

STREET TREE CALCULATIONS					
LINEAR FEET	SPACING	REQUIRED	PROVIDED	BOTANICAL NAME	SIZE
600	1/40LF	15	15	PLATANUS X ACERIFOLIA (London Plane)	2 1/2"-3" Cal.

CURVE DATA CHART						
CURVE	RADIUS	LENGTH	DELTA ANGLE	TANGENT	CHORD DIRECTION	CHORD LENGTH
C1	20.00	6.99	20°13'1"	3.53	S79°06'54"E	6.96
C2	64.87	104.70	9°40'39"	52.47	N73°58'34"W	104.57

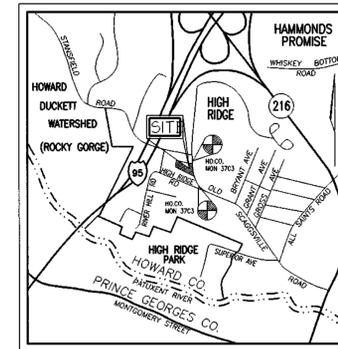
SHEET INDEX	
NO.	TITLE
1	ROAD CONSTRUCTION PLAN
2	GRADING & SEDIMENT CONTROL PLAN
3	SUPPLEMENTAL INFORMATION, FOREST CONSERVATION AND LANDSCAPE PLAN

HILLTOP ESTATES

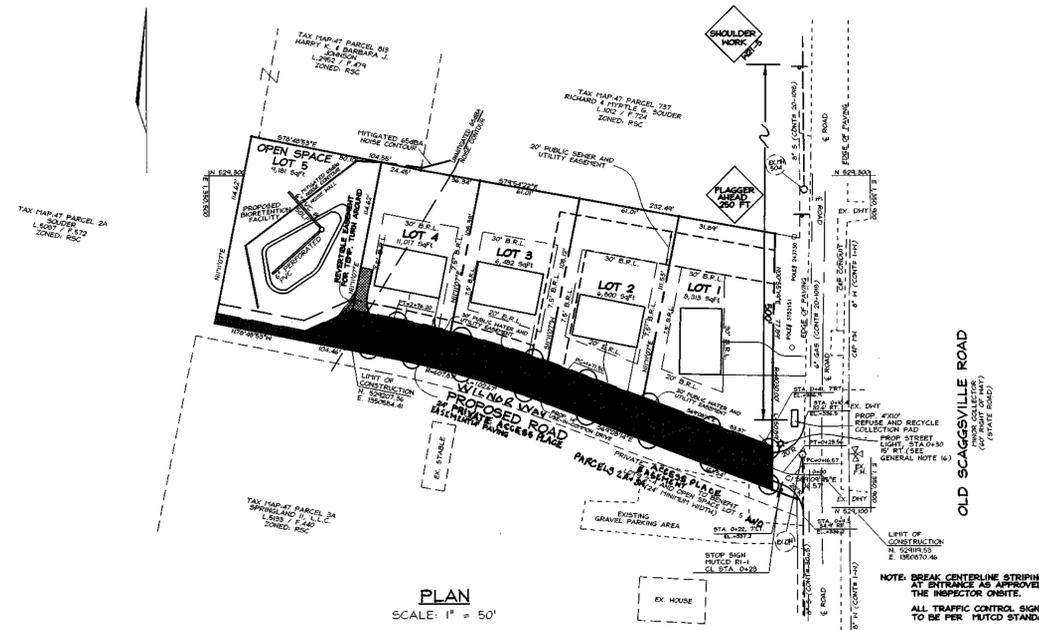
LOTS 1-4 AND OPEN SPACE LOT 5

FINAL ROAD CONSTRUCTION PLANS

HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1"=2000'



- ### GENERAL NOTES
- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
 - PROJECT BACKGROUND: LOCATION: TAX MAP 47 BLOCK 19 PARCEL 560 1ST ELECTION DISTRICT ZONING: RSC TOTAL TRACT AREA: 1.01 AC. NUMBER OF PROPOSED LOTS: 4SFD; 1 OPEN SPACE LOT APPLICABLE DPZ FILE NUMBERS: HP-01-46, F-01-20
 - TRACT BOUNDARY ESTABLISHED BY A BOUNDARY SURVEY BY R. C. KELLY & ASSOCIATES, INC. DATED AUGUST, 1996 AND VERIFIED BY VOGEL & ASSOCIATES, INC.
 - TOPOGRAPHY BASED ON A FIELD RUN SURVEY PREPARED BY R. C. KELLY & ASSOCIATES, INC. DATED AUGUST 12, 1996. CONTOUR INTERVAL IS 2 FEET.
 - COORDINATES: HORIZONTAL DATUMS BASED ON NAD 83 HO. CO. GEODETIC CONTROL STATIONS 47G1 AND 47G2.
 - WATER AND SEWER FOR THIS PROJECT WILL BE PUBLIC.
 - EXISTING UTILITIES WERE LOCATED PER COUNTY DRAWINGS AND FIELD RUN SURVEY.
 - STORMWATER MANAGEMENT METHOD: PRIVATE BIO-RETENTION FACILITY. THE FACILITY IS TO BE PRIVATELY OWNED AND MAINTAINED BY THE HOA.
 - FOREST CONSERVATION PLAN PREPARED BY VOGEL & ASSOCIATES, INC. AND SUBMITTED WITH THE PINKOR SUBDIVISION PLAT F-01-20.
 - A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT.
 - THERE IS NO FLOODPLAIN ON SITE.
 - STREET LIGHTS ARE NOT REQUIRED FOR THIS PROJECT.
 - THIS PLAN IS SUBJECT TO HP-01-46, APPROVED NOVEMBER 17, 2000 TO WAIVE SECTION 16121(e)(1) OF THE HOWARD COUNTY SUBDIVISION REGULATIONS WHICH REQUIRE OPEN SPACE LOTS OR AREAS TO HAVE 40 FEET OF FRONTAGE ON A PUBLIC ROAD SUBJECT TO: A MAINTENANCE AGREEMENT FOR THE SHARED DRIVENWAY SERVING LOTS 2-4 AND OPEN SPACE LOT 5 SHALL BE RECORDED WITH THE CORRESPONDING PLAT(F-01-20).
 - BASED ON A FIELD INVESTIGATION BY WILLIAM T. BRIDGELAND DATED MAY 19, 2000 THERE ARE NO WETLANDS ON-SITE.
 - ★ DENOTES STREET LIGHT. ALL STREET LIGHTS ARE TO BE 100-WATT TRADITIONARE HPS VAPOR POST TOP FIXTURE ON A 14" BLOCK FIBERGLASS POLE. ATTACH STREET ADDRESS SIGN TO POLE.
 - FINANCIAL SURETY FOR THE PROPOSED LANDSCAPING IN THE AMOUNT OF \$130,000.00 MUST BE POSTED AS PART OF THE DEVELOPERS AGREEMENT.

SITE DATA TABULATION

GENERAL SITE DATA

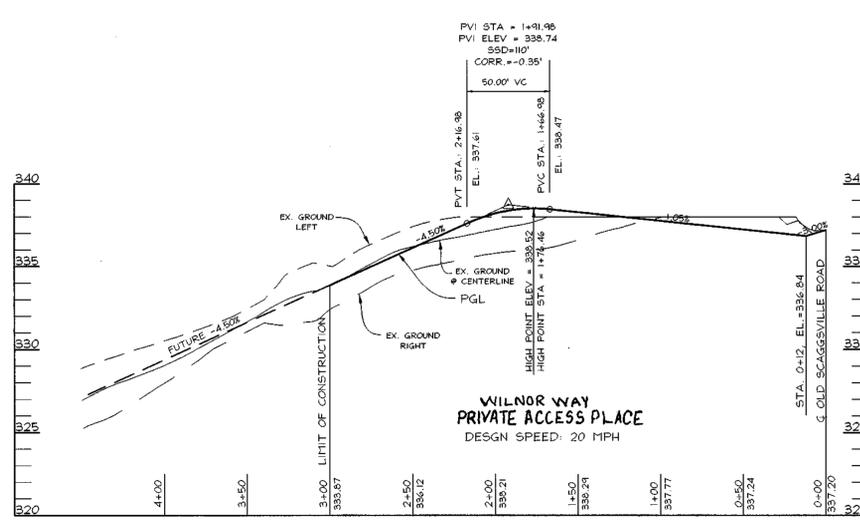
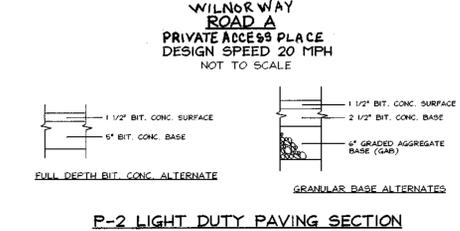
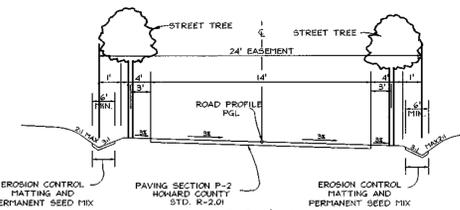
- PRESENT ZONING: RSC
- APPLICABLE DPZ FILE REFERENCES: F-01-20, HP-01-46
- PROPOSED USE OF SITE: 4 SFD HOMES
- PROPOSED WATER AND SEWER SYSTEMS: PUBLIC

AREA TABULATION

- TOTAL AREA OF SITE: 1.013 AC.
- AREA OF 100 YEAR FLOODPLAIN: N/A
- AREA OF STEEP SLOPES (25% OR GREATER): N/A
- AREA OF THIS PLAN SUBMISSION: 1.013 AC.
- APPROXIMATE LIMIT OF DISTURBANCE: 1.5 AC.
- AREA OF PROPOSED BUILDABLE LOTS: 0.767 AC.
- AREA OF PROPOSED OPEN SPACE LOTS: 0.211 AC.
- AREA OF PROPOSED PUBLIC ROAD R/W DEDICATION: 0.054 AC.

