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APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 9/25/01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 10/30/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 9/25/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

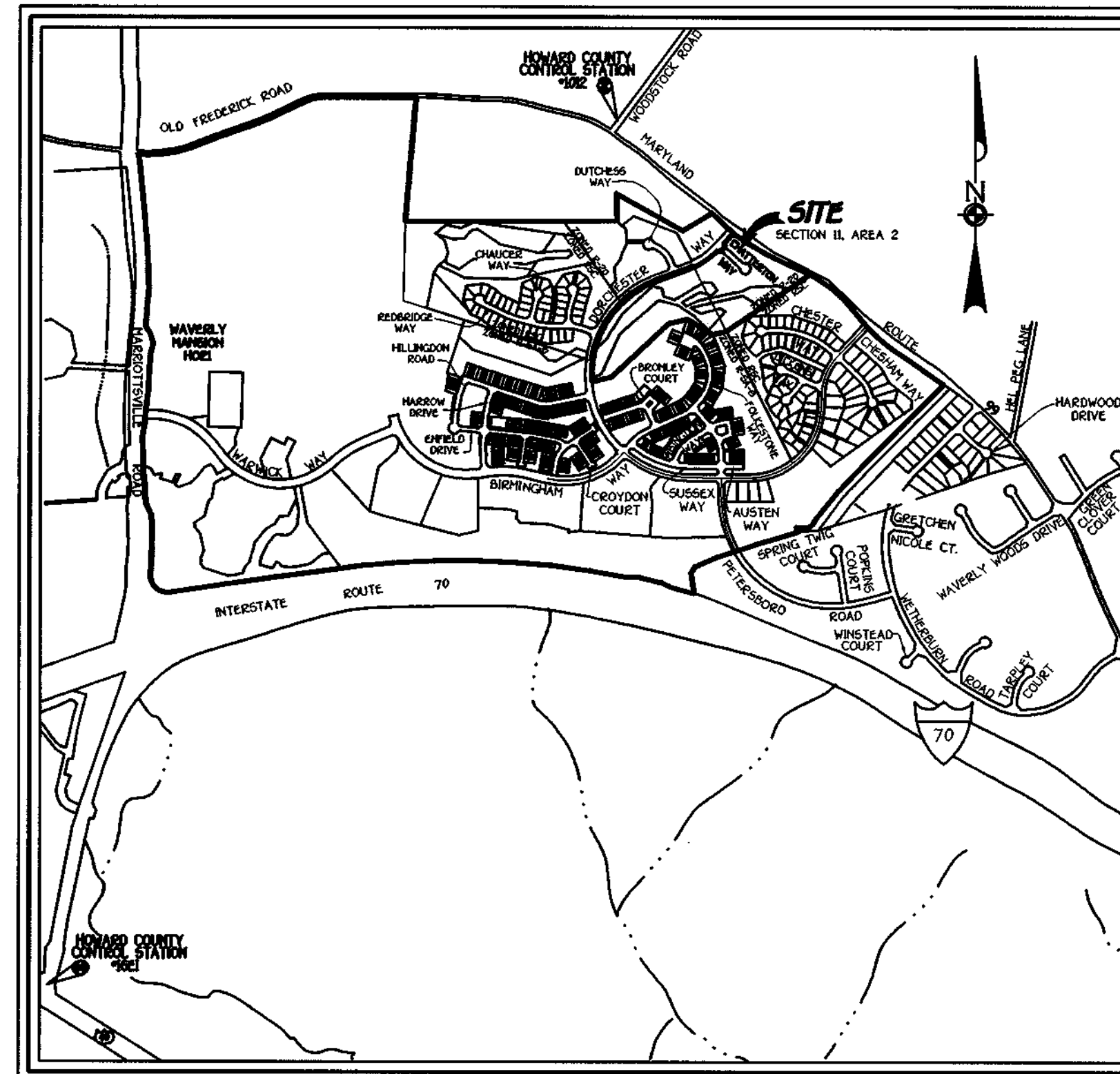
**FINAL ROAD CONSTRUCTION, GRADING
 AND SEDIMENT CONTROL PLANS
 GTW'S WAVERLY WOODS
 SECTION 11, AREA 2
 LOTS 12 THRU 21 AND BULK PARCEL 'C'
 (A SUBDIVISION OF THE PROPERTY OF WAVERLY WOODS DEVELOPMENT CORPORATION,
 LIBER 2222, FOLIO 36)**

**ZONED: R-20 AND R-SA-8
 TAX MAP No. 16, PART OF PARCEL No. 20**

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

TRAFFIC CONTROL SIGNS				
STREET NAME	CL. STATION	OFFSET	POSTED SIGN	SIGN CODE
CHATTERTON WAY	0+42	15'L	STOP	R1-1

STREET LIGHT CHART				
DWG. No.	STREET NAME	STATION	OFF-SET	FIXTURE/POLE TYPE
2	CHATTERTON WAY	LP. STA 1+31	2' BEHIND CURB	100-WATT HPS VAPOR "COLONIAL" POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.



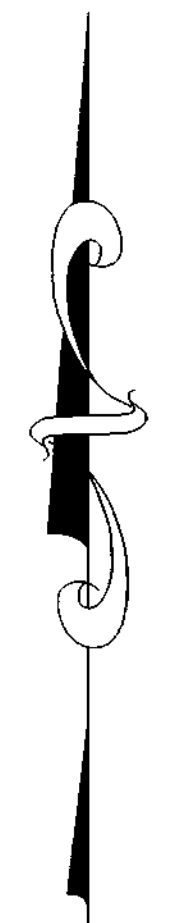
**THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND**

