

LAYOUT 9/2/07 (KW) INSP 4 9/12/07 (KW)
 INSP 2 9/11/07 (KW) INSP 5 _____
 INSP 3 9/18/07 (KW) INSP 6 _____

ISSUE DATE: 8/31/2007

P 527327

APPROVAL DATE: 9/12/07 (KW)

A 518592

PERMIT

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

K & K Excavating IS PERMITTED TO INSTALL ALTER

ADDRESS: P.O. Box 280 PHONE NUMBER: 410-442-1336

SUBDIVISION: Antonis Property LOT NUMBER: 5

ADDRESS: 874 Driver Road PROPERTY OWNER: Selfridge

SEPTIC TANK CAPACITY (GALLONS): 2000 OUTLET BAFFLE FILTER REQUIRED

PUMP CHAMBER CAPACITY (GALLONS): N/A COMPARTMENTED TANK REQUIRED

NUMBER OF BEDROOMS: 4

SQUARE FEET PER BEDROOM: _____

LINEAR FEET OF TRENCH REQUIRED: 120

TRENCHES:	Trench to be 2.0 feet wide. Inlet 4.0 feet below original grade. Bottom maximum depth 9.0 feet below original grade. Effective area begins at 6.0 feet below original grade. 5.0 feet of stone below distribution pipe.
LOCATION:	Place Dist Box per pre-construction layout. Install 2 x 60' trenches on contour as instructed by Sanitarian.
NOTES:	Dry well is to be properly sealed. Basement not serviced by gravity.

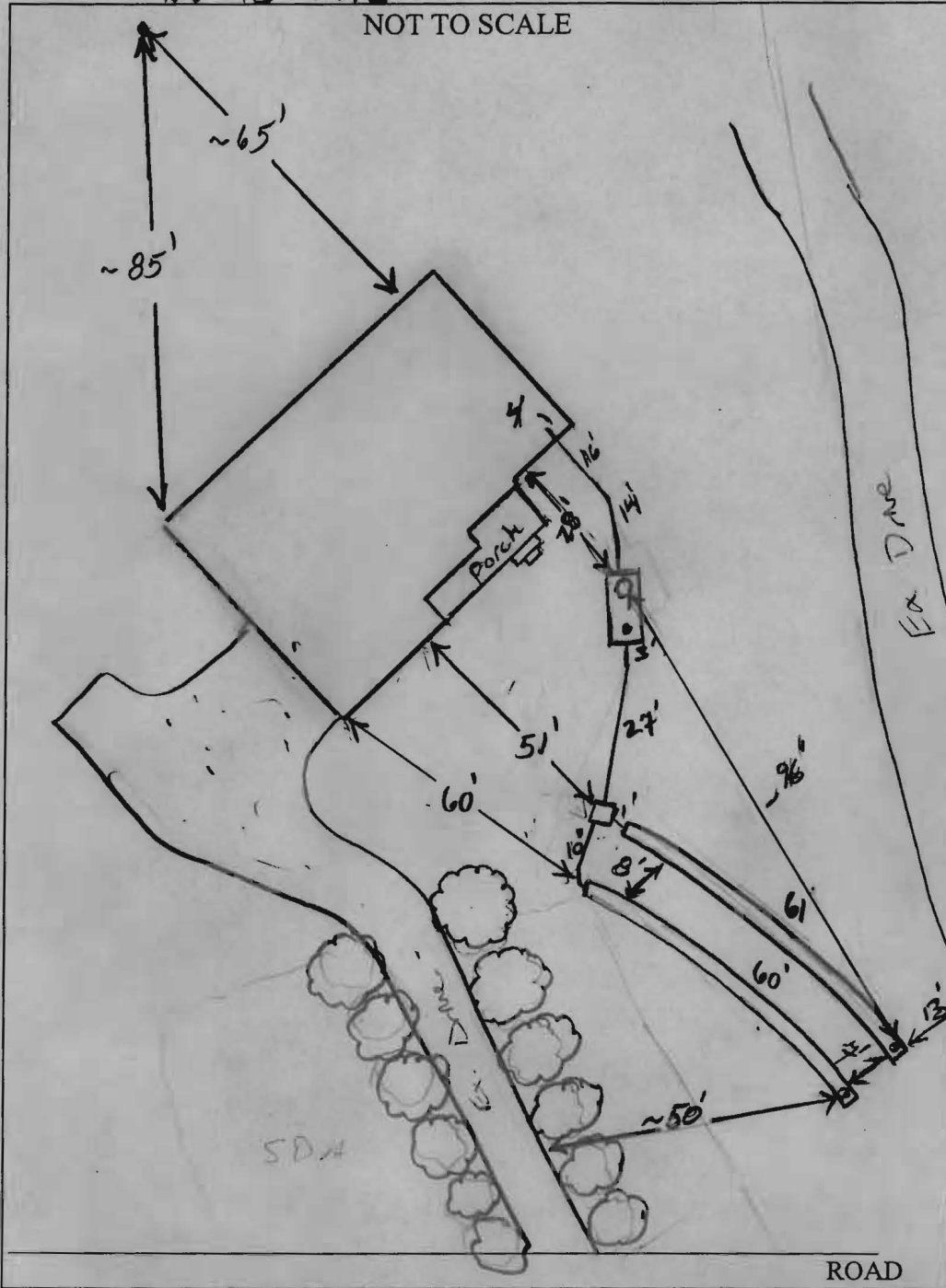
PLANS APPROVED: KW DATE: 9/12/2007

- 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 UNLESS SPECIFICALLY AUTHORIZED

NEITHER THE HOWARD COUNTY COUNCIL NOR 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

40-43-1992

NOT TO SCALE



TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
3	4'	9'
NUMBER OF TRENCHES <u>2</u>		
TOTAL LENGTH <u>121</u>		
ABSORPTION AREA _____		
DISTRIBUTION BOX LEVEL <u>level's</u>		
DISTRIBUTION BOX BAFFLE <u>Yes</u>		
DISTRIBUTION BOX PORT <u>NO</u>		

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL	<u>Yes</u>
CAPACITY	<u>2000</u> GAL
SEAM LOC	<u>Top</u>
TANK LID DEPTH	<u>1-2'</u>
BAFFLES	<u>Yes</u>
BAFFLE FILTER	_____
MANHOLE LOC	<u>Front</u>
6" PORT LOC	<u>Rear</u>
WATERTIGHT TEST	_____
<u>Mayer bro's 2 comp slotted</u>	
SEPTIC TANK 2 LEVEL	_____
CAPACITY	_____ GAL
SEAM LOC	_____
TANK LID DEPTH	_____
BAFFLES	_____
BAFFLE FILTER	_____
MANHOLE LOC	_____
6" PORT LOC	_____
WATERTIGHT TEST	_____

PRE-CONSTRUCTION

9/5/07 Made site visit to help contractor find old DW. Nothing else completed (KW)
 9/12/07 old dry well found

filled in w/ cement.