LOT TABULATION

- TOTAL NUMBER OF RESIDENTIAL LOTS: 4
- TOTAL NUMBER OF OPEN SPACE LOTS: 1
- TOTAL NUMBER OF LOTS: 5



ROAD PROFILE
SCALE: HORIZONTAL = 1"=50'
VERTICAL = 1"=5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Linda Hamada 7/16/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Davis 7-6-01
CHIEF, BUREAU OF HIGHWAYS DATE

OWNERS/DEVELOPERS
SPRINGLAND, L.L.C.
5570 STERRETT PLACE, SUITE 201
COLUMBIA, MARYLAND 21044
(410) 472-2943

NO.	REVISION	DATE

ROAD CONSTRUCTION PLANS
HILLTOP ESTATES

TAX MAP 47 BLOCK 19 PARCEL 1
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FREDERICK WARD ASSOCIATES, INC.
7125 Riverwood Drive Columbia, Maryland 21046-2354
Phone: 410-290-9550 Fax: 410-720-6226
SURVEYORS: Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: J.C.O.
DRAWN BY: J.C.O.
CHECKED BY: R.H.V.
DATE: MAY 22, 2001
SCALE: AS SHOWN
W.O. NO.: 00-011

1 SHEET OF 3

F-01-20

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	TYPE	
SFB2	SASSAFRAS GRAVELLY SANDY LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	B	
SFC2	SASSAFRAS GRAVELLY SANDY LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED	B	

NOTE: HOWARD SOIL SURVEY, MAP NUMBER 33

SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (819-1895).
- All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: (a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes greater than 3:1, (b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shall be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, 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, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall be done when recommended grades do not allow for proper germination and establishment of structures.
- 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	1.01
Area Disturbed	0.38 Acres
Area to be vegetated or paved	0.21 Acres
Area to be stabilized	0.17 Acres
Total Cut	2250 CY
Total Fill	2250 CY
Offsite waste/borrow area location	
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed 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 requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized within one working day, whichever is shorter.
- To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved and active grading permit.

PERMANENT SEEDING NOTES

- APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO FRIEDRICH FURTHER DISTURBANCE HERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.
- SEEDING PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding. If not previously loosened.
- SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules:
- Preferred-Apply 2 tons per acre dolomitic limestone (42 lbs/1000 sq ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft.) before seeding. Harrow or disc into upper three inches of soil. All the time of seeding, apply 600 lbs. per acre 30-0-0 urea-form fertilizer (9 lbs/1000 sq ft.).
 - Alternative-Apply 2 tons per acre dolomitic limestone (42 lbs/1000 sq ft.) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft.) before seeding. Harrow or disc into upper three inches of soil.
- SEEDING: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 40 lbs. per acre (14 lbs/1000 sq ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre 10-20-20 (10-20-20) of urea-form fertilizer. During the period of October 1 thru February 28, provide cover crop (C3) one per acre urea anchored straw mulch and seed as soon as possible in the spring. Apply 2 lbs. per acre 10-10-10 fertilizer (0.5 lbs/1000 sq ft.) before seeding. Harrow or disc into upper three inches of soil.
- MULCHING: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft.) of arched straw mulch immediately after seeding. Anchor mulch immediately after application using mulch anchoring soil or 20 gallons per acre (8 gal/1000 sq ft.) of urea-form fertilizer. On slopes 3 or higher, use 348 gallons per acre (8 gal/1000 sq ft.) for anchoring.
- MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

- SEEDING PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding. If not previously loosened.
- SOIL AMENDMENTS: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs/1000 sq ft.).
- SEEDING: For periods March 1 thru April 30 and from August 1 thru November 15, seed with 2 lbs. per acre (0.7 lbs/1000 sq ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 3 lbs. per acre (1.1 lbs/1000 sq ft.) of urea-form fertilizer. During the period of October 1 thru February 28, provide cover crop (C3) one per acre urea anchored straw mulch and seed as soon as possible in the spring or use sod.
- MULCHING: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft.) of arched straw mulch immediately after seeding. Anchor mulch immediately after application using mulch anchoring soil or 20 gallons per acre (8 gal/1000 sq ft.) of urea-form fertilizer. On slopes 3 or higher, use 348 gallons per acre (8 gal/1000 sq ft.) for anchoring.
- REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

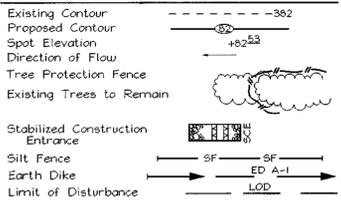
2.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

- Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.
- PURPOSES:
- To provide a suitable soil medium for vegetation growth.
 - To provide a soil medium for low moisture content, low nutrient levels, low pH, moderate toxic to plants, and/or unworkable soil gradation.
- CONDITIONS WHERE PRACTICE APPLIES:
- This practice is limited to areas having 24" or flatter slopes where:
 - The texture of the exposed subsoil/parent 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 containing supplies of moisture and plant nutrients.
 - 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, silt loam, sandy clay loam, sandy silt, or other soil as recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, silt, roots, trash, or other materials larger than 1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, johnsongrass, ryegrass, poison ivy, thistle, or others as specified.
 - Where the subsoil is either highly acidic or composed of heavy clay, ground limestone shall be spread at the rate of 4-5 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Limestone 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 2.0.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

SEQUENCE OF CONSTRUCTION

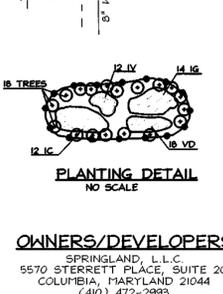
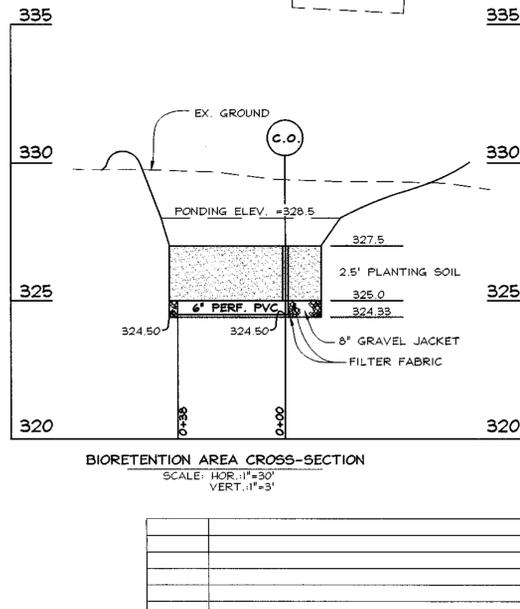
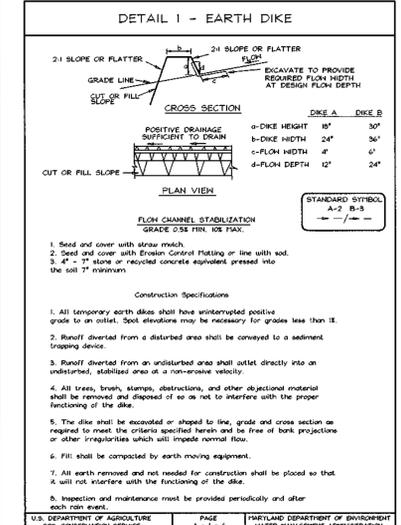
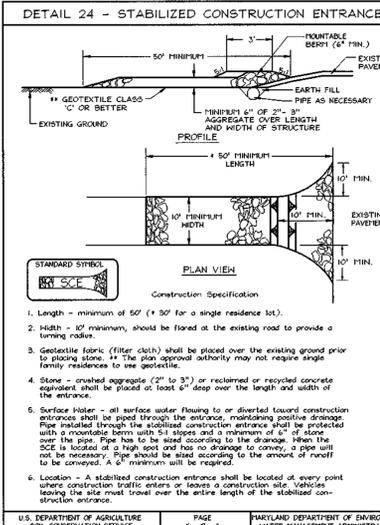
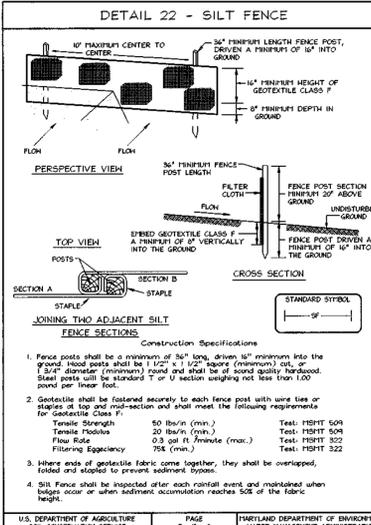
- Obtain grading permit, installation and inspection of tree protection fence to be done prior to commencement of grading.
- Notify Howard County Bureau of Inspection and Permits (410-318-6000) at least 24 hours before starting any work.
- Construct Stabilized Construction Entrance
- Install sediment control devices (cleanspout earth dikes, silt fence).
- Clear and grub site.
- Construct bio-retention facility.
- Rough grade for road construction.
- Install under-drain & sewer systems.
- Begin road paving.
- With sediment control inspectors approval stabilize remaining disturbed areas of the site.
- Install landscaping as shown in Schedule 'D' and perimeter landscaping as shown in Schedule 'A'. See sheet 4 for Schedule tables.
- With sediment control inspectors approval, remove sediment control devices and stabilize remaining areas per permanent seeding notes.
- During grading and after each rainfall, the contractor shall inspect and provide the necessary maintenance on the sediment and erosion control measures shown herein.
- Following initial soil disturbance or redistribution permanent or temporary stabilization shall be completed within a 7 calendar days for all perimeter sediment control structures, dikes, washes, ditch perimeter slopes and all slopes greater than 3:1.
- 14 calendar days for all other disturbed areas.
- Upon stabilization of all disturbed areas and with the approval of the sediment control inspector, remove all sediment control devices.