GENERAL NOTES

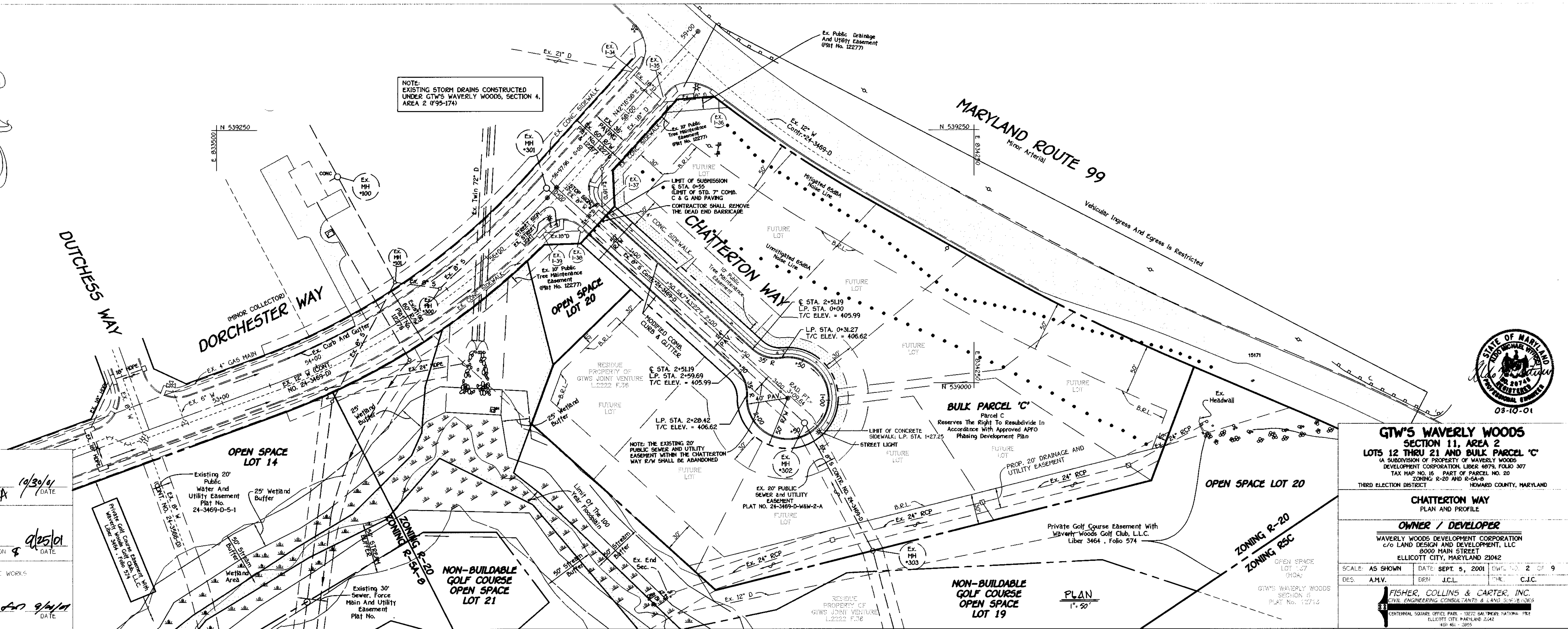
- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS ARE APPROVED.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF CONSTRUCTION INSPECTION AT 410-313-1000 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR 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. ZB923-H 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 HARGROVE AERIAL SURVEYS DATED NOVEMBER 1990.
- 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 No. 24-3469-D.
- STORMWATER MANAGEMENT FOR THIS DEVELOPMENT WILL BE DONE BY THE RETENTION METHOD PROVIDED UNDER EX. POND 1 OF 95-174. 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 601060.177 ELEV. = 445.577
 HOWARD COUNTY MONUMENT 1021 E 1345336.7560 N 593250.9322 ELEV. = 509.924
 HOWARD COUNTY MONUMENT 1021 E 1344092.710
- AREA TABULATION:
SECTION 11, AREA 2
 a. TOTAL NUMBER OF BUILDABLE LOTS TO BE RECORDED 0
 b. TOTAL NUMBER OF HOA OPEN SPACE LOTS TO BE RECORDED 6
 c. TOTAL NUMBER OF GOLF COURSE OPEN SPACE LOTS TO BE RECORDED 4
 d. TOTAL NUMBER OF BULK PARCELS TO BE RECORDED 1
 e. TOTAL AREA OF BUILDABLE LOTS TO BE RECORDED 0.00 AC.
 f. TOTAL AREA OF HOA OPEN SPACE LOTS TO BE RECORDED 12.45 AC.
 g. TOTAL AREA OF GOLF COURSE OPEN SPACE LOTS TO BE RECORDED 5.779 AC.
 h. TOTAL AREA OF BULK PARCELS TO BE RECORDED 3.800 AC.
 i. TOTAL AREA OF LOTS/PARCELS TO BE RECORDED 21.99 AC.
 j. TOTAL AREA OF ROADWAY TO BE RECORDED 0.69 AC.
 k. TOTAL AREA TO BE RECORDED 22.43 AC.
- THE NOISE STUDY FOR GTW'S WAVERLY WOODS WAS PROVIDED BY WILDMAN ENVIRONMENTAL SERVICES, INC. ON NOVEMBER 1, 1994.
- 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 COMPILED 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 COINCIDES WITH THE PHASING PLAN FOR THE YEAR OF 2002 AS SHOWN UNDER 5 94-07. 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 (1993) 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.
- NOTE THAT 95% COMPACTION IN FILL AREAS SHALL BE IN ACCORDANCE WITH AASHTO T-100 SPECIFICATIONS.
- THE FOREST CONSERVATION OBLIGATION FOR THIS SECTION HAS BEEN MET WITH 0.00 ACRES OF ON-SITE FOREST RETENTION AND 0.18 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 = \$ 1,566,20
- THE LANDSCAPING SURETY AMOUNT OF \$13,200.00 IS INCLUDED AS PART OF THE DEVELOPER'S AGREEMENT.



F-01-148



NOTE:
EXISTING STORM DRAINS CONSTRUCTED
UNDER GTW'S WAVERLY WOODS, SECTION 4,
AREA 2 (795-174)



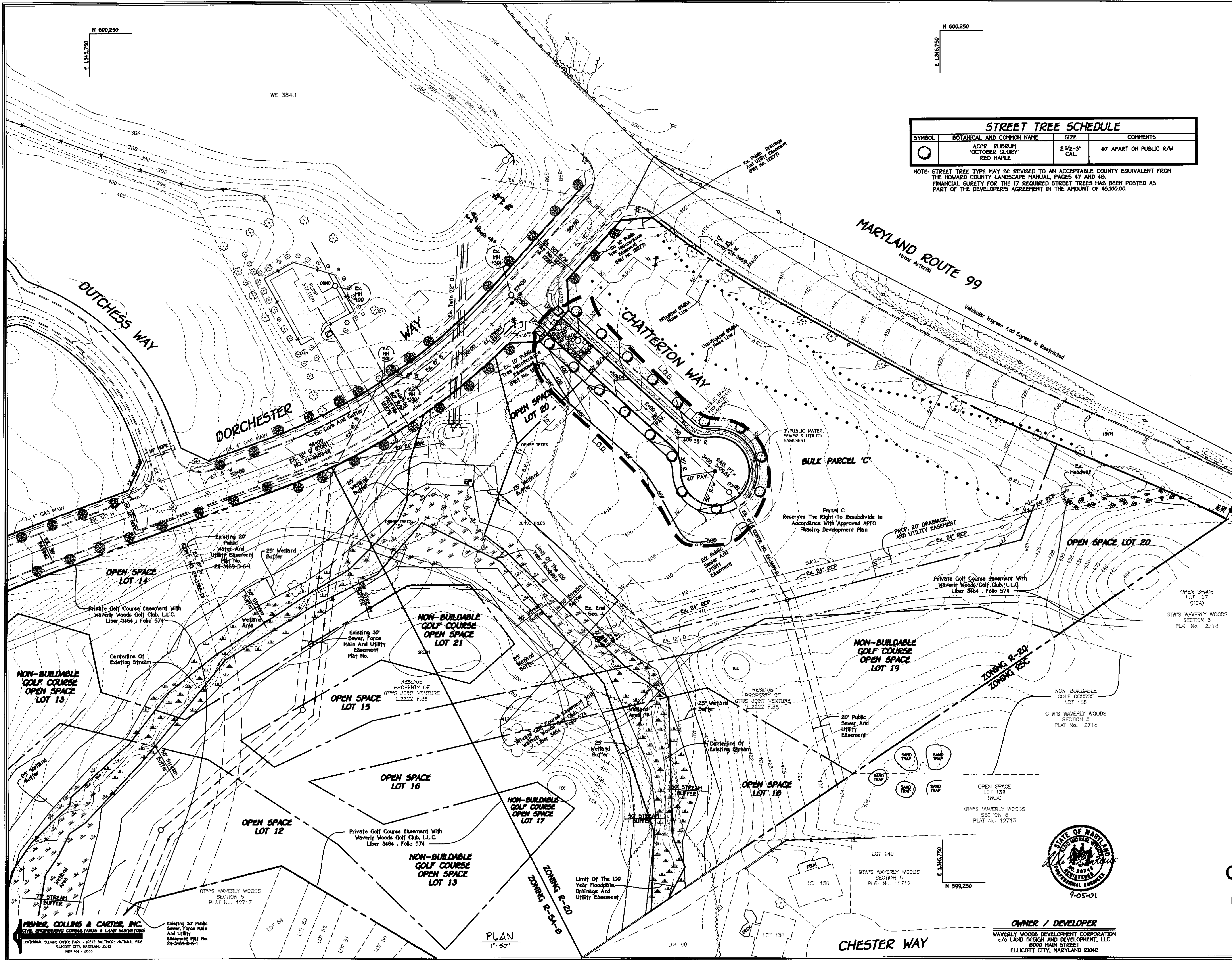
DEPARTMENT OF PLANNING AND ZONING
OFFICE OF LAND DEVELOPMENT
Emily Rasmussen 10/30/01 DATE

DEPARTMENT OF PLANNING AND ZONING
OFFICE OF LAND DEVELOPMENT ENGINEERING DIVISION
John Dammann 9/25/01 DATE

DEPARTMENT OF PLANNING AND ZONING
OFFICE OF PUBLIC WORKS
Howard S. D. Co. 9/14/01 DATE
BUREAU OF HIGHWAYS



K:\Drawings\330686 6TH Section 11V (DUALS) AREA 2\30686 S11 AREA 2 Road S11.dwg



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 MAY BE REVISED TO AN ACCEPTABLE COUNTY EQUIVALENT FROM THE HOWARD COUNTY LANDSCAPE MANUAL, PAGES 47 AND 48. FINANCIAL SURETY FOR THE 17 REQUIRED STREET TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$5,100.00.