INSTALLATION:

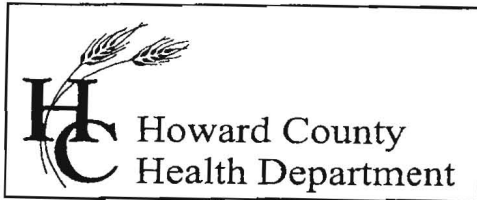
9/18/07 Tank set. House connection made, so trenches dig. Setting D box per instructions. OK to continue (KW)
 9/19/07 System complete. Contractor used geo textile fabric cloth as told. D box level OK to back fill (KW)

FINAL INSPECTOR

J. W. Duff

DATE OF APPROVAL

9/19/07




7178 Columbia Gateway Drive, Columbia, MD 21046
(410) 313-2640 Fax (410) 313-2648
TDD (410) 313-2323 Toll Free 1-866-313-6300
website: www.hchealth.org

Penny E. Borenstein, M.D., M.P.H., Health Officer

June 8, 2005

MEMORANDUM

TO: Land Design & Development, Inc.
5300 Dorsey Hall Drive, Suite 102
Ellicott City, Maryland 21042
Attn: Debbie Zile

FROM: Stuart F. Oster, R.S. 
Bureau of Environmental Health
Well and Septic Program

RE: 874 Driver Road
Marriottsville
Map 10, Grid 4, Parcel 271
(Demolition of house)

This is to advise that the Howard County Health Department recommends issuance of the demolition permit for the above referenced property. The existing well and septic trenches will be utilized for the replacement house. By completing the demolition, you agreed to the following conditions set forth by the Health Department:

Before demolition, the well and septic system that served the current house must be properly disconnected and sealed off. Also, protective devices placed around them to prevent any damage. These precautions should remain in place during the demolition and construction phases. The well (HO-73-1192) can be reconnected to the new house. Because of its age, the septic system condition and size will have to be evaluated for possible future use. It appears that a 10,000 sq. ft. septic easement has already been established.

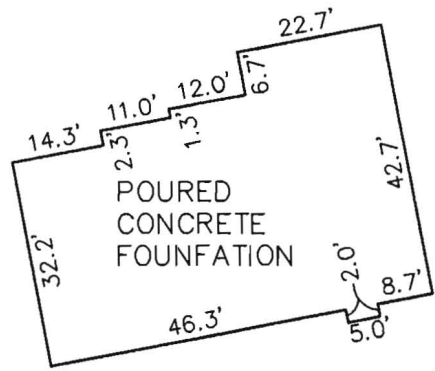
A new septic permit covering proper sizing of the system, possible new tank installation, hook up to the existing trenches and house connection will need to be obtained. A well inspection will be required for final approval when reconnecting to the new house. Additionally, applicable water tests for issuance of an ICOP will be needed.

Cc: File

DRIVER ROAD
LOCAL ROAD-50' R/W

S17°51'00"E
78.69'

GRID NORTH



FOUNDATION DETAIL
SCALE: 1" = 30'

LOT 6
JAMES H
SELFRIDGE BUILDERS INC.
LIBER 9630 FOLIO 593
PLAT NO. 17898

LOT 3

LOT 4
PLEASANT PROSPECT FARM INC.
LIBER 9443 FOLIO 72
PLAT NO. 17998

24' USE-IN -COMMON
ACCESS EASEMENT FOR LOTS 3-6
AND NON-BUILDABLE
PRESERVATION PARCEL 'A'

EX. WELL
HO-73-1992

EX. POOL

LOT 5

N/F
LARRY G. SOWELL & WF
LIBER 669 FOLIO 422

TOP OF FOUNDATION WALL ELEVATION = 460.9'
OFFSET DIMENSIONS TO PROPERTY LINES ARE ± 0.2'

*wall checks
ok
8/31/07
JK*

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF, THAT THE DIMENSIONS OF THE BUILDING WALLS SHOWN HEREON ARE CORRECT; THAT THEY ARE BASED ON A FIELD RUN SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. ON 06/28/07.

NON-BUILDABLE
PRESERVATION PARCEL 'A'
LIBER 9443 FOLIO 72
PLAT NO. 17998

766-198

PERMIT

513329

SEWAGE DISPOSAL SYSTEM
HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH
410-313-2640

A REPAIR

ISSUE DATE 3/16/00

APPROVAL DATE 3/16/00

INDEXED

Farm & Home Excavating IS PERMITTED TO INSTALL ALTER

ADDRESS 901 Driver Road, Marriottsville, MD 21104 PHONE 410-442-2139

SUBDIVISION _____ LOT NUMBER _____ ADDRESS 874 Driver Road

PROPERTY OWNER Nicholas Antonis PROPERTY OWNER'S ADDRESS _____

SEPTIC TANK CAPACITY EX. 1250 GALLONS

PUMP CHAMBER CAPACITY _____ GALLONS

NUMBER OF BEDROOMS 4

SQUARE FEET PER BEDROOM 125

LINEAR FEET OF TRENCH REQUIRED 85±

TRENCHES: Trenches to be 2 feet wide. Inlet 4½ feet below original grade. Bottom maximum depth 10½ feet below original grade. 6 feet of stone below distribution box.

LOCATION: _____

REPAIR - PURPOSE - Dry well has failed.
Call for inspection when ground is opened so sanitarian can recommend repair. 3-16-00

PLANS APPROVED _____ DATE _____

PERMIT VOID AFTER 2 YEARS

NOTE: CONTRACTOR RESPONSIBLE FOR SCHEDULING A PRE-CONSTRUCTION INSPECTION FOR ALL INSTALLATIONS

NOTE: TOP OF SEPTIC TANKS ARE TO BE NO DEEPER THAN 3.0 FEET BELOW FINISH GRADE

NOTE: WATERTIGHT SEPTIC TANKS REQUIRED

NOTE: CLEANOUT REQUIRED EVERY 70 FEET OF SEWER LINE AND/OR AT 90° SWEEPS IN LINES FROM HOUSE TO DRAIN FIELDS, 90° ELBOWS ARE NOT ACCEPTABLE

NOTE: ALL PARTS OF SEPTIC SYSTEMS (I.E. TANK, DISTRIBUTION BOX, DRAINFIELDS) TO BE 100 FEET FROM ANY WATER WELL UNLESS OTHERWISE SPECIFICALLY AUTHORIZED

NOTE: NO ABSORPTION TRENCH TO EXCEED 100 FEET IN LENGTH UNLESS SPECIFICALLY AUTHORIZED

NOTE: ALL PIPE FROM HOUSE TO SEPTIC TANK MUST BE CAST IRON OR SCHEDULE 35/40 PVC OR ABS

NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS

NOTE: DISTRIBUTION BOXES MUST HAVE BAFFLES

NOTE: IF PUMPED SEPTIC SYSTEM REQUIRED, (1) SEPTIC PUMP DETAIL TO BE PROVIDED BY INSTALLER PRIOR TO ISSUANCE OF SEPTIC PERMIT (2) PUMP PERFORMANCE TEST IS NECESSARY PRIOR TO HEALTH DEPARTMENT APPROVAL OF SEPTIC PERMIT

