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FINAL ROAD CONSTRUCTION, GRADING AND SEDIMENT CONTROL PLANS

GTW'S WAVERLY WOODS

SECTION 11, AREA 3

LOT 11 AND BULK PARCELS 'A' & 'B'

(A SUBDIVISION OF THE PROPERTY OF WAVERLY WOODS DEVELOPMENT CORPORATION,
LIBER 2222, FOLIO 36)

ZONED: R-20

TAX MAP No. 16, PART OF PARCEL No. 20

APPROVED DEPARTMENT OF PUBLIC WORKS
Richard M. Daniels 10-31-01
 CHIEF, BUREAU OF HIGHWAYS DATE

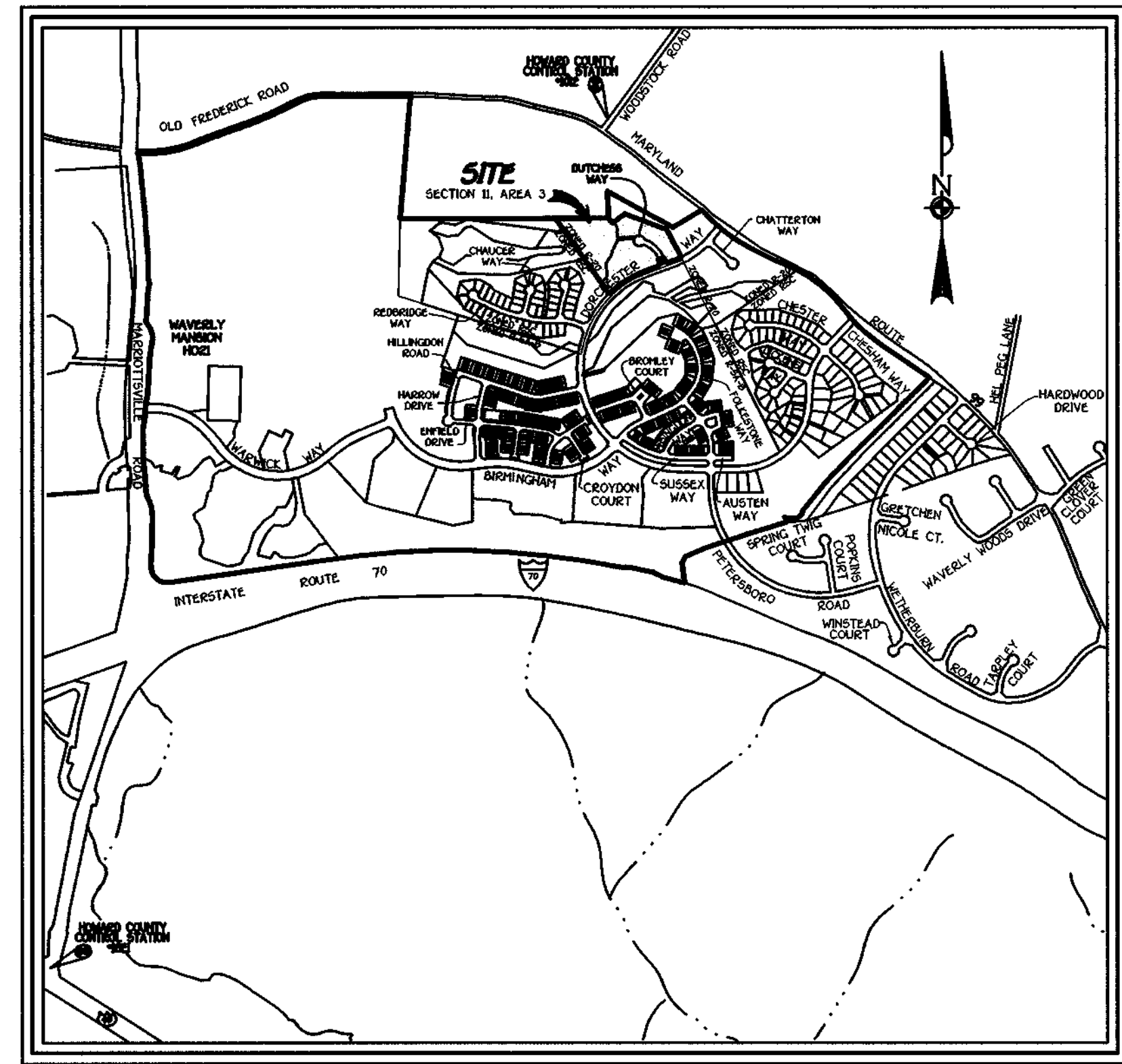
APPROVED DEPARTMENT OF PLANNING AND ZONING
Chris Hammer 12/15/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Alfredo Ramirez 4/2/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

ROAD CLASSIFICATION CHART		
ROAD	CLASSIFICATION	R/W WIDTH
DUTCHESS WAY	PUBLIC ACCESS STREET	50'

TRAFFIC CONTROL SIGNS				
STREET NAME	CL. STATION	OFFSET	POSTED SIGN	SIGN CODE
DUTCHESS WAY	0+42	18'L	STOP	R1-1

STREET LIGHT CHART				
DWG. No.	STREET NAME	STATION	OFF-SET	FIXTURE/POLE TYPE
2	DUTCHESS WAY	LP. STA. 1+48	2' BEHIND CURB	100-WATT HPS VAPOR "COLONIAL" POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE



VICINITY MAP
SCALE 1" = 1200'

THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

GENERAL NOTES

- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS ARE APPROVED.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF CONSTRUCTION INSPECTION AT 410-313-1800 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.
- LOCATION: SOUTHWEST SIDE OF OLD FREDERICK ROAD (MARYLAND ROUTE 99) AND EASTSIDE OF DORCHESTER WAY. TAX MAP: #16, PART OF PARCEL 20.
- THIS PLAN IS SUBJECT TO ZONING BOARD CASE No. ZB929-M WHICH APPROVED ON MARCH 22, 1993, A REQUEST TO REZONE 682.18 ACRES OF RURAL LAND INTO THE MIXED USE AREAS.
- TOPOGRAPHY SHOWN HEREON IS FROM AERIAL MAPS FLOWN WITH 2 FOOT CONTOUR INTERVALS PREPARED BY HARTFORD AERIAL SURVEYS DATED NOVEMBER 1996.
- PROPERTY IS LOCATED WITHIN METROPOLITAN DISTRICT.
- PUBLIC WATER AND SEWER ARE TO BE UTILIZED FOR THIS SITE AND WILL BE EXTENDED FROM THE LIMITS OF CONTRACT Nos. 20-3995-D & 44-3923-D.
- STORMWATER MANAGEMENT FOR THIS DEVELOPMENT WILL BE DONE BY THE RETENTION METHOD PROVIDED UNDER EX. POND 1 OF 95-1741. THE S.W.M. REPORT IS PROVIDED BY MILDENBURG ASSOCIATES, INC. (APPROVED 3/26/96).
- THIS HORIZONTAL AND VERTICAL DATUM SHOWN ARE BASED ON THE FOLLOWING NAD '83 HOWARD COUNTY CONTROL STATIONS:
 HOWARD COUNTY MONUMENT 1012 N 802060.177 ELEV. = 445.577
 E 1345336.7960
 HOWARD COUNTY MONUMENT 1061 N 993250.9322 ELEV. = 509.924
 E 1340192.7110
- AREA TABULATION:
SECTION 11, AREA 3
 a. TOTAL NUMBER OF BUILDABLE LOTS TO BE RECORDED 0
 b. TOTAL NUMBER OF HOA OPEN SPACE LOTS TO BE RECORDED 1
 c. TOTAL NUMBER OF BULK PARCELS TO BE RECORDED 2
 d. TOTAL AREA OF BUILDABLE LOTS TO BE RECORDED 0.00 AC±
 e. TOTAL AREA OF HOA OPEN SPACE LOTS TO BE RECORDED 4.20 AC±
 f. TOTAL AREA OF BULK PARCELS TO BE RECORDED 5.76 AC±
 g. TOTAL AREA OF LOTS/PARCELS TO BE RECORDED 9.976 AC±
 h. TOTAL AREA OF ROADWAY TO BE RECORDED 0.516 AC±
 i. TOTAL AREA TO BE RECORDED 10.492 AC±
- THE NOISE STUDY FOR GTW'S WAVERLY WOODS WAS PROVIDED BY WILDMAN ENVIRONMENTAL SERVICES, INC. ON NOVEMBER 1, 1994.
- THE FOREST CONSERVATION OBLIGATION FOR THIS SECTION HAS BEEN MET WITH 0.81 ACRES OF ON-SITE FOREST RETENTION AND 0.72 ACRES OF OFF-SITE RETENTION, LOCATED ON A PORTION OF THE GTW WAVERLY WOODS PROPERTY, WEST OF HARRIOTTSVILLE ROAD. THE SURETY OBLIGATION FOR THIS AREA = \$9,845.00.
- THERE IS A PUBLIC 100 YEAR FLOODPLAIN WITHIN SECTION 11. THE FLOODPLAIN STUDY WAS APPROVED UNDER 5 94-07 DATED 11/30/93.
- THE WETLANDS STUDY FOR GTW'S WAVERLY WOODS WAS PREPARED BY EXPLORATION RESEARCH, INC. AND WAS COMPLETED ON 9/5/94.
- THE TRAFFIC STUDY FOR GTW'S WAVERLY WOODS WAS PREPARED BY THE TRAFFIC GROUP AND APPROVED ON JULY 14, 1994.
- THE SKETCH PLAN No. 5 94-07 WAS APPROVED ON 11/30/93. THE PRELIMINARY PLAN P 00-10 WAS APPROVED ON 9/6/00. THE PRELIMINARY PLAN CONFORMS WITH THE PHASING PLAN FOR THE YEAR OF 2002 AS SHOWN UNDER THE SKETCH PLAN AND MODIFIED PHASING PLAN FOR PHASING 2002 THRU 2010 APPROVED BY THE PLANNING DIRECTOR ON JUNE 21, 1999.
- STREET LIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL STREET LIGHT PLACEMENT AND TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III (9993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". THE JUNE 1993 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN AND STREET LIGHT AND ANY TREE.
- OPEN SPACE LOT 11 TO BE DEDICATED TO THE HOMEOWNER'S ASSOCIATION.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL FINANCIAL SURETY FOR THE 55 REQUIRED PERIMETER LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$13,650.00.
- NOTE THAT 95% COMPACTION IN FILL AREAS SHALL BE IN ACCORDANCE WITH AASHTO T-100 SPECIFICATIONS.

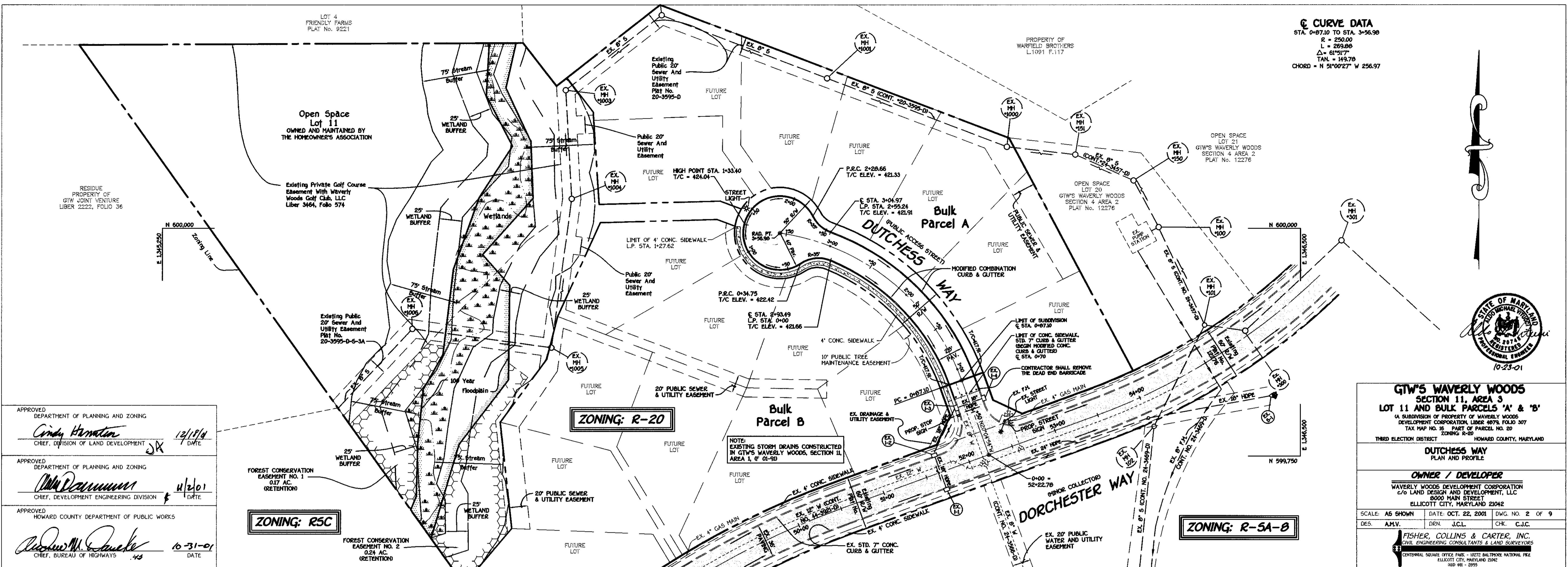
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE
 ELICOTT CITY, MARYLAND 21042
 (410) 961-2295

OWNER / DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 c/o LAND DESIGN AND DEVELOPMENT, LLC
 8000 MAIN STREET
 ELICOTT CITY, MARYLAND 21042



10-23-01
DATE

GTW'S WAVERLY WOODS
 SECTION 11, AREA 3
 LOT 11 AND BULK PARCELS 'A' & 'B'
 (A SUBDIVISION OF THE PROPERTY OF WAVERLY WOODS DEVELOPMENT CORPORATION, LIBER 2222, FOLIO 36)
 ZONING R-20
 TAX MAP No. 16 PART OF PARCEL No. 20
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: OCTOBER 22, 2001
 SHEET 1 OF 9



