Health

Building Permit Application

Howard County Maryland
Department of Inspections, Licenses and Permits
3430 Court House Drive
Permits: 410-313-2455
www.howardcountymd.gov

Date Received: 3/12/18

Permit No.: B18000818

Building Address: 14176 Triadelphia Mill Rd
City: Dayton State: MD Zip Code: 21036
Suite/Apt. #: SDP/WP/BA #:
Census Tract: Subdivision: Vawter Property
Section: Area: Lot: 3
Tax Map: 27 Parcel: 68 Grid: 24
Zoning: RR-DEO Map Coordinates: Lot Size: 3.4

Existing Use: Land
Proposed Use: New Construction
Estimated Construction Cost: $ $650,000
Description of Work: New home construction
5 BEDROOMS, 2 GARAGES, 6 BATHROOMS, (5 full 1 POWDER), 1 FULL : 1 GALLEY KITCH
Occupant/Tenant Name: Michael, Nancy and Christie Vawter
Was tenant space previously occupied? ☐Yes ☒No
Contact Name:
Address:
City: State: Zip Code:
Phone: Fax:
Email:

Property Owner's Name: Michael, Nancy and Vawter
Address: 14170 Triadelphia Mill Rd
City: Dayton State: MD Zip Code: 21036
Phone: 301-706-6044 Fax:
Email: wildcatsoccer@hotmail.com and cbrought09@gmail.com

Applicant's Name & Mailing Address, (If other than stated herein)
Applicant's Name: Steve Landoll
Address:
City: State: Zip Code:
Phone: 703 403 7624 Fax:
Email: peakpermits@gmail.com

Contractor Company: The Rivas Group
Contact Person: Miles Rivas
Address: 605 Thornbury Ct
City: Westminster State: MD Zip Code: 21158
License No.: 6309
Phone: 410-491-0775 Fax:
Email: Therivasgroup@gmail.com

Engineer/Architect Company: Benchmark Engineering Inc
Responsible Design Prof.: Alice A.Miller
Address: 8480 Baltimore National Pike Ste.eq5
City: Ellicott City State: MD Zip Code: 21043
Phone: 410-465-6160 Fax:
Email:

Commercial Building Characteristics	*Residential Building Characteristics*		
Height:	☒ SF Dwelling ☐ SF Townhouse		
No. of stories:		Depth	Width
Gross area, sq. ft./floor:	1st floor:	95'	91'6"
	2nd floor:	45'11"	34'
Area of construction (sq. ft.):	Basement:	95'	91'6"
	☐ Finished Basement		
Use group:	☒ Unfinished Basement		
	☐ Crawl Space		
Construction type:	☐ Slab on Grade		
☐ Reinforced Concrete	No. of Bedrooms: 5		
☐ Structural Steel	*Multi-family Dwelling*		
☐ Masonry	No. of efficiency units:		
☐ Wood Frame	No. of 1 BR units:		
☐ State Certified Modular	No. of 2 BR units:		
	No. of 3 BR units:		
	Other Structure:		
	Dimensions:		
Roadside Tree Project Permit	Footings:		
☐Yes ☒No	Roof:		
Roadside Tree Project Permit #	☐ State Certified Modular		
	☐ Manufactured Home		

Utilities	
Electric: ☐ Yes ☒ No	
Gas: ☐ Yes ☒ No	
Water Supply	
☐ Public	
☒ Private	
Sewage Disposal	
☐ Public	
☒ Private	
Heating System	
☒ Electric ☐ Oil	
☐ Natural Gas ☒ Propane Gas	
☐ Other:	
Sprinkler System:	
☒ Yes ☐ No	
Grading Permit Number:	GP-1825
Building Shell Permit Number:	

THE UNDERSIGNED HEREBY CERTIFIES AND AGREES AS FOLLOWS: (1) THAT HE/SHE IS AUTHORIZED TO MAKE THIS APPLICATION; (2) THAT THE INFORMATION IS CORRECT; (3) THAT HE/SHE WILL COMPLY WITH ALL REGULATIONS OF HOWARD COUNTY WHICH ARE APPLICABLE THERETO; (4) THAT HE/SHE WILL PERFORM NO WORK ON THE ABOVE REFERENCED PROPERTY NOT SPECIFICALLY DESCRIBED IN THIS APPLICATION; (5) THAT HE/SHE GRANTS COUNTY OFFICIALS THE RIGHT TO ENTER ONTO THIS PROPERTY FOR THE PURPOSE OF INSPECTING THE WORK PERMITTED AND POSTING NOTICES.

Nancy Vawter
Applicant's Signature

Nancy Vawter
Print Name

wildcatsoccer@hotmail.com
Email Address

3/8/18
Date

Home First Title Group LLC
Title/Company

RECEIVED
MAR 12 2018
LICENSES & PERMITS
DIVISION

Checks Payable to: DIRECTOR OF FINANCE OF HOWARD COUNTY
PLEASE WRITE NEATLY & LEGIBLY
-FOR OFFICE USE ONLY-

AGENCY	DATE	SIGNATURE OF APPROVAL
✓ State Highways		
✓ Building Officials		
✓ PSZA (Zoning)		
✓ PSZA (Engineering)		
✓ Health	4/3/18	R Burke

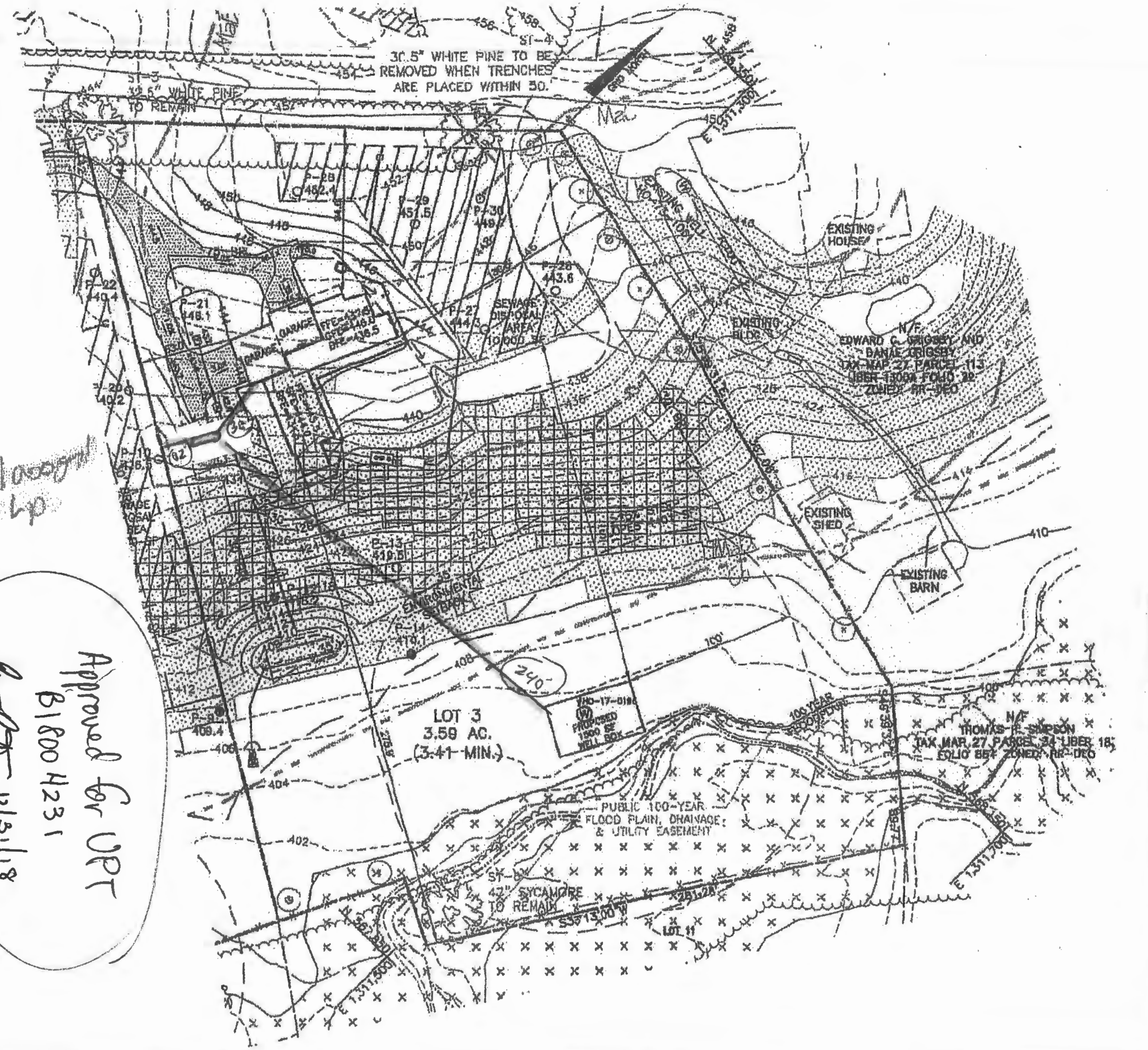
Is Sediment Control approval required for issuance? ☐ Yes ☐ No
☐ CONTINGENCY CONSTRUCTION START