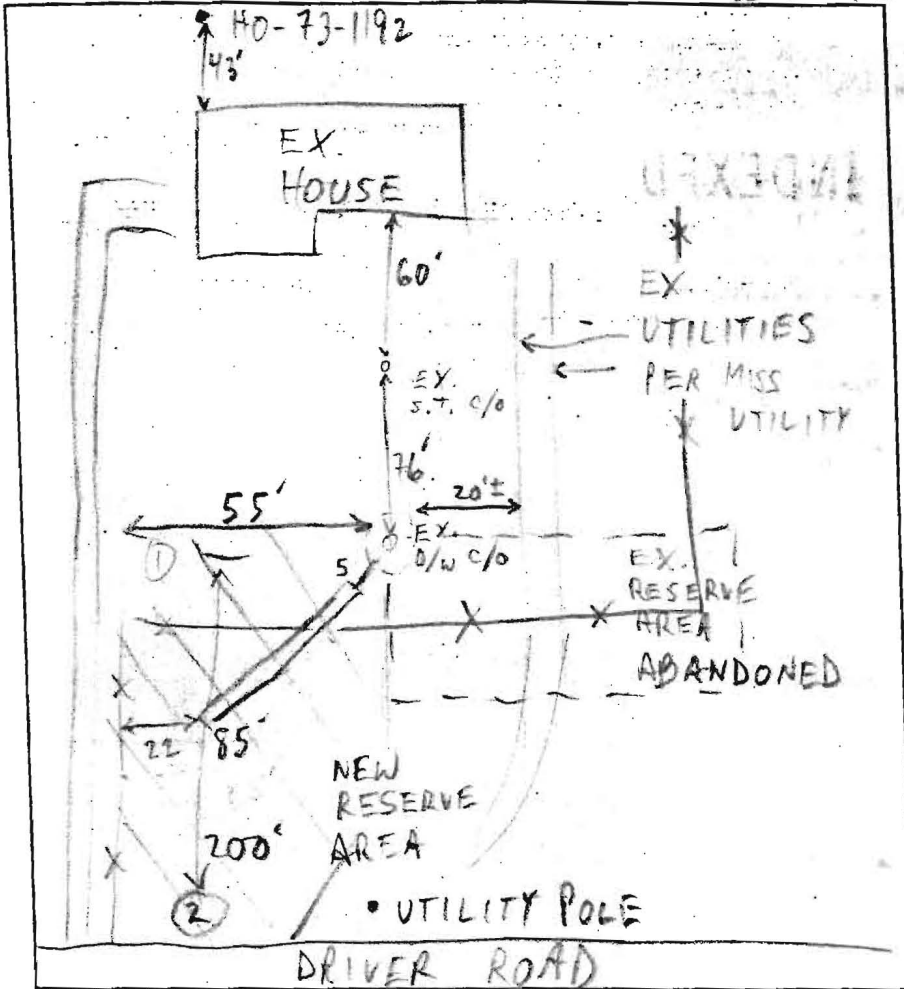
NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM
PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT
CALL 410-313-2640 FOR INSPECTION OF SEPTIC SYSTEM

NOT TO SCALE

102-12'

02
large sicut
large britan
5' m

5-10% frags



TRENCH DATA

TRENCH WIDTH 2
 TRENCH INLET DEPTH 4
 TRENCH BOTTOM DEPTH 10
 DEPTH OF STONE 6
 NUMBER OF TRENCHES 1
 TOTAL TRENCH LENGTH 8.5
 ABSORBENT AREA 510
 DISTRIBUTION BOX LEVEL
 BAFFLE IN DISTRIBUTION BOX

SEPTIC TANK DATA

SEPTIC TANK EX. 1250 GALLONS
 MANHOLE RISER
 6 INCH INSPECTION PORT EX.

PUMP CHAMBER DATA

PUMP CHAMBER GALLONS
 MANHOLE RISER
 ALARM
 PUMP PERFORMANCE TEST

PRE-CONSTRUCTION INSPECTION: _____

INSPECTION COMMENTS: 3/16/00 #1 EX. SEWAGE RESERVE COMPROMISED BY UTILITIES,

NEW RESERVE AREA REQ'D; OK TO START (MR)

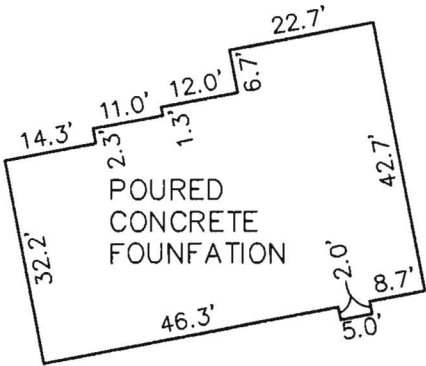
3/16/00 NEW RESERVE AREA ESTABLISHED; OK TO COVER (MR)

INSPECTOR M. Ripkin

DATE SYSTEM APPROVED 3/16/00

DRIVER ROAD
LOCAL ROAD-50' R/W

GRID NORTH



FOUNDATION DETAIL
SCALE: 1" = 30'

TOP OF FOUNDATION WALL ELEVATION = 460.9'
OFFSET DIMENSIONS TO PROPERTY LINES ARE ± 0.2'

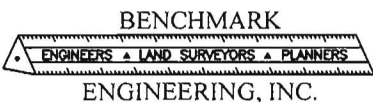
*wall checks
ok
8/21/07
JL*

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF, THAT THE DIMENSIONS OF THE BUILDING WALLS SHOWN HEREON ARE CORRECT; THAT THEY ARE BASED ON A FIELD RUN SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. ON 06/28/07.

7/2/07 *[Signature]*

STEPHAN JALON
PROFESSIONAL LAND SURVEYOR
MD REG. No. 10726
FOR BENCHMARK ENGINEERING, INC.
MD REG. No. 351
FEMA FIRM No. 240044 0010 B
ZONE: C
DATED: 12/04/86



8480 BALTIMORE NATIONAL PIKE • SUITE 418
ELLICOTT CITY, MARYLAND 21043
phone: 410-465-6105 • fax: 410-465-6644
www.bei-civilengineering.com