C CURVE DATA
STA. 0+87.10 TO STA. 3+56.98
R = 250.00
L = 269.88
Δ = 61°51'7"
TAN. = 149.78
CHORD = N 51°02'27" W 256.97



APPROVED
DEPARTMENT OF PLANNING AND ZONING
Cindy Hamilton
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 12/18/01

APPROVED
DEPARTMENT OF PLANNING AND ZONING
John Dammann
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 11/21/01

APPROVED
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard M. Quack
CHIEF, BUREAU OF HIGHWAYS
DATE: 10-31-01

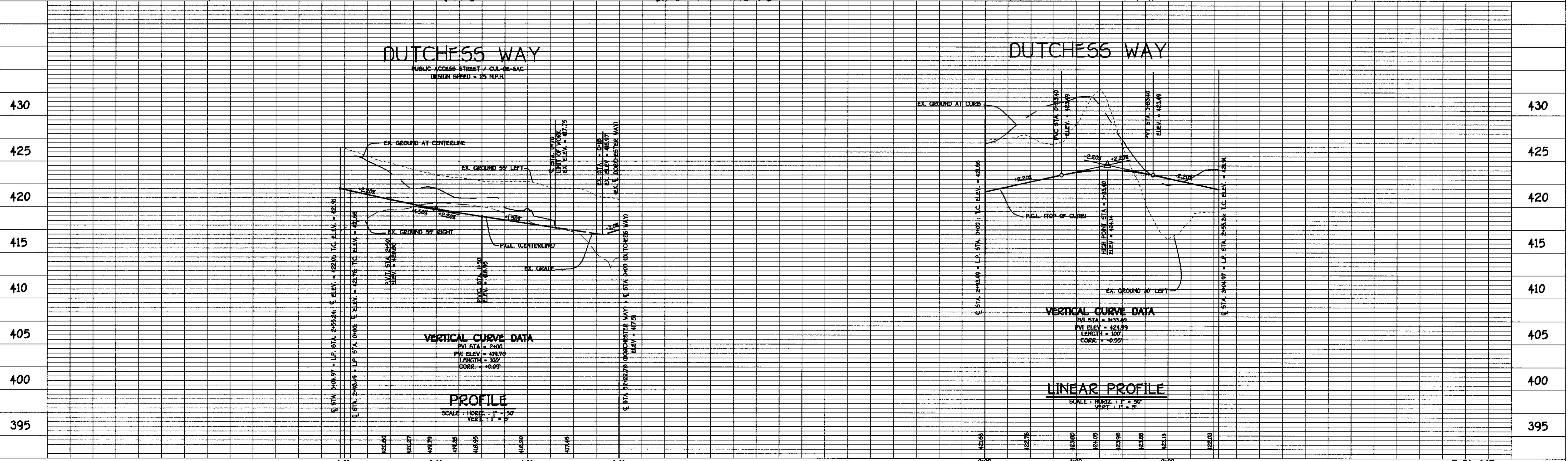
GTW'S WAVERLY WOODS
SECTION 11, AREA 3
LOT 11 AND BULK PARCELS 'A' & 'B'
(A SUBDIVISION OF PROPERTY OF WAVERLY WOODS
DEVELOPMENT CORPORATION, LIBER 4879, FOLIO 307
TAX MAP NO. 16 PART OF PARCEL NO. 20
ZONING R-20)
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DUTCHESS WAY
PLAN AND PROFILE

OWNER / DEVELOPER
WAVERLY WOODS DEVELOPMENT CORPORATION
C/O LAND DESIGN AND DEVELOPMENT, LLC
8000 MAIN STREET
ELlicott CITY, MARYLAND 21042

SCALE: AS SHOWN DATE: OCT. 22, 2001 DWG. NO. 2 OF 9
DES. AMV. DRN. J.C.L. CHK. C.J.C.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 18275 BALTIMORE NATIONAL FREE
ELlicott CITY, MARYLAND 21042
(410) 661-2995



STREET TREE SCHEDULE			
SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W

NOTE: STREET TREE TYPE IS ONLY A RECOMMENDATION. THIS MAY BE SUBSTITUTED WITH AN APPROVED EQUIVALENT FROM THE HOWARD COUNTY LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE 16 REQUIRED STREET TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$3,400.00.

ENGINEER'S CERTIFICATE
 I Herby Certify That The Plan For Erosion And Sediment Control Represents A Practical Method Based On My Personal Knowledge Of The Site Conditions And That The Plan Was Prepared In Accordance With The Requirements Of The Soil Conservation District.
 Signature of Engineer: *John M. Malvesto* Date: 10-23-01

DEVELOPER'S CERTIFICATE
 I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of Natural Resources 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 Or Their Authorized Agents, As Are Deemed Necessary.
 Signature of Developer: *John M. Malvesto* Date: 10/23/01

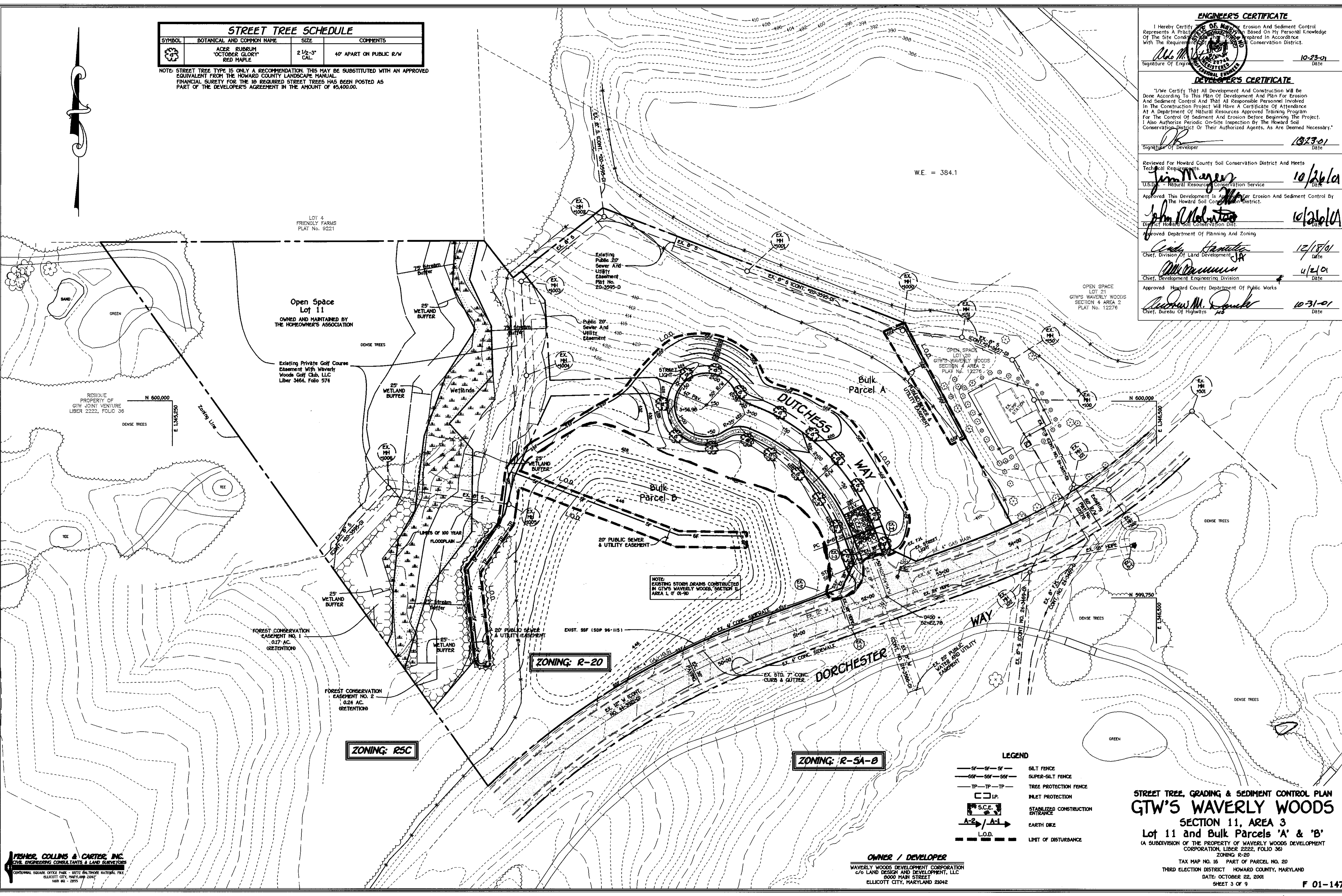
Reviewed For Howard County Soil Conservation District And Meets Technical Requirements:
Jim Meyer 10/26/01
 U.S.D. - Natural Resources Conservation Service