DPZ SETBACK INFORMATION
Front:
Rear:
Side:
Side St.:
All minimum setbacks met? ☐ Yes ☐No
Is Entrance Permit Required? ☐ Yes ☐No
Historic District? ☐ Yes ☐No
Lot Coverage for New Town Zone:
SDP/Red-line approval date:

Filing Fee	$ 150.00
Permit Fee	$
Tech Fee	$
Excise Tax	$
PSFS	$
Guaranty Fund	$ 50
Add'l per Fee	$
Total Fees	$
Sub- Total Paid	$
Balance Due	$
Check	# 9543

Distribution of Copies: White: Building Officials Green: PSZA,Zoning Yellow: PSZA,Engineering Pink: Health Gold: SHA

T:\Operations\Updated Forms\Building applmp 03.21.2017.docx


30.5" WHITE PINE TO BE REMOVED WHEN TRENCHES ARE PLACED WITHIN 50.
ST-4
ST-3
32.5" WHITE PINE TO REMAIN
P-29 452.4
P-29 451.5
P-30 449.2
P-28 443.6
P-27 444.3
SEWAGE DISPOSAL AREA 10,000 SF
P-21 448.1
P-22 440.4
P-20 449.2
P-10 436.5
GARAGE
FFE=
BFE=436.5
SEWAGE DISPOSAL AREA
P-13 419.5
P-14 414.1
P-9 409.4
ENVIRONMENTAL SETBACK
EXISTING HOUSE
EXISTING BLDG
EXISTING SHED
EXISTING BARN
EXISTING WELL
N/F EDWARD C. GRIGSBY AND DANA L. GRIGSBY TAX MAP 27 PARCEL 113 LIBER 13004 FOLIO 32 ZONED: RR-DEO
N/F THOMAS R. SIMPSON TAX MAP 27 PARCEL 34 LIBER 18 FOLIO 657 ZONED: RR-DEO
LOT 3
3.59 AC.
(3.41 MIN.)
PROPOSED 1000 SF WELL BOX
100' BUFFER
100 YEAR FLOODPLAIN
PUBLIC 100-YEAR FLOOD PLAIN, DRAINAGE & UTILITY EASEMENT
SK-1
42" SYCAMORE TO REMAIN
S33°13'00" W
LOT 11
E 1,311,500
E 1,311,700
410
408
406
404
402
240

1000gpd
Lp

Approved for UPT
B18004231
12/31/18

LEGEND

- EXISTING CONTOURS
- EXISTING WOODS LINE
- EXISTING WELL
- PROPOSED WELL
- EXISTING STRUCTURE
- 25% OR GREATER SLOPES 10' OR GREATER VERTICAL ERODIBLE SOILS
- 100-YR FLOODPLAIN
- BOUNDARY
- PROPOSED SEWAGE
- DISCONNECTION AREA

0 30 60 120 240

OWNER/BUILDER: ELLEN M. VAWTER, MICHAEL A. VAWTER, NANCY J. VAWTER, LAURA J. LEONARD, DREW B. LEONARD 14170 TRIADELPHIA MILL ROAD DAYTON, MARYLAND 21036 301-705-6044	BENCHMARK ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 ▲ (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM

PROJECT: **VAWTER PROPERTY**

LOCATION: 14176 TRIADELPHIA MILL ROAD
TAX MAP: 27 – GRID: 24 – PARCEL: 68
ZONED: RR-DEO RURAL RESIDENTIAL
ELECTION DISTRICT NO. 5 – HOWARD COUNTY, MARYLAND

TITLE: BUILDING PERMIT PLAN
LOT 3

HOUSE TYPE:

DATE:	JANUARY, 2018	PROJECT NO.	2766
SCALE:	AS SHOWN	DRAWING 1 OF	1

Building Permit Application

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DILP 2018 DEC 20 PM2:01

Date Received:

Permit No.: B18001231

Building Address: 14176 Triadelphia Mill Rd
City: Dayton State: MD Zip Code: 21036
Suite/Apt. # SDP/WP/BA #:
Subdivision: Vautier Property
Lot: 3 Tax Map: 27 Parcel: 608

Existing Use: SFD
Proposed Use: SFD w/ propane tank
Estimated Construction Cost: $ 3000
Description of Work:
install 1000 gallon underground
propane Tank

Occupant/Tenant Name:
Was tenant space previously occupied? ☐Yes ☐No
Contact Name:
Address: Owner
City: State: Zip Code:
Phone: Fax:
Email:

Property Owner's Name: Ellen Vautier
Address: 14170 Triadelphia Mill Rd
City: Dayton State: MD Zip Code: 21036
Phone: 443-620-1105 Fax:
Email:

Applicant's Name & Mailing Address, (If other than stated herein)
Applicant's Name: Michelle Cloney
Address: Po Box 310
City: Perry Hall State: MD Zip Code: 21128
Phone: 443-640-7514 Fax:
Email: michelle@appliedandapproved.com

Contractor Company: TECH AIR
Contact Person: Dennis [illegible]
Address: 1500 A-D Caton Center Dr
City: Baltimore State: MD Zip Code: 21227
License No.: 81215
Phone: 410-934-5681 Fax:
Email:

Engineer/Architect Company:
Responsible Design Prof.:
Address: Contractor
City: State: Zip Code:
Phone: Fax:
Email:

Commercial Building Characteristics	***Residential Building Characteristics***
Height:	☒ SF Dwelling ☐ SF Townhouse
No. of stories:	**Depth** **Width**
Gross area, sq. ft./floor:	1st floor:
	2nd floor:
Area of construction (sq. ft.):	Basement:
	☐ Finished Basement
Use group:	☐ Unfinished Basement
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Construction type:	☐ Slab on Grade
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☐ Structural Steel	***Multi-family Dwelling***
☐ Masonry	No. of efficiency units:
☐ Wood Frame	No. of 1 BR units:
☐ State Certified Modular	No. of 2 BR units:
	No. of 3 BR units:
	Other Structure:
	Dimensions:
➤ **Roadside Tree Project Permit**	Footings:
☐Yes ☒No	Roof:
Roadside Tree Project Permit #	☐ State Certified Modular
	☐ Manufactured Home

