY STORMWATER MANAGEMENT DURING MASS GRADING OPERATION.
14. IN AREAS WHERE EXCAVATION IS NEEDED WITHIN THE ROAD RIGHT-OF-WAY, EXCAVATION MUST BE MADE WITHIN ONE FOOT OF THE FINAL SUBGRADE.
15. WHERE FILL IS PROPOSED WITHIN THE RIGHT-OF-WAY THE FILL SHALL BE A MINIMUM OF TWO FEET BELOW FINAL ROAD SUBGRADE.

SEQUENCE OF CONSTRUCTION

1. OBTAIN THE REQUIRED GRADING PERMIT.
2. NOTIFY MISS UTILITY 48 HOURS BEFORE BEGINNING ANY WORK (1-800-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK ((410)313-1870).
3. INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES AS INDICATED ON THE PLAN SHEETS. *ALL TREE / FOREST PROTECTION DEVICES SHALL BE INSTALLED AT THIS TIME. ALL PROTECTION DEVICES SHALL BE INSPECTED BEFORE CLEARING, GRUBBING OR GRADING SHALL OCCUR. (15 DAYS)*
4. CLEAR AND GRUB AS NECESSARY. (60 DAYS)
5. MASS GRADING SITE TO LIMITS OF DISTURBANCE. (180 DAYS)
6. INSTALL STORMDRAIN SYSTEMS AS SHOWN ON THIS PLAN. (7 DAYS)
7. STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS PLAN. (15 DAYS)
8. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL DEVICES AFTER EACH RAINFALL AND ON A DAILY BASIS.
9. EXISTING STORMWATER MANAGEMENT FACILITIES MUST BE CLEANED OF ALL SEDIMENT AND REFURBISHED TO ITS APPROVED CONDITION (10 DAYS)
10. FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS, AND AFTER PERMISSION HAS BEEN OBTAINED FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES. (15 DAYS)
11. *PERMITS APPLICABLE FOR THIS SUBDIVISION ARE AS FOLLOWS: WETLAND PERMIT AUTHORIZATION No. CENAB-OP-RP (GTW PROPERTY) 91-0921-5 MDE WATER QUALITY CERTIFICATION No. 91-WQ-0488 AND MDE WATER MANAGEMENT ADMINISTRATION LETTER OF RECEIPT TRACKING No.'S 199100921 AND 199191509 (91-WC-0812).*
12. DUST CONTROL SHALL BE PERFORMED WHEN NECESSARY TO REDUCE BLOWING AND MOVEMENT ON SITE AND ROAD. CONTROL METHOD SHALL CONFORM WITH SOIL CONSERVATION SPECIFICATION H-30-1.



VICINITY MAP

SCALE: 1"= 2000'

SHEET INDEX

NO.	DESCRIPTION
1.	PLAN VIEW
2.	PLAN VIEW
3.	PLAN VIEW
4.	PLAN VIEW
5.	PLAN VIEW
6.	PLAN VIEW AND DETAILS
7.	PLAN VIEW
8.	PLAN VIEW
9.	PLAN VIEW AND DETAILS

LEGEND

- - - -	EXISTING CONTOUR 2' INTERVAL
— — —	EXISTING CONTOUR 10' INTERVAL
········	PROPOSED CONTOUR 2' INTERVAL
———	PROPOSED CONTOUR 10' INTERVAL
· 624	SPOT ELEVATION
—SF—SF—	SILT FENCE
—x—x—x—	TREE PROTECTION FENCE
⌒⌒⌒	EXISTING TREE LINE
⊙	EXISTING STREET TREE
➡	EARTH DIKE
L.O.D.	LIMIT OF DISTURBANCE
—SSF—	SUPER SILT FENCE
GF	GABION INFLOW PROTECTION

KEY MAP

N.T.S.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

STATE OF MARYLAND · CHARLES P. CROLEY · 13204 · REGISTERED · PROFESSIONAL ENGINEER

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

[illegible] 3/22/96
Signature of Engineer (Print name below signature) Date

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[illegible] 3/22/96
Signature of Developer (Print name below signature) Date

Reviewed for HOWARD SCD and meets Technical Requirements.
J. H. Warfield 7/16/96
U.S.D.A.-Natural Resources Conservation Service Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
John R. Robertson 7/16/96
Howard SCD Date

OWNER AND DEVELOPER

GTW JOINT VENTURE
c/o LAND DESIGN AND DEVELOPMENT, INC.
10805 HICKORY RIDGE ROAD, SUITE #215
COLUMBIA, MARYLAND 21044

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[illegible] 7/24/96
DIRECTOR DATE
[illegible] 7/23/96
Chief, Division of Land Development and Research JA Date
[illegible] 7/19/96
Chief, Development Engineering Division Date

SUBDIVISION			SECTION/AREA		PARCEL
G.T.W. WAVERLY WOODS			—		20
	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.2222 F.96	5, 6, 11, 12	R-20, RSA-8, R-A-15, RSC	16	THIRD	
WATER CODE			SEWER CODE		

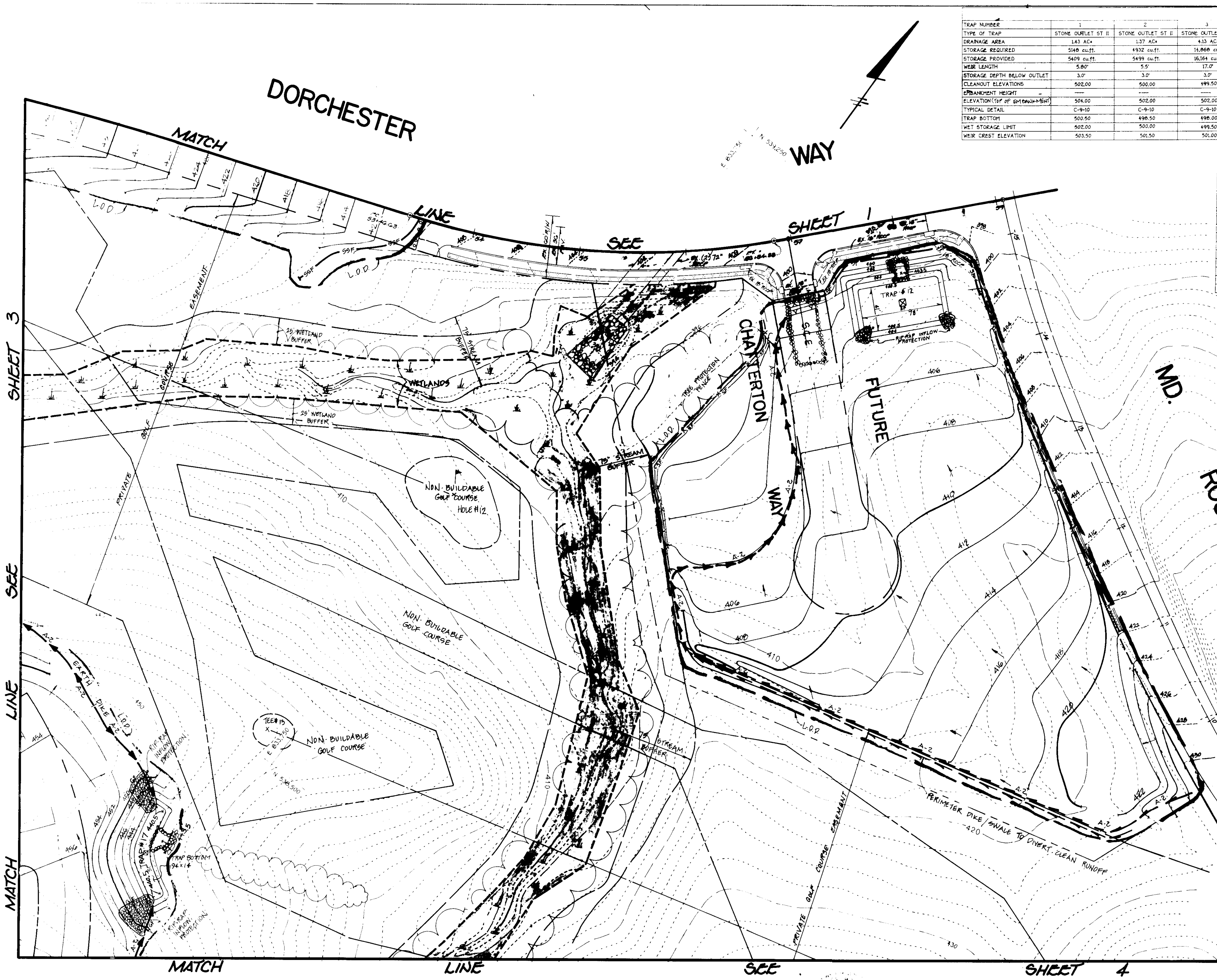
MASS GRADING AND SEDIMENT CONTROL PLAN

GTW'S WAVERLY WOODS

SECTION 4, AREA I , SECTION 5 AND FUTURE DEVELOPMENT

TAX MAP No: 16 PARCEL: p/o 20
3rd ELECTION DISTRICT, HOWARD COUNTY, MD.
SCALE: AS SHOWN DATE:
SHEET 1 OF 9

S.D.P. 96- 115



TRAP DATA

TRAP NUMBER	1	2	3	4	5	6	7	8	9	10	11
TYPE OF TRAP	STONE OUTLET ST II	STONE OUTLET ST II	STONE OUTLET ST II	STONE OUTLET ST II	STONE OUTLET ST II	STONE OUTLET ST II	STONE OUTLET ST II	STONE OUTLET ST II	STONE OUTLET ST II	RIP RAP OUTLET ST III	RIP RAP OUTLET ST [illegible]
DRAINAGE AREA	1.43 AC•	1.37 AC•	4.13 AC•	1.00 AC•	2.04 AC•	3.60 AC•	3.53 AC•	4.85 AC•	1.34 AC•	5.4 AC•	6.3 AC•
STORAGE REQUIRED	5148 cu.ft.	4932 cu.ft.	14,868 cu.ft.	3600 cu.ft.	7344 cu.ft.	12960 cu.ft.	12780 cu.ft.	17,460 cu.ft.	4824 cu.ft.	[illegible]	[illegible]
STORAGE PROVIDED	5409 cu.ft.	5499 cu.ft.	16,164 cu.ft.	5574 cu.ft.	7560 cu.ft.	13194 cu.ft.	13194 cu.ft.	18,864 cu.ft.	5574 cu.ft.	31,854 cu. ft.	38,[illegible] cu.ft.
WEIR LENGTH	5.80'	5.5'	17.0'	4.0'	8.2'	14.4'	14.2'	19.4'	5.5'	12.0'	16.[illegible]
STORAGE DEPTH BELOW OUTLET	3.0'	3.0'	3.0'	3.0'	3.0'	3.0'	3.0'	3.0'	3.0'	3.0'	3.[illegible]
CLEANOUT ELEVATIONS	502.00	500.00	499.50	507.50	495.50	491.50	486.00	482.00	468.00	428.00	421.[illegible]
EMBANKMENT HEIGHT	----	----	----	----	----	----	----	----	----	2.0	2.[illegible]
ELEVATION (TOP OF EMBANKMENT)	504.00	502.00	502.00	510.00	498.00	494.0	488.00	484.00	470.00	430.00	422.[illegible]
TYPICAL DETAIL	C-9-10	C-9-10	C-9-10	C-9-10	C-9-10	C-9-10	C-9-10	C-9-10	C-9-10	C-9-13	[illegible]
TRAP BOTTOM	500.50	498.50	498.00	506.00	494.00	490.00	484.50	480.50	466.50	426.50	[illegible]
WET STORAGE LIMIT	502.00	500.00	499.50	507.50	495.50	491.50	486.00	482.00	468.00	428.00	[illegible]
WEIR CREST ELEVATION	503.50	501.50	501.00	509.00	497.00	493.00	487.50	483.50	469.50	429.50	[illegible]