ENGINEER'S CERTIFICATE
 I Herby Certify That The Erosion And Sediment Control Represents A Practical Plan Based On My Personal Knowledge Of The Site Condition And That It Will Be Installed In Accordance With The Requirements Of The Howard County Conservation District.
 Signature Of Engineer: *Udo M. ...* Date: 9-5-01

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: *Donald ...* Date: 9-5-01

Reviewed For Howard County Soil Conservation District And Meets Technical Requirement:
Jim Myers 9/10/01
 U.S.D.A. Natural Resources Conservation Service
 Approved: This Development Is Appropriate For Erosion And Sediment Control By The Howard Soil Conservation District.
John R. Robinson 9/12/01
 District Howard Soil Conservation Dist.
 Approved: Department Of Planning And Zoning
Cindy ... 10/30/01
 Chief, Division Of Land Development
... 9/25/01
 Chief, Development Engineering Division
 Approved: Howard County Department Of Public Works
... 9/24/01
 Chief, Bureau Of Highways

LEGEND

- 55# 55# 55# — SUPER-SILT FENCE
- I.P. INLET PROTECTION
- S.C.E. STABILIZED CONSTRUCTION ENTRANCE
- — — — — LIMIT OF DISTURBANCE

STREET TREE, GRADING & SEDIMENT CONTROL PLAN
GTW'S WAVERLY WOODS
 SECTION 11, AREA 2
 LOTS 12 THRU 21 AND BULK PARCEL 'C'
 (A SUBDIVISION OF THE PROPERTY OF WAVERLY WOODS DEVELOPMENT CORPORATION, LIBER 2222, FOLIO 36)
 ZONING R-20 AND R-5A-B
 TAX MAP NO. 16 PART OF PARCEL NO. 20
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: SEPTEMBER 5, 2001
 SHEET 3 OF 9

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10722 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2000

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

F-01.148

Approved Department Of Planning And Zoning
 Chief, Division Of Land Development
 Approved: Howard County Department Of Public Works
 Chief, Bureau Of Highways

SCHEDULE A PERIMETER LANDSCAPE EDGE

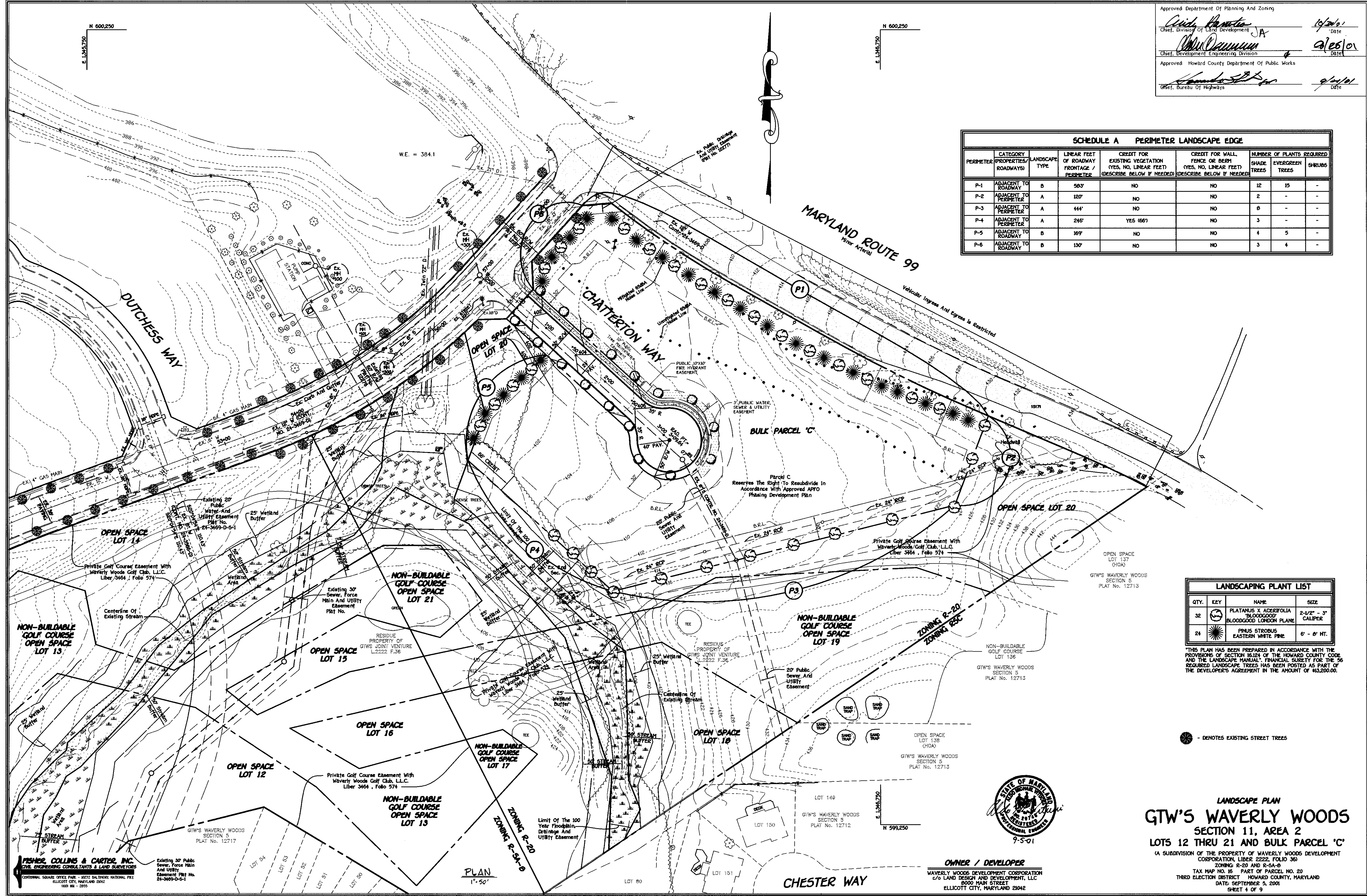
PERIMETER	CATEGORY (PROPERTIES/ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	SHADE TREES	EVERGREEN TREES	SHRUBS
P-1	ADJACENT TO ROADWAY	B	563'	NO	NO	12	15	-
P-2	ADJACENT TO PERIMETER	A	120'	NO	NO	2	-	-
P-3	ADJACENT TO PERIMETER	A	444'	NO	NO	8	-	-
P-4	ADJACENT TO PERIMETER	A	246'	YES (66')	NO	3	-	-
P-5	ADJACENT TO ROADWAY	B	169'	NO	NO	4	5	-
P-6	ADJACENT TO ROADWAY	B	130'	NO	NO	3	4	-

LANDSCAPING PLANT LIST

QTY.	KEY	NAME	SIZE
32		PLATANUS X ACERIFOLIA 'BLOODGOOD'	2-1/2" - 3" CALIPER
24		PINUS STROBUS EASTERN WHITE PINE	6' - 8' HT.

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.024 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE 56 REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$3,200.00.