Utilities	
Electric: ☐ Yes ☒ No	
Gas: ☒ Yes ☐ No	
Water Supply	
☐ Public	
☒ Private	
Sewage Disposal	
☐ Public	
☒ Private	
Heating System	
☐ Electric ☐ Oil	
☐ Natural Gas ☐ Propane Gas	
☐ Other:	
Sprinkler System:	
☐ Yes ☒ No	
Grading Permit Number:	
Building Shell Permit Number:	

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Applicant's Signature ***Print Name*** Michelle Cloney

michelle@appliedandapproved.com
Email Address ***Date*** 12/19/18

Title/Company permits

Checks Payable to: **DIRECTOR OF FINANCE OF HOWARD COUNTY**
*****PLEASE WRITE NEATLY & LEGIBLY*****

-FOR OFFICE USE ONLY-

AGENCY	DATE	SIGNATURE OF APPROVAL
State Highways		
Building Officials		
PSZA (Zoning)		
PSZA (Engineering)		
Health	12/31/18	

Is Sediment Control approval required for issuance? ☐ Yes ☐ No
☐ CONTINGENCY CONSTRUCTION START

DPZ SETBACK INFORMATION	
Front:	
Rear:	
Side:	
Side St.:	
All minimum setbacks met?	☐ Yes ☐No
Is Entrance Permit Required?	☐ Yes ☐No
Historic District?	☐ Yes ☐No
Lot Coverage for New Town Zone:	
SDP/Red-line approval date:	

Filing Fee	$ ~~110.00~~
Permit Fee	$ 100
Tech Fee	$ 10
Excise Tax	$
PSFS	$
Guaranty Fund	$
Add'l per Fee	$
Total Fees	$ 110.00
Sub- Total Paid	$
Balance Due	$
Check	# 6757

Distribution of Copies: White: Building Officials Green: PSZA,Zoning Yellow: PSZA,Engineering Pink: Health Gold: SHA

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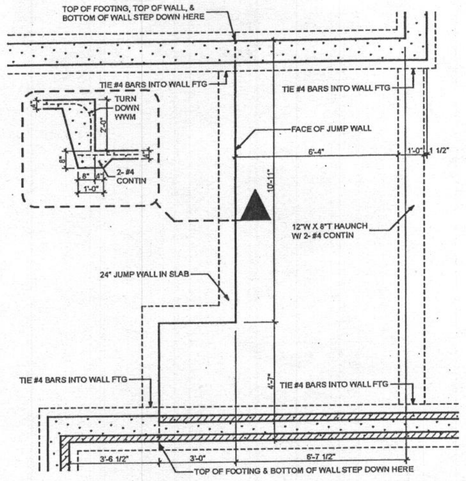
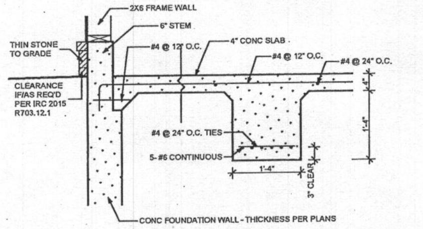
Health Dept.


TOP OF FOOTING, TOP OF WALL, & BOTTOM OF WALL STEP DOWN HERE
TIE #4 BARS INTO WALL FTG
TURN DOWN WWM
2'-0"
2- #4 CONTIN
1'-0"
FACE OF JUMP WALL
6'-4"
1'-0"
1 1/2"
10'-11"
12"W X 8"T HAUNCH W/ 2- #4 CONTIN
24" JUMP WALL IN SLAB
4'-7"
3'-6 1/2"
3'-0"
6'-7 1/2"
TOP OF FOOTING & BOTTOM OF WALL STEP DOWN HERE

D1 Detail Plan at Basement Slab Step

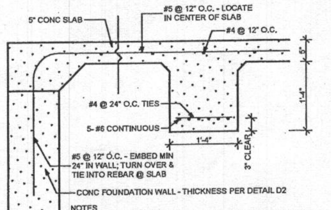
SCALE: 3/8" = 1'-0"


2X6 FRAME WALL
6" STEM
THIN STONE TO GRADE
#4 @ 12" O.C.
4" CONC SLAB
#4 @ 12" O.C.
#4 @ 24" O.C.
CLEARANCE IF/AS REQ'D PER IRC 2015 R703.12.1
#4 @ 24" O.C. TIES
5- #6 CONTINUOUS
1'-4"
3" CLEAR
CONC FOUNDATION WALL - THICKNESS PER PLANS

NOTES
1. CONCRETE TO BE 3500 PSI @ 28 DAYS, AIR ENTRAINED.
2. REINFORCING STEEL SHALL BE GRADE 60.

Detail at Garage Grade Beam

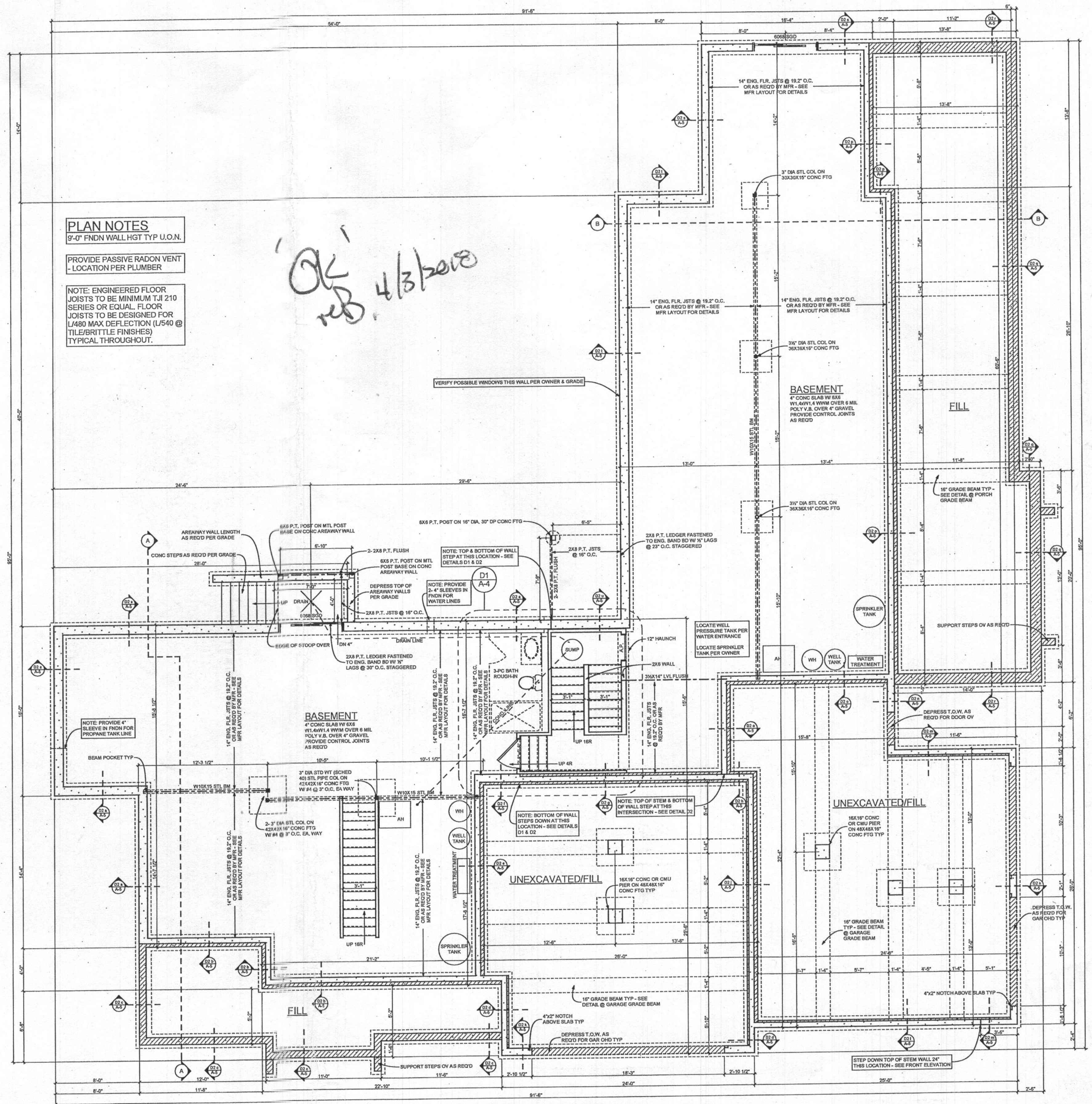
SCALE: 3/4" = 1'-0"


