

PUB. SEWER STATUS VERIFIED BY with per Corcoran

3/17/04
10:00

ISSUE DATE: 3/15/2004

P 520096

APPROVAL DATE: Not Approved

A REPAIR

PERMIT

05-353653

ON-SITE SEWAGE DISPOSAL SYSTEM HOWARD COUNTY HEALTH DEPARTMENT BUREAU OF ENVIRONMENTAL HEALTH

Fyock's supposed to install during weekend and call for inspection on Monday. Never called in and covered.

Jack Fyock Septic Service *Because of rain?* IS PERMITTED TO INSTALL ALTER

ADDRESS: PO Box 89, Glenelg PHONE NUMBER: 410-988-9270

SUBDIVISION: Whites Estates LOT NUMBER: 1

ADDRESS: 13535 Orion Drive PROPERTY OWNER: Brenton White (410)531-9551

SEPTIC TANK CAPACITY (GALLONS): Existing Max. Trench Depth - 5.5'

PUMP CHAMBER CAPACITY (GALLONS): N/A Inlet at 4.5'

NUMBER OF BEDROOMS: 4 3' Wide Trenches

SQUARE FEET PER BEDROOM: 180 Inlet raised to 3.5'

LINEAR FEET OF TRENCH REQUIRED: 200 - 1' sidewall? Depth 4.5' by Fyock crew.

TRENCHES:	Trench to be _____ feet wide. Inlet _____ feet below original grade. Bottom maximum depth _____ feet below original grade. Effective area begins at _____ feet below original grade. _____ feet of stone below distribution pipe.
LOCATION:	
PURPOSE:	Existing septic system has failed. Call for inspection when ground is opened so sanitarian can recommend repair.