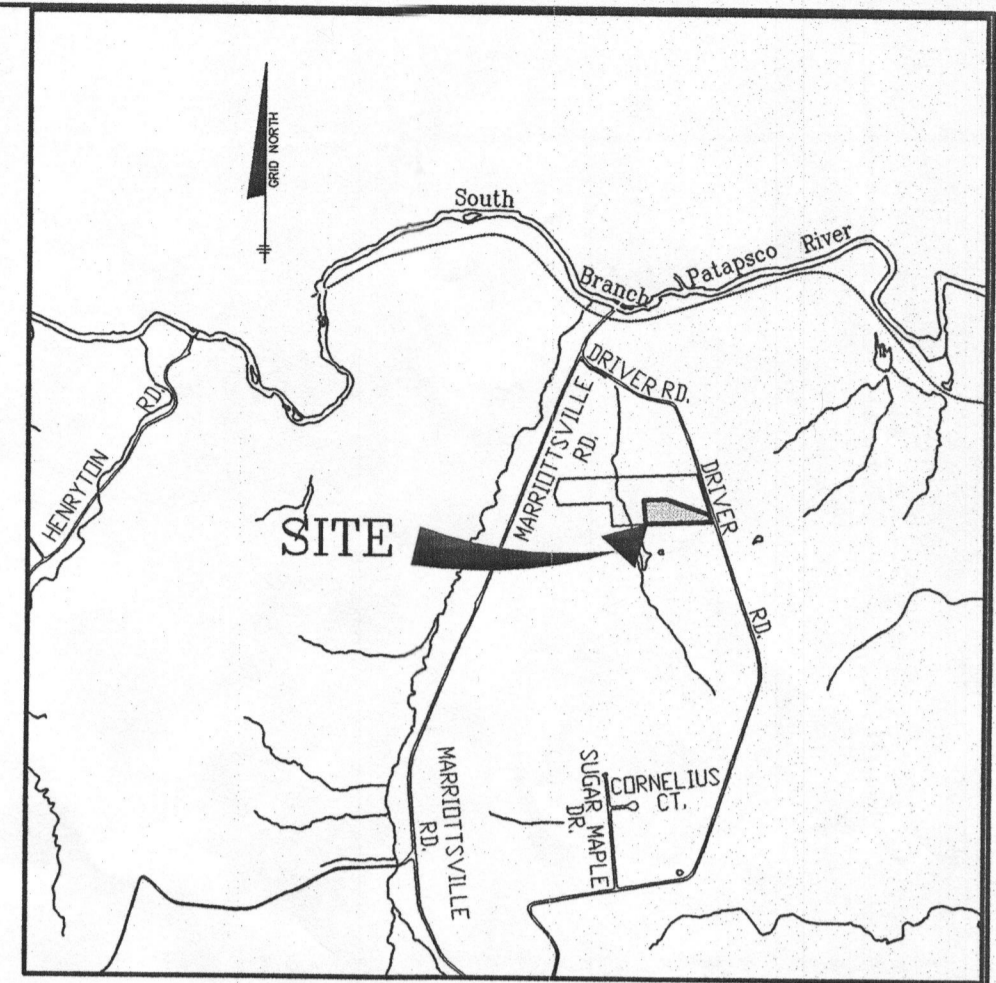


WALL CHECK
ANTONIS PROPERTY
LOTS 3 THROUGH 6
PLAT No.17998
LOT No. 5
874 DRIVER ROAD

3RD ELECTION DISTRICT

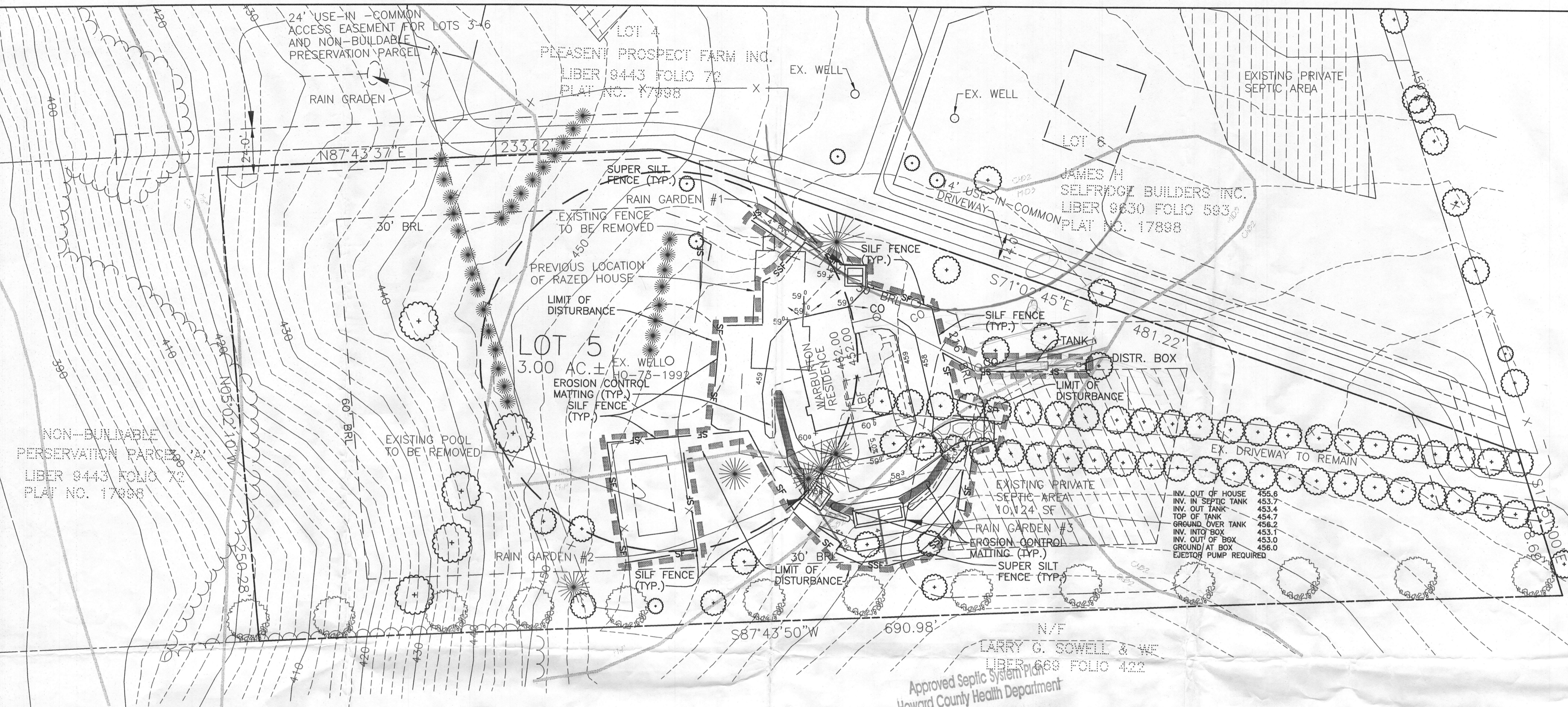
FIELD OBS. BY PJ
COMP. BY EWF
HOWARD COUNTY, MARYLAND