5" CONC SLAB
#5 @ 12" O.C. - LOCATE IN CENTER OF SLAB
#4 @ 12" O.C.
5"
1'-4"
#4 @ 24" O.C. TIES
5- #6 CONTINUOUS
3" CLEAR
#5 @ 12" O.C. - EMBED MIN 24" IN WALL; TURN OVER & TIE INTO REBAR @ SLAB
CONC FOUNDATION WALL - THICKNESS PER DETAIL D2

NOTES
1. CONCRETE TO BE MIN 3000 PSI @ 28 DAYS, AIR ENTRAINED.
2. REINFORCING STEEL SHALL BE MIN GRADE 40.

Detail at Porch Grade Beam

SCALE: 3/4" = 1'-0"


91'-6"
BASEMENT
4" CONC SLAB W/ 6X6 W1.4xW1.4 WWM OVER 6 MIL POLY V.B. OVER 4" GRAVEL PROVIDE CONTROL JOINTS AS REQ'D
FILL
UNEXCAVATED/FILL
14" ENG. FLR. JSTS @ 19.2" O.C. OR AS REQ'D BY MFR - SEE MFR LAYOUT FOR DETAILS
3" DIA STL COL ON 30X30X15" CONC FTG
3½" DIA STL COL ON 36X36X16" CONC FTG
W10X15 STL BM
6068 SGD
VERIFY POSSIBLE WINDOWS THIS WALL PER OWNER & GRADE
16" GRADE BEAM TYP - SEE DETAIL @ PORCH GRADE BEAM
SUPPORT STEPS OV AS REQ'D
6X6 P.T. POST ON 16" DIA. 30" DP CONC FTG
2X8 P.T. LEDGER FASTENED TO ENG. BAND BD W/ ½" LAGS @ 23" O.C. STAGGERED
2X8 P.T. JSTS @ 16" O.C.
2- 2X8 P.T. FLUSH
NOTE: TOP & BOTTOM OF WALL STEP AT THIS LOCATION - SEE DETAILS D1 & D2
D1 A-4
NOTE: PROVIDE 2- 4" SLEEVES IN FNDN FOR WATER LINES
AREAWAY WALL LENGTH AS REQ'D PER GRADE
6X6 P.T. POST ON MTL POST BASE ON CONC AREAWAY WALL
CONC STEPS AS REQ'D PER GRADE
DEPRESS TOP OF AREAWAY WALLS PER GRADE
UP
DRAIN
DRAIN LINE
EDGE OF STOOP OVER
DN 4"
2X8 P.T. LEDGER FASTENED TO ENG. BAND BD W/ ½" LAGS @ 30" O.C. STAGGERED
NOTE: PROVIDE 4" SLEEVE IN FNDN FOR PROPANE TANK LINE
BEAM POCKET TYP
3" DIA STD WT (SCHED 40) STL PIPE COL ON 42X42X16" CONC FTG W/ #4 @ 3" O.C. EA WAY
2- 3" DIA STL COL ON 42X42X16" CONC FTG W/ #4 @ 3" O.C. EA. WAY
AH
WH
WELL TANK
WATER TREATMENT
SPRINKLER TANK
SUMP
3-PC BATH ROUGH-IN
COND. LINE
12" HAUNCH
2X6 WALL
3½X14" LVL FLUSH
UP 16R
UP 4R
UP 18R
LOCATE WELL PRESSURE TANK PER WATER ENTRANCE
LOCATE SPRINKLER TANK PER OWNER
DEPRESS T.O.W. AS REQ'D FOR DOOR OV
NOTE: BOTTOM OF WALL STEPS DOWN AT THIS LOCATION - SEE DETAILS D1 & D2
NOTE: TOP OF STEM & BOTTOM OF WALL STEP AT THIS INTERSECTION - SEE DETAIL D2
16X16" CONC OR CMU PIER ON 48X48X16" CONC FTG TYP
16" GRADE BEAM TYP - SEE DETAIL @ GARAGE GRADE BEAM
4"x2" NOTCH ABOVE SLAB TYP
DEPRESS T.O.W. AS REQ'D FOR GAR OHD TYP
STEP DOWN TOP OF STEM WALL 24" THIS LOCATION - SEE FRONT ELEVATION
A
B
D2 A-5

PLAN NOTES
9'-0" FNDN WALL HGT TYP U.O.N.

PROVIDE PASSIVE RADON VENT - LOCATION PER PLUMBER

NOTE: ENGINEERED FLOOR JOISTS TO BE MINIMUM TJI 210 SERIES OR EQUAL. FLOOR JOISTS TO BE DESIGNED FOR L/480 MAX DEFLECTION (L/540 @ TILE/BRITTLE FINISHES) TYPICAL THROUGHOUT.

'OK'
reB. 4/3/2018

Foundation Plan

SCALE: 1/4" = 1'-0"

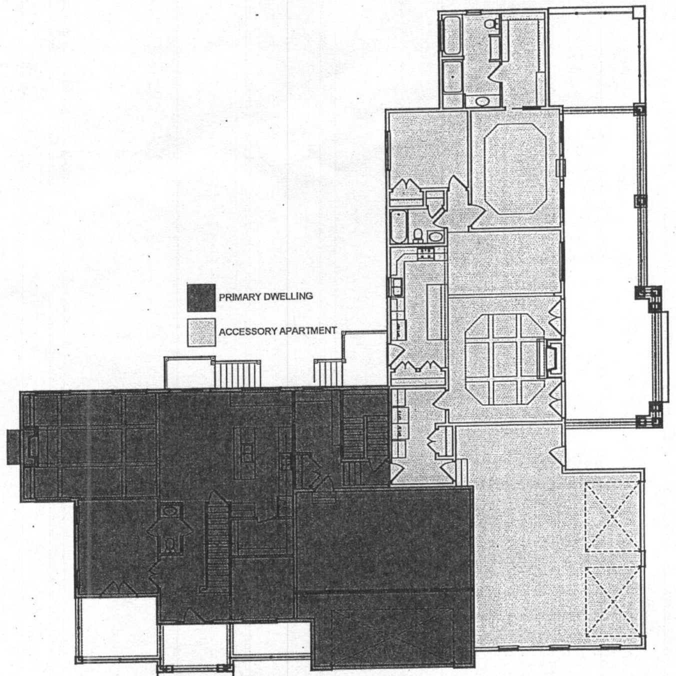
RONALD JOHNSTON AND
ASSOCIATES, ARCHITECTS
11407 BARLEY FIELD WAY
MARRIOTTSVILLE, MD 21104
• 410-442-3667