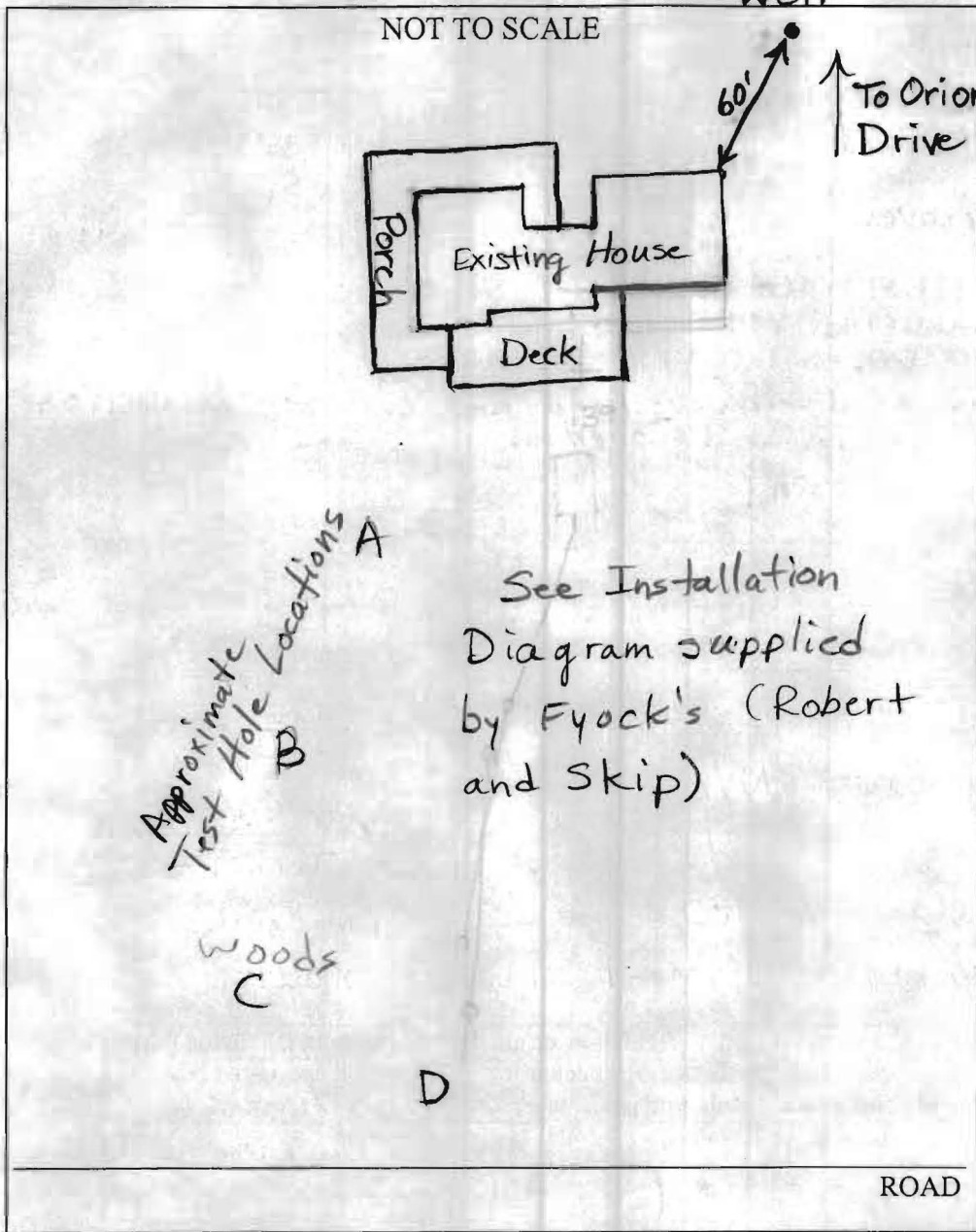
PLANS APPROVED: _____ DATE: _____

- NOTE: PERMIT VOID AFTER 2 YEARS
- NOTE: CONTRACTOR RESPONSIBLE FOR SCHEDULING A PRE-CONSTRUCTION INSPECTION FOR ALL INSTALLATIONS
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE 100 FEET FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS

NEITHER THE HOWARD COUNTY COUNCIL OR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT CALL 410-313-2640 FOR INSPECTION OF SEPTIC SYSTEM

* System installed during weekend without inspection, cannot approve. See diagram supplied by Fyock crew. Future repair area will probably be in part of front yard opposite of well. This area not tested. ← Or directly above this repair? ←

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TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3	3.5	4.5'
NUMBER OF TRENCHES		3
TOTAL LENGTH		200
ABSORPTION AREA		?
DISTRIBUTION BOX LEVEL		?
DISTRIBUTION BOX BAFFLE		?
DISTRIBUTION BOX PORT		?

SEPTIC TANK DATA	
SEPTIC TANK 1 LEVEL	Existing
CAPACITY	_____ GAL
SEAM LOC	_____
TANK LID DEPTH	_____
BAFFLES	_____
BAFFLE FILTER	_____
MANHOLE LOC	✓
6" PORT LOC	Yes
WATERTIGHT TEST	No
SEPTIC TANK 2 LEVEL	N/A
CAPACITY	_____ GAL
SEAM LOC	_____
TANK LID DEPTH	_____
BAFFLES	_____
BAFFLE FILTER	_____
MANHOLE LOC	_____
6" PORT LOC	_____
WATERTIGHT TEST	_____

PRE-CONSTRUCTION 3/17/04 Install trenches near hole (C). Do not run trenches past hole (D) - stream. Max. Depth of trenches is 5.5'

INSTALLATION See perc test sheet for hole locations. (BB)

4/14/04 System installed and covered during prior weekend. Fyock (Skip) said that had to cover because of weather. Skip said that homeowner was present when system installed. The trench inlet and bottom was raised because Skip said a well was downhill that we hadn't noticed during the initial visit to the lot. I visited site, an unconnected well was indirectly downhill of the trench installation area. Should be O.K.

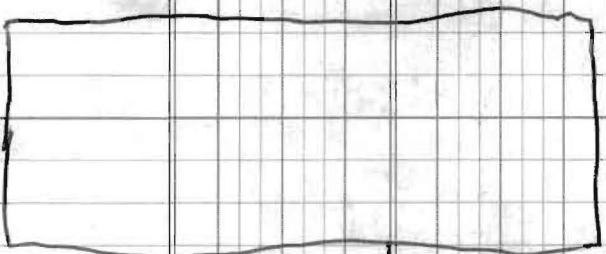
FINAL INSPECTOR Not Inspected

DATE OF APPROVAL Not Approved

Well ~125' from trenches according to Skip. Skip said that trench bottom material was good although sidewall area probably reduced. Did not run trenches past test hole D per Skip.