TRAP DATA

TRAP NUMBER	12	19	14	15	16	17	18
TYPE OF TRAP	STONE OUTLET ST II	STONE OUTLET ST II	RIP-RAP OUTLET ST III	RIP-RAP OUTLET ST III	RIP-RAP OUTLET ST IV	STONE OUTLET ST II	STONE OUTLET ST II
DRAINAGE AREA	3.38AC•	3.14 Ac.±	6.30 AC•	10.37 AC•	6.13 AC•	0.82 AC•	2.6[illegible] AC•
STORAGE REQUIRED	12,168 cu.ft.	11,304 cu. ft.	34,020 cu.ft.	55,998 cu.ft	33,102 cu.ft.	2950 cu.ft.	9360 cu.ft.
STORAGE PROVIDED	13,672 cu.ft.	13,396 ft.	35901 cu.ft.	56,730 cu.ft.	34,600 cu.ft.	3699 cu.ft.	9504 cu.ft.
WEIR LENGTH	14.0	13.0'	16.00'	12.0'	12.00'	4.00'	[illegible]
STORAGE DEPTH BELOW OUTLET	3.0'	3.5'	3.0'	4.0'	3.0'	3.0'	3.0'
CLEANOUT ELEVATIONS	403.50	449.75	450.00	448.00	456.00	442.00	426.[illegible]
EMBANKMENT HEIGHT	0.50'	0.50'	----	----	----	----	
ELEVATION (TOP OF EMBANKMENT)	404.00	452.00	452.00	452.0	457.50	444.00	428.[illegible]
TYPICAL DETAIL	C-9-10	C-9-10	C-9-13	C-9-13	C-9-13	C-9-10	[illegible]
TRAP BOTTOM	400.5	448.0	448.50	446.0	454.50	440.50	424.[illegible]
WET STORAGE LIMIT	402.0	449.75	450.00	448.00	456.00	442.00	426.[illegible]
WEIR CREST ELEVATION	403.5	451.50	451.50	450.0	457.50	443.50	[illegible]

21.0 STANDARD AND SPECIFICATIONS

FOR

TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½" in diameter.

ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres:

i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be perscribed to raise the pH to 6.5 or higher.

b. Organic content of topsoil shall be not less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead [illegible] fertilizer, composted sludge and amendments may be applied as [illegible]

i. Composted Sludge Material for use as a soil conditioner [illegible] acres shall be tested to prescribe amendments and for sites having [illegible] shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originate from, a person [illegible] permitted (at the time of acquisition of the compost) by the Maryland [illegible] Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen [illegible] percent potassium and have a ph of 7.0 to 8.0 [illegible] the appropriate constituents must be added to meet the requirements [illegible]

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

iv. Composted sludge shall be amended with a potassium fertilizer applied at [illegible] square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding, MD-VA, Pub. [illegible] Extension Service, University of Maryland and Virginia Polytechnic Institute [illegible]

LEGEND

- - - - EXISTING CONTOUR 2' INTERVAL
—— — EXISTING CONTOUR 10' INTERVAL
——— PROPOSED CONTOUR 2' INTERVAL
━━━ PROPOSED CONTOUR 10' INTERVAL
• 624 SPOT ELEVATION
⊢SF—SF⊣ SILT FENCE
—x—x— TREE PROTECTION FENCE
EXISTING TREE LINE
EXISTING STREET TREE
➡ EARTH DIKE
L.O.D. LIMIT OF DISTURBANCE
⊢ SSF ⊣ SUPER SILT FENCE
⊠ SP SUMP PIT DEWATERING DEVICE
GF GABION INFLOW PROTECTION

PLAN

SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

[illegible] 3/22/96
Signature of Engineer (Print name below signature) Date

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[illegible] 3/22/96
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Reviewed for HOWARD SCD and meets Technical Requirements.

J. A. Warfield [illegible] 7/16/96
U.S.D.A.-Natural Resources Conservation Service Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

John R. Robertson 7/16/96
Howard SCD Date

OWNER AND DEVELOPER

GTW JOINT VENTURE
c/o LAND DESIGN AND DEVELOPMENT, INC.
10805 HICKORY RIDGE ROAD, SUITE #215
COLUMBIA, MARYLAND 21044

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[illegible] 7/24/96
DIRECTOR DATE

Gina Sunnmany 7/23/96
Chief, Division of Land Development and Research JA Date

[illegible] 7/19/96
Chief, Development Engineering Division Date

SUBDIVISION		SECTION/AREA	PARCEL	
G.T.W. WAVERLY WOODS		—	20	
	BLOCK NO. / ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.2222 F.36	5,6,11,12 / R-20 RSA-8 RA-15 RSC	16	THIRD	
WATER CODE		SEWER CODE		

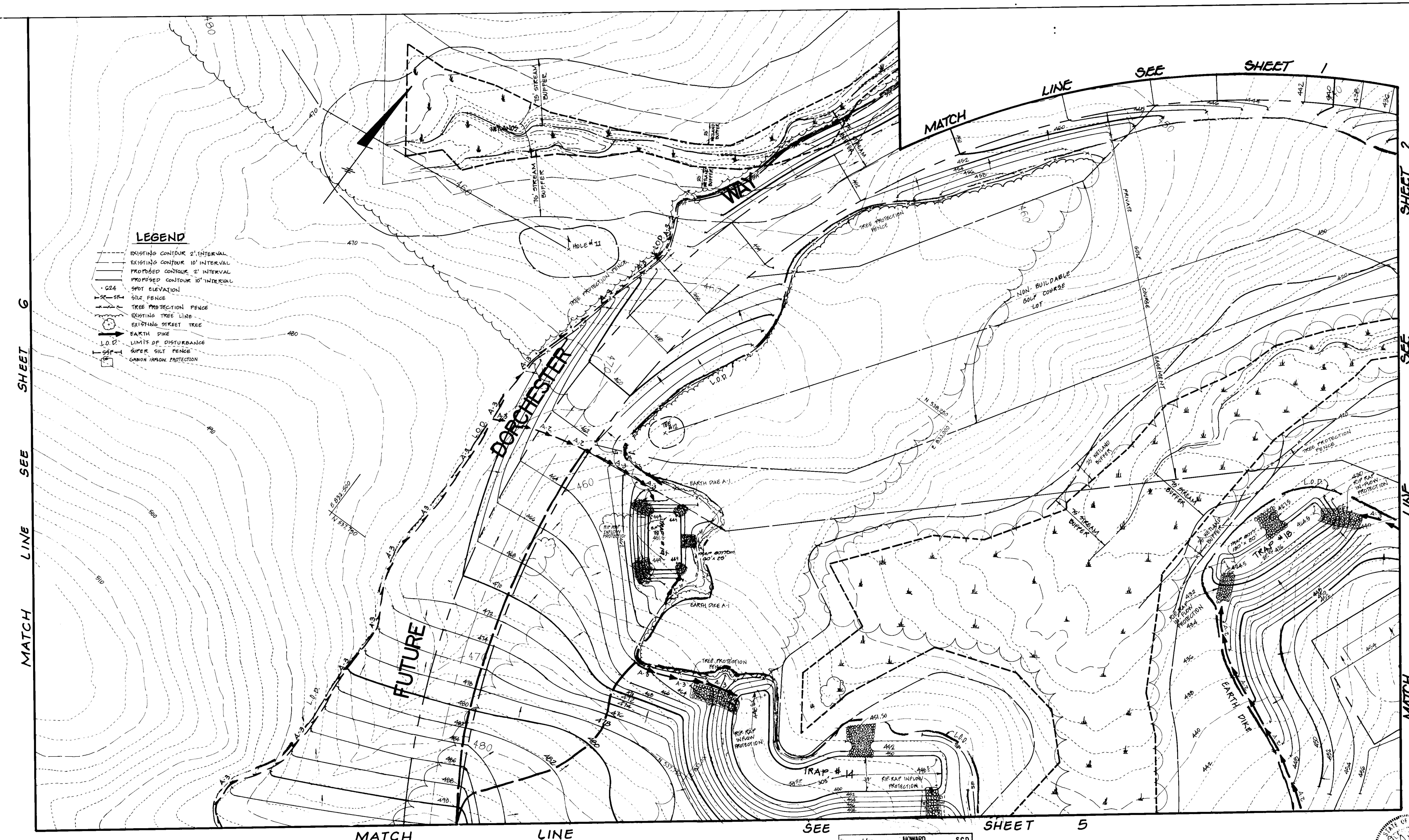
MASS GRADING AND SEDIMENT CONTROL PLAN

GTW'S WAVERLY WOODS

SECTION 4, AREA 1, SECTION 5 AND FUTURE DEVELOPMENT

TAX MAP No. 16 PARCEL [illegible] 20
3rd ELECTION DISTRICT, HOWARD COUNTY, [illegible]
SCALE: AS SHOWN DATE:
SHEET 2 OF 9

[illegible] 96-115



PLAN
SCALE: 1" = 50'

Reviewed for HOWARD S.C.D.
Name
and meets Technical Requirements
[illegible] Date 7/16/96
Signature
USDA NATURAL RESOURCES CONS. SERVICE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
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[illegible] 3/22/96
Signature of Developer (Print name below signature) Date

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Approved [illegible] Date [illegible]/96
Howard S.C.D.