The Vawter/Brought Residence

REVISIONS

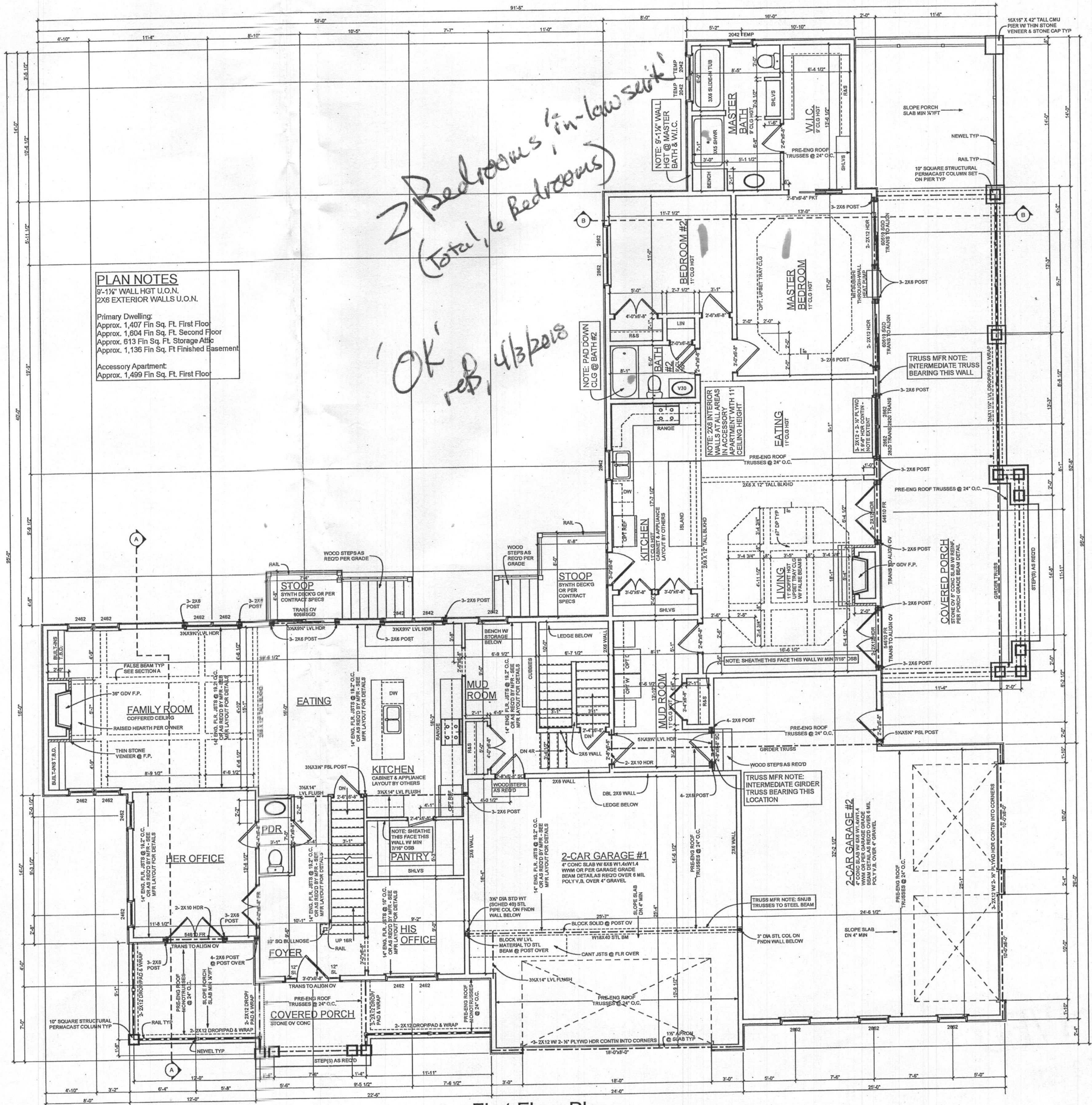
DATE
02/26/2018

SHEET NO.
A-4


PRIMARY DWELLING
ACCESSORY APARTMENT

First Floor Dwelling Plan

SCALE: 1" = 10'


91'-6"
MASTER BATH
W.I.C.
BEDROOM #2
MASTER BEDROOM
BATH #2
EATING
KITCHEN
LIVING
COVERED PORCH
STOOP
MUD ROOM
FAMILY ROOM
COFFERED CEILING
EATING
KITCHEN
PANTRY
PDR
HER OFFICE
HIS OFFICE
FOYER
COVERED PORCH
2-CAR GARAGE #1
2-CAR GARAGE #2
NOTE: 9'-1⅛" WALL HGT @ MASTER BATH & W.I.C.
NOTE: PAD DOWN CLG @ BATH #2
NOTE: 2X8 INTERIOR WALLS AT ALL AREAS IN ACCESSORY APARTMENT WITH 11' CEILING HEIGHT
TRUSS MFR NOTE: INTERMEDIATE TRUSS BEARING THIS WALL
TRUSS MFR NOTE: INTERMEDIATE GIRDER TRUSS BEARING THIS LOCATION
TRUSS MFR NOTE: SNUB TRUSSES TO STEEL BEAM
10" SQUARE STRUCTURAL PERMACAST COLUMN TYP
10"X16" X 42" TALL CMU PIER W/ THIN STONE VENEER & STONE CAP TYP

PLAN NOTES

9'-1⅛" WALL HGT U.O.N.
2X6 EXTERIOR WALLS U.O.N.

Primary Dwelling:
Approx. 1,407 Fin Sq. Ft. First Floor
Approx. 1,604 Fin Sq. Ft. Second Floor
Approx. 613 Fin Sq. Ft. Storage Attic
Approx. 1,136 Fin Sq. Ft Finished Basement

Accessory Apartment:
Approx. 1,499 Fin Sq. Ft. First Floor

2 Bedrooms 'in-law suite'
(Total, 6 Bedrooms)

'OK'
reB, 4/3/2018

First Floor Plan

SCALE: 1/4" = 1'-0"