- DENOTES EXISTING STREET TREES



OWNER / DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 C/O LAND DESIGN AND DEVELOPMENT, LLC
 2000 MAIN STREET
 ELLICOTT CITY, MARYLAND 21042

LANDSCAPE PLAN
GTW'S WAVERLY WOODS
 SECTION 11, AREA 2
 LOTS 12 THRU 21 AND BULK PARCEL 'C'
 (A SUBDIVISION OF THE PROPERTY OF WAVERLY WOODS DEVELOPMENT CORPORATION, LIBER 2222, FOLIO 36)
 ZONING R-20 AND R-5A-B
 TAX MAP NO. 16 PART OF PARCEL NO. 20
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: SEPTEMBER 5, 2001
 SHEET 4 OF 9

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10222 BALTIMORE NATIONAL FREE
 ELLICOTT CITY, MARYLAND 21042
 4100 461 - 2929

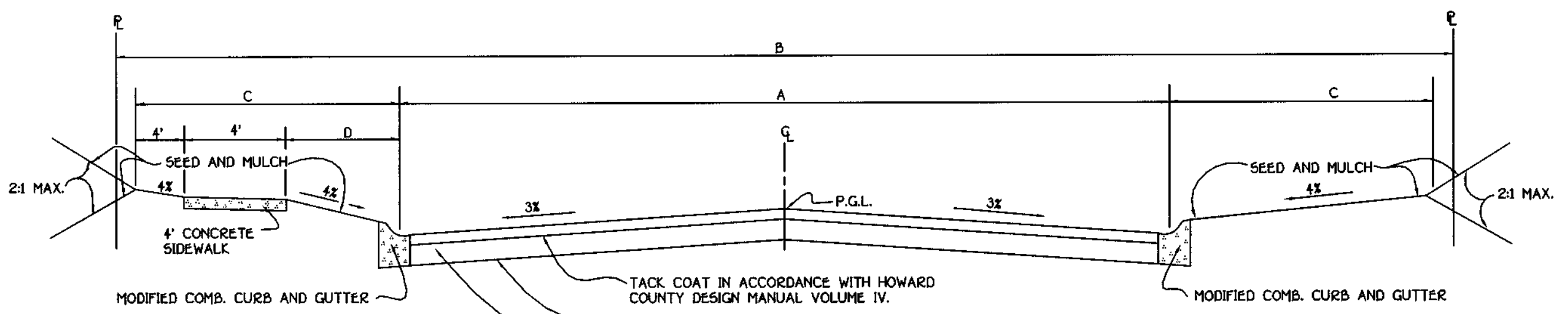
PLAN
 1" = 50'

F-01-148

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT *Cindy Hamilton* 10/30/10
 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION *Bill Drummer* 9/28/10
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS *Samuel S. ...* 9/28/10
 DATE

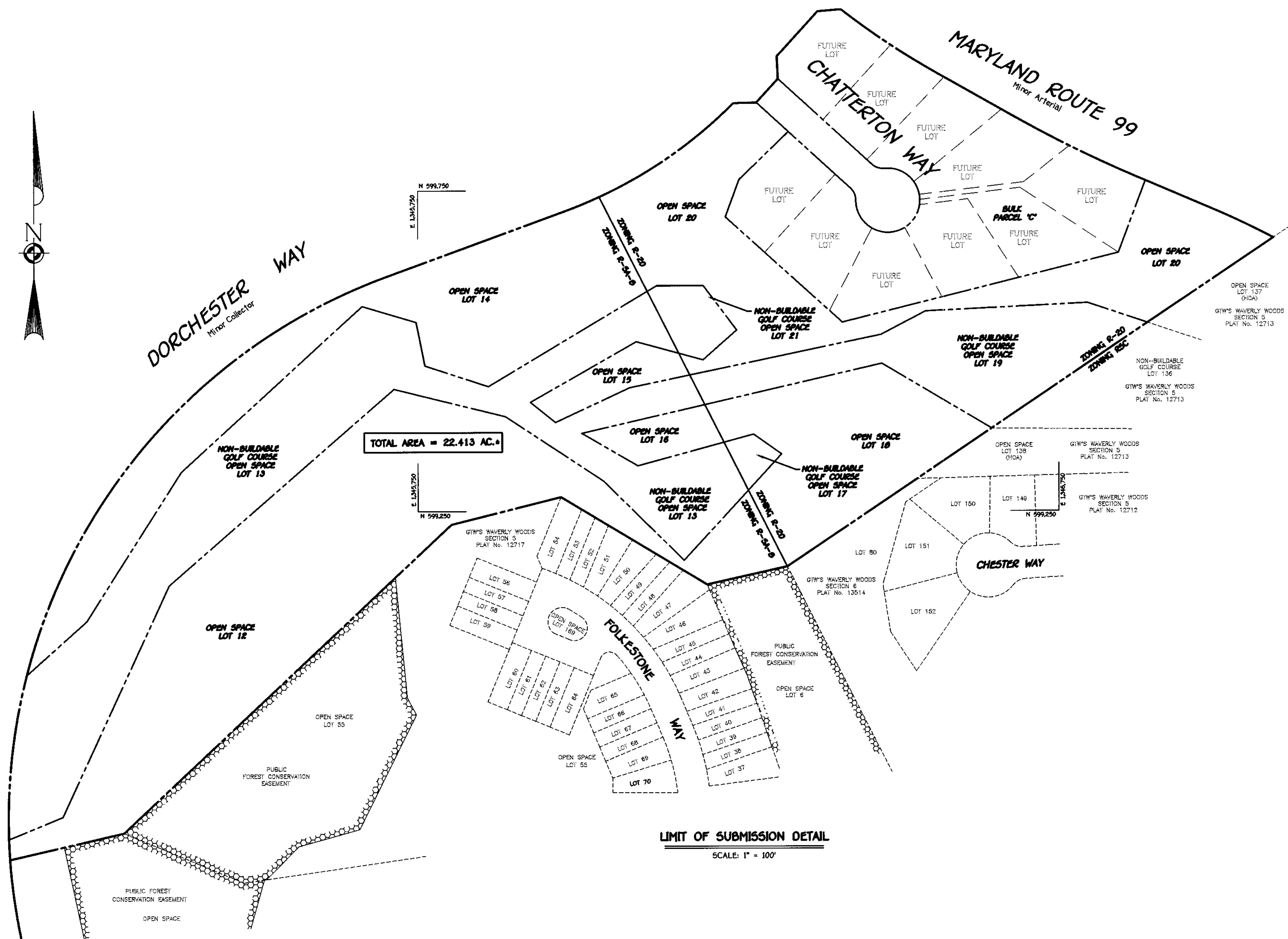
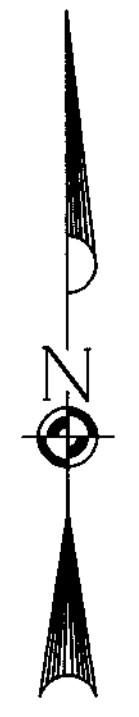
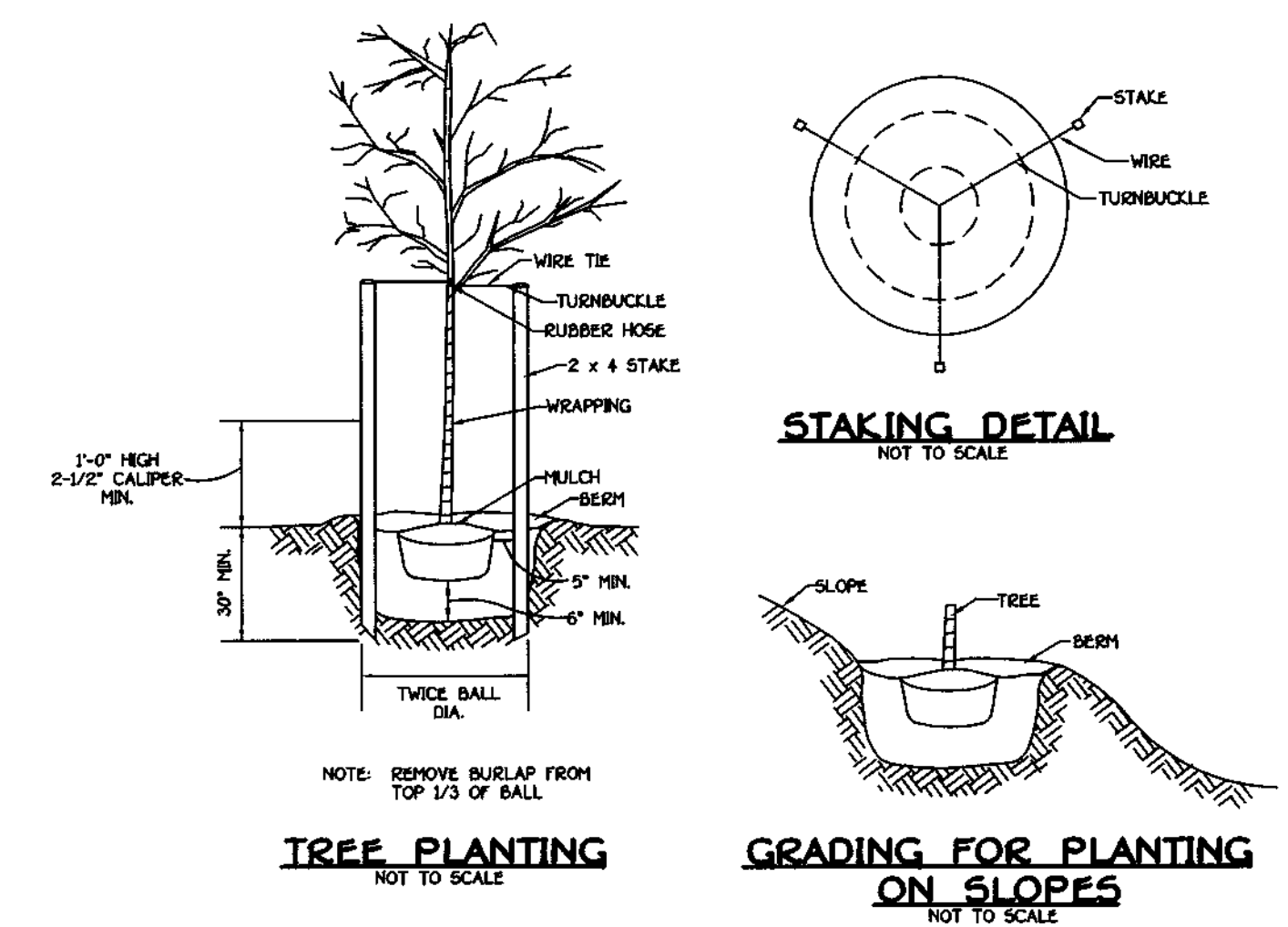