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.
John M. Malvesto 10/26/01
 District Howard Soil Conservation Dist.

Approved: Department Of Planning And Zoning
Carol Hamilton 12/18/01
 Chief, Division 7/1 Land Development

Approved: Howard County Department Of Public Works
William M. Dwyer 4/2/01
 Chief, Development Engineering Division

Approved: Howard County Department Of Public Works
Andrew M. Dwyer 10/31/01
 Chief, Bureau Of Highways



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CONFEDERAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21117
 410.461.2000

OWNER / DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 c/o LAND DESIGN AND DEVELOPMENT, LLC
 8000 MAIN STREET
 ELLICOTT CITY, MARYLAND 21142

STREET TREE, GRADING & SEDIMENT CONTROL PLAN
GTW'S WAVERLY WOODS
 SECTION 11, AREA 3
 Lot 11 and Bulk Parcels 'A' & 'B'
 (A SUBDIVISION OF THE PROPERTY OF WAVERLY WOODS DEVELOPMENT CORPORATION, LIBER 2222, FOLIO 36)
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 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: OCTOBER 22, 2001
 SHEET 3 OF 9

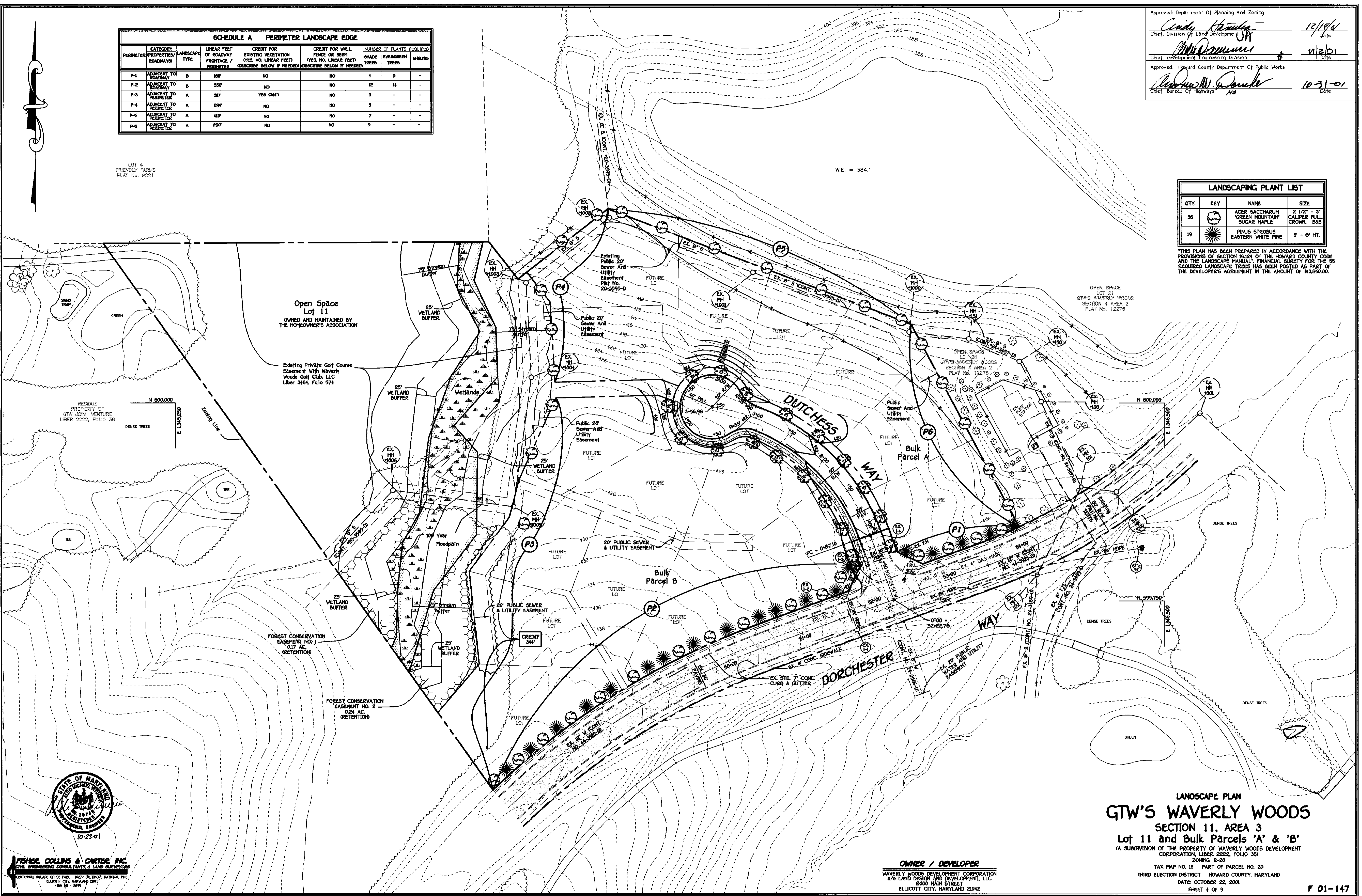
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Approved: Department Of Planning And Zoning
Cindy Hamilton 12/18/01
 Chief, Division Of Land Development
W.D. Drummond 12/10/01
 Chief, Development Engineering Division
 Approved: Howard County Department Of Public Works
Richard M. Danville 10-31-01
 Chief, Bureau Of Highways

SCHEDULE A PERIMETER LANDSCAPE EDGE								
PERIMETER	CATEGORY / PROPERTIES / ROADWAYS	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	SHADE TREES	EVERGREEN TREES	SHRUBS
P-1	ADJACENT TO ROADWAY	B	186'	NO	NO	4	5	-
P-2	ADJACENT TO ROADWAY	B	556'	NO	NO	12	14	-
P-3	ADJACENT TO PERIMETER	A	517'	YES (347')	NO	3	-	-
P-4	ADJACENT TO PERIMETER	A	294'	NO	NO	5	-	-
P-5	ADJACENT TO PERIMETER	A	410'	NO	NO	7	-	-
P-6	ADJACENT TO PERIMETER	A	290'	NO	NO	5	-	-

LANDSCAPING PLANT LIST			
QTY.	KEY	NAME	SIZE
36		ACER SACCHARUM GREEN MOUNTAIN SUGAR MAPLE	2 1/2" - 3" CALIPER FULL CROWN, B&B
19		PINUS STROBUS EASTERN WHITE PINE	6' - 8' HT.