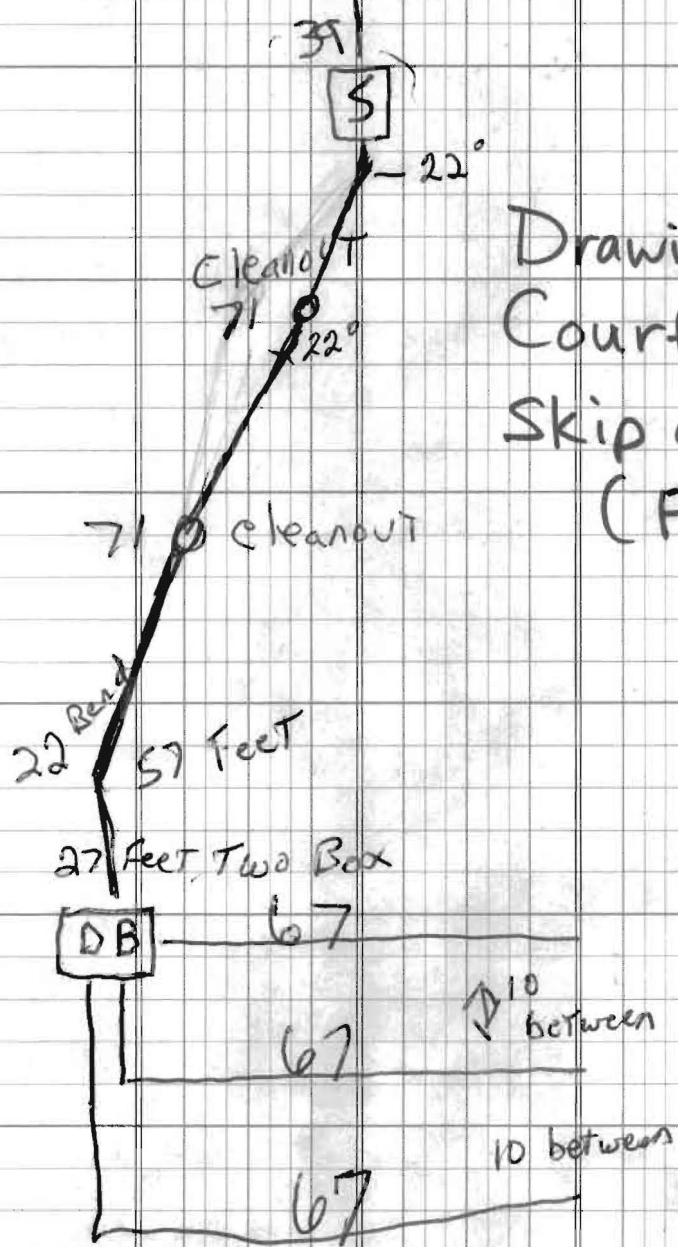
	Initials	Date
Approved by		
Prepared by		