NOTE:
 ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.

TACK COAT IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV.
 BASE WILL BE PRIMED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV.
 PAVING SECTION SHALL BE IN ACCORDANCE WITH SECTION NUMBER P-2 DRAWG. R-2.01

TYPICAL ROADWAY SECTION
 NO SCALE

ROAD NAME	CLASSIFICATION	C.L. STA. TO C.L. STA.	A	B	C	D	PAVING SECTION	DESIGN SPEED
CHATTERTON WAY	PUBLIC ACCESS STREET	0+55 TO 3+09.64	24'	50'	12'	4'	P-2	25 M.P.H.



LIMIT OF SUBMISSION DETAIL
 SCALE: 1" = 100'

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 410P 461 - 2925

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



DETAIL SHEET
GTW'S WAVERLY WOODS
 SECTION 11, AREA 2
 Lots 12 thru 21 and Bulk Parcel 'C'
 (A SUBDIVISION OF THE PROPERTY OF WAVERLY WOODS DEVELOPMENT CORPORATION, LIBER. 2222, FOLIO 36)
 ZONING: R-20 AND R-SA-B
 TAX MAP NO. 16 PART OF PARCEL NO. 20
 THIRD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
 DATE: SEPT. 5, 2001
 SHEET 5 OF 9

FSD.148

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. Soil of concern here low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

- The practice is limited to areas having 21 or flatter slopes where:
 - The texture of the exposed subsoil material is not adequate to produce vegetative growth.
 - 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.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- 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

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.

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

- Topsoil shall be a loam, sandy loam, clay loam, silty loam, sandy clay loam, silty clay, or other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate authority. Regardlesst, topsoil shall not be a mixture of contrasting textures and shall contain less than 2% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, twigs, or other materials larger than 1/2" diameter.
- Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsrass, nutweed, poison ivy, thistle, or others as specified.
- There shall be 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:
 - For sites having disturbed areas under 5 acres:
 - Place topsoil if required and apply soil amendments as specified in 10.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
 - For sites having disturbed areas over 5 acres:
 - On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - 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.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No seed 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.

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

Place topsoil of required and apply soil amendments as specified in 10.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

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

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Place topsoil of required and apply soil amendments as specified in 10.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

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

Grades on the areas to be topsoiled, which have been previously established, shall be maintained, about 4" - 6" higher in elevation.

Topsoil shall be uniformly distributed in a 4" - 6" layer and light compacted to a minimum thickness of 4". Seeding 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 seeding shall be corrected in order to prevent the formation of depressions or water pockets.

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.

Alternative for Permanent Seeding - Instead of applying the full amount of time and commercial fertilizer, composted sludge and amendments may be applied as specified below.

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:

- Composted sludge shall be supplied by, or originate from, a person or persons that are permitted at the time of acquisition of the compost.
- 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.
- Composted sludge shall be applied at a rate of 1 to 10,000 square feet.
- 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.

SEEDING CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (333-1055).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PLANS AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERE TO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DRESSES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1. 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. GRADING NECESSARY TO INSTALL STORM DRAINS, SEDIMENT TRAP AND EARTH DIKES TO BE PERFORMED FIRST. REMAINDERS OF THE GRADING TO BE PERFORMED AFTER STORM DRAINS, SEDIMENT TRAP AND EARTH DIKES ARE INSTALLED.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. I, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 5A, 500 (SEC. 5A), TEMPORARY SEEDING (SEC. 50), AND MENDING (SEC. 52). TEMPORARY STABILIZATION WITH HELIX ALONG DITCH ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	22.4 ACRES
AREA DISTURBED	0.8 ACRES
AREA TO BE COVERED OR PAVED	0.3 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.5 ACRES
TOTAL CUT	1500 CU.YDS.
TOTAL FILL	1500 CU.YDS.
- OFFSITE WASTE/BORROW AREA LOCATION: N/A/US/US.
- ANY SEDIMENT CONTROL PRACTICES WHICH ARE DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF NEEDED, NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE SECURED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

22.4 ACRES
0.8 ACRES
0.3 ACRES
0.5 ACRES
1500 CU.YDS.
1500 CU.YDS.

N/A/US/US

ON THE SAME DAY OF DISTURBANCE.

NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE SECURED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

22.4 ACRES
0.8 ACRES
0.3 ACRES
0.5 ACRES
1500 CU.YDS.
1500 CU.YDS.

N/A/US/US

ON THE SAME DAY OF DISTURBANCE.

NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

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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 be eroded, infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas, and improving wildlife habitat and visual resources.

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 (One to one year), and Permanent Seeding for long term vegetative cover. For Temporary Seeding areas, Temporary Soil Stabilizers, cleared areas being left in place between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former shallow and eroding 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, 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, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation
1. Install erosion and sediment control structures (either temporary or permanent) such as diversion, grade stabilization structures, berms, waterways, or sediment control basins.
2. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
3. 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)
1. 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 may be used for chemical analysis.
2. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Fertilizers shall be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.
3. Lime materials shall be ground limestone (hydrated or burnt lime) may be substituted which contains at least 90% total 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.

C. Temporary Seeding
1. Seed preparation shall consist of loosening soil to a depth of 3" to 5" by means of rugged agricultural or construction equipment, such as disc harrows or chisel plows, or by using a construction equipment. After the soil is loosened, the seed bed should be rolled or dragged smooth, but left in the roughened condition. Seeded areas (greater than 30) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
2. Apply fertilizer and lime as prescribed on the plans.
3. In composite time and fertilizer on 1/2" of soil by diking or other suitable means.

D. Permanent Seeding
1. Seeding conditions required for permanent vegetation establishment:
a. Soil pH shall be between 6.0 and 7.0.
b. Soluble salts shall be less than 500 parts per million (ppm).
c. The soil shall contain less than 40% clay, but enough fine grained material (20% silt plus clay) to provide the ability to retain and hold a moderate amount of moisture. An exception is if low organic or silted sandstones is to be planted, then a sandy soil (30% silt plus clay) would be acceptable.
d. Soil shall contain 1% minimum organic matter by weight.
e. Soil must contain sufficient pore spaces to permit adequate root penetration.
f. If these conditions cannot be met by soils on site, adding topsoil is required.

2. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, the disturbed areas to be seeded to a depth of 3" to 5" to seedbed to the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
3. Apply soil amendments as per soil test or as included on the plans.
4. Fix soil amendments into the top 3" to 5" of topsoil by diking 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 seed application is required, the seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steps above slopes should be tracked by a dicer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1/2" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.

E. Seed Specifications
1. All seed must meet the requirements of the Maryland Seed Law. All seed shall be subject to inspection and approved by the Maryland Department of Agriculture. Seed shall have been tested within 6 months immediately preceding the date of sowing such material on the job.
2. Seed shall be made available in quantities sufficient to verify type and rate of seed used.
3. Inoculant - The inoculant for treating legume seed is the same inoculant as used for the crop indicated on the container. Add fresh inoculant as directed on package. Use four times the amount of inoculant as specified if it is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective.

F. Method of Seeding
1. Hydroseeding - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded or a cataplaza seeder.
2. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: maximum of 100 lbs per acre total of soluble nitrogen, 200 lbs/acre (phosphorus), 200 lbs/acre (potassium), 200 lbs/acre.
3. Lime - use only ground agricultural limestone. 400 to 3 tons per acre may be applied by broadcasting. Maximum not more than 2 tons per acre applied by hydroseeder at 1/2" of time. Do not use burnt or hydrated lime when hydroseeding.
4. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.

G. Dry Seeding This includes use of conventional drop or broadcast spreaders.
1. Seed spread rate shall be incorporated into the subsoil at the rates prescribed on the temporary or Permanent Seeding Summary or Tables 20.0 or 20.1. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
2. Where practical, seed should be applied in two directions perpendicular to each other. Stop half the seeding rate in each direction.

H. Cataplaza Seeding Mechanized seeders that apply and cover seed with soil.
1. Cataplaza seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeding must be firm after final rolling.
2. Where practical, seed should be applied in two directions perpendicular to each other. Stop half the seeding rate in each direction.

I. Mulch Specifications (in order of preference)
1. Straw shall consist of thoroughly threshed wheat, rice or oat straw, restorable bright in color, and shall not be overly moist, clumpy, decayed, or excessively dirty and shall be free of noxious weed seeds.
2. WCHM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
3. WCHM shall be dried green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformity spread slurry.
4. WCHM shall be made available in quantities sufficient to verify type and rate of seed used.
5. WCHM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water until agitation and will blend with seed, fertilizer, and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application having moisture absorption and peccolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
6. WCHM material shall be deemed to be composite if construction areas that will be phytotoxic.
7. WCHM 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 10% maximum, and holding capacity of 100% minimum.

J. Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
1. If grading is completed outside of the seeding season, mulch along 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.
2. 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.
3. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a minimum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

K. Seeding Rates
1. Seeding rates shall be determined by soil test results and the seed analysis report. The seeding rate shall be determined by the following formula:
Seeding Rate (lb/acre) = (Seed Analysis % Pure Seed) x (Seed Analysis % Germination) x (Desired Planting Density) / (Seed Weight (lb/100,000 seeds))

L. Seeding Dates
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

M. Seeding Methods
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

N. Seeding Equipment
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

O. Seeding Materials
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

P. Seeding Operations
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

Q. Seeding Results
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

R. Seeding Maintenance
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

S. Seeding Inspection
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

T. Seeding Reporting
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

U. Seeding Records
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

V. Seeding Compliance
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

W. Seeding Enforcement
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

X. Seeding Penalties
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

Y. Seeding Appeals
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

Z. Seeding Final Review
1. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.
2. Seeding shall be completed within the time period specified in the Temporary or Permanent Seeding Summary or Tables 20.0 or 20.1.

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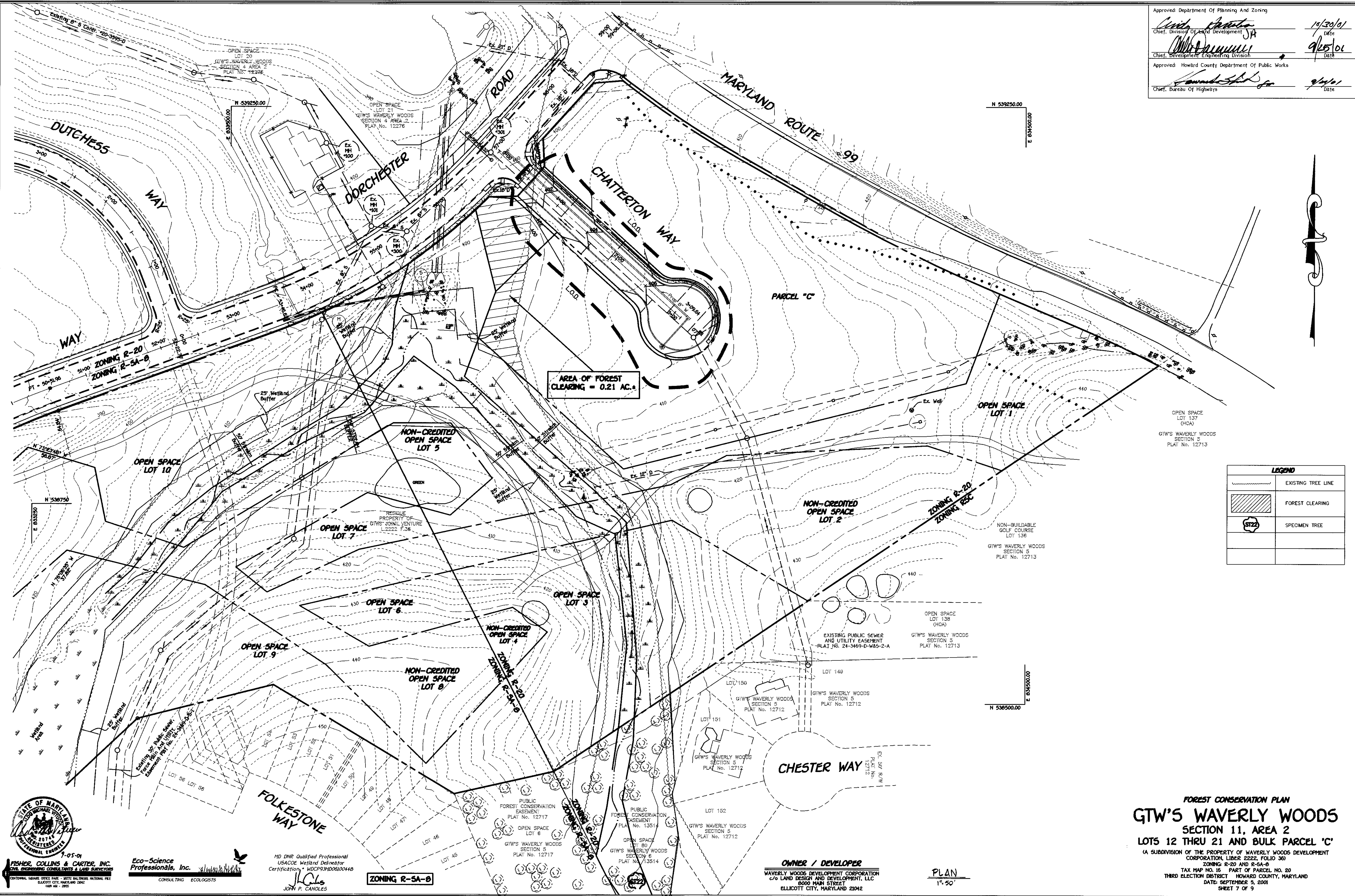
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Approved: Department Of Planning And Zoning
 Chief, Division Of Land Development
 Chief, Development Engineering Division
 Approved: Howard County Department Of Public Works
 Chief, Bureau Of Highways

10/30/01
 Date
 9/25/01
 Date
 9/2/01
 Date



LEGEND	
	EXISTING TREE LINE
	FOREST CLEARING
	SPECIMEN TREE

STATE OF MARYLAND
 PROFESSIONAL ENGINEERS
 7-05-01
 FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 1000 EAST BALTIMORE NATIONAL PIKE
 ELKLOTT CITY, MARYLAND 21042
 410.461.1000

Eco-Science
 Professionals, Inc.
 CONSULTING ECOLOGISTS

MD DNR Qualified Professional
 USACE Wetland Delinator
 Certification: WDCP93MD0610044B
 JOHN P. CANOLES