LEGEND



PLAN

SCALE: 1" = 30'



BIORETENTION PLANTING SCHEDULE FOR EACH FACILITY

KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	ROOT
9	1	ACER RUBRA/RED MAPLE	1 1/2"-2" CAL.	B & B
10	12	REX GLABRA 'CONTRACTA' DWARF RUBERRY	18"-24" HEIGHT	CONT.
11	12	REX VERTICILLATA RUBERRY	3'-4" HEIGHT	B & B
12	12	REX GLABRA 'CONTRACTA' DWARF RUBERRY	18"-24" HEIGHT	CONT.
13	14	REX GLABRA 'CONTRACTA' DWARF RUBERRY	3'-4" HEIGHT	B & B
14	14	REX GLABRA 'CONTRACTA' DWARF RUBERRY	3'-4" HEIGHT	B & B
300	300	LEONIA SPICATA CREEPING LILY TURF	2" POT	18" C/Y

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Cheryl Hamilton 7/16/01
CHIEF, DIVISION OF LAND DEVELOPMENT

Robert H. Vogel 7/16/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION & DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Robert H. Vogel 7-6-01
CHIEF, BUREAU OF HIGHWAYS

ENGINEERS' CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Robert H. Vogel 5/22/01
SIGNATURE OF ENGINEER
ROBERT H. VOGEL

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AS A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

John K. Roberts 5/22/01
SIGNATURE OF DEVELOPER

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

Jim Myers 6/12/01
DATE

John K. Roberts 6/12/01
DATE

FREDERICK WARD ASSOCIATES, INC.

7125 Riverwood Drive Columbia, Maryland 21046-2354
Phone: 410-290-9550 Fax: 410-720-6226
Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

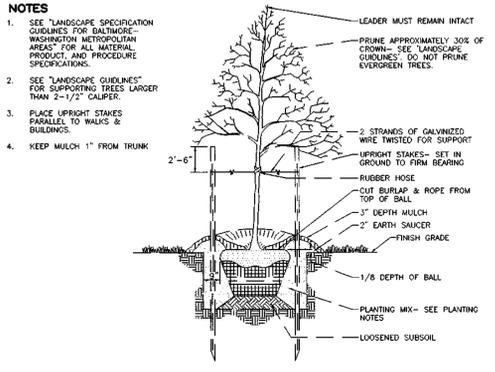
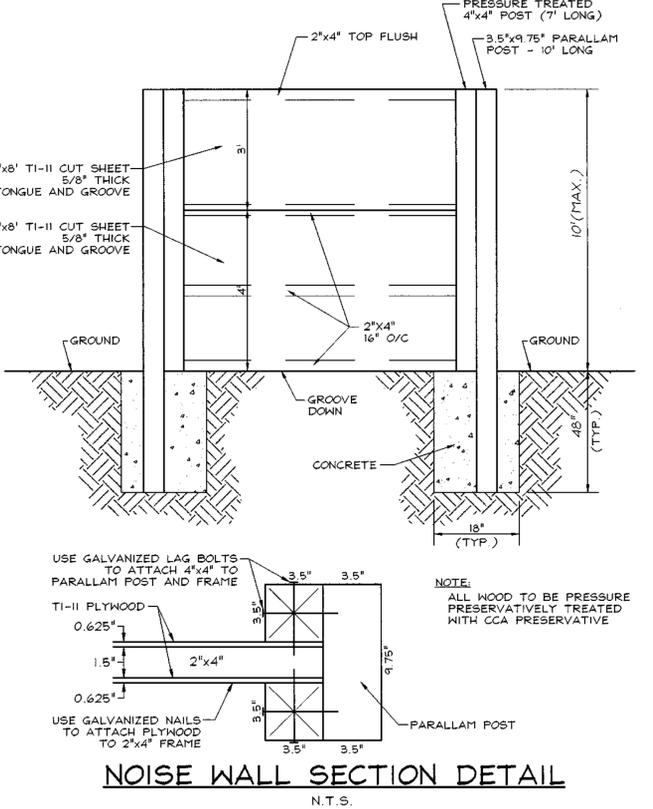
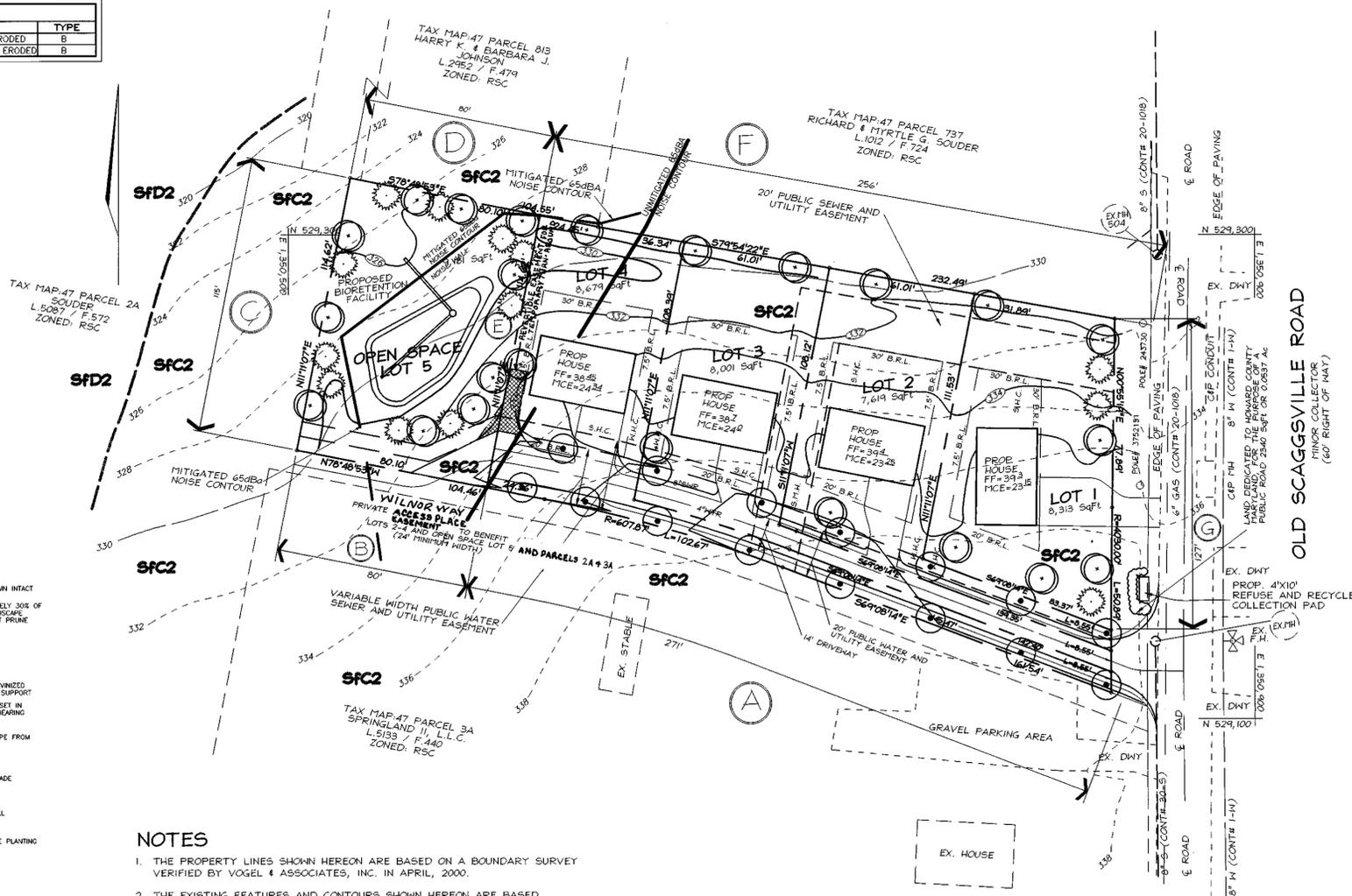
DESIGN BY: J.C.O.
DRAWN BY: J.C.O.
CHECKED BY: R.H.V.
DATE: MAY 22, 2001
SCALE: AS SHOWN
I.P.O. NO.: 00-001