Keep With File



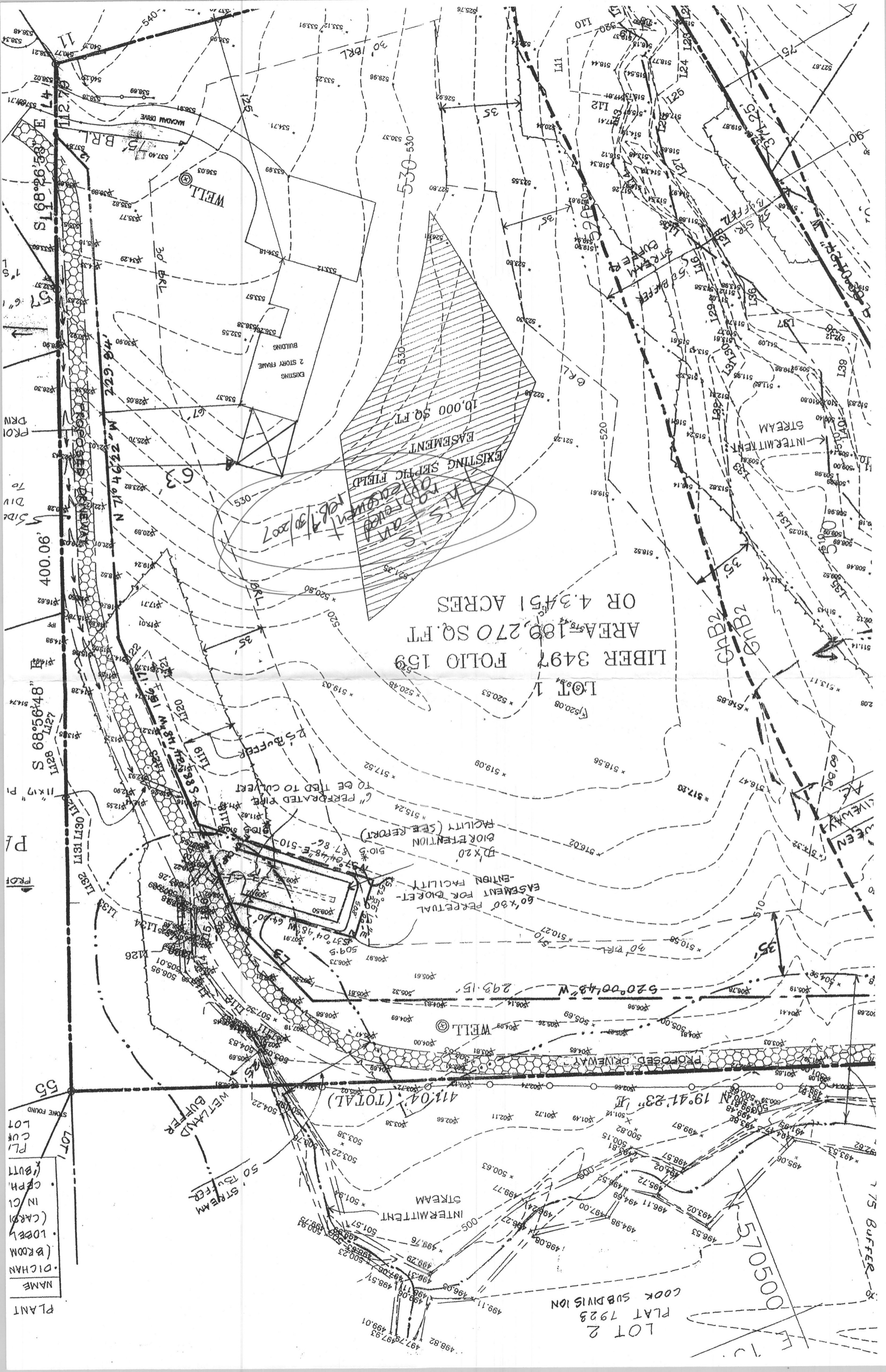
Whites Est.
Orion Dr.
13535 P520096

3' wide
3.5'-4.5'
~ 125' from downhill well



Drawing
Courtesy of
Skip and Robert
(Fyock)

Approx. well Location



LIBER 3497 FOLIO 159
 AREA - 189,270 SQ. FT.
 OR 4.3451 ACRES

THIS IS AN
 APPROVED
 EASEMENT
 10,000 SQ. FT.
 EXISTING SEPTIC FIELD
 EASEMENT

APPROVED
 10/30/2007

PLANT	NAME
• DICHA	(BROOM)
• LOBEL	(CARD)
• IN CI	(CORN)
• CPH	(BUTT)
• PL	(CUT)
• LOT	(FOUND)

LOT 2
 PLAT 7923
 COOK SUBDIVISION

11.04' (TOTAL)

19.41.23" N

S 68°56'48" E
 400.06'

N 71°46'22" W
 229.94'

S 168°06'53" E
 112.79'

SOIL DATA

PER HOWARD COUNTY SOIL SURVEY P.17
 Ch B2 = CHESTER SILT LOAM (3-8%)
 Ch C2 = CHESTER SILT LOAM (8-15%)
 Gn B2 = GLENVILLE SILT LOAM (3-8%)

B.3.B Specifications for Bio-retention
 1. Material Specifications
 The allowable materials to be used in bio-retention areas are detailed in Table B.3.B.