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.14 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$13,650.00.



LOT 4
FRIENDLY FARMS
PLAT No. 9221

W.E. = 384.1

Open Space
Lot 11
OWNED AND MAINTAINED BY
THE HOMEOWNER'S ASSOCIATION

Existing Private Golf Course
Easement With Waverly
Woods Golf Club, LLC
Liber 3464, Folio 574

RESIDUE
PROPERTY OF
GTW JOINT VENTURE
LIBER 2222, FOLIO 36

OPEN SPACE
LOT 21
GTW'S WAVERLY WOODS
SECTION 4 AREA 2
PLAT No. 12276

FOREST CONSERVATION
EASEMENT NO. 1
0.17 AC.
(RETENTION)

FOREST CONSERVATION
EASEMENT NO. 2
0.24 AC.
(RETENTION)



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 1072 BALTIMORE NATIONAL FREE
 ELLICOTT CITY, MARYLAND 21042
 4100 N.W. 2025

OWNER / DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 c/o LAND DESIGN AND DEVELOPMENT, LLC
 8000 MAIN STREET
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LANDSCAPE PLAN
GTW'S WAVERLY WOODS
 SECTION 11, AREA 3
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 SHEET 4 OF 9

TOPSOIL SPECIFICATIONS

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

- 1. 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 growth.
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 Experiment 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.
ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, johnsongrass, rutenside, 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 a 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:
a. Place topsoil if required and apply soil amendments as specified in 10.0 Vegetative Stabilization - Section 1 - 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 prescribed 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. Seed and/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 phytotoxic 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 10.0 Vegetative Stabilization - Section 1 - 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, about 4" - 6" higher in elevation.
iii. Topsoil shall be uniformly distributed in a 4" - 6" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that seeding or sowing 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.
v. When the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.
VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
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 the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dunes, cut and fill slopes and other areas at final grade, former stockpiles and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Vegetation over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seeded preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

- A. Site Preparation
i. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
B. Soil Amendments (Fertilizer and Lime Specifications)
i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes are not acceptable.
ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully banded according to the applicable state fertilizer laws and shall bear the trade, brand name or trademark and warranty of the producer.
iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #20 mesh sieve.
iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

- C. Seeded Preparation
i. Temporary Seeding
a. Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Areas with irregular conditions (more than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
b. Top fertilizer and lime as specified on the plans.
c. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
ii. Permanent Seeding
a. Minimum soil conditions required for permanent vegetative establishment:
1. Soil pH shall be between 6.0 and 7.5.
2. Soluble salts shall be less than 500 parts per million (ppm).
3. The soil shall contain less than 40% clay, but enough fine grained material (30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if loesslike or arenaceous soils are to be planted, then a sandy soil (30% silt plus clay) would be acceptable.
4. Soil shall contain 1.5% minimum organic matter by weight.
5. Soil must contain sufficient pore space to permit adequate root penetration.
6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 10.0 Standard and Specification for Topsoil.
b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
c. Apply soil amendments as per soil test or as included on the plans.
d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be rolled to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application, where site conditions will not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.

- D. Seed Specifications
i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on the job.
Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
ii. Incubant - The incubant used in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Incubants shall not be used later than the date indicated on the container. A fresh incubant is directed on packaging. Use over times the recommended rate when hydroseeding. Note: It is very important to use cool as possible until used, temperatures above 75-80° F. can weaken bacteria and make the incubant less effective.

- E. Methods of Seeding
i. Hydroseeding - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen maximum of 100 lbs. per acre total of soluble nitrogen P205 (phosphorous), 200 lbs/acre K2O (potassium); 200 lbs/acre.
b. Lime - use only ground agricultural limestone, up to 3 tons per acre may be applied by hydroseeding. Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
ii. Dry Seeding - This includes use of conventional drop or broadcast spreaders.
a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 205 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
iii. Drill or Cultipacker Seeding - Mechanized seeders that apply and cover seed with soil.
a. Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

- F. Mulch Specifications (in order of preference)
i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
a. Wood Cellulose Fiber Mulch (WCFF)
i. WCFF shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
ii. WCFF shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniform spread slurry.
iii. WCFF (including dye) shall contain no germination or growth inhibiting factors.
iv. WCFF materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry.
v. The mulch material shall form a biodegradable ground cover on applications having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
vi. The material shall contain no elements at concentrations which shall be detrimental to plant growth.
f. WCFF must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1% maximum and water holding capacity of 30% minimum.
Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
ii. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
i. If grading is completed outside of the seeding season, mulch shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

- H. Securing Straw Mulch (Mulch Anchoring) - Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods listed as preferred, depending upon size of area and erosion hazard.
i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil to a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping areas, this practice should be used on the contour if possible.
ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 200 pounds per acre. The mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be applied uniform after binder application. Synthetic binders - such as Acrylonitrile, DCA-70, Retrolast, Terra Tex, II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer. Binders should be mixed with water and applied according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

- I. Incremental Stabilization - Cut Slopes
i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
ii. Construction sequence (Refer to Figure 3 below):
a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
b. Perform Phase 1 excavation, dress, and stabilize.
c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.

- Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation of the seeding season will necessitate the application of temporary stabilization.
J. Incremental Stabilization of Embankments - Fill Slopes
i. Embankments shall be constructed in lifts as prescribed on the plans.
ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15' or when the grading operation is completed.
iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
iv. Construction sequence (Refer to Figure 4 below):
a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope all fence on low side of fill as shown in Figure 4.
b. Place Phase 1 embankment, dress and stabilize.
c. Place Phase 2 embankment, dress and stabilize.
d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation of the seeding season will necessitate the application of temporary stabilization.

SECTION 2 - TEMPORARY SEEDING

- Vegetation - Annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.
A. Seed mixtures - Temporary Seeding
i. Select one or more of the species or mixtures listed in Table 20 for the appropriate Plant Hardness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 20 must be put on the plans.
ii. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

Table with 6 columns: No., Species, Application Rate (lb/acre), Seeding Dates, Seeding Depth, Fertilizer Rate (lb/1000sq ft), Lime Rate (ton/1000sq ft). Rows include RYE and BARLEY OR RYE PLUS FOXTAIL HILLTOP.

SECTION 3 - PERMANENT SEEDING

Seeding grass and legumes to establish ground cover for a minimum of one year on disturbed areas generally receiving low maintenance.