DRAWN BY EWF SCALE: 1" = 80' DATE: 06/28/07



VICINITY MAP
SCALE: 1"=2000'
ADC MAP 6 GRID 5-8

- NOTES:**
- THE LOT SHOWN HEREON WAS RECORDED ON THE PLAT FOR ANTONIS PROPERTY, LOTS 3 THROUGH 6, PLAT NO. 17998. REFER TO THE PLAT FOR LOT DIMENSIONS AND ALL EASEMENTS.
 - THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF 10,000 SQUARE FEET AS REQUIRED BY THE STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA IS RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. ANY CHANGES TO A PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE NECESSARY.
 - THE BUILDER SHALL INSTALL A NEW SEPTIC TANK AND OCCUPANCY PERMIT PRIOR TO ISSUANCE OF FINAL USE AND OCCUPANCY PERMIT.
 - TOPOGRAPHY SHOWN HEREON IS TAKEN FROM THE APPROVED SUPPLEMENTAL PLANS (F-05-125).
 - EXACT LENGTH OF SEPTIC TRENCHES ARE TO BE DETERMINED BY THE HEALTH DEPARTMENT AT THE TIME OF TRENCH LAYOUT AND INSPECTION.
 - SPOIL FROM THE TRENCHING OF THE SEPTIC AREA IS TO BE PLACED ON THE UPHILL SIDE OF THE EXCAVATION FOR EACH INDIVIDUAL LOT.
 - ALL SEDIMENT AND EROSION CONTROL FEATURES USED ON THIS SITE SHALL COMPLY WITH 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 - ALL DRAINAGE AND STORMWATER MANAGEMENT FEATURES USED ON THIS SITE MUST COMPLY WITH THE APPROVED SUPPLEMENTAL PLANS AND REPORTS APPROVED UNDER F-05-125.
 - SEPTIC TANK FOR THIS LOT TO BE 2,000 GALLONS.
 - THE EXISTING WELL SHOWN ON THIS PLAN, HO-73-1992, HAS BEEN FIELD LOCATED BY FREDERICK WARD ASSOCIATES AND IS ACCURATELY SHOWN PER THE SUPPLEMENTAL PLANS (F-05-125).



PLAN VIEW
SCALE: 1" = 30'

Approved Septic System Plan
Howard County Health Department

P. Biecher
Signature
5/31/2007
Date

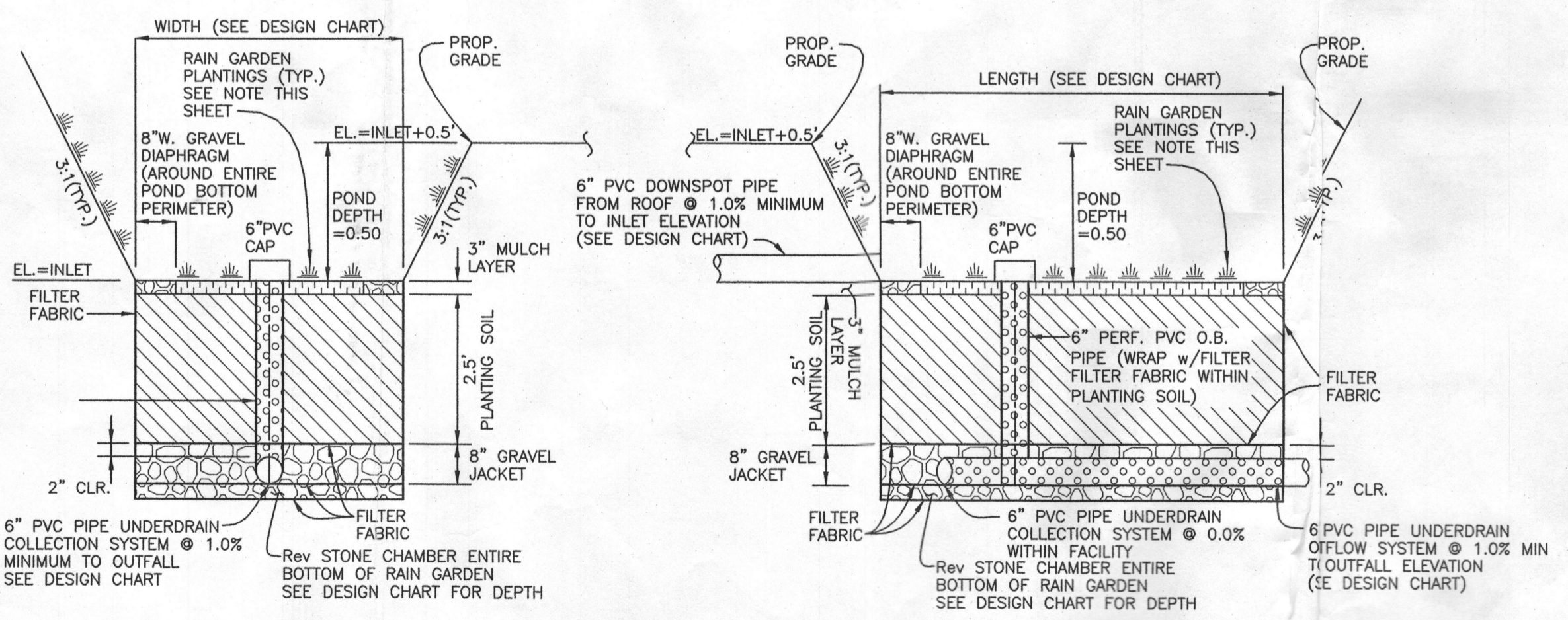
SOILS CHART	
SYMBOL	HYDROLOGIC GROUP NAME
G&B2	B CHESTER SILT LOAM 3 TO 8 PERCENT, MODERATELY ERODED
G&B2	YES C GLENVILLE SILT LOAM 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
M&B3	B MAJOR LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED
M&F	B MAJOR VERY STONY LOAM, 25 TO 60 PERCENT SLOPES

MATERIALS AND SPECIFICATIONS FOR RAIN GARDEN			
MATERIAL	SPECIFICATION	SIZE	NOTES:
PLANTINGS	SEE APPENDIX A, TABLE A.4	N/A	PLANTINGS ARE SITE SPECIFIC
PLANTING SOIL (2.5' TO 4.0' DEEP)	SAND: 30-60% SILT: 30-55% CLAY: 0-25%	N/A	USDA SOIL TYPES: LOAMY SAND, SANDY LOAM OR LOAM
MULCH	SHREDDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM
GEOTEXTILE (CLASS "C")	APPARENT OPENING SIZE: (ASTM D-4751) GRAB TENSILE STRENGTH: (ASTM D-4632) PUNCTURE RESISTANCE: (ASTM D-4833)	N/A	FOR USE AS NECESSARY BENEATH UNDERDRAINS ONLY
UNDERDRAIN GRAVEL	ASHTO M-43	0.375" TO 0.750"	3/8" PERFORATED 6" O.C. 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES
UNDERDRAIN PIPING	F778, TYPE PS28 OR ASHTO M-278	4" TO 6" RIGID SCH.40 PVC, SDR35 OR HDPE	

OPERATION & MAINTENANCE SCHEDULE FOR RAIN GARDENS

- ANNUAL MAINTENANCE OF PLANT MATERIAL AND MULCH LAYER IS REQUIRED. MAINTENANCE OF MULCH IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH-OUT. ANY REPLACEMENT OF MULCH SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE & INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL & PRUNING.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN THE SPRING AND FALL. THIS INSPECTION WILL INCLUDE: REMOVAL OF DEAD & DISEASED VEGETATION CONSIDERED BEYOND TREATMENT; TREATMENT OF ALL DISEASED TREES & SHRUBS; AND REPLACEMENT OF ALL DEFICIENT STAKES & WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE THE 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 MONTH AND AFTER HEAVY STORM EVENTS.