2 SHEET OF 3

F-01-20

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION		TYPE
SFB2	SASSAFRAS GRAVELLY SANDY LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED		B
SFC2	SASSAFRAS GRAVELLY SANDY LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED		B

NOTE: HOWARD SOIL SURVEY, MAP NUMBER 33



TREE PLANTING AND STAKING
DECIDUOUS AND EVERGREEN TREES UP TO 3" CALIFER NOT TO SCALE

QTY	BOTANICAL NAME / COMMON NAME	SIZE	ROOT
20	ACER RUBRUM / RED MAPLE	2 1/2" MH	B & B
13	PRUNUS STROBILUS / EASTERN WHITE PINE	6" - 8" HT	B & B
20	TAXUS CUPRESSATA 'NANA' / DWARF JAPANESE YEW	18" - 24" tp	-

CATEGORY	ADJACENT TO PERIMETER PROPERTIES				TRASH PAD
	TYPE 'B'	TYPE 'A'	TYPE 'A'	TYPE 'D'	
LANDSCAPE TYPE	127' (B)	271' (A)	256' (E)	18'	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	
NUMBER OF PLANTS REQUIRED					
SHADE TREES	3	5	4	0	
EVERGREEN TREES	0	0	0	2	
SHRUBS	0	0	0	0	
NUMBER OF PLANTS PROVIDED					
SHADE TREES	3	5	5	0	
EVERGREEN TREES	NA	0	0	0	
OTHER TREES (2:1 SUBSTITUTION)	NA	0	0	20	
SHRUBS (10:1 SUBSTITUTION)	NA	0	0	0	
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)					

NOTES

- THE PROPERTY LINES SHOWN HEREON ARE BASED ON A BOUNDARY SURVEY VERIFIED BY VOGEL & ASSOCIATES, INC. IN APRIL, 2000.
- THE EXISTING FEATURES AND CONTOURS SHOWN HEREON ARE BASED ON FIELD RUN TOPOGRAPHY PERFORMED BY OTHERS.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPERS AGREEMENT IN THE AMOUNT OF \$13,050.00 FOR THE 15 STREET TREES, 13 EVERGREEN TREES AND 20 SHRUBS.
- THERE ARE NO EXISTING STRUCTURES AND DRIVEWAYS LOCATED ON SITE.
- I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

St. J. Sharp 5/22/01
DATE

LINEAR FEET OF PERIMETER	SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING			
	80' (B)	115' (C)	80' (D)	115' (E)
NUMBER OF TREES REQUIRED				
SHADE TREES	2	3	2	3
EVERGREEN TREES	0	0	0	0
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	NO	NO	NO	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO	NO	NO	NO
NUMBER OF TREES PROVIDED				
SHADE TREES	2	3	2	3
EVERGREEN TREES	0	0	0	0
OTHER TREES (2:1 SUBSTITUTION)	0	0	0	0

FOREST CONSERVATION WORKSHEET

NET TRACT AREA:

A. TOTAL TRACT AREA	1.01 AC
B. AREA WITHIN 100 YEAR FLOODPLAIN	0.00 AC
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION	0.00 AC
D. NET TRACT AREA	1.01 AC

LAND USE CATEGORY (FROM TABLE 3.2.1, PAGE 40, MANUAL)

INPUT THE NUMBER "1" UNDER THE APPROPRIATE LAND USE ZONING, AND LIMIT TO ONLY ONE ENTRY.

ARA	MDR	IDA	HDR	MPD	CIA
0					0

EXISTING FOREST COVER:

G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)	=	0.00 AC
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD	=	0.00 AC
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD	=	0.00 AC

BREAK EVEN POINT:

J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	=	0.00 AC
K. CLEARING PERMITTED WITHOUT MITIGATION	=	0.00 AC

PROPOSED FOREST CLEARING:

L. TOTAL AREA OF FOREST TO BE CLEARED	=	0.00 AC
M. TOTAL AREA OF FOREST TO BE RETAINED	=	0.00 AC

PLANTING REQUIREMENTS:

N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD	=	0.00 AC
P. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD	=	0.00 AC
Q. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	=	0.00 AC
R. TOTAL REFORESTATION REQUIRED	=	0.00 AC
S. TOTAL AFFORESTATION REQUIRED	=	0.15 AC
T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED	=	0.15 AC FEE-IN-LIEU REQUEST (6,634 Sqft)

LEGEND

- EXISTING WATER
- SOILS DIVISION LINE
- SOIL TYPE (SEE TABLE THIS SHEET)
- PROPOSED CONTOUR
- EXISTING CONTOUR
- EXISTING TREELINE
- PROPOSED SHADE TREE (RED MAPLE)
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUBS
- PROPERTY EVIDENCE
- PROPERTY LINE
- EXISTING TREE

OWNERS/DEVELOPERS
SPRINGLAND II, L.L.C.
5570 STERRETT PLACE, SUITE 201
COLUMBIA, MARYLAND 21044
(410) 472-2993

SUPPLEMENTAL INFORMATION, FOREST CONSERVATION AND LANDSCAPE PLAN HILLTOP ESTATES

TAX MAP 47 BLOCK 19 PARCEL 560
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FREDERICK WARD ASSOCIATES, INC.
7125 Riverwood Drive Columbia, Maryland 21046-2354
Phone: 410-290-9550 Fax: 410-720-6226
Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: J.C.O.
DRAWN BY: J.C.O.
CHECKED BY: R.H.V.
DATE: MAY 22, 2001
SCALE: AS SHOWN
W.O. NO.: 00-01

3 SHEET OF 3

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Cindy Hewitt 7/6/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Judith M. Daniels 7-6-01
CHIEF, BUREAU OF HIGHWAYS DATE

ENGINEERS CERTIFICATE
"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
Robert H. Vogel 5/22/01
SIGNATURE OF ENGINEER DATE
ROBERT H. VOGEL

DEVELOPER'S CERTIFICATE
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEGINSING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
St. J. Sharp 5/22/01
SIGNATURE OF DEVELOPER DATE

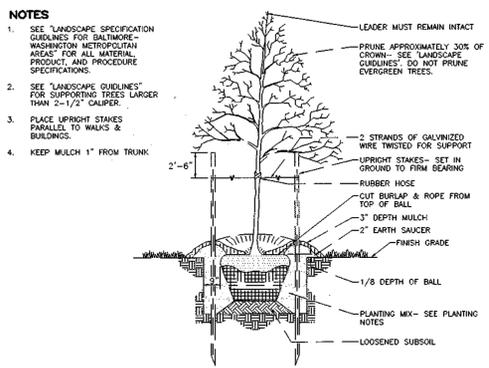
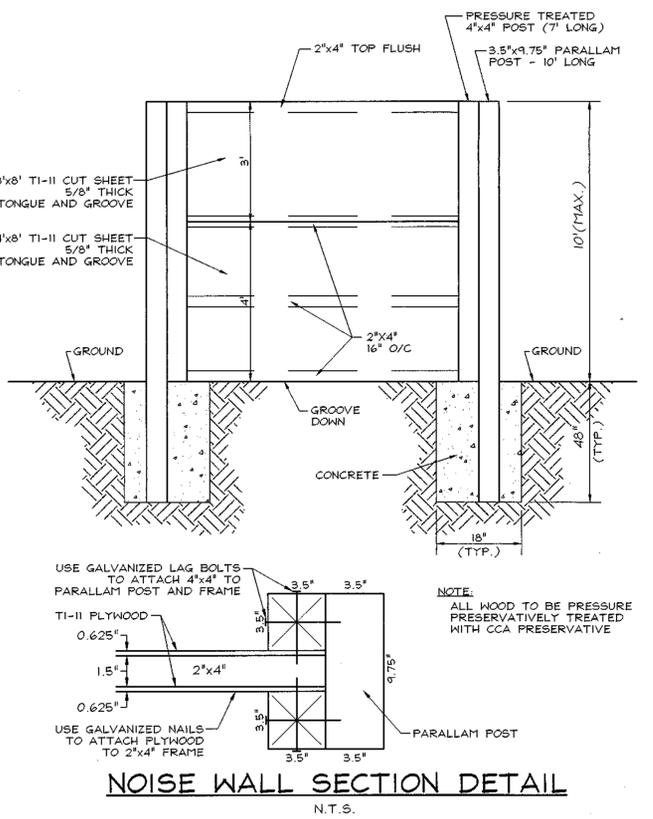
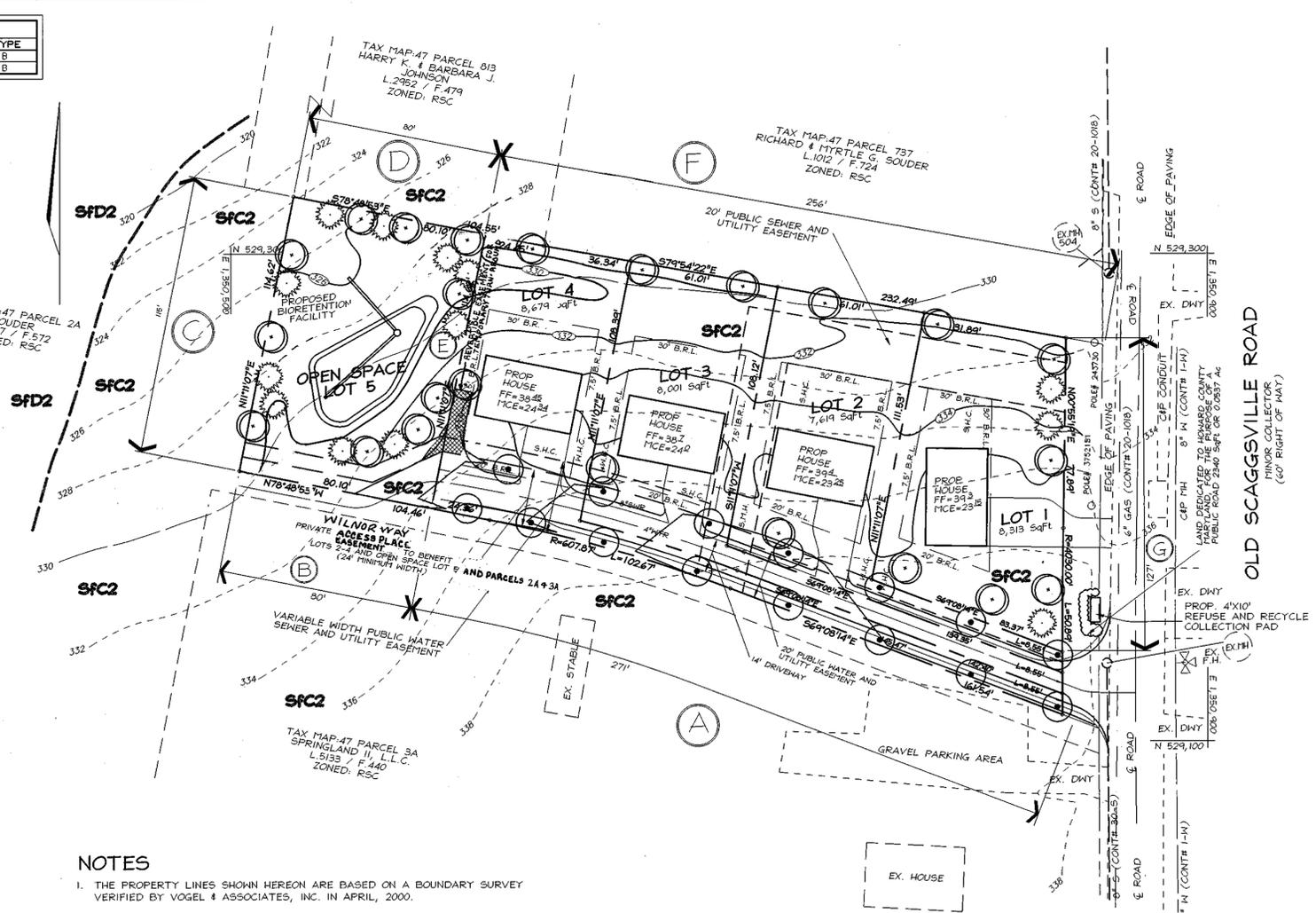
REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
Jim Meyer 6/18/01
NDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