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GTW JOINT VENTURE
c/o LAND DESIGN AND DEVELOPMENT, INC.
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[illegible] 7/24/96
DIRECTOR DATE

[illegible] 7/23/96
Chief, Division of Land Development and Research Date

[illegible] 7/19/96
Chief, Development Engineering Division Date

SUBDIVISION				SECTION/AREA	PARCEL
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	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.2222 F.36	5, 6, 11, 12	R-20 RSA-8 R-A-15 RSC	16	THIRD	
WATER CODE			SEWER CODE		

MASS GRADING AND SEDIMENT CONTROL PLAN

GTW'S WAVERLY WOODS

SECTION 4, AREA 1, SECTION 5 AND FUTURE DEVELOPMENT

TAX MAP No: 16 PARCEL: p/o 20
3rd ELECTION DISTRICT, HOWARD COUNTY, MD.
SCALE: AS SHOWN DATE:

S.D.P. 96-115

LEGEND

- EXISTING CONTOUR 2' INTERVAL
- EXISTING CONTOUR 10' INTERVAL
- PROPOSED CONTOUR 2' INTERVAL
- PROPOSED CONTOUR 10' INTERVAL
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- SF SILT FENCE
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SCALE: 1" = 50'

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[illegible] 3-8-92
Signature of Developer (Print name below signature) Date

Reviewed for HOWARD SCD and meets Technical Requirements.
J. G. Warfield [illegible] 7/16/96
U.S.D.A.-Natural Resources Conservation Service Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
[illegible] 7/16/96
Howard SCD Date

OWNER AND DEVELOPER

GTW JOINT VENTURE
c/o LAND DESIGN AND DEVELOPMENT, INC.
10805 HICKORY RIDGE ROAD, SUITE #215
COLUMBIA, MARYLAND 21044

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[illegible] 7/24/96
DIRECTOR DATE

[illegible] 7/23/96
Chief, Division of Land Development and Research JA Date

[illegible] 7/19/96
Chief, Development Engineering Division Date

SUBDIVISION			SECTION/AREA		PARCEL
G.T.W. WAVERLY WOODS			—		20
	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.2222 F. 36	5, 6, 11, 12	R-20, RSA-8, R-A-15, RSC	16	THIRD	
WATER CODE			SEWER CODE		

MASS GRADING AND SEDIMENT CONTROL PLAN

GTW'S WAVERLY WOODS

SECTION 4, AREA 1, SECTION 5 AND FUTURE DEVELOPMENT

TAX MAP No: 16 PARCEL: p/o 20
3rd ELECTION DISTRICT, HOWARD COUNTY, MD.
SCALE: AS SHOWN DATE:
SHEET 4 OF 9

STATE OF MARYLAND ... PROFESSIONAL ENGINEER

S.D.P. 96-115

LEGEND

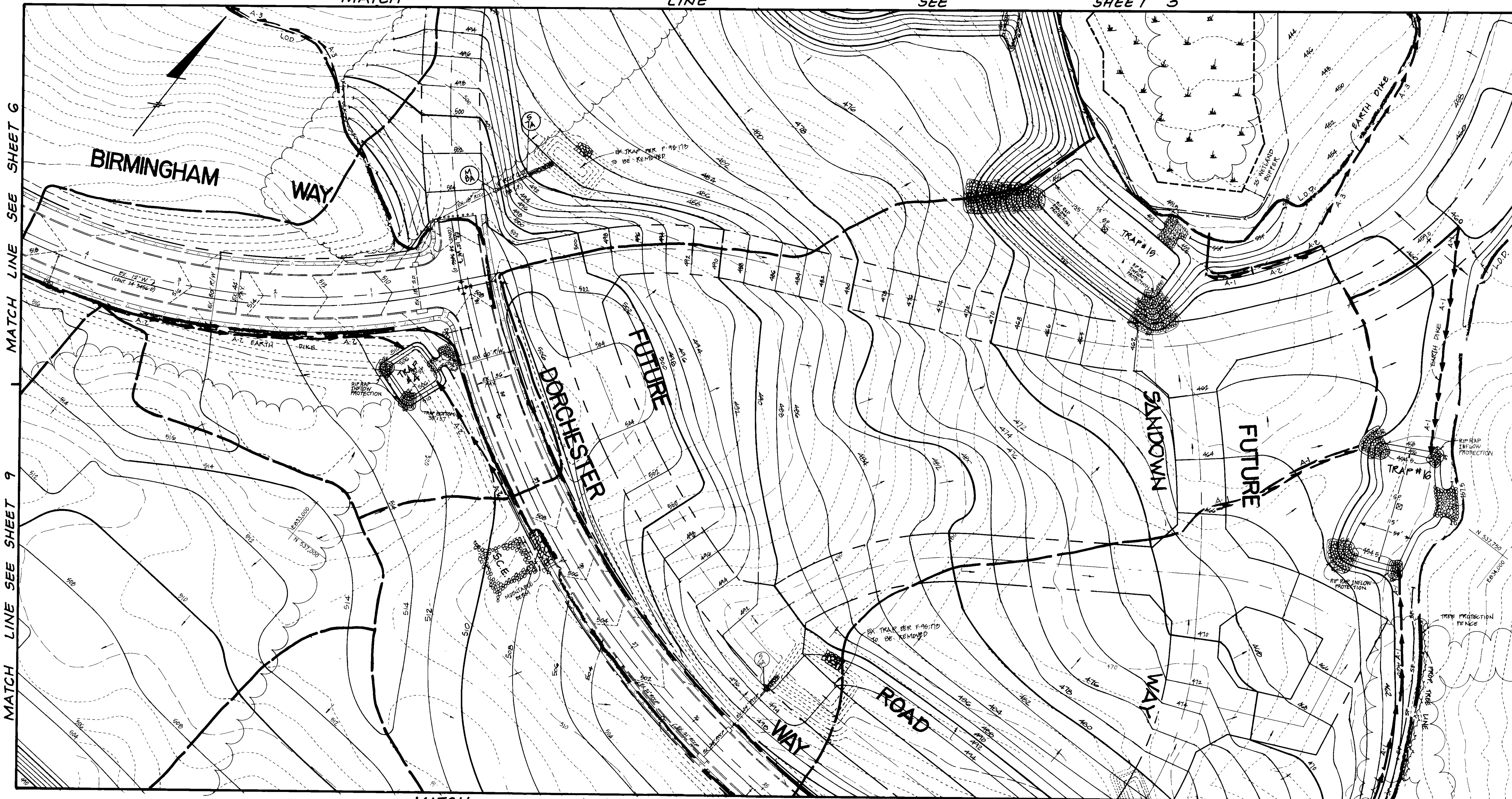
- - - -	EXISTING CONTOUR 2' INTERVAL
— —	EXISTING CONTOUR 10' INTERVAL
——	PROPOSED CONTOUR 2' INTERVAL
━━	PROPOSED CONTOUR 10' INTERVAL
· 624	SPOT ELEVATION
⊢SF—SF⊣	SILT FENCE
—x—x—x—	TREE PROTECTION FENCE
	EXISTING TREE LINE
	EXISTING STREET TREE
➡	EARTH DIKE
L.O.D.	LIMIT OF DISTURBANCE
⊢SSF⊣	SUPER SILT FENCE
GF	GABION INFLOW PROTECTION

MATCH LINE SEE SHEET 3

MATCH LINE SEE SHEET 6

MATCH LINE SEE SHEET 9

SHEET 4 SEE LINE MATCH



MATCH LINE SEE SHEET 8

PLAN

SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

[illegible] 3/22/96
Signature of Engineer (Print name below signature) Date

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U.S.D.A.-Natural Resources Conservation Service Date

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SUBDIVISION			SECTION/AREA		PARCEL	
G.T.W. WAVERLY WOODS			—		20	
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.	
L.2222 F.36	5,6,11,12	R-20, R-SA-8, R-A-15, RSC	16	THIRD		
WATER CODE			SEWER CODE			

STATE OF MARYLAND
CHARLES J. CROVO
No. 13204
REGISTERED
PROFESSIONAL ENGINEER

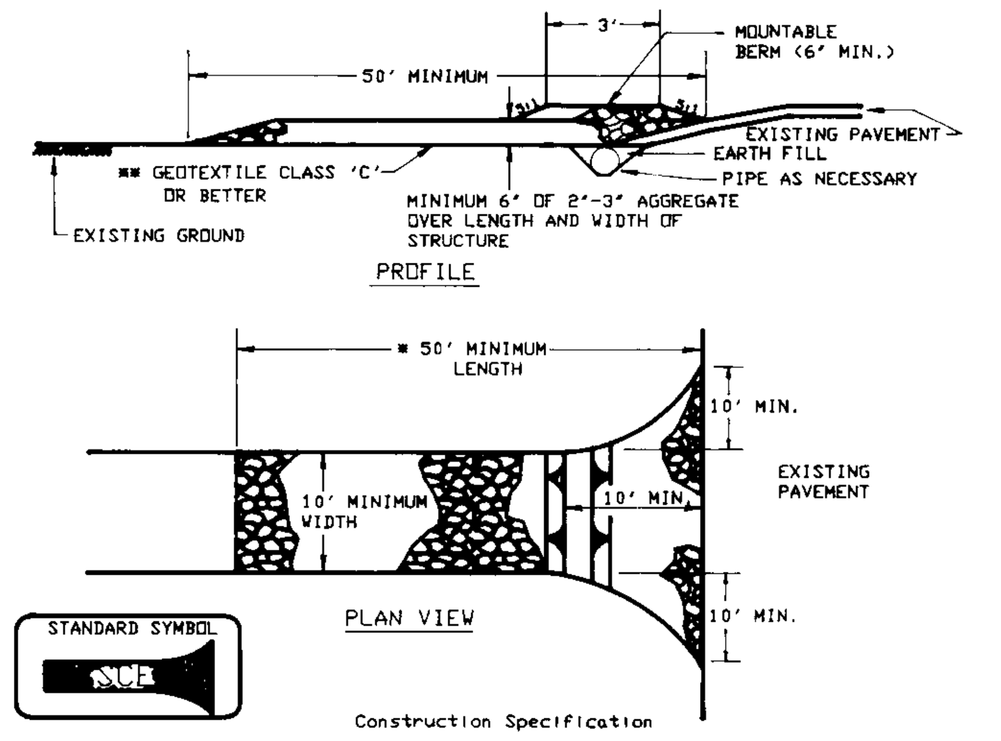
MASS GRADING AND SEDIMENT CONTROL PLAN

GTW'S WAVERLY WOODS

SECTION 4, AREA I, SECTION 5 AND FUTURE DEVELOPMENT

TAX MAP No: 16 PARCEL: p/o 20
3rd ELECTION DISTRICT, HOWARD COUNTY, MD.
SCALE: AS SHOWN DATE:

S.D.P. 96-115



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

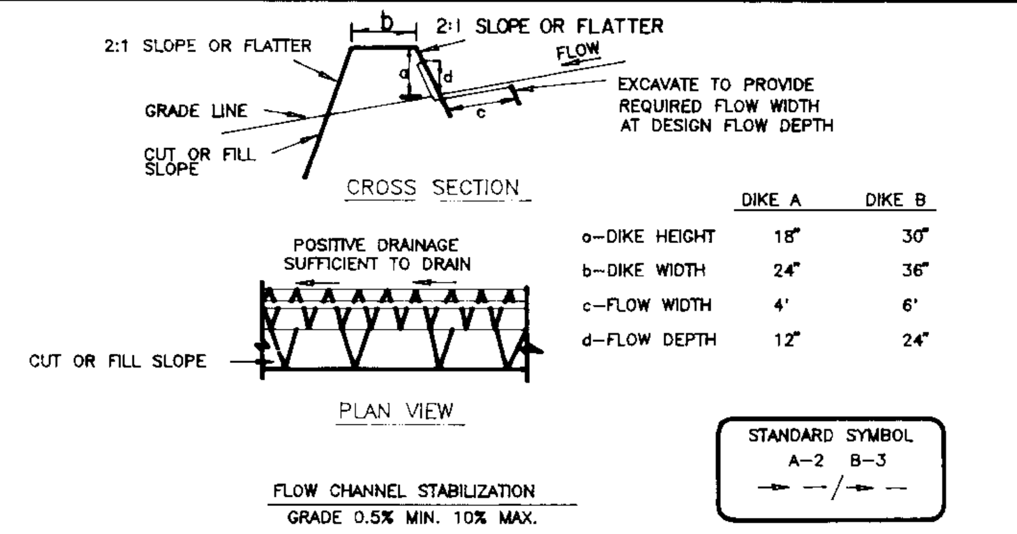
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.

4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.

5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.

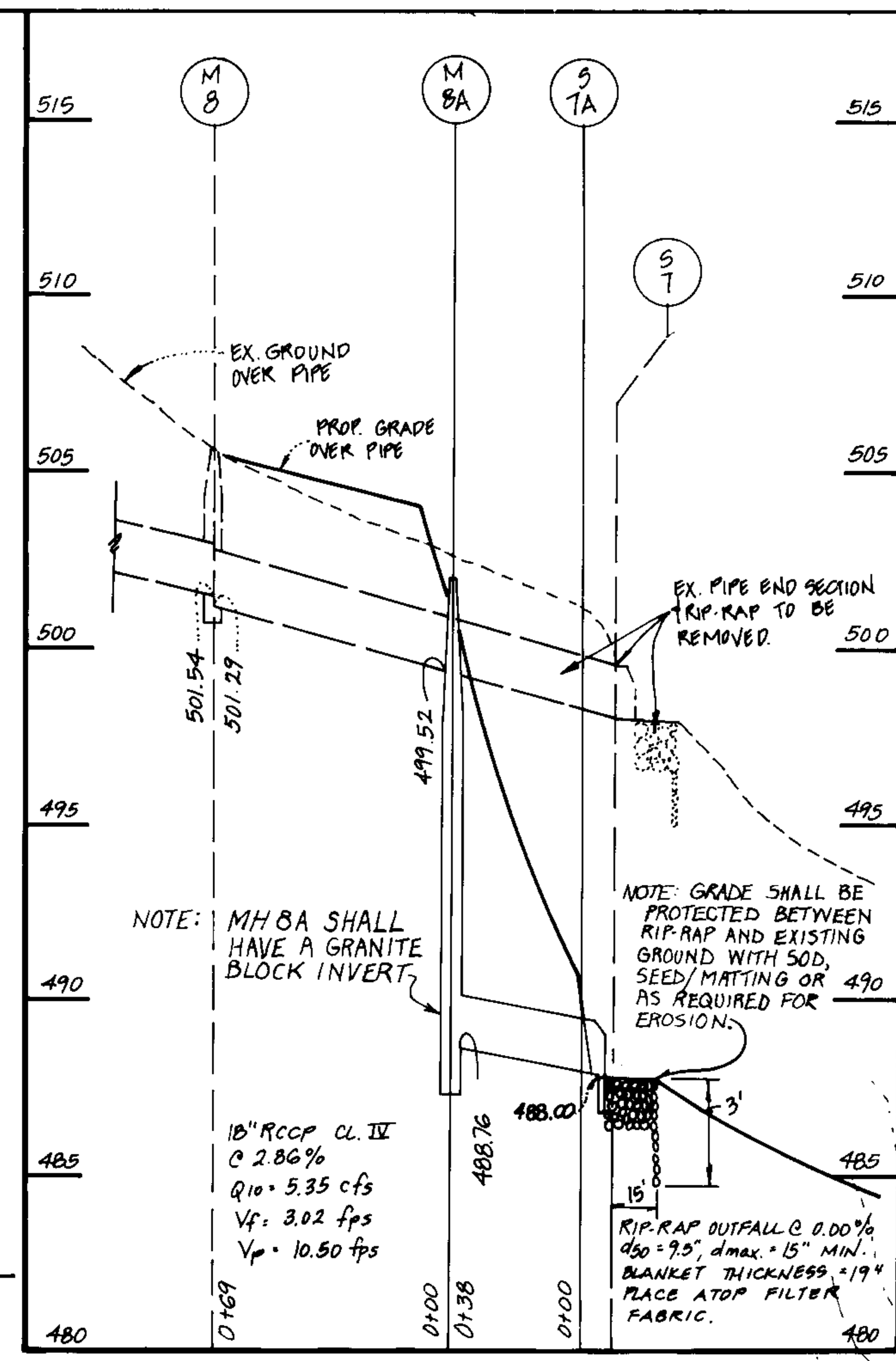
6. Fill shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.

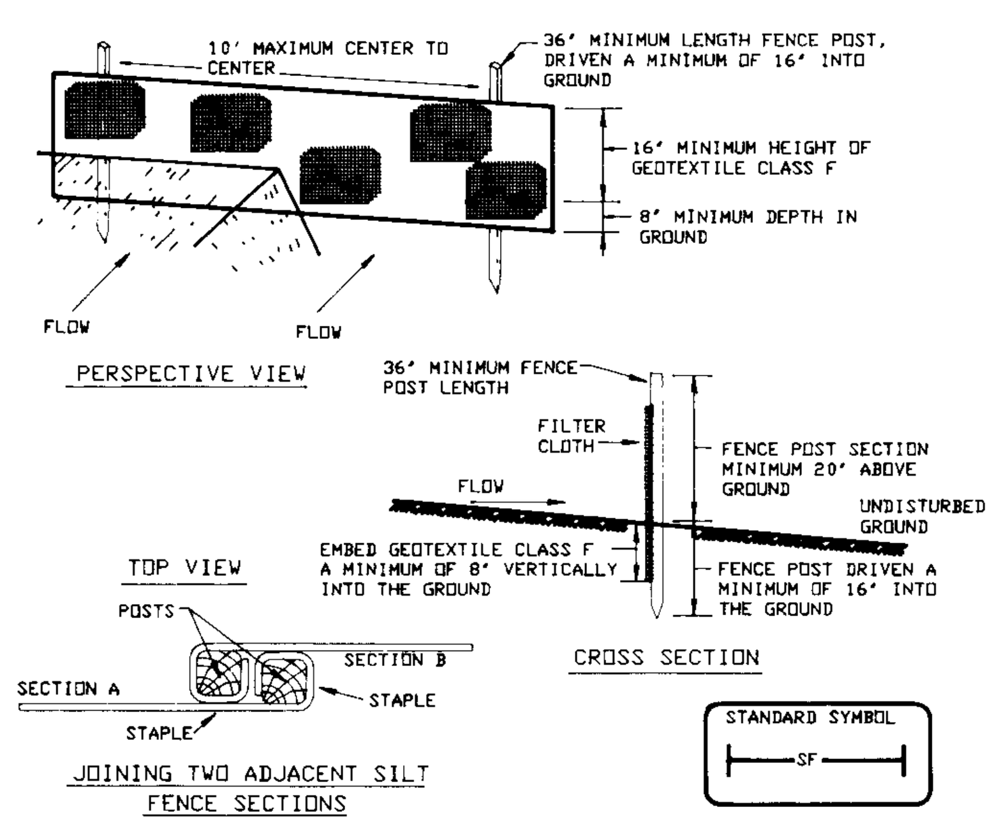
8. Inspection and maintenance must be provided periodically and after each rain event.

DETAIL 1 - EARTH DIKE

NOT TO SCALE



PROFILE
SCALE: HORIZ. - 1" = 50'
VERT. - 1" = 5'



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

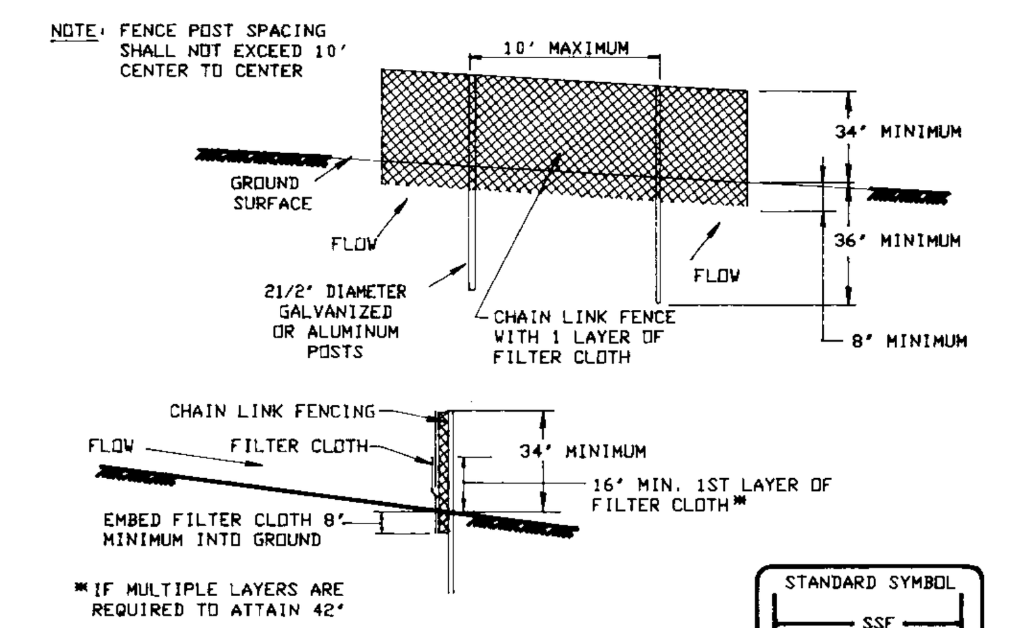
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

DETAIL 22 - SILT FENCE

NOT TO SCALE



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.