RONALD JOHNSTON AND
ASSOCIATES, ARCHITECTS
11407 BARLEY FIELD WAY
MARRIOTTSVILLE, MD 21104 • 410-442-3667

The Vawter/Brought Residence

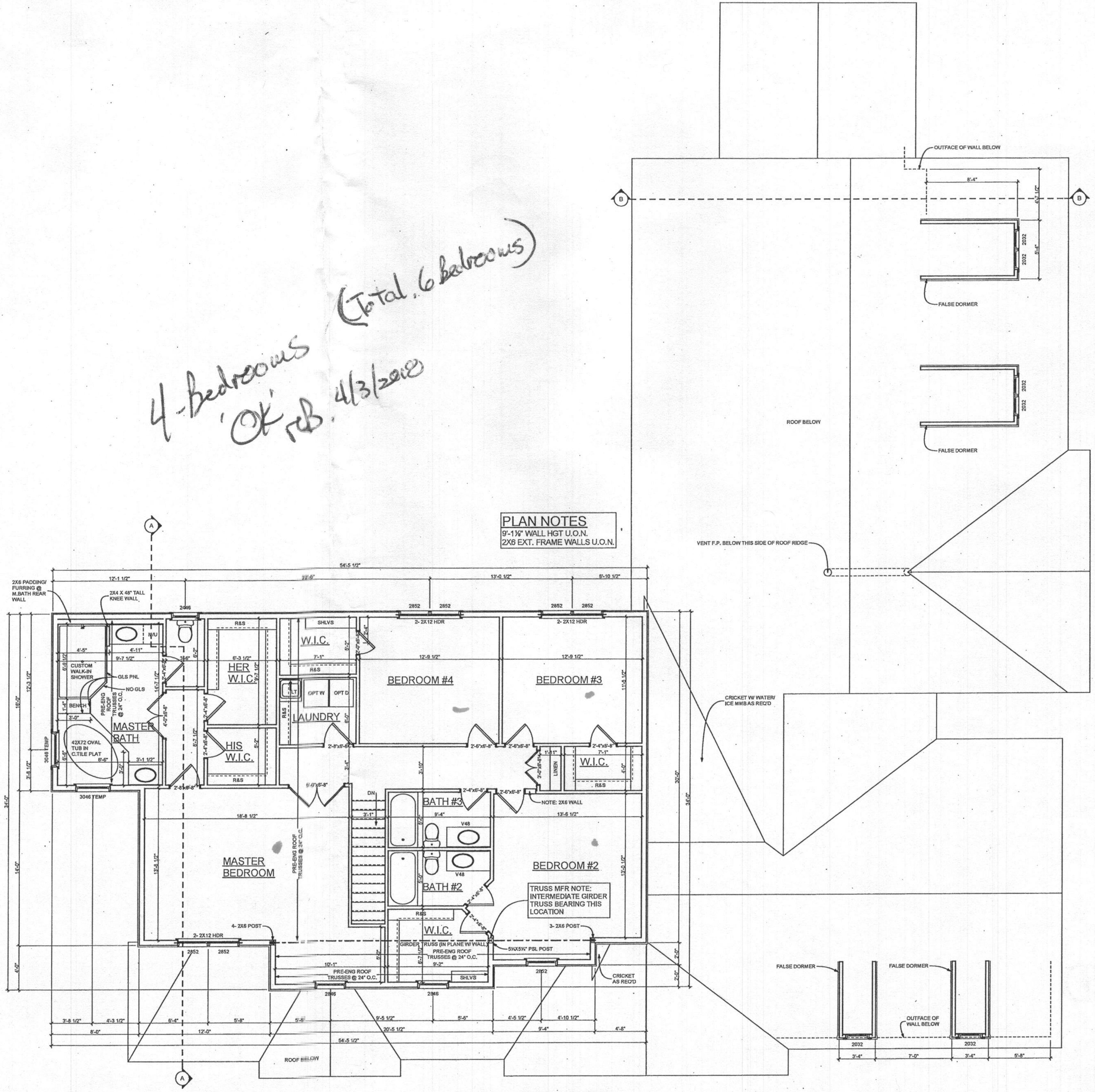
REVISIONS

DATE
02/26/2018

SHEET NO.
A-6

4-Bedrooms (Total 6 Bedrooms)
'OK' rB. 4/3/2018

PLAN NOTES
9'-1⅛" WALL HGT U.O.N.
2X6 EXT. FRAME WALLS U.O.N.


2X6 PADDING/ FURRING @ M.BATH REAR WALL
2X4 X 48" TALL KNEE WALL
2446
CUSTOM WALK-IN SHOWER
GLS PNL
NO GLS
BENCH
PRE-ENG ROOF TRUSSES @ 24" O.C.
42X72 OVAL TUB IN C.TILE PLAT
MASTER BATH
3046 TEMP
HER W.I.C.
HIS W.I.C.
R&S
SHLVS
W.I.C.
LT
OPT W
OPT D
LAUNDRY
BEDROOM #4
BEDROOM #3
2852
2- 2X12 HDR
LINEN
NOTE: 2X6 WALL
DN
BATH #3
BATH #2
V48
MASTER BEDROOM
BEDROOM #2
TRUSS MFR NOTE: INTERMEDIATE GIRDER TRUSS BEARING THIS LOCATION
4- 2X6 POST
3- 2X6 POST
GIRDER TRUSS (IN PLANE W/ WALL)
5¼X5¼" PSL POST
2846
CRICKET AS REQ'D
ROOF BELOW
54'-5 1/2"
OUTFACE OF WALL BELOW
FALSE DORMER
2032
VENT F.P. BELOW THIS SIDE OF ROOF RIDGE
CRICKET W/ WATER/ ICE MMB AS REQ'D

Second Floor Plan

SCALE: 1/4" = 1'-0"

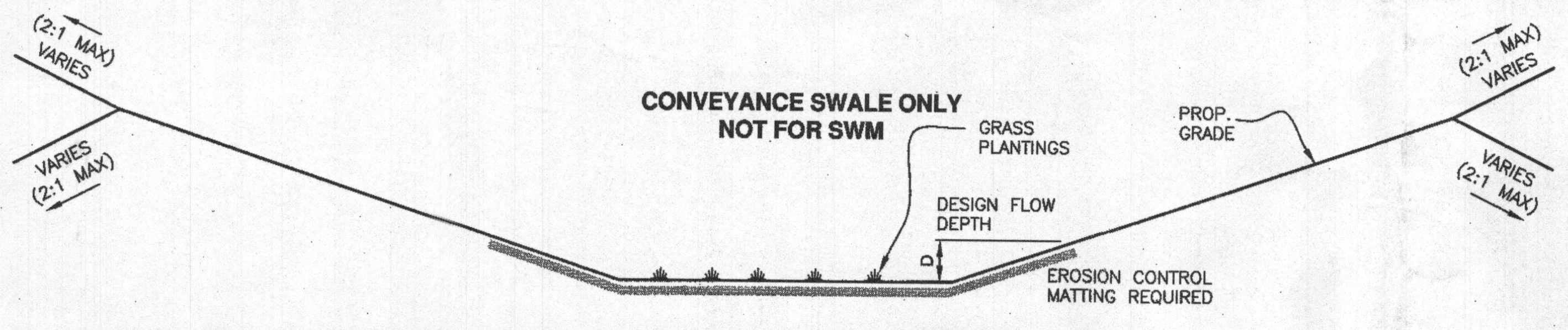
RONALD JOHNSTON AND
ASSOCIATES, ARCHITECTS
11407 BARLEY FIELD WAY
MARRIOTTSVILLE, MD 21104 • 410-442-3667

The Vawter/Brought Residence

REVISIONS

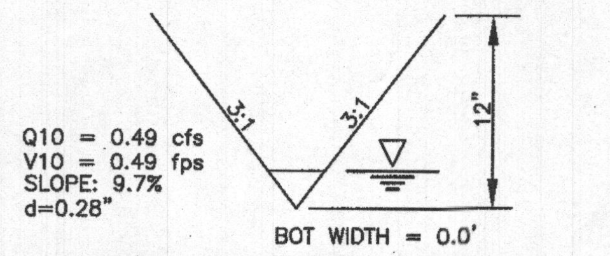
DATE
02/26/2018

SHEET NO.
A-7


(2:1 MAX) VARIES
VARIES (2:1 MAX)
CONVEYANCE SWALE ONLY NOT FOR SWM
GRASS PLANTINGS
PROP. GRADE
DESIGN FLOW DEPTH
D
EROSION CONTROL MATTING REQUIRED