2. Planting Soil
 The soil shall be a sufficient mix, free of stones, clumps, roots or other similar objects larger than two inches. No other material or substance shall be added or removed within the bio-retention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of bromine, arsenic, lead, mercury, cadmium, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet the following criteria:

pH range	5.2 - 7.0
organic matter	1.5 - 4.0 % w/w
nitrogen	20 lbs/acre
phosphorus (phosphate - P ₂ O ₅)	75 lbs/acre
potassium (potash - K ₂ O)	85 lbs/acre
nitrate	not to exceed 500 ppm

All bio-retention areas shall have a minimum of one inch. Each one shall consist of both the standard soil test for pH, phosphorus, and potassium and additional tests of organic matter, and available nitrate. A second sample to measure from the site shall be taken. If growth is impeded, then a second sample shall be performed for each location when the top soil was collected.

Clear differentials like within their working equipment differently, all testing results shall come from the same testing facility.

Should the pH fall out of the acceptable range, it may be modified (higher with lime or (lower) with iron sulfate plus sulfur.

3. Construction
 It is very important to maintain compaction of both the base of the bio-retention area and the required backfill. When possible, use excavators back to ensure original soil. If bio-retention areas are excavated using a loader, the contractor should use wide tracks or skid steer equipment, or light equipment with turf tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high pressure tires will cause excessive compaction resulting in reduced infiltration rates and no compaction. Compaction will significantly decrease the design failure.

Compaction can be alleviated at the base of the bio-retention facility by using a primary filling operation such as a chain plow, ripper, or subsoiler. These filling operations are to be performed on the soil profile through the 12 inch compaction zone. Subsoiler methods must be approved by the engineer. Subsoilers typically do not fill deep enough to reduce the effects of compaction from heavy equipment.

Revised 2 to 3 inches of sand less the base of the bio-retention facility before backfilling the optional sand layer. Paving or gravel under prepaving (optional) base.

When backfilling the sand layer, the sand layer, the depth to be 2 inches of gravel over the sand, then install the sand/gravel to create a padstone area. Backfill the remainder of the report to final grade.

When backfilling the bio-retention facility, place soil to be 12" to 18". Do not use heavy equipment within the bio-retention facility. Heavy equipment can be used around the perimeter of the basin to support the soil. Check backfilling methods with light equipment such as a compactor loader or dozer/loader with smooth tracks.

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (P.6)

- Annual maintenance of plant material, mulch layer and soil layer is required. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement 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 diseased trees and shrubs and replacement of all deficient trees and shrubs.
- Mulch shall be inspected each spring. Remove previous mulch layer before applying new layer every 2 to 3 years.
- Soil erosion to be addressed on an as needed basis, with a minimum of once per month and after heavy storm events.

NOTES:

- ALL WELLS ARE TO BE DRILLED PRIOR TO RECORDATION OF THE PLAT.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND AREAS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- ALL WELLS AND SEPTIC SYSTEMS WITHIN 100 FEET OF PROPERTY BOUNDARIES HAVE BEEN SHOWN.
- RECOLATION TEST HOLES HAVE BEEN FIELD LOCATED.

- WETLAND PERMIT NO. OBTAINED FROM THE MDE IS #00-NT-0434200067165.
- EXISTING STRUCTURE ON LOT-1 TO REMAIN.
- EXISTING WELL AND SEPTIC ON LOT-1 ARE TO REMAIN.
- TOTAL ENCROACHMENT INTO THE BUFFER = 6060 SQ.FT.
- WETLAND IMPACTED AREA: 800 SQ.FT.
- THE PROPOSED DRIVEWAY TO LOT 2 WILL BE CONSTRUCTED TO THE MINIMUM STDS. OF THE HO. CO. DESIGN MANUAL, AS REQUIRED AS A CONDITION OF APPROVAL OF WP-01-20.

- Plant Material
 Recommended plant material for bio-retention areas can be found in Appendix A, Section A.2.3.
- Plant Installation
 Plants should be placed to a sufficient thickness of 2" to 3". Shaded bio-retention areas in the early spring should be planted with 1/2" of soil to be added to the perimeter of the bio-retention area during a winter cover and an acceptable. Shaded mulch must be well aged (6 to 12 months) for use.