- A. Seed mixtures - Permanent Seeding
i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depth can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planting for special lawn maintenance areas, see Sections IV Sod and V Turfgrasses.
ii. For sites having disturbed areas over 5 acres, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.
iii. For areas receiving low maintenance, apply uniform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (50 lb/acre) in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

Table with 6 columns: No., Species, Application Rate (lb/acre), Seeding Dates, Seeding Depth, Fertilizer Rate (lb/1000sq ft), Lime Rate. Rows include TALL FESCUE (95%), KENTUCKY BLUEGRASS (50%), PERENNIAL RYEGRASS (60%), TALL FESCUE (90%), and HARD FESCUE (20%).

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND THAT ANY RESPONSIBLE PERSONNEL IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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 OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

SIGNATURE OF DEVELOPER DATE 10-23-01

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER AND AN EXPERT IN THE KNOWLEDGE OF THE SUBJECT MATTER. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF ENGINEER DATE 03-10-01

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS DATE 10/26/01

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE 10/26/01

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. APPROVED: DATE 10/26/01

APPROVED: DEPARTMENT OF PLANNING AND ZONING DATE 12/15/01

APPROVED: DEPARTMENT OF PLANNING AND ZONING DATE 11/02/01

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS DATE 10-21-01

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN THE REQUIRED GRADING PERMIT. (1 DAY)
2. NOTIFY "MSB UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK. (1-800-257-7777). NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION 24 HOURS BEFORE STARTING ANY WORK. (410-318-3970). (1 DAY)
3. CLEAR AND GRUB FOR SEDIMENT CONTROL MEASURES FOR THE PROPOSED SEWER MAINS ONLY. INSTALL STABILIZED CONSTRUCTION ENTRANCE. (1 DAY)
4. INSTALL PROPOSED SEWER MAINS AND STABILIZE THE DISTURBED AREAS. (1 DAY)
5. CLEAR AND GRUB FOR SEDIMENT CONTROL MEASURES FOR THE REST OF THE SITE. (1 DAY)
6. INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES AS INDICATED ON THE PLAN SHEET 3. (1 DAY)
7. OBTAIN PERMISSION OF THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING.
8. CLEAR AND GRUB FOR THE REMAINDER OF THE SITE. (2 DAYS)
9. GRADE SITE TO THE PROPOSED SUBGRADE. INSTALL THE WATER MAIN. (1 WEEK)
10. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS.
11. INSTALL CURB AND GUTTER PLUS ROAD BASE COURSE. (1 WEEK)
12. STABILIZE ALL DISTURBED AREAS AND OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED. (2 DAYS)
13. APPLY TACK COAT TO SUB-BASE AND LAY SURFACE COURSE. (3 DAYS)
14. FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES, AND AFTER PROGRESS HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, ALL EROSION AND SEDIMENT CONTROL DEVICES MAY BE REMOVED AND/OR BACKFILLED. (1 DAY)
15. NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS FOR A FINAL INSPECTION OF THE COMPLETED PROJECT.

SEDIMENT CONTROL NOTES
GTW'S WAVERLY WOODS
SECTION 11, AREA 3
Lot 11 and Bulk Parcels 'A' & 'B'
(A SUBDIVISION OF THE PROPERTY OF WAVERLY WOODS DEVELOPMENT CORPORATION, LIBER 2222, FOLIO 36)
ZONING: R-20
TAX MAP NO. 16 PART OF PARCEL NO. 20
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: OCTOBER 22, 2001
SHEET 6 OF 9

OWNER / DEVELOPER

WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, LLC
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21042



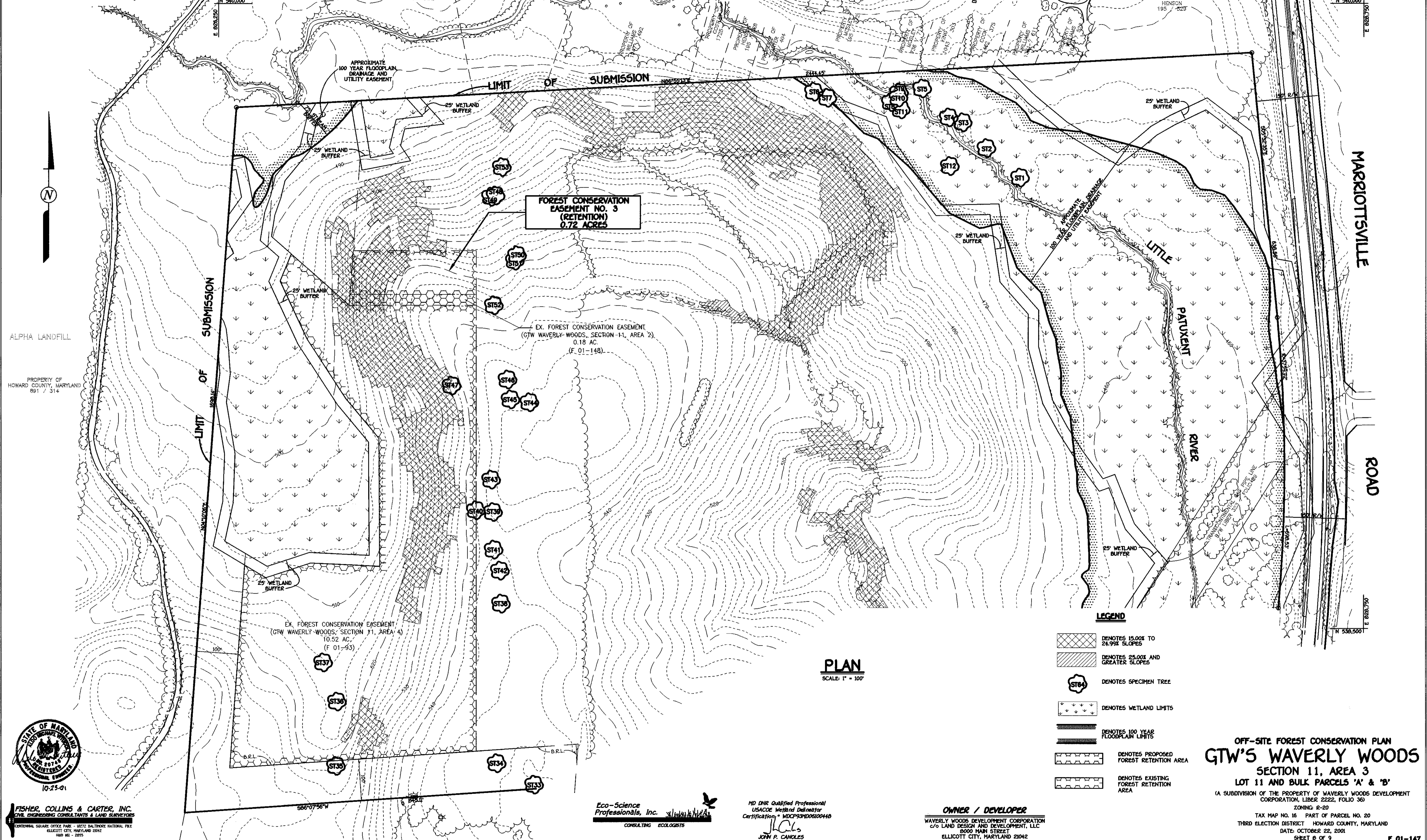
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL OFFICE: OFFICE PARK - 10272 BALTIMORE NATIONAL FEE
ELLCOTT CITY, MARYLAND 21042
180 181 - 2300