5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

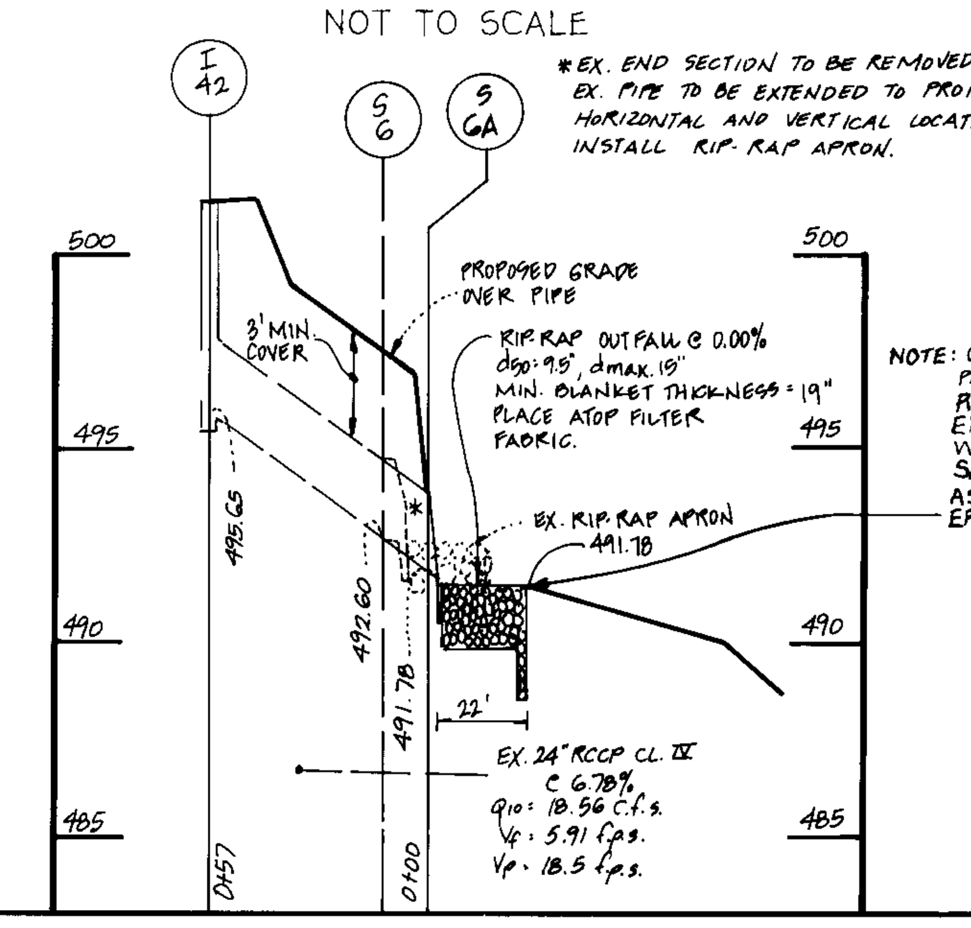
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

DETAIL 33 - SUPER SILT FENCE

NOT TO SCALE



NOTE: GRADE SHALL BE PROTECTED BETWEEN RIP-RAP AND EXISTING GROUND WITH SOD, SEED/MATTING OR AS REQUIRED FOR EROSION.

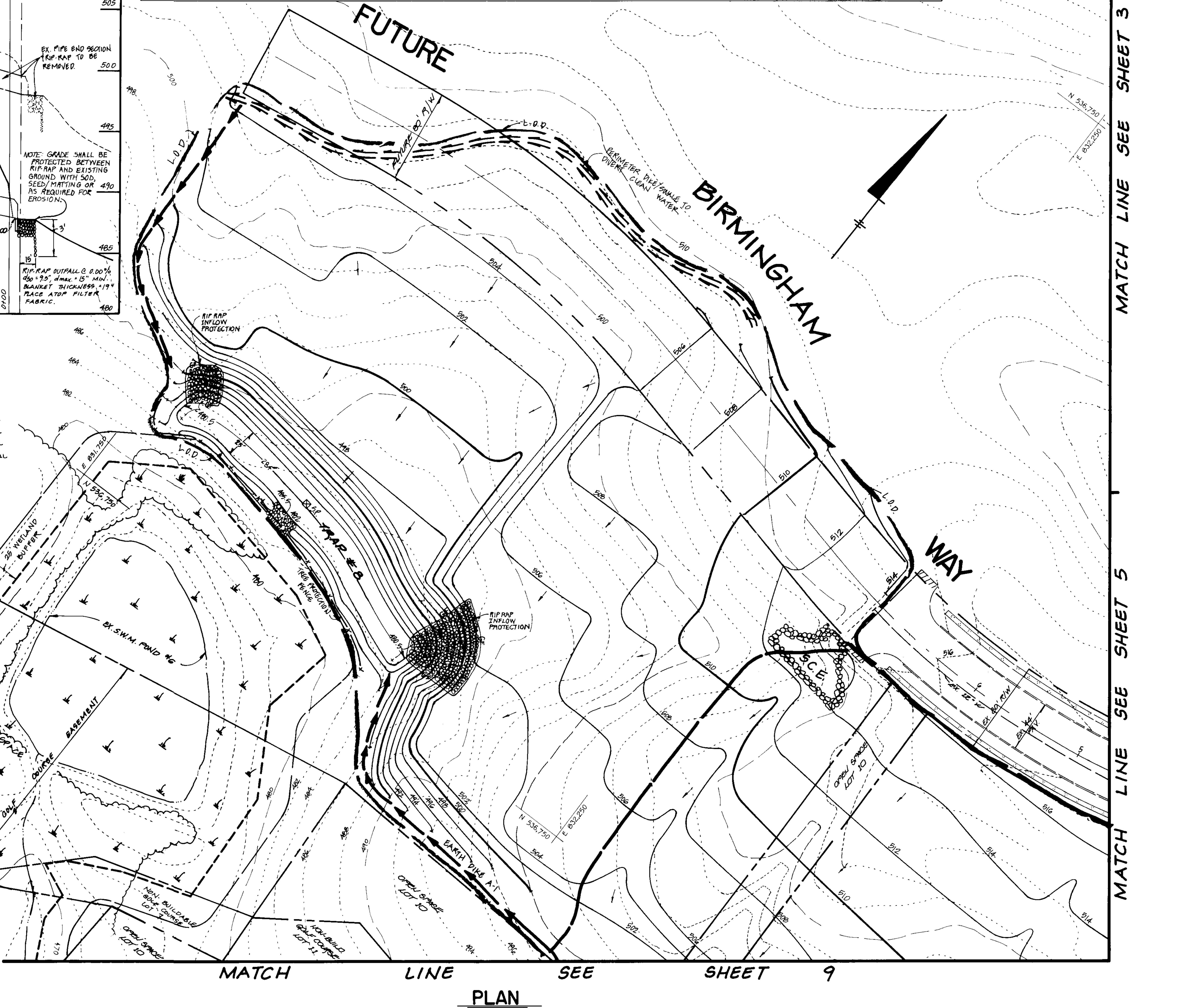
PROFILE
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEV.	INV. IN	INV. OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
M-8A	502.00	499.52	488.76	———	N 537407.851 E 832950.866	———	STD. DROP MH	MD.-383.11
S-6A	493.88	491.78	491.78	———	N 537173.768 E 833482.603	———	CONC. END SECT.	S.D. 5.51
S-7A	489.60	488.00	488.00	———	N 537441.975 E 832907.585	———	CONC. END SECT.	S.D. 5.51

LEGEND

- EXISTING CONTOUR 2' INTERVAL
- EXISTING CONTOUR 10' INTERVAL
- PROPOSED CONTOUR 2' INTERVAL
- PROPOSED CONTOUR 10' INTERVAL
- · 624 SPOT ELEVATION
- SF SILT FENCE
- TREE PROTECTION FENCE
- EXISTING TREE LINE
- EXISTING STREET TREE
- EARTH DIKE
- L.O.D. LIMIT OF DISTURBANCE
- SSF SUPER SILT FENCE
- GF GABION INFLOW PROTECTION



PLAN
SCALE: 1" = 50'

ENGINEER'S CERTIFICATE

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Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service — Date 7/16/96

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Howard SCD — Date 7/16/96

OWNER AND DEVELOPER

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c/o LAND DESIGN AND DEVELOPMENT, INC.
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COLUMBIA, MARYLAND 21044

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DIRECTOR — DATE 7/24/96

Chief, Division of Land Development and Research — Date 7/23/96

Chief, Development Engineering Division — Date 7/19/96

SUBDIVISION			SECTION/AREA		PARCEL
G.T.W. WAVERLY WOODS			—		20
	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.2222 F.36	5,6, 11, 12	R-20, RSA-8, R-A-15, RSC	16	THIRD	
WATER CODE			SEWER CODE		

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ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