Notes shall be based using 1" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the results of the test hole.
 Grasses and legume seeds should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the same ground conditions.

The special specifications provide enough organic material to adequately supply nutrients from natural cycles. The primary objective of the bio-retention area is to improve water quality. Adding fertilizer, organic, or as a minimum, no pesticides shall be used. Only add fertilizer if wood chips or mulch are used to amend the soil. Weeds are to be removed on a regular basis (1000 square foot area).

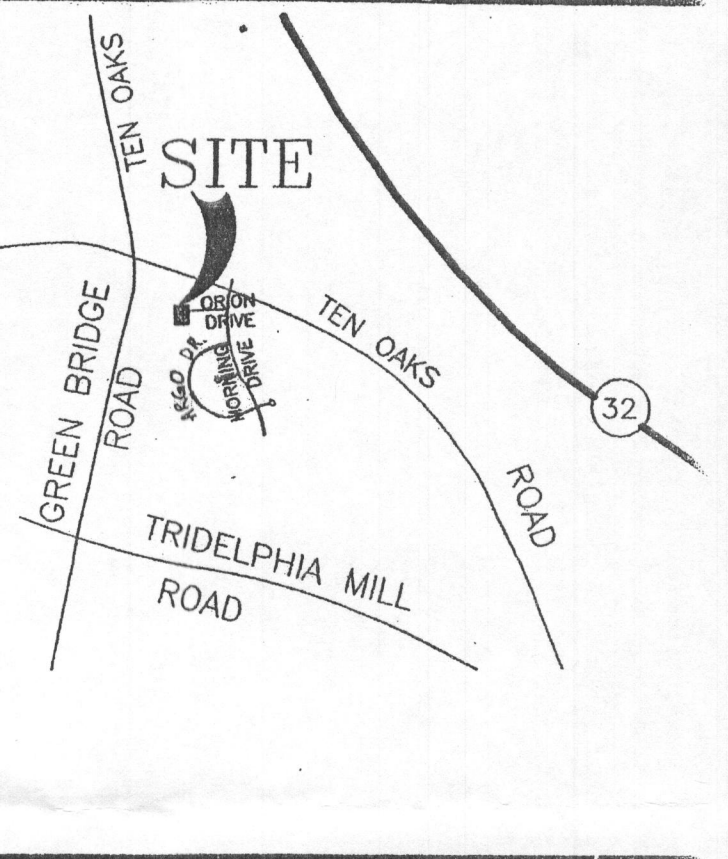
Underdrains are to be placed on a 3" to 4" wide section of filter cloth. Pipe is placed next, followed by the gravel bedding. The end of underdrain pipe containing in a drainage well shall be capped.

The main collection pipe for infiltration through shall be constructed a minimum slope of 0.5%. Underdrains with filter cloth on pipe must be provided (one minimum per every 1000 square foot of surface area).

Miscellaneous
 The bio-retention facility may not be constructed until all existing drainage areas have been stabilized.

VICINITY MAP

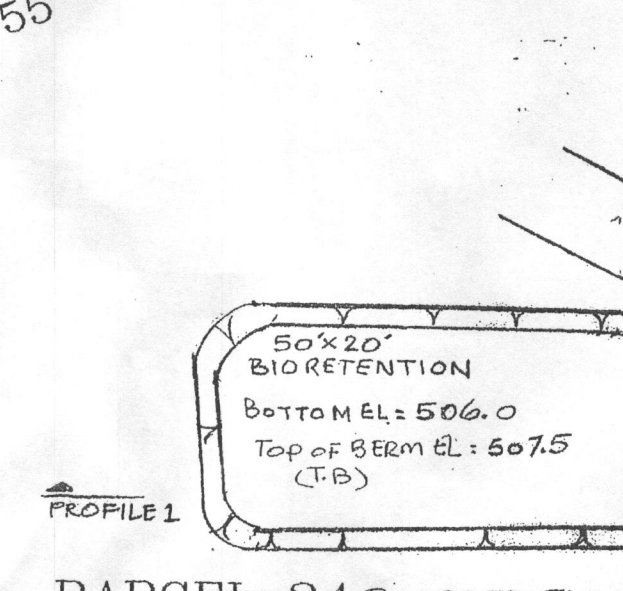
SCALE: 1"=2000'
 HOWARD COUNTY MAP PAGE 13; GRID J-3