RAIN GARDEN DESIGN SUMMARY							
FILTER NUMBER	LENGTH FEET	WIDTH FEET	SURFACE REQ. SF	SURFACE VOLUME CUBIC FT	FILTER DEPTH FEET	INLET ELEV.	OUTLET ELEV.
Rain Garden #1	8	8	63	148	2.5	458	451.6
Rain Garden #2	8	8	68	152	2.5	458.5	451.8
Rain Garden #3	6	24	142	333	2.5	455	449



TYPICAL PROFILE
TYPICAL SECTION
RAIN GARDEN DETAIL
NOT TO SCALE

LEGEND

- EXISTING CONTOURS (FIELD RUN)
- LIMIT OF WETLANDS
- EXISTING WOODS LINE
- PROPOSED WOODS LINE
- SEPTIC FIELD
- SUPER SILT FENCE
- SILT FENCE
- EROSION CONTROL MATTING
- STABILIZED CONSTRUCTION ENTRANCE
- LIMIT OF DISTURBANCE

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS
8450 BALTIMORE NATIONAL PIKE • SUITE 418
ELICOTT CITY, MARYLAND 21043
PHONE: 410-465-8105 • FAX: 410-465-8644
www.bai-civilengineering.com

OWNER/DEVELOPER/BUILDER:
JAMES H. SELFRIDGE BUILDERS, INC.
4781 TEN OAKS ROAD
DAYTON, MARYLAND 21036
410-531-8930

PROJECT:
ANTONIS PROPERTY
LOT 5

LOCATION:
874 DRIVER ROAD
TAX MAP 40, GRID: 3, PARCEL: 36
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARRIOTTVILLE, MARYLAND 21104

TITLE:
PLOT PLAN

DATE: APRIL, 2007
MAY, 2007

PROJECT NO. 2028

DESIGN: JMC DRAFT: JMC SCALE: AS SHOWN DRAWING 1 OF 2

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition

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

Purpose

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

Conditions Where Practice Applies

- I. This practice is limited to areas having 2:1 or flatter slopes where:
 - a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - c. The original soil to be vegetated contains material toxic to plant growth.
 - d. The soil is so acidic that treatment with limestone is not feasible. If for the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

- I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.
- II. Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slog, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
 - ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nutgrass, poison ivy, thistle, or others as specified.
 - iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

- II. For sites having disturbed areas over 5 acres:
 - i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

- III. For sites having disturbed areas over 5 acres:
 - i. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - b. Organic content of topsoil shall be not less than 1.5 percent by weight.
 - c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min. 1 to permit dissipation of phytotoxic materials).

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

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

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

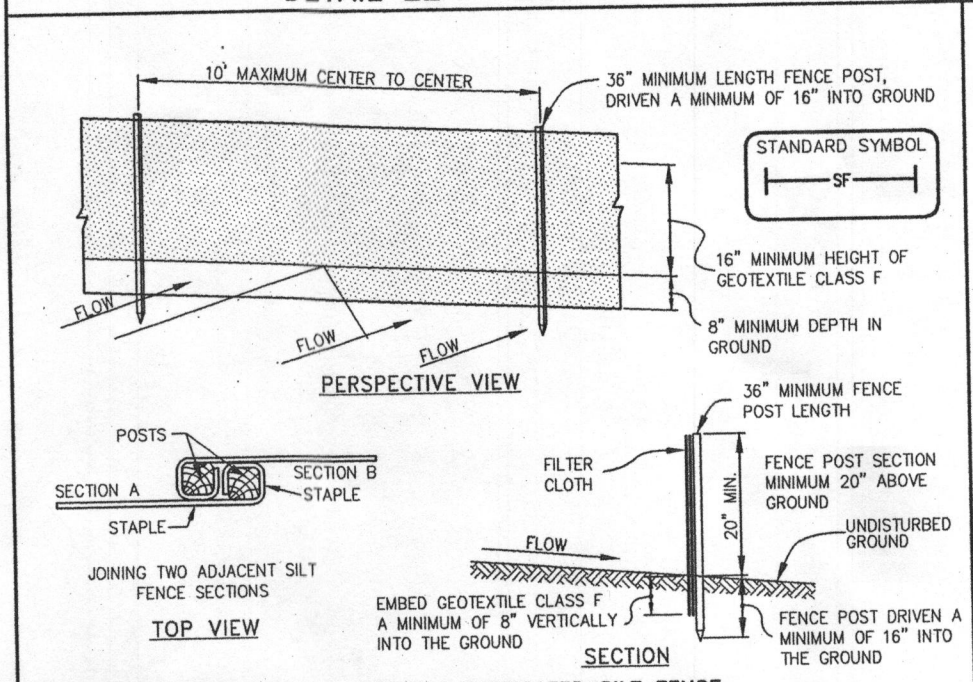
- iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional preparation and tillage. Any irregularities in the surface resulting from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

- iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation. G-21-2

- V. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
 - i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall conform to the following requirements:
 - a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
 - b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
 - ii. 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.

- References: Guideline Specifications, Soil Preparation and Sodding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes, Revised 1973.

DETAIL 22 - SILT FENCE



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. Fence posts shall be a minimum of 36" long, driven 18" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) soil, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard I or U section weighing not less than 1.00 pound per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples of top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/h / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reaches 50% of the fabric height.

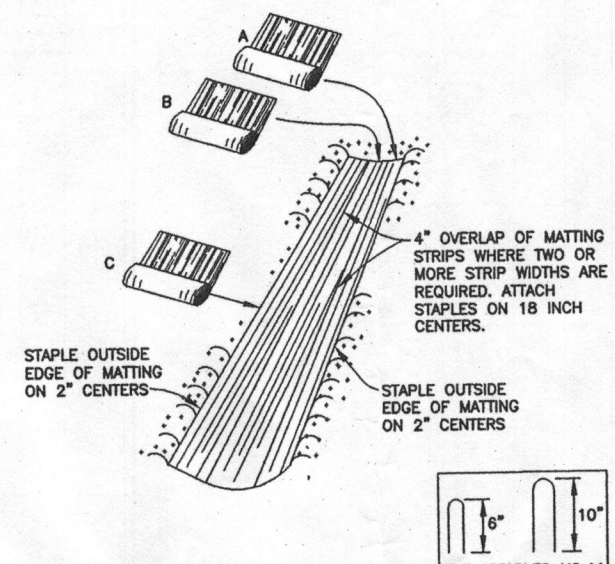
SILT FENCE

SILT FENCE DESIGN CRITERIA

Slope	Steepness (Maximum)	Slope Length (Maximum)	Silt Fence Length (Maximum)
Flatter than 50:1	unlimited	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet	750 feet
10:1 to 5:1	100 feet	750 feet	500 feet
5:1 to 3:1	60 feet	500 feet	250 feet
3:1 to 2:1	40 feet	250 feet	125 feet
2:1 and steeper	20 feet	125 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