John K. Robertson 6/28/01
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
HOWARD SCD DATE



SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	TYPE
SfB2	SASSAFRAS GRAVELLY SANDY LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	B
SfC2	SASSAFRAS GRAVELLY SANDY LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED	B

NOTE: HOWARD SOIL SURVEY, MAP NUMBER 33



TREE PLANTING AND STAKING
DECIDUOUS AND EVERGREEN TREES UP TO 3" CALIPER NOT TO SCALE

QTY	BOTANICAL NAME / COMMON NAME	SIZE	ROOT
20	ACER RUBRUM / RED MAPLE	2 1/2" MIN	B & B
13	PINUS STROBUS / EASTERN WHITE PINE	6" - 8" HT	B & B
20	TAXUS CURPIDATA 'NANA' / DWARF JAPANESE YEW	18" - 24" W	-

CATEGORY	SCHEDULE A PERIMETER LANDSCAPE EDGE			
	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	TRASH PAD
LANDSCAPE TYPE	TYPE 'B'	TYPE 'A'	TYPE 'A'	TYPE 'D'
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	127' (C)	271' (A)	256' (E)	18'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED				
SHADE TREES	3	5	4	0
EVERGREEN TREES	0	0	0	2
SHRUBS	0	0	0	0
NUMBER OF PLANTS PROVIDED				
SHADE TREES	5	5	5	0
EVERGREEN TREES	0	0	0	0
OTHER TREES (2:1 SUBSTITUTION)	NA	0	0	0
SHRUBS (10:1 SUBSTITUTION)	NA	0	0	20

LINEAR FEET OF PERIMETER	SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING			
	80' (B)	115' (C)	80' (D)	115' (E)
NUMBER OF TREES REQUIRED				
SHADE TREES	2	3	2	3
EVERGREEN TREES	0	0	0	0
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	NO	NO	NO	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO	NO	NO	NO
NUMBER OF TREES PROVIDED				
SHADE TREES	2	3	2	3
EVERGREEN TREES	0	0	0	0
OTHER TREES (2:1 SUBSTITUTION)	0	0	0	0

NOTES

- THE PROPERTY LINES SHOWN HEREON ARE BASED ON A BOUNDARY SURVEY VERIFIED BY VOGEL & ASSOCIATES, INC. IN APRIL, 2000.
- THE EXISTING FEATURES AND CONTOURS SHOWN HEREON ARE BASED ON FIELD RUN TOPOGRAPHY PERFORMED BY OTHERS.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPERS AGREEMENT IN THE AMOUNT OF \$18,000.00 FOR THE 15 STREET TREES, 23 SHADE TREES, 13 EVERGREEN TREES AND 20 SHRUBS.
- THERE ARE NO EXISTING STRUCTURES AND DRIVEWAYS LOCATED ON SITE.
- I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Signature: *[Signature]* DATE: 5/22/01
SPRINGLAND II, LLC

FOREST CONSERVATION WORKSHEET

NET TRACT AREA:
 A. TOTAL TRACT AREA 1.01 AC
 B. AREA WITHIN 100 YEAR FLOODPLAIN 0.00 AC
 C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION 0.00 AC
 D. NET TRACT AREA 1.01 AC

LAND USE CATEGORY (FROM TABLE 3.2.1, PAGE 40, MANUAL)

INPUT THE NUMBER "1" UNDER THE APPROPRIATE LAND USE ZONING, AND LIMIT TO ONLY ONE ENTRY.
 ARA MDR IDA HDR MPD CIA
 0 0 0 1 0 0

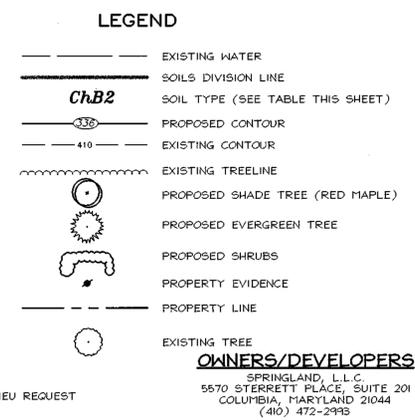
E. AFFOREST THRESHOLD 15% X D = 0.15 AC
 F. CONSERVATION THRESHOLD 20% X D = 0.20 AC

EXISTING FOREST COVER:
 G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN) = 0.00 AC
 H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD = 0.00 AC
 I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD = 0.00 AC

BREAK EVEN POINT:
 J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION = 0.00 AC
 K. CLEARING PERMITTED WITHOUT MITIGATION = 0.00 AC

PROPOSED FOREST CLEARING:
 L. TOTAL AREA OF FOREST TO BE CLEARED = 0.00 AC
 M. TOTAL AREA OF FOREST TO BE RETAINED = 0.00 AC

PLANTING REQUIREMENTS:
 N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD = 0.00 AC
 O. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD = 0.00 AC
 P. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD = 0.00 AC
 R. TOTAL REFORESTATION REQUIRED = 0.00 AC
 S. TOTAL AFFORESTATION REQUIRED = 0.15 AC
 T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED = (6,534 SqFt)



NO.	REVISION	DATE
1	REMOVE NOISE WALL	5.22.01

SUPPLEMENTAL INFORMATION, FOREST CONSERVATION AND LANDSCAPE PLAN
HILLTOP ESTATES
 TAX MAP 47 BLOCK 19 PARCEL 560
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

OWNERS/DEVELOPERS
 SPRINGLAND, L.L.C.
 5570 STERRET PLACE, SUITE 201
 COLUMBIA, MARYLAND 21044
 (410) 472-2995

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/10/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 7/10/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
[Signature] 7-6-01
 CHIEF, BUREAU OF HIGHWAYS DATE

ENGINEERS CERTIFICATE
 "I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
[Signature] 5/22/01
 SIGNATURE OF ENGINEER DATE
 ROBERT H. VOGEL

DEVELOPER'S CERTIFICATE
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
[Signature] 5/22/01
 SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
[Signature] 6/18/01
 DATE
[Signature] 6/29/01
 DATE

FREDERICK WARD ASSOCIATES, INC.
 7125 Riverwood Drive Columbia, Maryland 21046-2354
 Phone: 410-290-9550 Fax: 410-720-6226
 Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: J.C.O.
 DRAWN BY: J.C.O.
 CHECKED BY: R.H.V.
 DATE: MAY 22, 2001
 SCALE: AS SHOWN
 I.O. NO.: 00-011

3 SHEET OF 3

STREET TREE CALCULATIONS					
LINEAR FEET	SPACING	REQUIRED	PROVIDED	BOTANICAL NAME	SIZE
600	1/40LF	15	15	PLATANUS X ACERIFOLIA (London Plane)	2 1/2"-3" Cal.