APPROVED: DEPARTMENT OF PUBLIC WORKS
Richard M. Conley 10-31-01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Andy Hamata 12/15/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Bill Drumm 11/02/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

OLD FREDERICK ROAD



ALPHA LANDFILL
 PROPERTY OF HOWARD COUNTY, MARYLAND
 881 / 314

MARIOTTVILLE ROAD

PLAN
 SCALE: 1" = 100'

- LEGEND**
- DENOTES 15.00% TO 24.99% SLOPES
 - DENOTES 25.00% AND GREATER SLOPES
 - DENOTES SPECIMEN TREE
 - DENOTES WETLAND LIMITS
 - DENOTES 100 YEAR FLOODPLAIN LIMITS
 - DENOTES PROPOSED FOREST RETENTION AREA
 - DENOTES EXISTING FOREST RETENTION AREA



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21117
 (410) 461-2295

Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

MD DNR Qualified Professional
 USACE Wetland Designer
 Certification # WDCP934006100448
J.P. Conley
 JOHN P. CONOLEY

OWNER / DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 c/o LAND DESIGN AND DEVELOPMENT, LLC
 8000 MAIN STREET
 ELLICOTT CITY, MARYLAND 21102

OFF-SITE FOREST CONSERVATION PLAN
GTW'S WAVERLY WOODS
 SECTION 11, AREA 3
 LOT 11 AND BULK PARCELS 'A' & 'B'
 (A SUBDIVISION OF THE PROPERTY OF WAVERLY WOODS DEVELOPMENT CORPORATION, LIBER 2222, FOLIO 36)
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 TAX MAP NO. 16 PART OF PARCEL NO. 20
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: OCTOBER 22, 2001
 SHEET 8 OF 9

F 01-147

F.01.147

Approved: Department of Public Works
Stephen M. Deneke 10/31/01
 Chief, Bureau of Highways Date

Approved: Department of Planning and Zoning
Cindy Hamilton 12/18/01
 Chief, Division of Land Development Date

John P. Canale 11/22/01
 Chief, Development Engineering Division Date

Waverly Woods Residential -
 Forest Conservation Worksheet

Input Parameter:	Preliminary FCP	Thru Section 11/ Area 3
Tract Area	291.90	291.91
100 Year Floodplain	4.10	4.81
Other ROW/Easements to be excluded from NTA	2.04	2.09
Disturbance within Floodplain to be added to NTA	0.00	2.47
Existing Forest Area (NTA)	103.00	103.00
Afforestation Threshold	15%	15%
Conservation Threshold	20%	20%
Total Area Forest Cleared	65.55	69.86
Total Area Forest Retained	37.45	33.14
Calculated Parameters:		
Net Tract Area	285.76	287.47
Afforestation Threshold	42.86	43.12
Conservation Threshold	57.15	57.49
Forest Above Conservation Threshold	45.85	45.51
Reforestation for Clearing above Conservation Threshold	11.46	11.38
Reforestation for Clearing Below Conservation Threshold	39.40	48.70
Expected Total Project Reforestation Obligation	50.87	60.08

Forest Conservation Calculations for
 Waverly Woods Section 11 Area 3

	Acres
Forest Preservation in Section 11, Area 3 Development	0.41
Forest Clearing in Section 11, Area 3 Development	0.85
Total Forest Clearing within Residentially Zoned Areas of Waverly Woods	69.86
Percentage of Forest Clearing Within Section 11 Area 3 Development	1.21
Total Reforestation Required for Waverly Woods Residential Development	60.08
Reforestation for Section 11, Area 3 Development	0.72