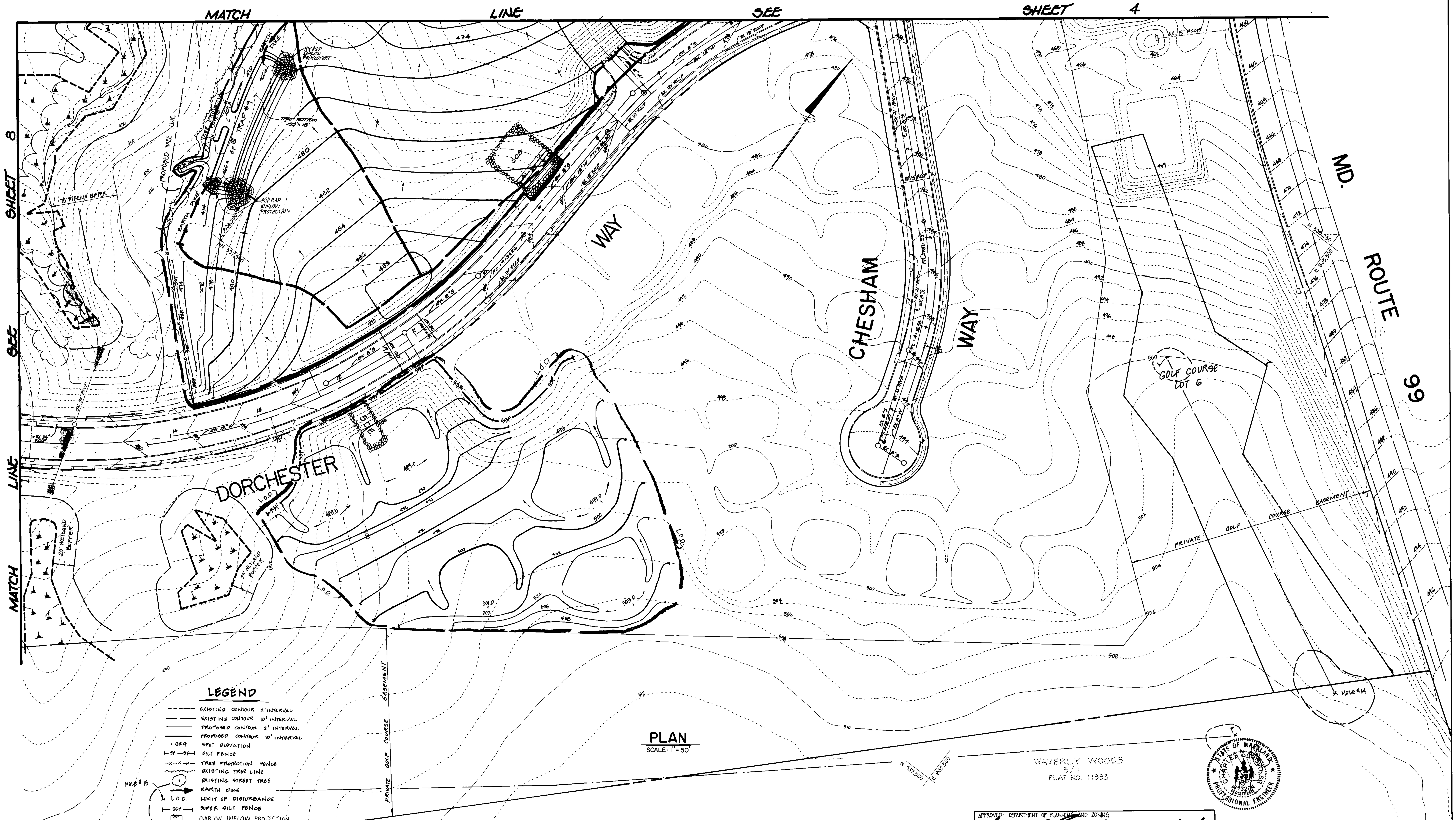
MASS GRADING AND SEDIMENT CONTROL PLAN

GTW'S WAVERLY WOODS

SECTION 4, AREA I, SECTION 5 AND FUTURE DEVELOPMENT

TAX MAP No: 16 PARCEL: p/o 20
3rd ELECTION DISTRICT, HOWARD COUNTY, MD
SCALE: AS SHOWN DATE:

S.D.P.-96-115



FISHER, COLLINS & CARTER, INC.
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ELLICOTT CITY, MARYLAND 21042
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John K Robertson 7/16/96
Howard SCD Date

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[illegible] 7/24/96
DIRECTOR DATE
Gina Tirinnanzi 7/23/96
Chief, Division of Land Development and Research JA Date
[illegible] 7/19/96
Chief, Development Engineering Division Date

SUBDIVISION		SECTION/AREA	PARCEL
G.T.W. WAVERLY WOODS		—	20

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.2222 F.36	5, 6, 11, 12	R-20 R-SA-8 R-A-15 RSC	16	THIRD	

WATER CODE	SEWER CODE

MASS GRADING AND SEDIMENT CONTROL PLAN

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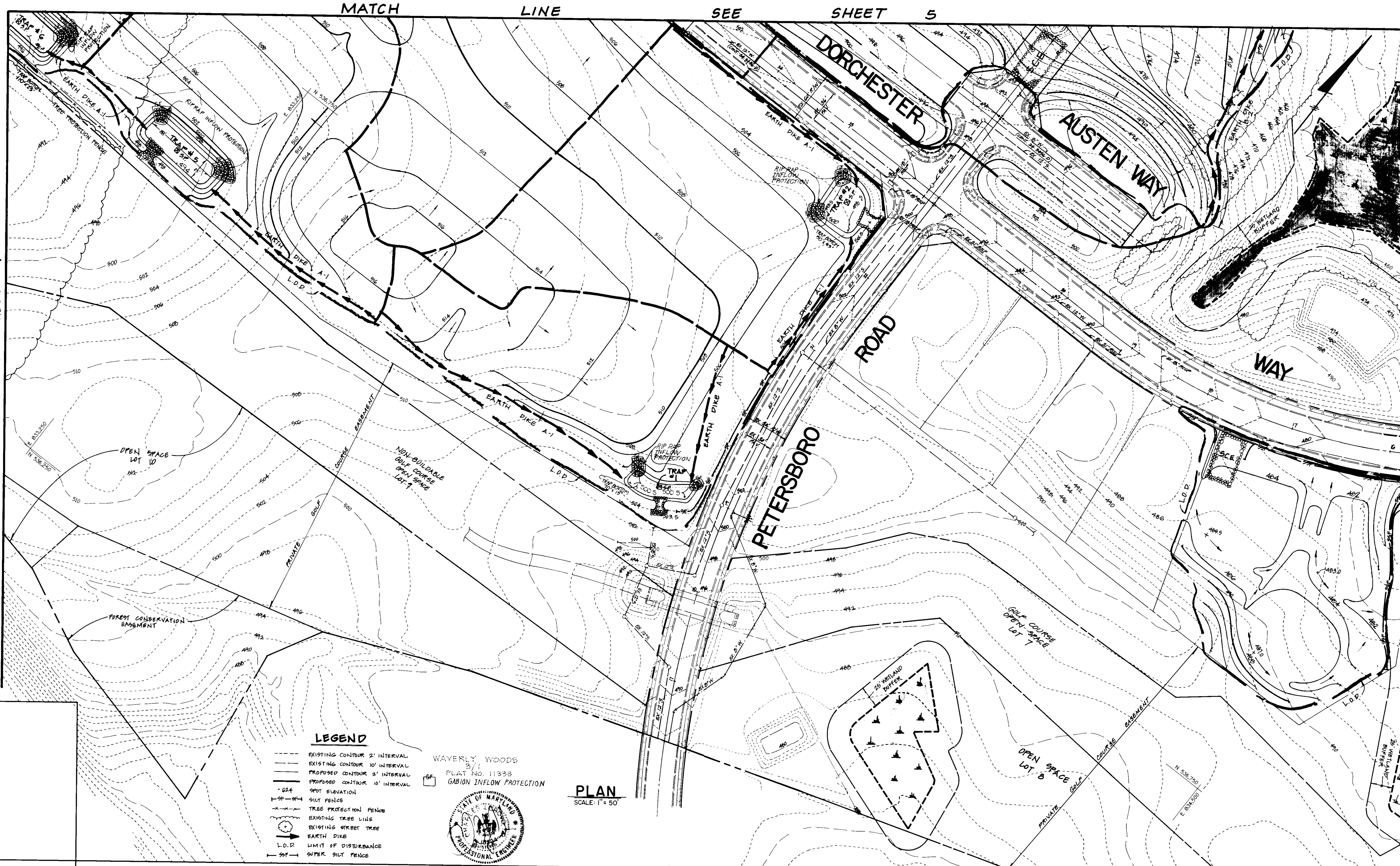

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COLUMBIA, MARYLAND 21044

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[illegible] 7/24/96
DIRECTOR DATE
[illegible] 7/23/96
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH JA DATE
[illegible] 7/19/96
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

SUBDIVISION				SECTION/AREA	PARCEL
G.T.W. WAVERLY WOODS				—	20
	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.2222 F.36	5,6,11,12	R-20, R-SA-8, R-A-15, RSC	16	THIRD	
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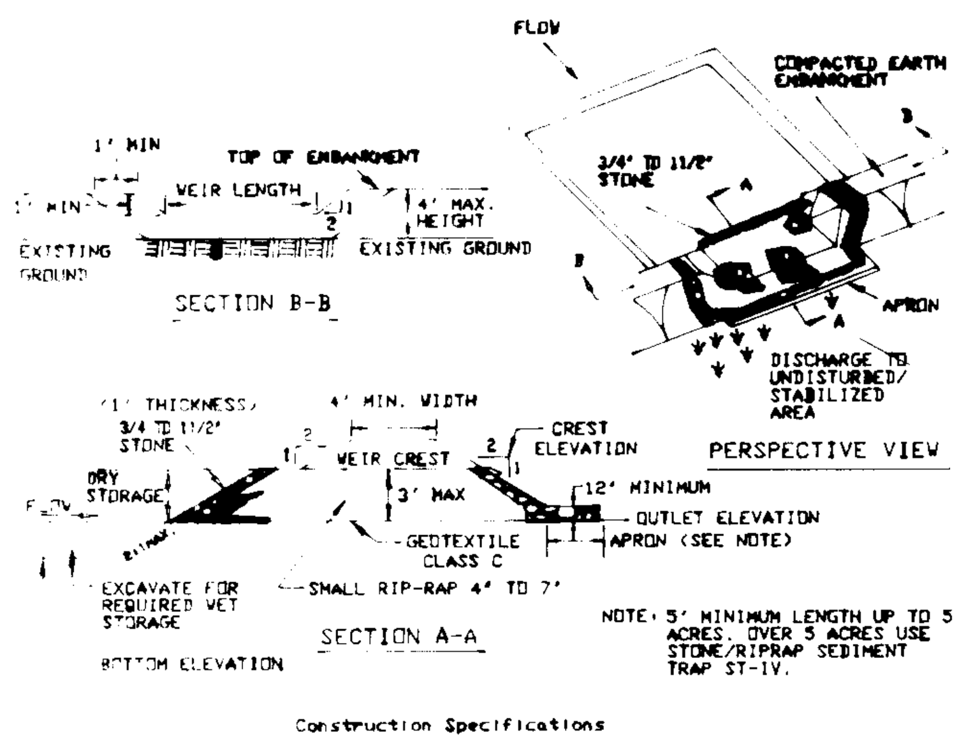


Construction Specifications

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.