DETAIL 30 - EROSION CONTROL MATTING

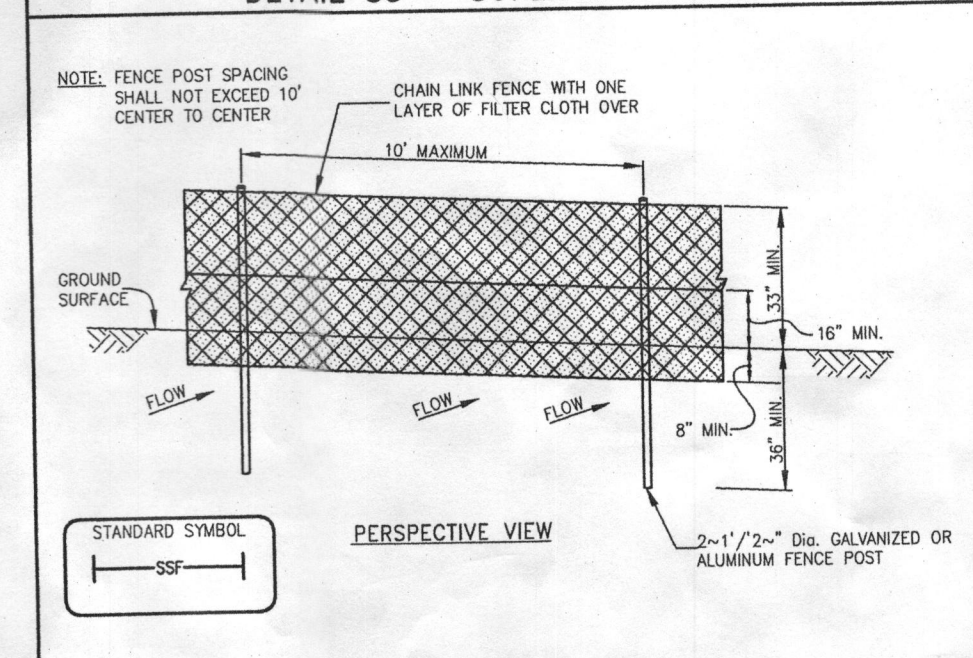


CONSTRUCTION SPECIFICATIONS

1. WITHIN THE MATTING BY PLACING THE TOP ENDS OF THE MATTING IN A NARROW TRENCH 6" IN DEPTH. BACKFILL THE TRENCH AND TAMP FIRMLY TO CONFORM TO THE CHANNEL CROSS-SECTION. SECURE WITH A ROW OF STAPLES ALONG 4" DOWN SLOPE FROM THE TRENCH. SPACING BETWEEN STAPLES IS 6".
2. STAPLE THE 4" OVERLAP IN THE CHANNEL CENTER USING AN 18" SPACING BETWEEN STAPLES.
3. BEFORE STAPLING THE OUTER EDGES OF THE MATTING, MAKE SURE THE MATTING IS SMOOTH AND IN FIRM CONTACT WITH THE SOIL.
4. STAPLES SHALL BE PLACED 2" APART WITH 4 ROWS FOR EACH STRIP, 2 OUTER ROWS AND 2 ALTERNATING ROWS DOWN THE CENTER.
5. WHERE ONE ROLL OF MATTING ENDS AND ANOTHER BEGINS, THE END OF THE TOP STRIP SHALL OVERLAP THE UPPER END OF THE LOWER STRIP BY 4". STAPLE FASTENERS REINFORCE THE OVERLAP WITH A DOUBLE ROW OF STAPLES SPACED 6" APART IN A STAGGERED PATTERN ON EITHER SIDE.
6. THE DISCHARGE END OF THE MATTING LINE SHOULD BE SIMILARLY SECURED WITH 2 DOUBLE ROWS OF STAPLES.

NOTE: IF FLOW WILL ENTER FROM THE EDGE OF THE MATTING THEN THE AREA EXPOSED BY THE FLOW MUST BE KEPT-FLAT.

DETAIL 33 - SUPER SILT FENCE



CONSTRUCTION SPECIFICATIONS

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6" fence shall be used, substituting 42" fabric and 6" length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and cross rods, drive anchors and top caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height!
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples of top and mid section and shall meet the following requirements for Geotextile Class F:

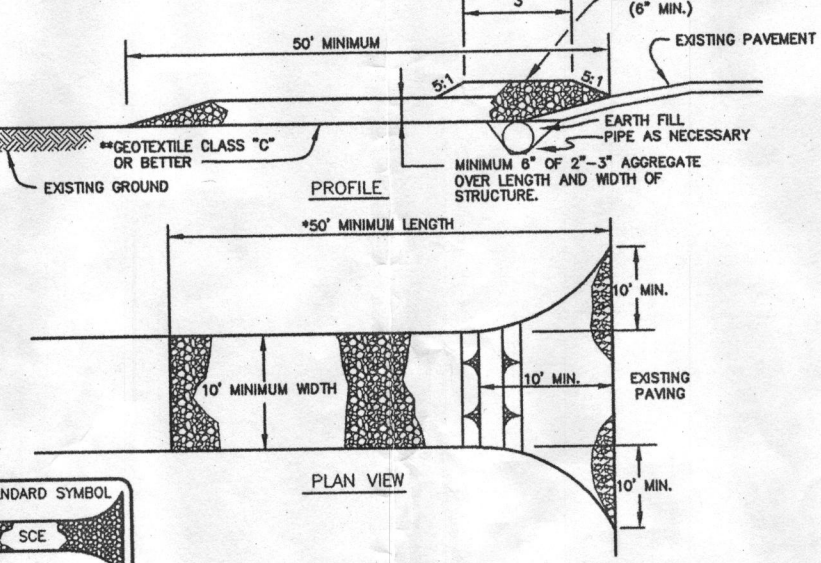
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/h / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

SUPER SILT FENCE

SUPER SILT FENCE DESIGN CRITERIA

Slope	Steepness (Maximum)	Slope Length (Maximum)	Silt Fence Length (Maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



CONSTRUCTION SPECIFICATIONS

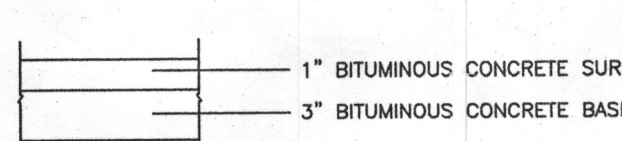
1. Length - minimum of 50' (30' for single residence lots).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residence to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a rounded berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage, then the size is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance shall be located at every spot where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

RAIN GARDEN - PLANTING DATA

1. PLANTINGS WITHIN THE PONDING AREA OF THE RAIN GARDEN ARE TO BE OF A MEDIUM TO HIGH WATER TOLERANCE.

SUGGESTED SPECIES (AUGA REPTANS)
COMMON PERIWINKLE (VINA MINOR)
LILY-TURF (LIRIOPE, SP.)
2. PLANTINGS ALONG THE PERIMETER (BERM) AREA OF THE RAIN GARDEN ARE TO BE OF A LOW TO MEDIUM WATER TOLERANCE.