CURVE DATA CHART						
CURVE	RADIUS	LENGTH	DELTA ANGLE	TANGENT	CHORD DIRECTION	CHORD LENGTH
C1	20.00	6.99	20°13'	3.53	S79°08'54"E	6.95
C2	619.87	104.70	4°40'34"	52.47	N73°58'34"W	104.57

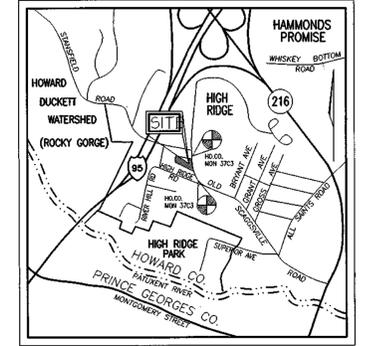
SHEET INDEX	
NO.	TITLE
1	ROAD CONSTRUCTION PLAN
2	GRADING & SEDIMENT CONTROL PLAN
3	SUPPLEMENTAL INFORMATION, FOREST CONSERVATION AND LANDSCAPE PLAN

HILLTOP ESTATES

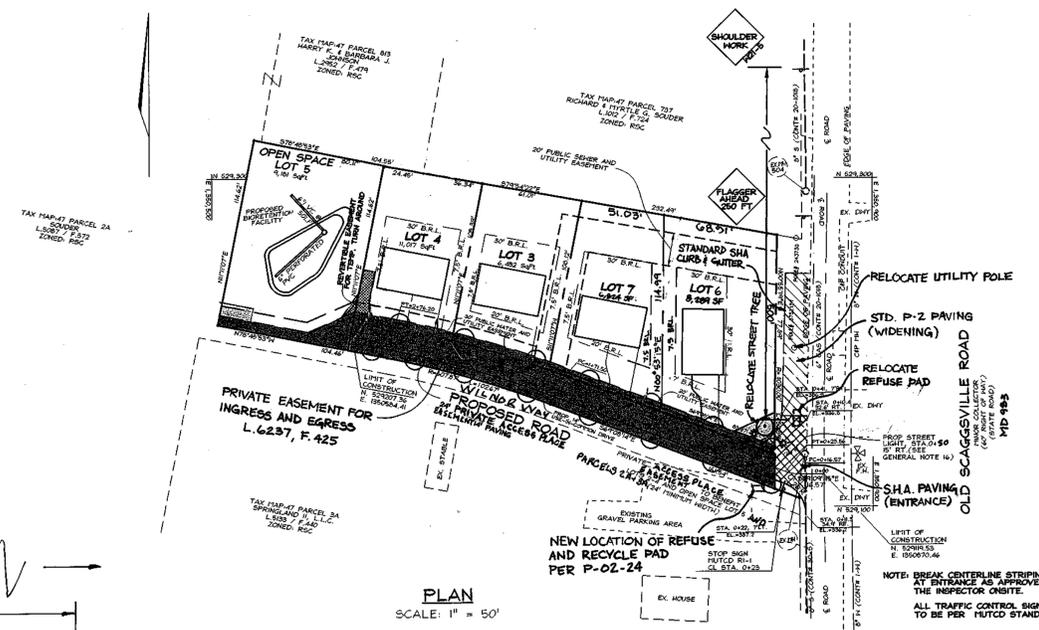
LOTS 3, 4, 6, 7 AND OPEN SPACE LOT 5

FINAL ROAD CONSTRUCTION PLANS

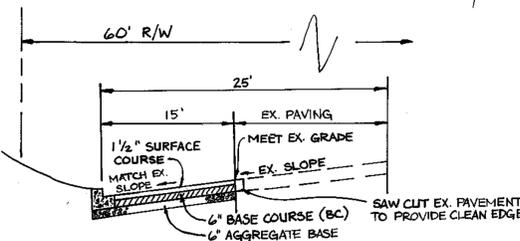
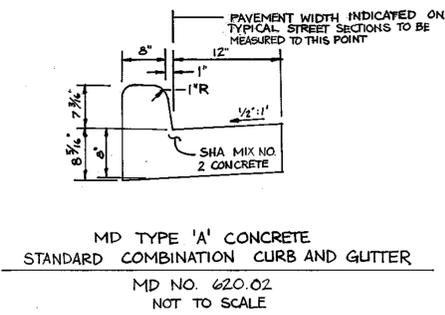
HOWARD COUNTY, MARYLAND



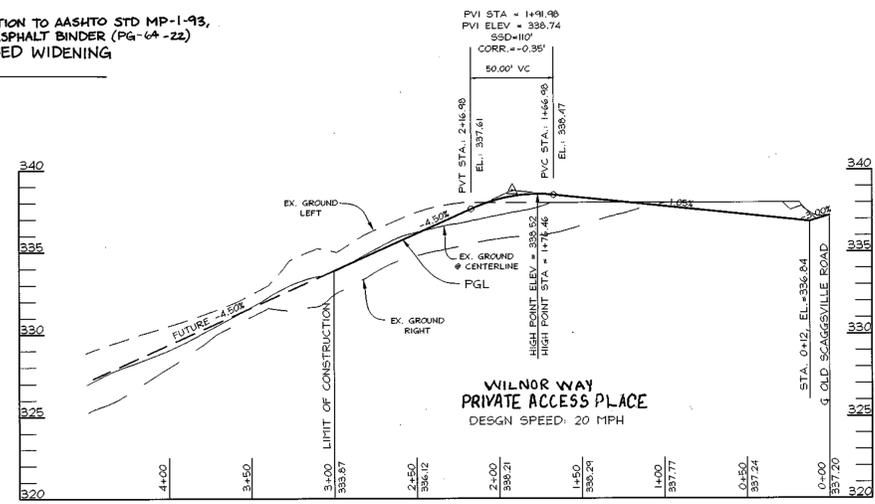
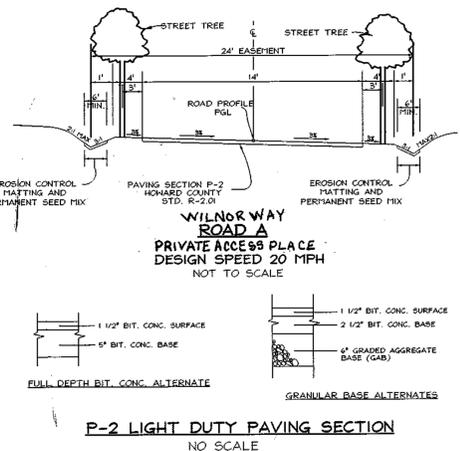
VICINITY MAP
SCALE: 1"=2000'



PLAN
SCALE: 1" = 50'



NOTE: CONTRACTOR TO PROVIDE CERTIFICATION TO AASHTO STD MP-1-93, TABLE FOR PERFORMANCE GRADE ASPHALT BINDER (PG-64-22) TYPICAL SECTION OF PROPOSED WIDENING OF MD 983 N.T.S.



ROAD PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

GENERAL NOTES

- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- PROJECT BACKGROUND: LOCATION: TAX MAP 47 BLOCK 19 PARCEL 560 1ST ELECTION DISTRICT ZONING: RSC TOTAL TRACT AREA: 1.01 AC. NUMBER OF PROPOSED LOTS: 4SFD; 1 OPEN SPACE LOT APPLICABLE DPZ FILE NUMBERS: HP-01-46, F-01-20
- TRACT BOUNDARY ESTABLISHED BY A BOUNDARY SURVEY BY R. C. KELLY & ASSOCIATES, INC. DATED AUGUST, 1996 AND VERIFIED BY VOGEL & ASSOCIATES, INC.
- TOPOGRAPHY BASED ON A FIELD RUN SURVEY PREPARED BY R. C. KELLY & ASSOCIATES, INC. DATED AUGUST 12, 1996. CONTOUR INTERVAL IS 2 FEET.
- COORDINATES: HORIZONTAL DATUMS BASED ON NAD 83 HO. CO. GEODETIC CONTROL STATIONS 47G1 AND 47G2.
- WATER AND SEWER FOR THIS PROJECT WILL BE PUBLIC.
- EXISTING UTILITIES WERE LOCATED PER COUNTY DRAWINGS AND FIELD RUN SURVEY.
- STORMWATER MANAGEMENT METHOD: PRIVATE BIO-RETENTION FACILITY. THE FACILITY IS TO BE PRIVATELY OWNED AND MAINTAINED BY THE HOA.
- FOREST CONSERVATION PLAN PREPARED BY VOGEL & ASSOCIATES, INC. AND SUBMITTED WITH THE MINOR SUBDIVISION PLAT F-01-20.
- A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THERE IS NO FLOODPLAIN ON SITE.
- STREET LIGHTS ARE NOT REQUIRED FOR THIS PROJECT.
- THIS PLAN IS SUBJECT TO HP-01-46, APPROVED NOVEMBER 17, 2000 TO WAIVE SECTION 16.121(2)(1) OF THE HOWARD COUNTY SUBDIVISION REGULATIONS WHICH REQUIRE OPEN SPACE LOTS OR AREAS TO HAVE 40 FEET OF FRONTAGE ON A PUBLIC ROAD SUBJECT TO: A MAINTENANCE AGREEMENT FOR THE SHARED DRIVEWAY SERVING LOTS 2-4 AND OPEN SPACE LOT 5 SHALL BE RECORDED WITH THE CORRESPONDING PLAT(F-01-20).
- BASED ON A FIELD INVESTIGATION BY WILLIAM T. BRIDGELAND DATED MAY 19, 2000 THERE ARE NO NETLANDS ON-SITE.
- ★ DENOTES STREET LIGHT. ALL STREET LIGHTS ARE TO BE 100-WATT TRADITIONARE HPS VAPOR POST TOP FIXTURE ON A 14' BLOCK FIBERGLASS POLE. ATTACH STREET ADDRESS SIGN TO POLE.
- FINANCIAL SURETY FOR THE PROPOSED LANDSCAPING IN THE AMOUNT OF \$13090.00 MUST BE POSTED AS PART OF THE DEVELOPERS AGREEMENT.
- A NOISE WALL WILL BE CONSTRUCTED UNDER CAPITAL PROJECT J-4178 (MSHA CONT HO-8575126) WITHIN THE R/W OF INTERSTATE 95.