3. All cut and fill slopes shall be 2:1 or flatter.

4. The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1' thick layer of 3/4" to 11/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.

5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

6. The structure shall be inspected periodically and after each rain and repairs made as needed.

7. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentration inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

8. The structure shall be dewatered by approved methods. Removed and the area stabilized when the drainage area has been properly stabilized.

9. Refer to Section D for specifications concerning trap dewatering.

10. Minimum trap depth shall be measured from the weir elevation.

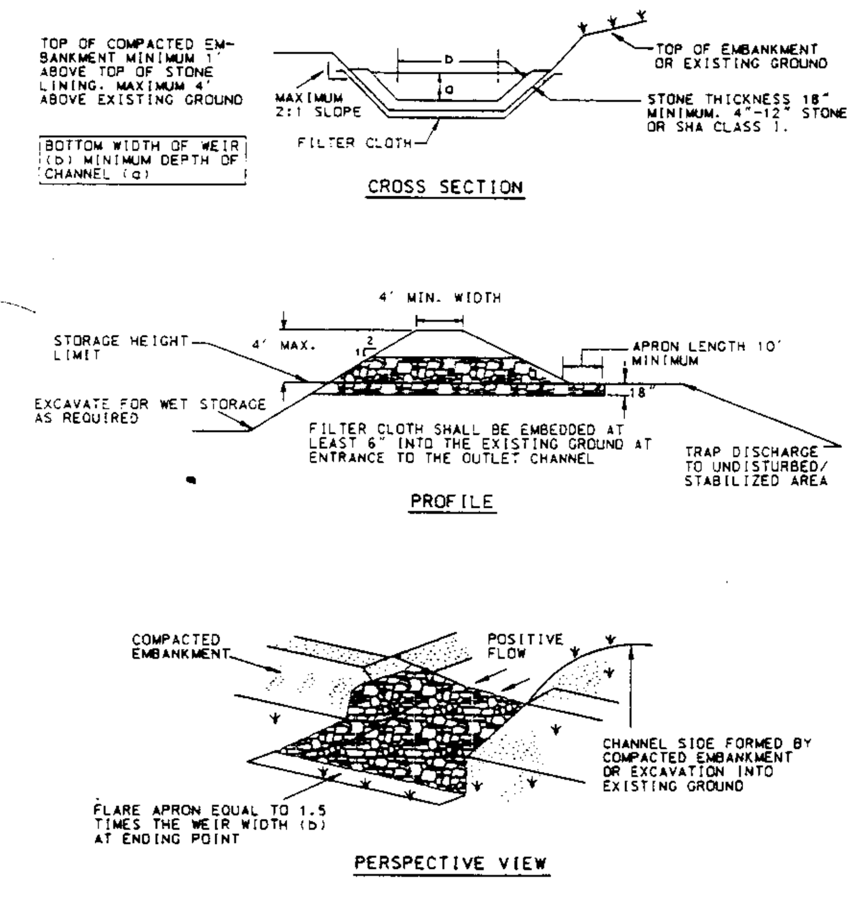
11. The elevation of top of any dike directing water into the trap must equal or exceed the elevation of the trap embankment.

12. Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to the placement of stone. Sections of cloth must overlap at least 1' with the section nearest the entrance placed on top. The filter cloth shall be embedded at least 6" into existing ground at the entrance of the outlet channel.

13. Outlet- An outlet shall be provided. Including a means of conveying the discharge in an erosion free manner to an existing stable channel.

STONE OUTLET SEDIMENT TRAP - ST II

NOT TO SCALE



Constuction Specifications

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2. The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of embankment shall be 4', measured at centerline of embankment.

3. All cut and fill slopes shall be 2:1 or flatter.

4. Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.

5. Storage area provided shall be figured by computing the volume measured from top of excavation. (For storage requirements see Table 10).

6. Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Section of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.

7. Stone used in the outlet channel shall be 4" - 7" placed 18" thick.

8. Outlet - An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel. Protection against scour at the discharge end shall be provided as necessary.

9. Outlet channel must have positive drainage from the trap.

10. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to ¼ of the wet storage depth of the trap (1350 cf/ac). Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

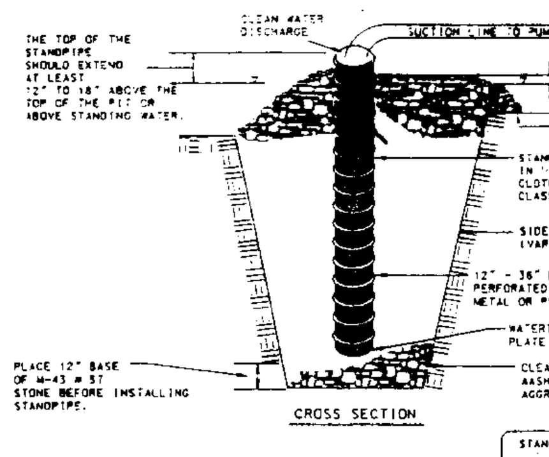
11. The structure shall be inspected periodically after each rain and repaired as needed.

12. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

13. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

RIP-RAP OUTLET PROTECTION

NOT TO SCALE



Construction Specifications

1. Pit dimensions are variable, with the minimum diameter being 2 times the standpipe diameter.

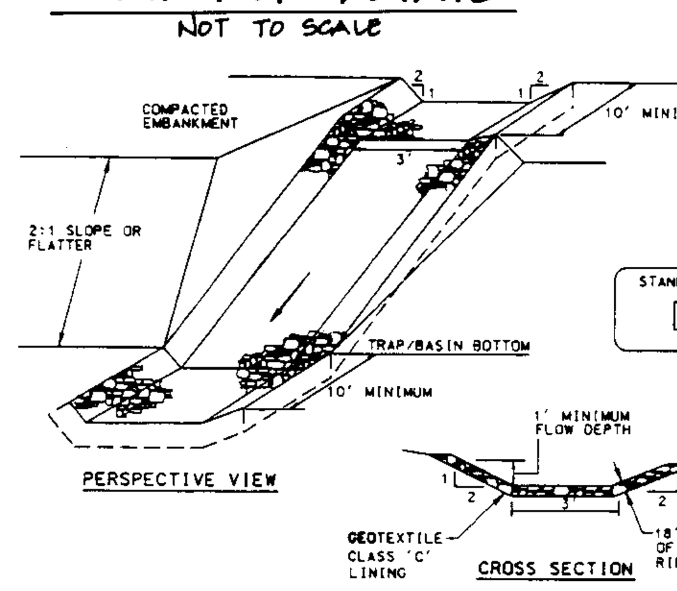
2. The standpipe should be constructed by perforating a 12" to 24" diameter corrugated or PVC pipe. Then wrapping with ½" hardware cloth and Geotextile Class E. The perforations shall be ½" x 6" slits or 1" diameter holes.

3. A base of filter material consisting of clean gravel or #57 stone should be placed in the pit to a depth of 12". After installing the standpipe, the pit surrounding the standpipe should then be backfilled with the same filter material.

4. The standpipe should extend 12" to 18" above the lip of the pit or the riser crest elevation (basin dewatering only) and the filter material should extend 3" minimum above the anticipated standing water elevation.

SUMP PIT DETAIL

NOT TO SCALE



Construction Specifications

1. Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 4" to 12" rip- rap to a depth of 18".

2. Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.

3. Entrance and exit sections shall be installed as shown on the detail section.

4. Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.

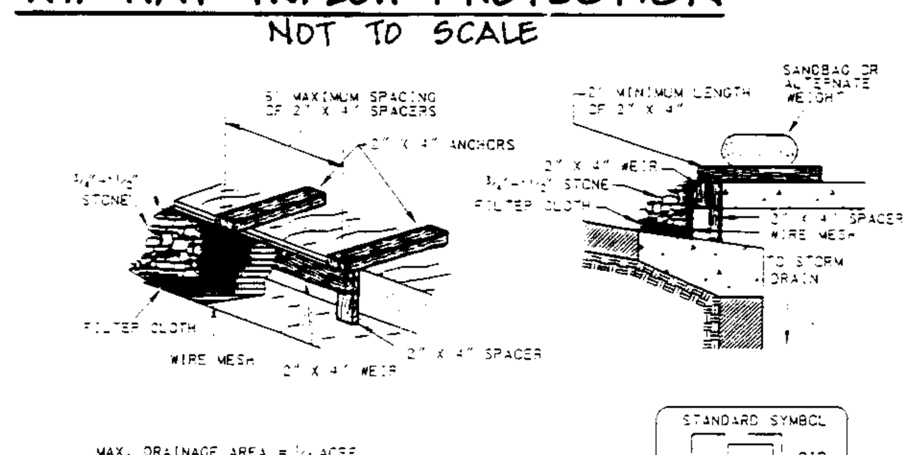
5. Gabion Inflow Protection may be used in lieu of Rip-rap Inflow Protection.

6. Rip-rap should blend into existing ground.

7. Rip-rap Inflow Protection shall be used where the slope is between 4:1 and 10:1. for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

RIP-RAP INFLOW PROTECTION

NOT TO SCALE



Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard drawing.

2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.

3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).

4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.

5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.

6. Form the ½" x ½" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean ¾" x 1½" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.

7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.

8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

CURB INLET PROTECTION

NOT TO SCALE

PERMANENT SEEDING NOTES

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

SEEDBED PREPARATION:
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS:
APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/ 1,000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (14 LBS./1,000 SQ.FT.) BEFORE SEEDING HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 38-0-0 UREAFORM FERTILIZER (9 LBS./1,000 SQ.FT.) AND 500 LBS. PER ACRE (11.5 LBS./ 1,000 SQ.FT.) OF 10-20-20 FERTILIZER.

SEEDING:
FOR THE PRERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 100 LBS. PER ACRE (2.3 LBS./1,000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS/ACRE (1.4 LBS./1,000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROJECT SITE BY: OPTION (1) - 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 100 LBS./ACRE KENTUCK' 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEEDED.

MULCHING:
APPLY 1 TO 2 TONS PER ACRE (10 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT ACRES. ON SLOPES 8 FEET OR HIGHER USE 348 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR ANCHORING.

MAINTENANCE:
INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

- FOR PUBLIC PONDS SUBSTITUTE CHEMUNG CROWNVETCH AT 15 LBS./ACRE AND KENTUCKY 31 TALL FESCUE AT 40 LBS/ACRE AS THE SEEDING REQUIREMENT. OPTIMUM SEEDING DATE FOR THIS MIXTURE IS MARCH 1 TO APRIL 30.