SUGGESTED SPECIES (PERENNIALS/ANNUALS)
IRIS (IRIS VERSICOLOR)
DAYLILY (HEMEROCALLIS P.)
WHITE GLORY (ASTILEB S.)
3. AVOID PLANTINGS WITH EXCESSIVE ROOT MASS IN POND AREA OF THE RAIN GARDEN NEAR 6" PIPE AND UNDERDRAIN.



PAVING SECTION NOT TO SCALE

RAIN GARDEN - PLANTING SCHEDULE

	RG#1	RG#2	RG#3
① VINCA MINOR (COMMON PERIWINKLE)	10	10	22
② AJUSTA REPTANS S (CREENG BUGLEWEED)	10	10	22
③ IRIS VERSICOLOR (IRIS)	7	7	16
④ HEMEROCALLIS SP (DAYL)	4	4	10
⑤ ACER RUBRUM (RED MAIE)	1	1	1

SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections and Permits, Sediment Control Division prior to the start of any construction (313-1855).
 2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current Maryland Standards and Specifications for Soil Erosion and Sediment Control, and revisions thereto.
 3. Following initial soil disturbances 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 calendar days as to all other disturbed or graded areas on the project site.
 4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the "Howard County Design Manual, Storm Drainage".
 5. All disturbed areas must be stabilized within the time period specified above in accordance with the "1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control" for Permanent Seeding (Sec. 51) and Temporary Seeding (Sec. 50) and Mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding rates do not allow for proper germination and establishment of grasses.
 6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
 7. Site Analysis:

Total Area of Site:	3.00 Ac.±
Area to be Disturbed:	0.49 Ac.±
Area to be roofed or paved:	0.08 Ac.±
Area to be vegetatively stabilized:	0.41 Ac.±
Total Cut:	480 C.Y. SEE NOTE 12
Total Fill:	740 C.Y. SEE NOTE 12
 8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
 9. Additional sediment controls must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
 10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
 11. Trenches for the construction of utilities is limited to three pipe lengths or that which can be back filled and stabilized within one working day, whichever is shorter.
 12. Quantities and estimates shown are for sediment control purposes only. Contractor shall prepare his/her own quantity estimates to his/her satisfaction.
- * It is the responsibility of the contractor to identify the spoil/borrow site and notify and gain approval from the sediment control inspector of the site and it's grading permit number at the time of construction.

NOTES:

CONTRACTOR SHALL CURL ALL SILT FENCE AND SUPER SILT FENCING UPHILL BY 2 FEET (IN A 'J' FORMATION) IN ALL AREAS WHERE THE FENCING RUNS DOWNHILL.

EROSION CONTROL MATTING TO BE PLACED ALONG ALL SWALES WITHIN L.O.D.

A DOUBLE ROW OF SUPER SILT FENCE IS TO BE PROVIDED ON ANY LOT AS REQUESTED BY THE SEDIMENT CONTROL INSPECTOR.

NOTES:

1. THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT PER THE RECORD PLAT.
2. THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF 10,000 SQUARE FEET AS REQUIRED BY THE STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWER DISPOSAL IMPROVEMENTS OF AND NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT EASEMENT PLAT SHALL NOT BE NECESSARY.
3. UNLESS OTHERWISE SHOWN, NO WELLS OR SEWERAGE EASEMENTS ARE LOCATED WITHIN 100 FEET OF THE PROPERTY.
4. TOPOGRAPHY AND EXISTING CONDITIONS SHOWN HEREON IS TAKEN FROM F-05-125 WHICH WAS PREPARED BY ROBERT H. VOGEL ENGINEERS, INC.
5. EXACT LENGTH OF SEPTIC TRENCHES ARE BE DETERMINED BY THE HEALTH DEPARTMENT AT THE TIME OF PERMIT ISSUANCE.
6. SPOIL FROM THE TRENCHING OF THE SEPTIC AREA IS TO BE PLACED ON THE UPHILL SIDE OF THE EXCAVATION.
7. SELECTIVE CLEARING OF TREES MAY TAKE PLACE IN THE SEPTIC RESERVE AREA AND AROUND THE SEPTIC PIPE AND TANK.
8. ALL DRAINAGE AND STORMWATER MANAGEMENT FEATURES USED ON THIS SITE MUST COMPLY WITH THE APPROVED ROAD CONSTRUCTION PLANS.
9. THE EXISTING WELLS SHOWN ON THIS PLAN ARE AS SHOWN BY ROBERT H. VOGEL ENGINEERING, INC. ON THE ROAD CONSTRUCTION PLANS.
10. ALL SEDIMENT AND EROSION CONTROL FEATURES USED ON THIS SITE SHALL COMPLY WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

SEQUENCE OF CONSTRUCTION - INDIVIDUAL HOUSE

- | DAY | ACTIVITY |
|-----------|--|
| DAY 1 | OBTAIN GRADING PERMIT. |
| DAY 2 | THE CONTRACTOR(S) IS TO IDENTIFY AND MARK ANY HAZARDOUS CONDITIONS THAT MAY EXIST ONSITE, SUCH AS OVERHEAD POWERLINES, OLD WELLS, GAS LINES, ETC. |
| DAY 3-4 | INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER SILT FENCE, AND DRIVEWAY CULVERT. |
| DAY 4-10 | GRADE SITE AND STABILIZE IN ACCORDANCE WITH PERMANENT SEEDBED NOTES. |
| DAY 11 | INSTALL EROSION CONTROL MATTING IN THE DITCHES AND SWALES. |
| DAY 12-60 | CONSTRUCT HOUSE, INSTALL DRIVEWAY AND UTILITIES. SPOIL FROM THE TRENCHING OF THE SEPTIC AREA IS TO BE PLACED ON THE UPHILL SIDE OF THE EXCAVATION. |
| DAY 61-63 | STABILIZE ANY REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDBED NOTES. |
| DAY 64-65 | UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES. PERMANENTLY STABILIZE AS REQUESTED. |

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
www.bei-civilengineering.com

ANTONIS PROPERTY LOT 5

OWNER/DEVELOPER/BUILDER: JAMES H. SELFRIDGE BUILDERS, INC.
4781 TEN OAKS ROAD
DAYTON, MARYLAND 21036
410-531-8930

PROJECT: ANTONIS PROPERTY LOT 5

LOCATION: 874 DRIVER ROAD
TAX MAP: 40, GRID: 3, PARCEL: 36
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND 21104

TITLE: PLOT PLAN SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

DATE: APRIL 2007 PROJECT NO. 2028
MAY 2007

DESIGN: JMC DRAFT: JMC SCALE: AS SHOWN DRAWING 2 OF 2