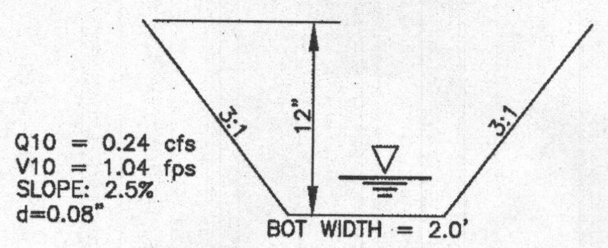
GRASS SWALE TYPICAL SECTION DETAIL

NOT TO SCALE


3:1
3:1
12"
Q10 = 0.49 cfs
V10 = 0.49 fps
SLOPE: 9.7%
d=0.28"
BOT WIDTH = 0.0'

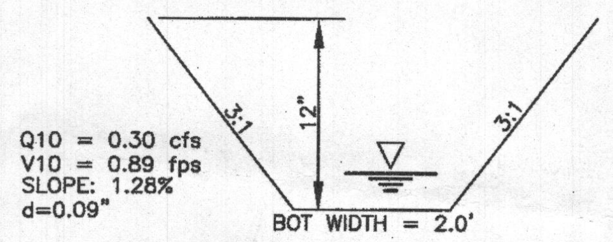
LOT 1 GRASS SWALE 1

NOT TO SCALE


3:1
3:1
12"
Q10 = 0.24 cfs
V10 = 1.04 fps
SLOPE: 2.5%
d=0.08"
BOT WIDTH = 2.0'

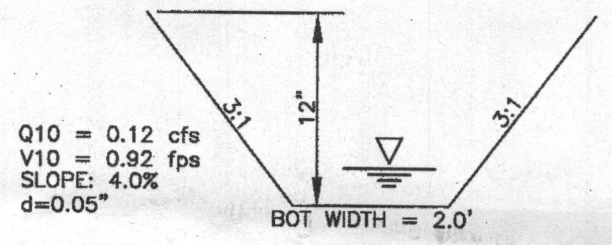
LOT 3 GRASS SWALE 5

NOT TO SCALE


3:1
3:1
12"
Q10 = 0.30 cfs
V10 = 0.89 fps
SLOPE: 1.28%
d=0.09"
BOT WIDTH = 2.0'

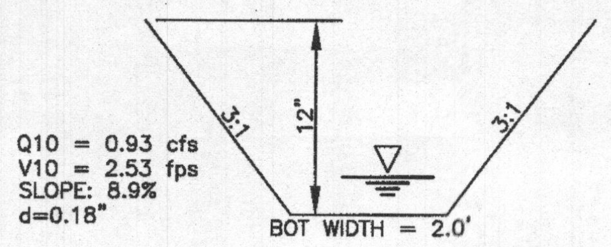
LOT 1 GRASS SWALE 2

NOT TO SCALE


3:1
3:1
12"
Q10 = 0.12 cfs
V10 = 0.92 fps
SLOPE: 4.0%
d=0.05"
BOT WIDTH = 2.0'

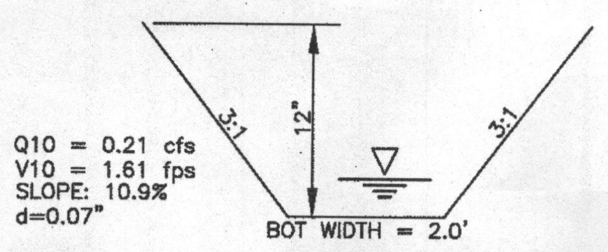
LOT 3 GRASS SWALE 6

NOT TO SCALE


3:1
3:1
12"
Q10 = 0.93 cfs
V10 = 2.53 fps
SLOPE: 8.9%
d=0.18"
BOT WIDTH = 2.0'

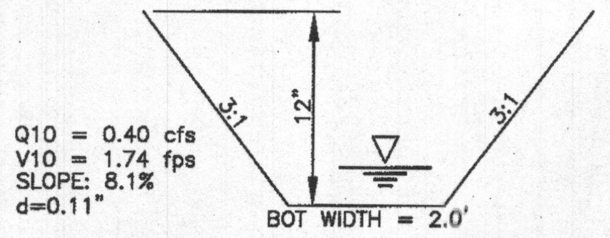
LOT 2 GRASS SWALE 3

NOT TO SCALE


3:1
3:1
12"
Q10 = 0.21 cfs
V10 = 1.61 fps
SLOPE: 10.9%
d=0.07"
BOT WIDTH = 2.0'

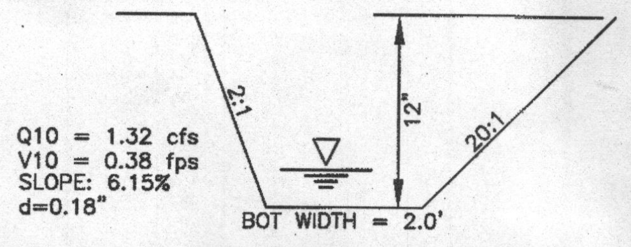
LOT 3 GRASS SWALE 7

NOT TO SCALE


3:1
3:1
12"
Q10 = 0.40 cfs
V10 = 1.74 fps
SLOPE: 8.1%
d=0.11"
BOT WIDTH = 2.0'