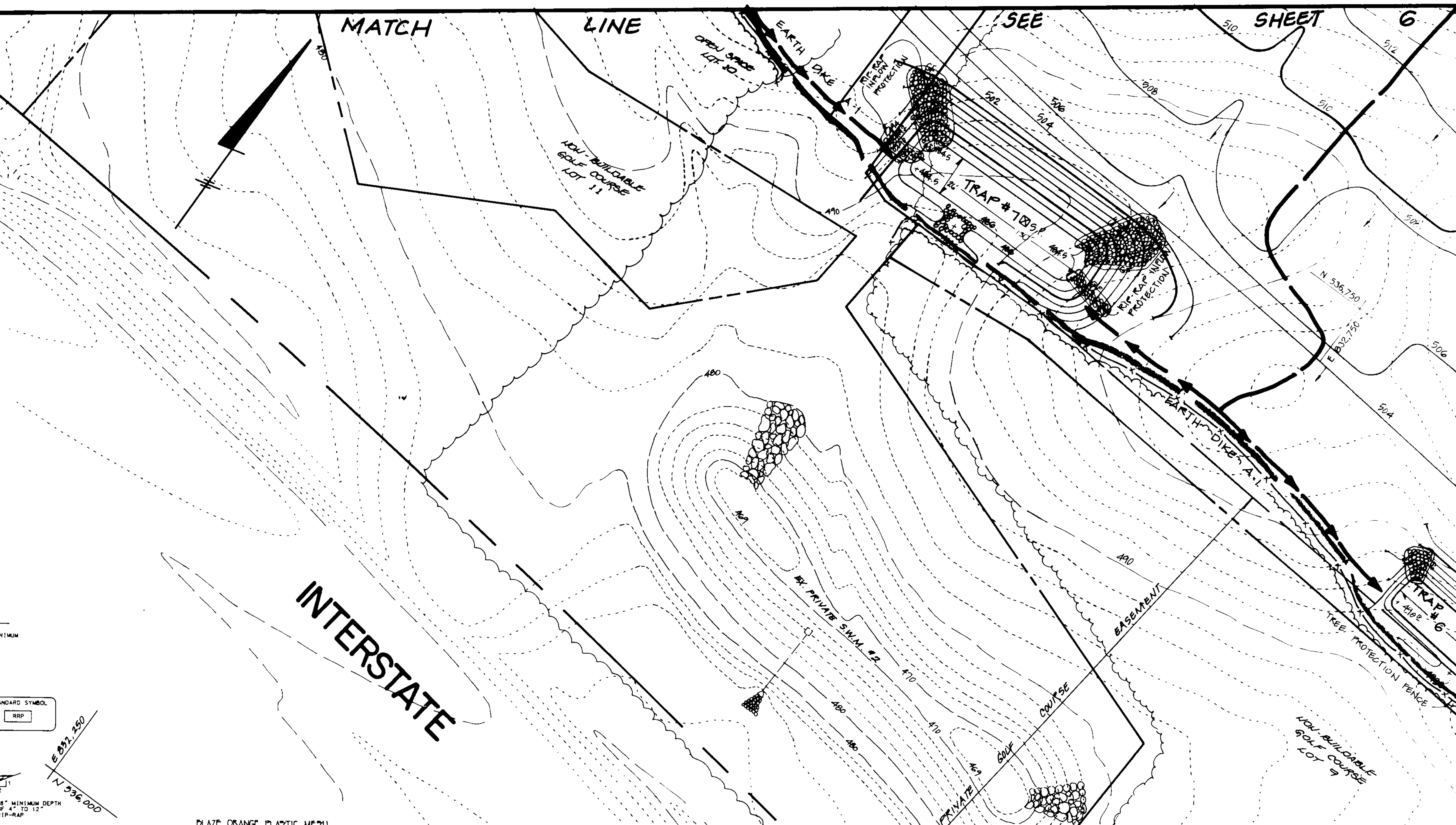
SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
2) 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.
3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4) 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.
5) 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.
6) 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.
7) SITE ANALYSIS:

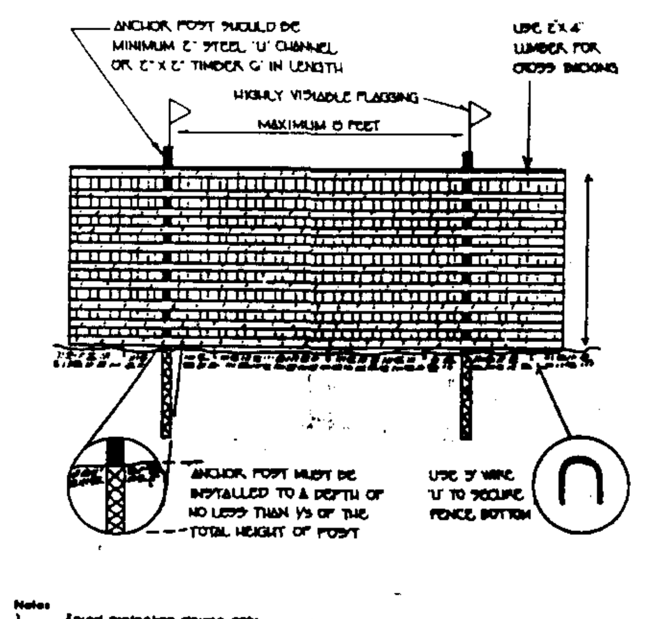
TOTAL AREA OF DISTURBED SITE	70.00	ACRES
AREA DISTURBED	70.00	ACRES
AREA TO BE ROOFED OR PAVED	0	ACRES
AREA TO BE VEGETATIVELY STABILIZED	70.00	ACRES
TOTAL CUT		CU.YDS.
TOTAL FILL		CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION		CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10) 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.
11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

STATE OF MARYLAND
REGISTERED
PROFESSIONAL ENGINEER



BLAZE ORANGE PLASTIC MESH



Notes:
1. Forest protection device only.
2. Retention Area will be set as part of the review process.
3. Boundaries of Retention Area should be staked and flagged prior to installing device.
4. Root damage should be avoided.
5. Protective signage may also be used.
6. Device should be maintained throughout construction.

TREE PROTECTION DETAIL

NOT TO SCALE

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

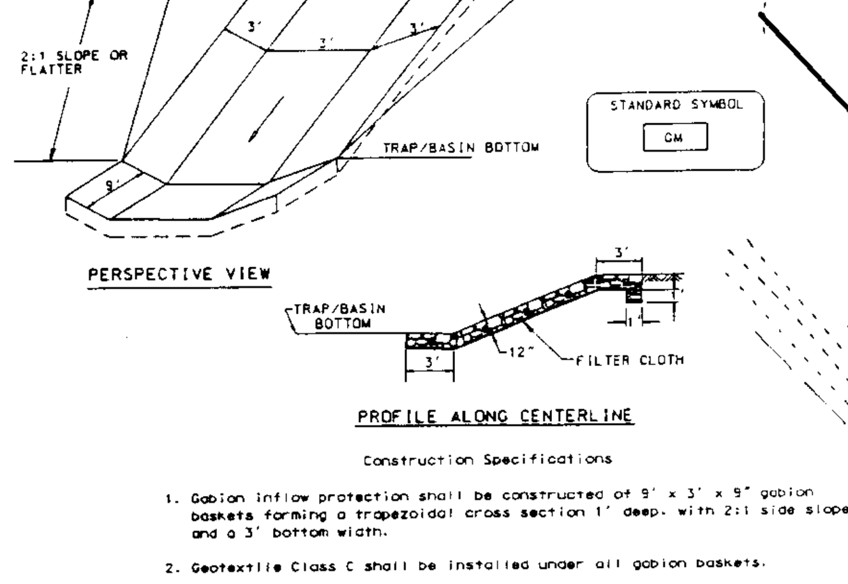
SEEDBED PREPARATION:
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS:
APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./ 1,000 SQ.FT.)

SEEDING:
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1? BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./ACRE OF WEEPING LOVEGRASS (.07 LBS./ 1,000 SQ.FT. FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING:
APPLY 1? TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT ACRES ON SLOPES 8 FEET OR HIGHER. USE 348 GALLONS PER ACRE (8 GAL/1,000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1980 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



Construction Specifications

1. Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.

2. Geotextile Class C shall be installed under all gabion baskets.

3. The stone used to fill the gabion baskets shall be 4" - 7".

4. Gabions shall be installed in accordance with manufacturers recommendations.

5. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

GABION INFLOW PROTECTION

(NOT TO SCALE)

LEGEND

- - - - -	EXISTING CONTOUR 2' INTERVAL
— — —	EXISTING CONTOUR 10' INTERVAL
———	PROPOSED CONTOUR 2' INTERVAL
━━━	PROPOSED CONTOUR 10' INTERVAL
• 624	SPOT ELEVATION
—SF—SF—	SILT FENCE
—x—x—x—	TREE PROTECTION FENCE
⌒⌒⌒	EXISTING TREE LINE
(+)	EXISTING STREET TREE
➞	EARTH DIKE
L.O.D.	LIMIT OF DISTURBANCE
—SSF—	SUPER SILT FENCE
GF	GABION INFLOW PROTECTION

PLAN

SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

[illegible] 3/22/96
Signature of Engineer (Print name below signature) Date

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

[illegible] 3/22/96
Signature of Developer (Print name below signature) Date

Reviewed for HOWARD SCD and meets Technical Requirements.
[illegible] 7/16/96
U.S.D.A.-Natural Resources Conservation Service Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
[illegible] 7/16/96
Howard SCD Date

OWNER AND DEVELOPER

GTW JOINT VENTURE
c/o LAND DESIGN AND DEVELOPMENT, INC.
10805 HICKORY RIDGE ROAD, SUITE *215
COLUMBIA, MARYLAND 21044

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[illegible] 7/24/96
DIRECTOR DATE
[illegible] 7/23/96
Chief, Division of Land Development and Research JA Date
[illegible] 7/9/96
Chief, Development Engineering Division Date

SUBDIVISION			SECTION/AREA		PARCEL
G.T.W. WAVERLY WOODS			—		20
	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
L.2222 F.36	5, 6, 11, 12	R-20, RSA-8 R-A-15 RSC	16	THIRD	
WATER CODE			SEWER CODE		

MASS GRADING AND SEDIMENT CONTROL PLAN

GTW'S WAVERLY WOODS

SECTION 4, AREA I, SECTION 5 AND FUTURE DEVELOPMENT

TAX MAP No: 16 PARCEL: p/o 20
3rd ELECTION DISTRICT, HOWARD COUNTY, MD
SCALE: AS SHOWN DATE:

S.D.P. 96-115