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

PLAN
 1" = 50'

FOREST CONSERVATION PLAN
GTW'S WAVERLY WOODS
 SECTION 11, AREA 2
 LOTS 12 THRU 21 AND BULK PARCEL 'C'
 (A SUBDIVISION OF THE PROPERTY OF WAVERLY WOODS DEVELOPMENT CORPORATION, LIBER 2222, FOLIO 36)
 ZONING R-20 AND R-5A-B
 TAX MAP NO. 16 PART OF PARCEL NO. 20
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: SEPTEMBER 5, 2001
 SHEET 7 OF 9

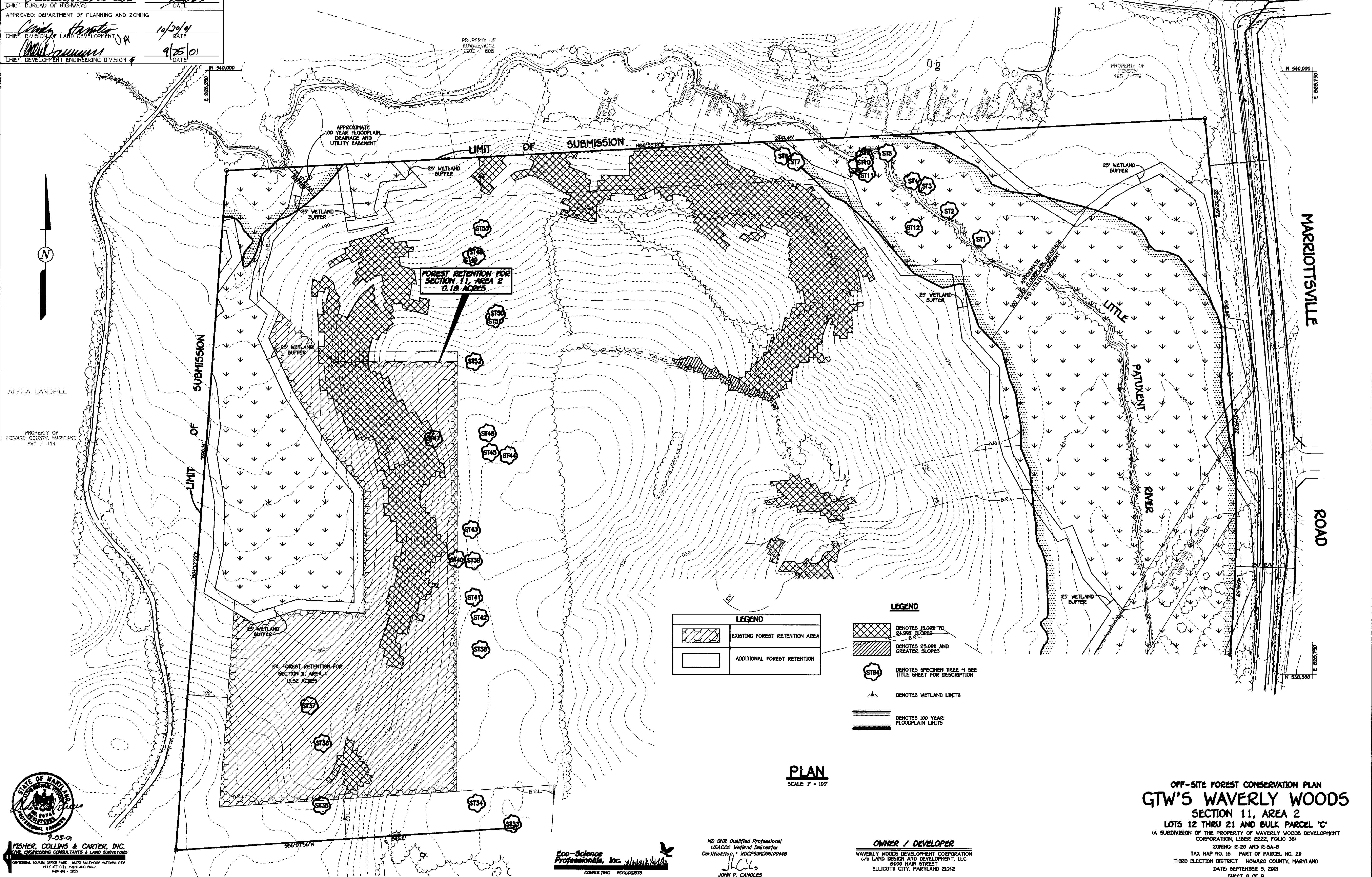
F-0148

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 9/25/01

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 10/20/01

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 9/25/01

OLD FREDERICK ROAD



LEGEND

	EXISTING FOREST RETENTION AREA		DENOTES 15.00% TO 24.99% SLOPES
	ADDITIONAL FOREST RETENTION		DENOTES 25.00% AND GREATER SLOPES
			DENOTES SPECIMEN TREE #1 SEE TITLE SHEET FOR DESCRIPTION
			DENOTES WETLAND LIMITS
			DENOTES 100 YEAR FLOODPLAIN LIMITS

PLAN
 SCALE: 1" = 100'

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 9-05-01
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FLY
 ELLICOTT CITY, MARYLAND 21114
 4100 461 - 2000

Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

MD DNR Qualified Professional
 USACE Wetland Delimitator
 Certification # WDCP33M006100448
 JOHN P. CANOLES

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

OFF-SITE FOREST CONSERVATION PLAN
GTW'S WAVERLY WOODS
 SECTION 11, AREA 2
 LOTS 12 THRU 21 AND BULK PARCEL 'C'
 (A SUBDIVISION OF THE PROPERTY OF WAVERLY WOODS DEVELOPMENT CORPORATION, LIBER 2222, FOLIO 36)
 ZONING: R-20 AND R-5A-B
 TAX MAP NO. 16 PART OF PARCEL NO. 20
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: SEPTEMBER 5, 2001
 SHEET 8 OF 9

F.01.148

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS *[Signature]* 9/24/01
 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 9/20/01
 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 9/25/01
 DATE

FOREST CONSERVATION CALCULATIONS FOR WAVERLY WOODS SECTION 11, AREA 2

	ACRES
FOREST PRESERVATION IN SECTION 11, AREA 2 DEVELOPMENT	0.0
FOREST CLEARING IN SECTION 11, AREA 2 DEVELOPMENT	0.21
TOTAL FOREST CLEARING WITHIN RESIDENTIALLY ZONED AREAS OF WAVERLY WOODS	69.9
PERCENTAGE OF FOREST CLEARING WITHIN SECTION 11, AREA 2 DEVELOPMENT	0.3
TOTAL REFORESTATION REQUIRED FOR WAVERLY WOODS RESIDENTIAL DEVELOPMENT	60.50
REFORESTATION FOR SECTION 11, AREA 2 DEVELOPMENT	0.10

FCA CALCULATION NOTES:

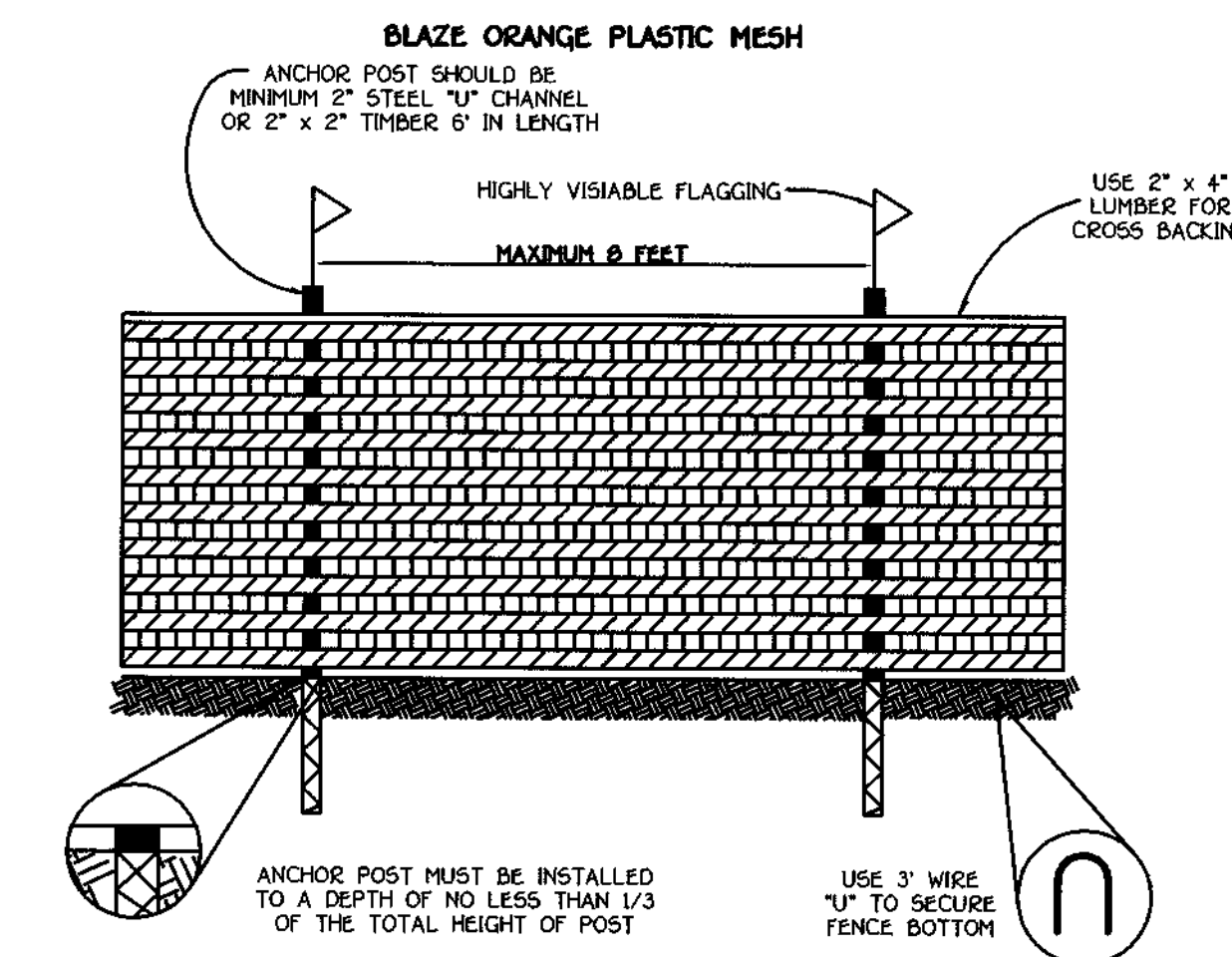
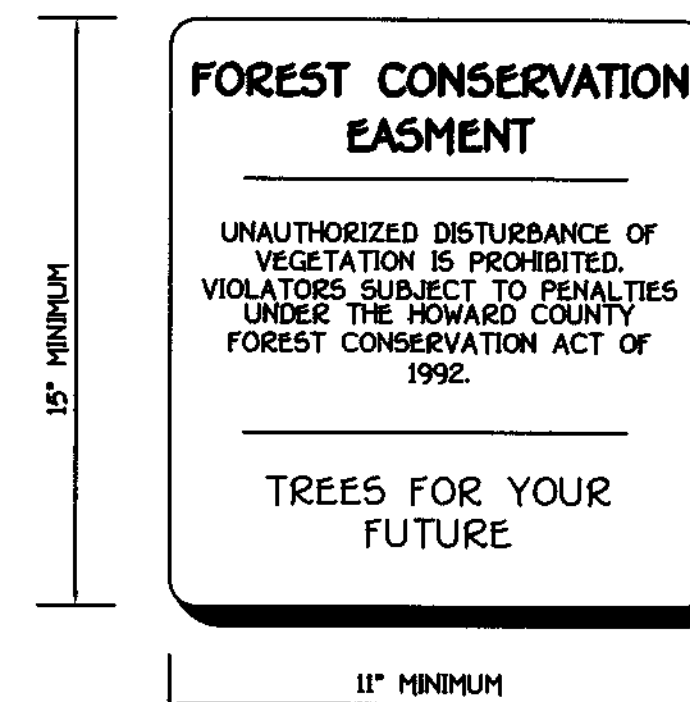
- ALL INFORMATION RELATIVE TO THE FCP CALCULATIONS HAS BEEN DEVELOPED FROM THE FOREST CONSERVATION PLAN PREPARED BY ENVIRONMENTAL SYSTEMS ANALYSIS (ESA), INC. THE FOREST CONSERVATION REQUIREMENTS HAVE BEEN ESTABLISHED BY GUIDELINES OUTLINED IN THE FEBRUARY 1996 FOREST CONSERVATION PLAN AS PREPARED BY ESA, INC.
- THE FOREST CONSERVATION WORKSHEET ABOVE INCLUDES THE PRELIMINARY FOREST CONSERVATION CALCULATION FROM THE FCP REVISED ON FEBRUARY 28, 1999 AND THE LATEST FOREST CONSERVATION CALCULATIONS (THRU SECTION 11, AREA 2) 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 2 HAS BEEN CALCULATED ON A PERCENTAGE BASIS. SECTION 11, AREA 2 ACCOUNTS FOR 0.3% OF THE WAVERLY WOODS RESIDENTIALLY ZONED FOREST CLEARING AT WAVERLY WOODS. THEREFORE, 0.3% OF THE WAVERLY WOODS RESIDENTIAL REFORESTATION OBLIGATION (AS REVISED BY THE UPDATED FCA WORKSHEET) WILL BE PROVIDED FOR SECTION 11, AREA 2. THIS REQUIREMENT WILL BE MET BY DEDICATING 0.10 ACRES OF FOREST RETENTION SURPLUS ON WAVERLY WOODS COMMERCIAL ZONED PROPERTY TO SECTION 11, AREA 2.
- INCLUDING SECTION 11, AREA 2, A TOTAL OF 9.05 ACRES OF ONSITE REFORESTATION, 11.90 ACRES OF ADDITIONAL ONSITE RETENTION AND 61.5 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 31.0 ACRES OF REFORESTATION TO BE PERFORMED FOR THE REMAINING AREAS OF SECTION 11 AND THE GOLF COURSE. THE 61.5 ACRES OF OFFSITE IS LOCATED ON WEST FRIENDSHIP ESTATES, SECTION ONE, KNOWN AS PLAT Nos. 11433 AND 11434 (F95-173).

WAVERLY WOODS RESIDENTIAL - FOREST CONSERVATION WORKSHEET

INPUT PARAMETERS:	PRELIMINARY FCP	THRU SECTION 11 / AREA 2
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	69.90
TOTAL AREA FOREST RETAINED	37.45	33.10
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	11.30
REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD	39.40	48.70
EXPECTED TOTAL PROJECT REFORESTATION OBLIGATION	50.87	60.50

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 16.200 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.
- TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 15 FEET OF THE PROPOSED LIMITS OF DISTURBANCE.
- 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 COMMERCIAL ZONED SECTION OF WAVERLY WOODS.



- NOTES:**
- FOREST PROTECTION DEVICE ONLY.
 - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
 - ROOT DAMAGE SHOULD BE AVOIDED.
 - PROTECTIVE SIGNAGE MAY ALSO BE USED.
 - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL
NOT TO SCALE

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE
 ELLICOTT CITY, MARYLAND 21042
 4100 461 - 2923

Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

MD DNR Qualified Professional
 USACE Wetland Delimitator
 Certification # WDCP93MD06100448
[Signature]
 JOHN P. CANOLES

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

FOREST CONSERVATION NOTES AND DETAILS
GTW'S WAVERLY WOODS
 SECTION 11, AREA 2
 LOTS 12 THRU 21 AND BULK PARCEL 'C'
 (A SUBDIVISION OF THE PROPERTY OF WAVERLY WOODS DEVELOPMENT CORPORATION, LIBER 2222, FOLIO 36)
 ZONING R-20 AND R-SA-B
 TAX MAP NO. 16 PART OF PARCEL NO. 20
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: SEPTEMBER 5, 2001
 SHEET 9 OF 9