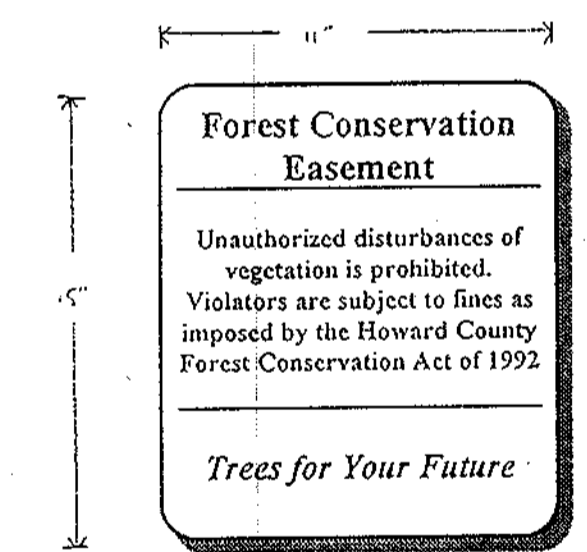
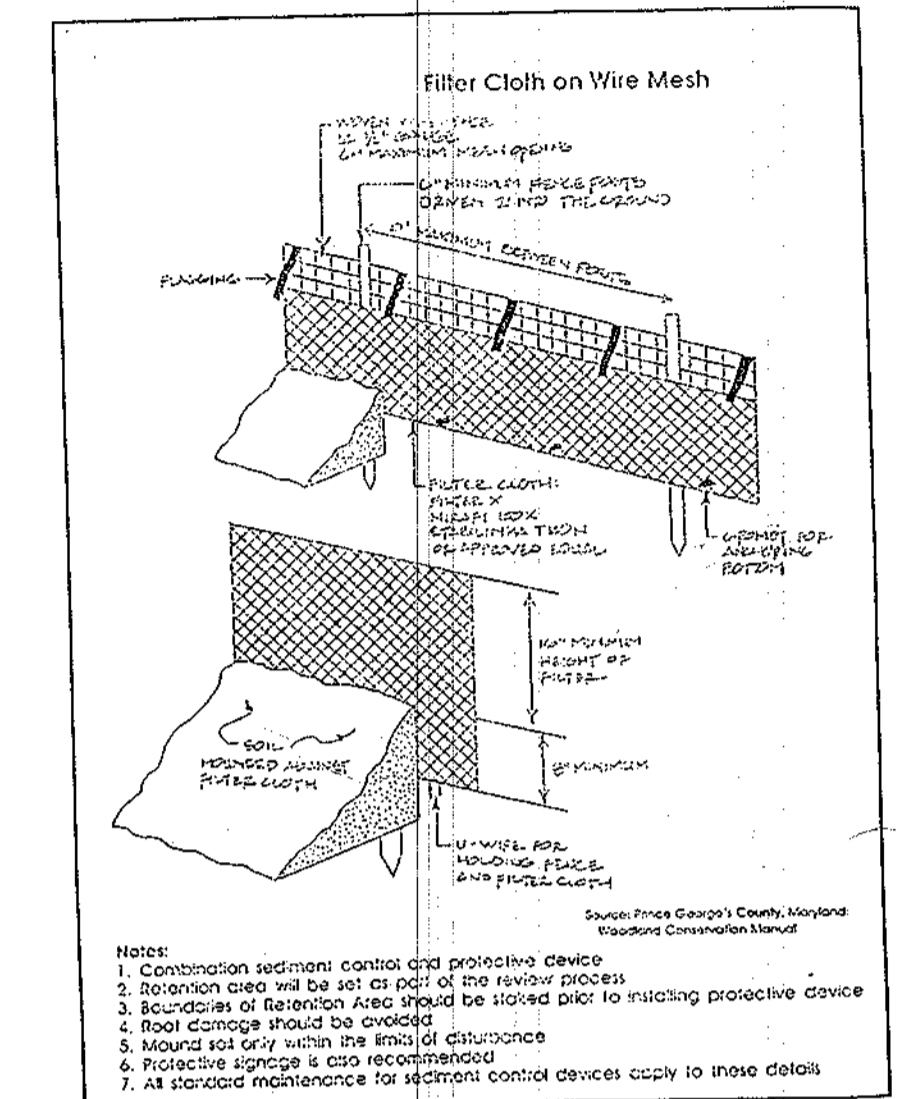
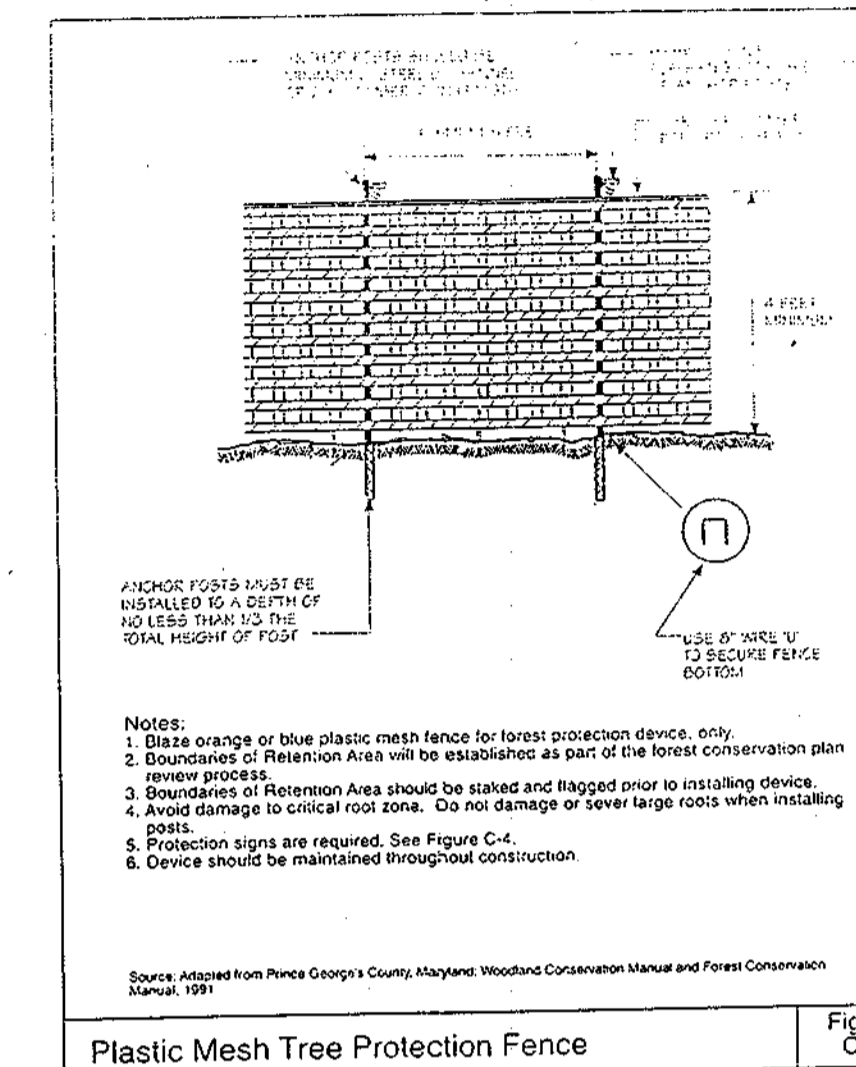
FCA Calculation Notes:

- All information relative to the FCP calculations has been developed from the Forest Conservation Plan prepared by Environmental Systems Analysis (ESA), Inc. The Forest Conservation requirements have been established by guidelines outlined in the February 1996 Forest Conservation Plan as prepared by ESA, Inc.
- The Forest Conservation Worksheet above includes the Preliminary Forest Conservation calculation (from the PFCP revised on February 26, 1996) and the latest forest conservation calculations (thru Section 11, Area 3) for residentially zoned development at Waverly Woods. Forest Retention and clearing differences in the two worksheets reflect minor changes from preliminary to final plan. With the exception of the Golf Course, Section 11 will be the final residentially zoned portion of Waverly Woods.
- Like the previous sections of Waverly Woods, reforestation for Section 11, Area 3 has been calculated on a percentage basis. Section 11, Area 3 accounts for 1.21% of the Waverly Woods residentially zoned forest clearing at Waverly Woods. Therefore, 1.21% of the Waverly Woods residential reforestation obligation (as revised by the updated FCA worksheet) will be provided for Section 11 Area 3. This requirement will be met by dedicating 0.72 acres of forest retention surplus on Waverly Woods commercially zoned property to Section 11, Area 3.
- Including Section 11, Area 3 a total of 9.05 acres of onsite reforestation, 12.52 acres of additional onsite retention and 8.13 acres of offsite reforestation (see January 1996 Final FCP for Waverly Woods Section 4, Areas 1 and 2) has been planned for the Waverly Woods residentially zoned property to date. This leaves a balance of 30.38 acres of reforestation to be performed for the remaining areas of Section 11 and the Golf Course.

THE 0.13 ACRES OF OFF-SITE IS LOCATED ON WEST FRIENDSHIP ESTATES, SECTION ONE, KNOWN AS PLAT Nos. 11434 AND 11433 OF P-95-175.

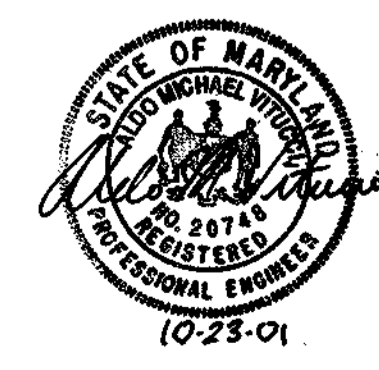
FCP NOTES

- Any Forest Conservation Easement (FCE) area shown hereon is subject to protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.
- The forest Conservation Easements have been established to fulfill the requirements of Section 16.1200 of the Howard County Code, Forest Conservation Act. No clearing, grading, or construction is permitted within the Forest Conservation Easements; however, forest management practices as defined in the Deed of Forest Conservation Easement are allowed.
- Limits of disturbance shall be restricted to areas outside the limit of temporary fencing or the FCE boundary, whichever is greater.
- There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
- No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
- Permanent signage shall be placed 50-100' apart along the boundaries of all areas included in Forest Conservation Easements.
- The reforestation obligation shown hereon shall be met through the retention of existing forest on a commercially zoned section of Waverly Woods.



Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

MD DNR Qualified Professional
 USACOE Wetland Designer
 Certification # WD0293MD61904482
John P. Canale



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FOREST CONSERVATION NOTES AND DETAILS
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 SECTION 11, AREA 3
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