PLANT LIST FOR BIORETENTION POND

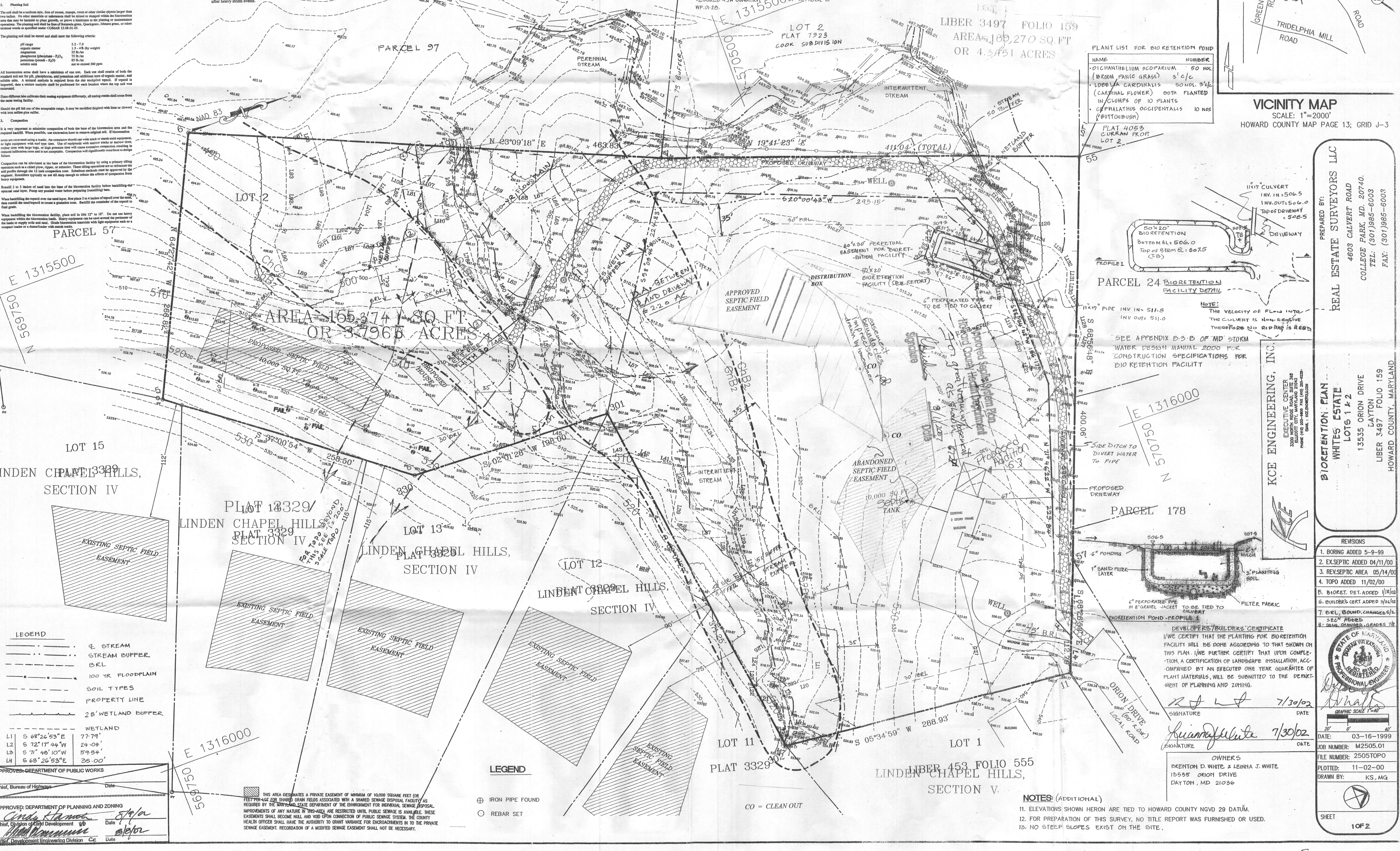
NAME	NUMBER
DICHTANHELIUM SCOPARIUM	50 NOS.
(BROOM PANIC GRASS)	3' C/C
LOBELIA CARDINALIS	50 NOS. 3' C/C
(CARDINAL FLOWER)	BOTH PLANTED IN CLUMPS OF 10 PLANTS
CEPHALATHUS OCCIDENTALIS	10 NOS
(BUTTONBUSH)	