SITE DATA TABULATION

- GENERAL SITE DATA
- PRESENT ZONING: RSC
 - APPLICABLE DPZ FILE REFERENCES: F-01-20, HP-01-46
 - PROPOSED USE OF SITE: 4 SFD HOMES
 - PROPOSED WATER AND SEWER SYSTEMS: PUBLIC
- AREA TABULATION
- TOTAL AREA OF SITE: 1.013 AC.
 - AREA OF 100 YEAR FLOODPLAIN: N/A
 - AREA OF STEEP SLOPES (25% OR GREATER): N/A
 - AREA OF THIS PLAN SUBMISSION: 1.013 AC.
 - APPROXIMATE LIMIT OF DISTURBANCE: 1.5 AC.
 - AREA OF PROPOSED BUILDABLE LOTS: 0.767 AC.
 - AREA OF PROPOSED OPEN SPACE LOTS: 0.211 AC.
 - AREA OF PROPOSED PUBLIC ROAD R/W DEDICATION: 0.054 AC.
- LOT TABULATION
- TOTAL NUMBER OF RESIDENTIAL LOTS: 4
 - TOTAL NUMBER OF OPEN SPACE LOTS: 1
 - TOTAL NUMBER OF LOTS: 5

NO.	REVISION	DATE
2	REMOVE NOISE WALL	3.26.02
1	ADD SHA PAVING, REVISE LOT LINES 1 & 2	10.4.02

ROAD CONSTRUCTION PLANS
HILLTOP ESTATES

TAX MAP 47 BLOCK 19 1ST ELECTION DISTRICT PARCEL 1
HOWARD COUNTY, MARYLAND

FREDERICK WARD ASSOCIATES, INC.
ENGINEERS 7125 Riverwood Drive Columbia, Maryland 21046-2354
ARCHITECTS Phone: 410-290-9550 Fax: 410-720-6226
SURVEYORS Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

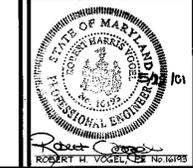
DESIGN BY: J.C.O.
DRAWN BY: J.C.O.
CHECKED BY: R.H.V.
DATE: MAY 22, 2001
SCALE: AS SHOWN
W.O. NO.: 00-011

1 SHEET OF 3

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Cindy Hamilton 7/16/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Andrew M. Daniels 7-6-01
CHIEF, BUREAU OF HIGHWAYS DATE

OWNERS/DEVELOPERS
SPRINGLAND, L.L.C.
5570 STERRETT PLACE, SUITE 204
COLUMBIA, MARYLAND 21044
(410) 472-2993



F-01-20

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	TYPE
SFC2	SASSAFRAS GRAVELLY SANDY LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
SFD2	SASSAFRAS GRAVELLY SANDY LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED	B

NOTE: HOWARD SOIL SURVEY, MAP NUMBER 33

SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (315-1055).
- All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within (a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes greater than 3:1; (b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shall be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, 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, sod, temporary seeding, and mulching (Sec. 6). Temporary stabilization with mulch alone shall 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.

7. Site Analysis

Total Area	1.0
Area Disturbed	0.8 Acres
Area to be roofed or paved	0.21 Acres
Area to be vegetatively stabilized	0.74 Acres
Total Cut	2250 CY
Total Fill	2250 CY

Off-site waste/borrow area location

- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed 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 requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth retaining or grading. Other building or grading inspection approval may not be authorized until this initial approval by the inspection agency is made.
- Tranches 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.
- To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved active grading permit.

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

- Definition**
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.
- Purpose**
To provide a suitable soil medium for vegetative growth. Soil of common use has low moisture levels, low nutrient levels, low pH, moderate toxic to plants, and/or undesirable soil gradation.
- Conditions Where Practice Applies**
1. This practice is limited to areas having 21 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 containing supplies of moisture and plant nutrients.
c. The original soil to be vegetated contains material toxic to plant growth.
d. The soil is so acidic that treatment with limestone is required.
2. 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**
1. 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.
2. Topsoil Specifications - Soil to be used as topsoil must meet the following:
a. Topsoil shall be a loam, sandy loam, clay loam, silty loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or a soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textures and shall contain less than 5% by volume of clinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1/2" in diameter.
b. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnson grass, nutgrass, poison ivy, thistle, or others as specified.
c. Where the subsoil is either highly acidic or composed of heavy clay, ground limestone shall be spread at the rate of 4-8 lbs/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.
d. Place topsoil (if required) and apply soil amendments as specified in 22.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

PERMANENT SEEDING NOTES

- APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS DESIRED.
- SEEDBED PREPARATION** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.
- SOIL AMENDMENTS:** In lieu of soil test recommendations, use one of the following schedules:
1) Preferred - Apply 2 tons per acre dolomitic limestone (42 lbs/100 sq ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/100 sq ft.) and apply 1000 lbs. per acre 10-20-20 fertilizer (25 lbs/1000 sq ft.) before seeding. Narrow or disc into upper three inches of soil.
2) Acceptable - Apply 2 tons per acre dolomitic limestone (42 lbs/100 sq ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/100 sq ft.) and apply 1000 lbs. per acre 10-20-20 fertilizer (25 lbs/1000 sq ft.) before seeding. Narrow or disc into upper three inches of soil.
- SEEDING:** For the period March 1 thru April 30, and August 1 thru October 31, seed with 40 lbs. per acre (1.4 lbs/1000 sq ft.) of Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.07 lbs/1000 sq ft.) of seeding weight during the period of October 1 thru February 28. For the period of March 1 thru April 30, and August 1 thru October 31, seed with 60 lbs. per acre (2.1 lbs/1000 sq ft.) of Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.07 lbs/1000 sq ft.) of seeding weight during the period of October 1 thru February 28. Temporary stabilization with mulch alone shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- MULCHING:** Apply 1 1/2 to 2 tons per acre (70 to 140 lbs/1000 sq ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 25 gallons per acre (5 gal/1000 sq ft.) of emulsified asphalt on flat areas. On slopes 5 feet or higher, use 345 gallons per acre (69 gal/1000 sq ft.) of emulsified asphalt on flat areas. On slopes 5 feet or higher, use 345 gallons per acre (69 gal/1000 sq ft.) for anchoring.
- REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND FREQUENCY NOT COVERED.**

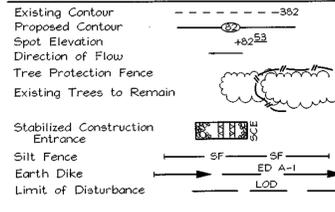
TEMPORARY SEEDING NOTES

- SEEDBED PREPARATION** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.
- SOIL AMENDMENTS:** Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs/1000 sq ft.)
- SEEDING:** For the period March 1 thru April 30 and August 1 thru November 15, seed with 2 1/2 bushels per acre of annual rye (3.2 lbs/1000 sq ft.) for the period May 1 thru September 30, seed with 3 lbs. per acre of seeding (0.7 lbs/1000 sq ft.) for the period of October 1 thru February 28. Temporary stabilization with mulch alone shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- MULCHING:** Apply 1 1/2 to 2 tons per acre (70 to 140 lbs/1000 sq ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 25 gallons per acre (5 gal/1000 sq ft.) of emulsified asphalt on flat areas. On slopes 5 feet or higher, use 345 gallons per acre (69 gal/1000 sq ft.) for anchoring.
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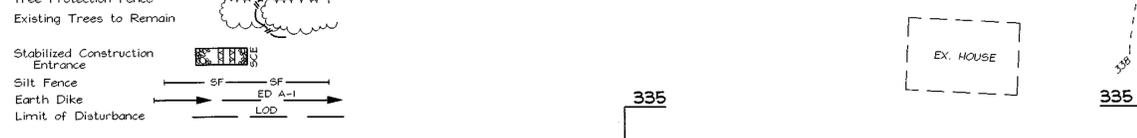
SEQUENCE OF CONSTRUCTION

- Obtain grading permit, installation and inspection of tree protection fence to be done prior to commencement of grading.
- Notify Howard County Bureau of Inspection and Permits (410-320-1000) at least 24 hours before starting any work.
- Construct Stabilized Construction Entrance
- Install sediment control devices (silt fence, earth dikes, silt fence) 1 day
- Clear and grub site
- Construct bio-retention facility
- Rough grade for road construction
- Begin road paving
- Install water & sewer systems
- Begin road paving
- With sediment control inspectors approval stabilize remaining disturbed areas of the site
- Install landscaping as shown in Schedule 'A' and perimeter landscaping as shown in Schedule 'A'. See sheet 4 for Schedule tables.
- With sediment control inspectors approval, remove sediment control devices and stabilize remaining areas per permanent seeding notes.
- During grading and after each rainfall, the contractor shall inspect and provide the necessary maintenance on the sediment and erosion control measures shown herein.
- Following initial soil disturbance or re-disturbance permanent or temporary stabilization shall be completed within 7 calendar days for all perimeter sediment control structures, dikes, silt fences, ditch perimeter slopes or slopes and all slopes greater than 3:1.
- 14 calendar days for all other disturbed areas.
- Upon stabilization of all disturbed areas and with the approval of the sediment control inspector, remove all sediment control devices.