PLAT 4053 CURRAN PROP LOT 2



PARCEL 24 BIORETENTION FACILITY DETAIL

NOTE: THE VELOCITY OF FLOW INTO THE CULVERT IS NON-EROSIVE THEREFORE NO RIPRAP IS REQUIRED.
 SEE APPENDIX B.3.B OF MD STORM WATER DESIGN MANUAL 2006 FOR CONSTRUCTION SPECIFICATIONS FOR BIO RETENTION FACILITY



LEGEND

- 4 STREAM
- STREAM BUFFER
- BRL
- 100 YR FLOODPLAIN
- SOIL TYPES
- PROPERTY LINE
- 25' WETLAND BUFFER

WETLAND

L1	5 68°26'53"E	77.79'
L2	6 72°17'44"W	24.06'
L3	5 71°45'10"W	59.54'
L4	6 68°26'53"E	26.00'

APPROVED - DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highway
 Date

APPROVED - DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 Date

APPROVED - DEPARTMENT OF ENGINEERING
 Chief, Division of Engineering
 Date

LEGEND

- ⊕ IRON PIPE FOUND
- REBAR SET
- CO = CLEAN OUT

THIS AREA DESIGNATES A PRIVATE EASEMENT OF MINIMUM 10,000 SQUARE FEET (OR FEET PER LOT FOR SHARED GRASS FIELDS ASSOCIATED WITH A SHARED SEWAGE DISPOSAL FACILITY AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA, ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION OF PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCE FOR ENCROACHMENTS IN TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED SEWAGE EASEMENT SHALL NOT BE NECESSARY.

KCE ENGINEERING, INC.
 EXECUTIVE CENTER
 3300 NORTH HURON ROAD, SUITE 240
 ANN ARBOR, MI 48106
 PHONE (313) 353-4600 FAX (313) 353-4223
 E-MAIL: KCE@KCEENGINEERING.COM

BIORETENTION PLAN
 WHITES ESTATE
 LOTS 1 & 2
 15555 ORION DRIVE
 DAYTON
 LIBER 3497 FOLIO 159
 HOWARD COUNTY, MARYLAND

PREPARED BY:
REAL ESTATE SURVEYORS LLC
 4603 CALVERT ROAD
 COLLEGE PARK, MD, 20740
 TEL: (301) 985-6003
 FAX: (301) 985-6003

REVISIONS

- BORING ADDED 5-9-99
- EX-SEPTIC ADDED 04/11/00
- REV-SEPTIC AREA 05/14/00
- TOPO ADDED 11/02/00
- BIORET. DET. ADDED 11/12/02
- BUILDERS CERT ADDED 3/2/02
- BRL BOUND. CHANGES E/L
- SEC 7 ADDED
- SEC 8 CHANGES GRADES 7/8

DEVELOPERS/BUILDERS CERTIFICATE
 I/WE CERTIFY THAT THE PLANTING FOR BIORETENTION FACILITY WILL BE DONE ACCORDING TO THAT SHOWN ON THIS PLAN. 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.

7/30/02
 SIGNATURE DATE

7/30/02
 SIGNATURE DATE

OWNERS
 BRENTON D. WHITE & LEINNA J. WHITE
 15555 ORION DRIVE
 DAYTON, MD 21036

FILE NUMBER: 2505010
DATE: 03-16-1999
JOB NUMBER: M2505.01
PLOTTED: 11-02-00
DRAWN BY: KS, MG

GRAPHIC SCALE 1"=40'

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 BRENTON D. WHITE

1 OF 2

- NOTES (ADDITIONAL)**
- ELEVATIONS SHOWN HEREON ARE TIED TO HOWARD COUNTY NGVD 29 DATUM.
 - FOR PREPARATION OF THIS SURVEY, NO TITLE REPORT WAS FURNISHED OR USED.
 - NO STEEP SLOPES EXIST ON THE SITE.