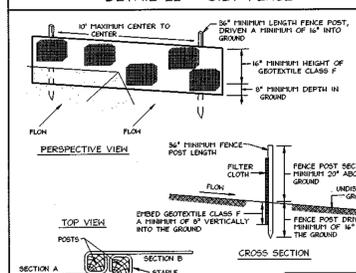
LEGEND



PLAN
SCALE: 1" = 30'



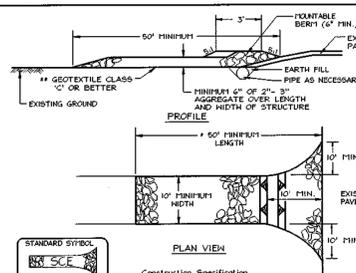
DETAIL 22 - SILT FENCE



Construction Specifications

- Fence posts shall be a minimum of 3/4" long, driven 10" minimum into the ground. Posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or family residences to use geotextile.
- Staples shall be standard T or U section weighing not less than 1.00 pound per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples. The geotextile fabric shall meet the following requirements:
a. Material: 20 lbs/100 sq ft. Test: FIST 504
b. Tensile Strength: 20 lbs/100 sq ft. Test: FIST 504
c. Flow Rate: 0.3 gal ft. Reverse (max.) Test: FIST 322
d. Filtering Efficiency: 78% (min.) Test: FIST 322
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt fence shall be inspected after each rainfall event and maintained when begun occur or when sediment accumulation reaches 50% of the fabric.

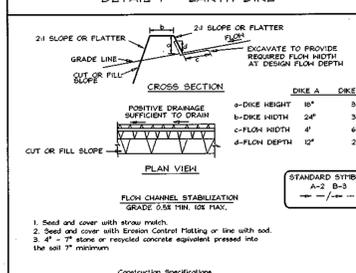
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specifications

- Length - minimum of 50' (+50' for a single ridge lot).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.
- Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 2' deep over the length and width of the entrance.
- Surface Water - all surface water flowing to or diverted toward construction entrances shall be graded through the entrance, maintaining positive drainage. Pipes installed through the entrance shall be a minimum of 6" in diameter with a minimum of 1% slope and a minimum of 6" of stone with a minimum of 1% slope to the drainage. When the SCE is located at a high spot and has no drainage to convey, a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
- Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.
- Inspection and maintenance must be provided periodically and after each rain event.

DETAIL 1 - EARTH DIKE



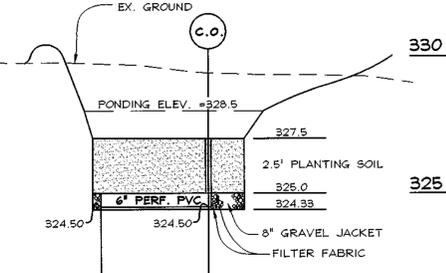
Construction Specifications

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

Construction Specifications

- All temporary earth dikes shall have unimpaired positive grade to an outlet. Spot elevations may be necessary for grades less than 1:1.
- Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
- Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
- All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
- The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede runoff.
- Fill shall be compacted by hand moving equipment.
- All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
- Inspection and maintenance must be provided periodically and after each rain event.

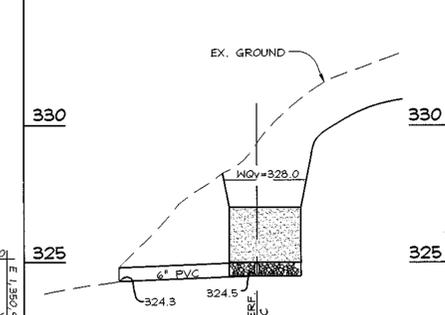
BIORETENTION AREA CROSS-SECTION



Construction Specifications

- Remove NOISE WALL.
- ADD SHA WIDENING, REVISE LOTS LINES LOTS 1 & 2.

BIORETENTION AREA CROSS-SECTION



BIORETENTION AREA SOIL SPECIFICATIONS

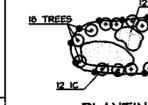
- A. PLANTING SOIL**
The bioretention areas shall consist of a planting soil having a composition of at least 10 to 25 percent clay and shall be of a sandy loam or loamy sand texture. LOAMY SOILS MAY BE USED FOR THE PLANTING SOIL, BUT MUST CONSIST OF SILT SAND. IN ADDITION, THE PLANTING SOIL SHALL BE OF UNIFORM COMPOSITION, FREE OF STONES, STUMPS, ROOTS OR SIMILAR OBJECTS LARGER THAN ONE INCH. BRUSH, OR ANY OTHER MATERIAL OR SUBSTANCE WHICH MAY BE HARMFUL TO PLANT GROWTH, OR AN OBSTACLE TO PLANTING OR MAINTENANCE OPERATIONS.
- The planting soil shall be free of plants or plant parts of Bermuda grass, quack grass, Johnson grass, fleckfoot, nutgrass, Forsyth ivy, Canadian thistle, or others as specified.
- B. PLANTING SOIL SHALL MEET THE FOLLOWING CRITERIA:**
- | | |
|----------------|-----------------------|
| PH RANGE | 5.5 - 6.5 |
| ORGANIC MATTER | 1.5 - 3.0% |
| POTASSIUM | 100 lbs / ACRE |
| PHOSPHORUS | 100 lbs / ACRE |
| SOILABLE SALTS | NOT TO EXCEED 500 ppm |
- C. MULCH LAYER SPECIFICATIONS (3" THICK)**
A MULCH LAYER SHALL BE PROVIDED ON TOP OF THE PLANTING SOIL. THE MULCH LAYER SHALL INCLUDE SHREDED HARDWOOD OR SHREDED HOOK CHIPS OR OTHER SIMILAR PRODUCT. ALL MULCH PRODUCTS MUST BE WELL WASHED, UNIFORM IN COLOR, AND FREE OF FOREIGN MATERIAL, INCLUDING PLANT MATERIAL, HULL WEEB, WHICH IS DEFINED AS MULCH THAT HAS BEEN STOCKPILED OR STORED FOR AT LEAST FIFTEEN (15) MONTHS.
- D. SAND SPECIFICATIONS (2" THICK)**
THE SAND SHALL BE FREE OF DELETERIOUS MATERIAL AND ROCKS GREATER THAN 1/4" IN DIAMETER.
- E. SOIL SHALL BE PLACED IN LIFTS LESS THAN 6" INCHES AND LIGHTLY COMPACTED (MINIMUM COMPACTIVE EFFORT) BY TAMPING WITH A BUCKET FROM A DOZER OR A BACKHOE.**

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF PLANT AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REAPPLICATION SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING, REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER YEAR AND AFTER HEAVY STORM EVENTS.

BIORETENTION PLANTING SCHEDULE FOR EACH FACILITY

KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	ROOT
9	1	ACER RUBRUM/RED MAPLE	1 1/2" - 2" CAL	B & B
10	12	RED GLABRA 'COMPACTA'	18" - 24" HEIGHT	CONT
11	12	RED VERBENA	3" - 4" HEIGHT	CONT
12	12	RED VERBENA	3" - 4" HEIGHT	CONT
13	12	RED VERBENA	3" - 4" HEIGHT	CONT
14	12	RED GLABRA	3" - 4" HEIGHT	B & B
15	12	RED GLABRA	3" - 4" HEIGHT	B & B
16	300	URTIQAE SPICATA CREEPING LUX TURF	2" POT	18" O/C



OWNERS/DEVELOPERS
SPRINGLAND, L.L.C.
5570 STEPHEN PLACE, SUITE 201
COLUMBIA, MARYLAND 21044
(410) 472-2993

GRADING & SEDIMENT CONTROL PLAN
HILLTOP ESTATES

TAX MAP 47 BLOCK 19 PARCEL 560
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FREDERICK WARD ASSOCIATES, INC.
7125 Riverwood Drive Columbia, Maryland 21046-2354
Phone: 410-290-9550 Fax: 410-720-6226
Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DESIGN BY: J.C.O.
DRAWN BY: J.C.O.
CHECKED BY: R.H.V.
DATE: MAY 22, 2001
SCALE: AS SHOWN
H.O. NO.: 00-011
2 SHEET OF 3

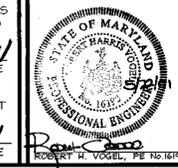
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
7/6/01
7/6/01

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
7-6-01
7-6-01

ENGINEERS CERTIFICATE
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
5/22/01
ROBERT H. VOGEL

DEVELOPER'S CERTIFICATE
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
5/22/01
John M. Myers

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
6/28/01
6/28/01



F-01-20