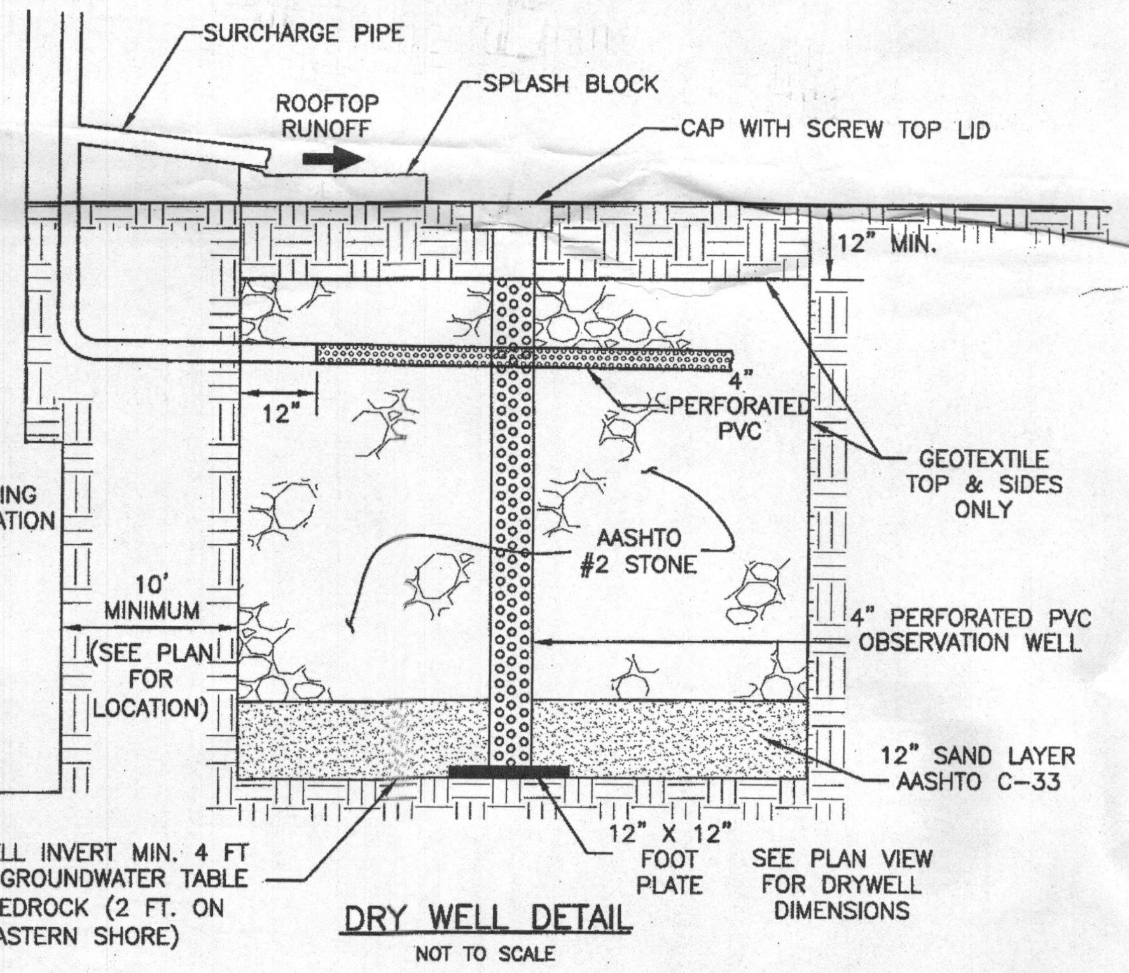
LOT 2 GRASS SWALE 4

NOT TO SCALE


2:1
20:1
12"
Q10 = 1.32 cfs
V10 = 0.38 fps
SLOPE: 6.15%
d=0.18"
BOT WIDTH = 2.0'

LOT 2 (ED-1) EARTH DIKE W/ GRASS SWALE

NOT TO SCALE


SURCHARGE PIPE
ROOFTOP RUNOFF
SPLASH BLOCK
CAP WITH SCREW TOP LID
12" MIN.
12"
4" PERFORATED PVC
GEOTEXTILE TOP & SIDES ONLY
BUILDING FOUNDATION
AASHTO #2 STONE
10' MINIMUM (SEE PLAN FOR LOCATION)
4" PERFORATED PVC OBSERVATION WELL
12" SAND LAYER AASHTO C-33
12" X 12" FOOT PLATE
SEE PLAN VIEW FOR DRYWELL DIMENSIONS
DRY WELL INVERT MIN. 4 FT ABOVE GROUNDWATER TABLE OR BEDROCK (2 FT. ON EASTERN SHORE)

DRY WELL DETAIL

NOT TO SCALE

Drywell Designation	Length (ft)	Width (ft)	Depth (ft)	Grade	Top of Stone	Bottom of Sand
DW-2A	5.00	5.00	5.00	410.0	409.0	404.0
DW-2B	8.00	6.00	5.00	410.0	409.0	404.0

MICROBIORETENTION PLANTING SCHEDULE

(ESTIMATED PLANTINGS TABULATED, THIS SHEET. SPECIFIC NUMBER OF PLANTINGS SHALL BE DETERMINED WITH FINAL DESIGN AT PLOT PLAN PHASE)

⬡1	IRIS VERSICOLOR (IRIS)
⬡2	LOBELIA CARDINALIS CARDINAL FLOWER
3	RUDBECKIA SUBTOMENTOSA – SWEET CONEFLOWER
⊗	CALLUNA VULGARIS (HEATHER) (2 PER FACILITY)
○	SALIX NIGRA (BLACK WILLOW) (1 PER FACILITY)

MICROBIORETENTION PLANTING DATA

1. PLANTINGS WITHIN THE PONDING AREA OF THE MICRO-BIORETENTION FACILITY ARE TO BE OF A MEDIUM TO HIGH WATER TOLERANCE.
2. PLANTINGS ALONG THE PERIMETER (BERM) AREA OF THE MICRO-BIORETENTION FACILITY ARE TO BE OF A LOW TO MEDIUM WATER TOLERANCE.
3. AVOID PLANTINGS WITH EXCESSIVE ROOT MASS IN POND AREA OF THE MICRO-BIORETENTION FACILITY NEAR O.B. PIPE AND UNDERDRAIN.

ENGINEER'S 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.

Alice A. Miller 12-18-17

ALICE A. MILLER PE, LICENSE #28376 DATE

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."

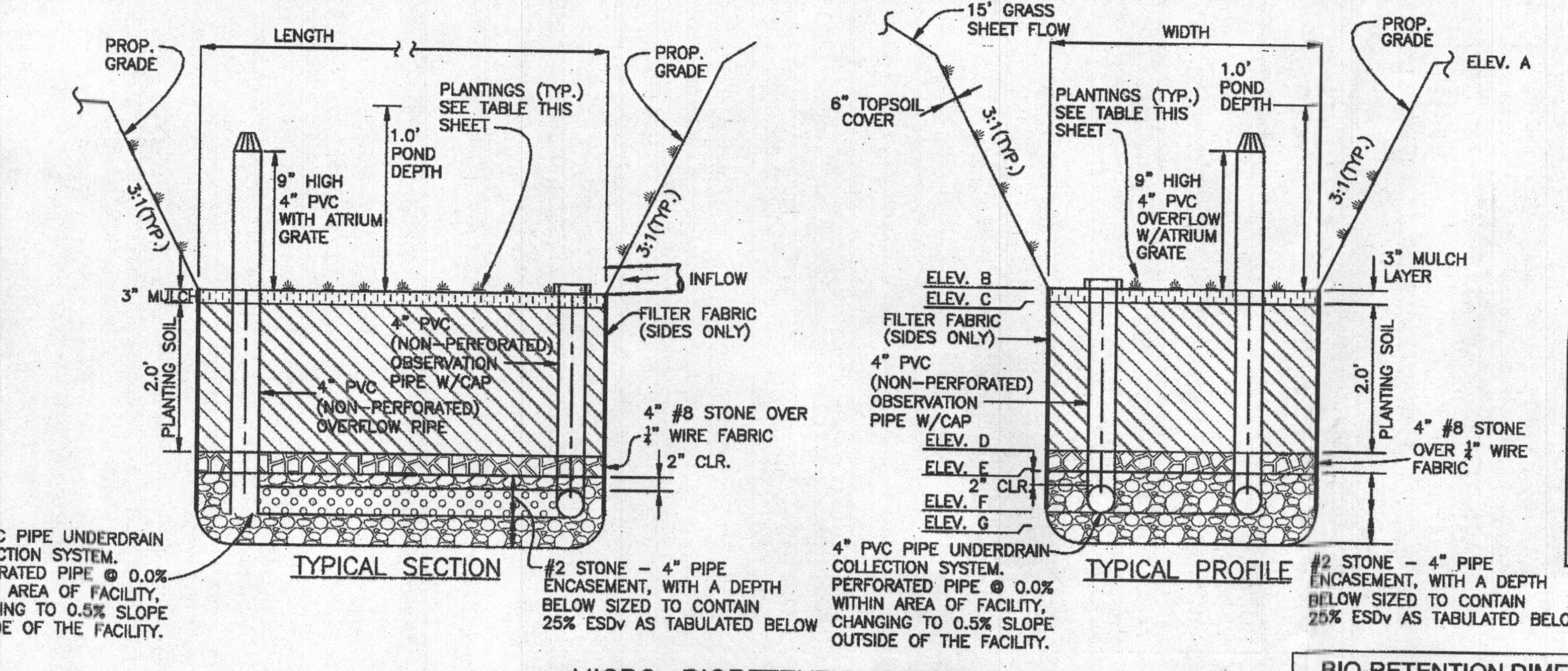
Ellen VA 12-20-17

VAWTER FAMILY DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

12/19/17

HOWARD SOIL CONSERVATION DISTRICT DATE


PROP. GRADE
LENGTH
PLANTINGS (TYP.) SEE TABLE THIS SHEET
1.0' POND DEPTH
9" HIGH 4" PVC WITH ATRIUM GRATE
3:1(TYP.)
INFLOW
3" MULCH
FILTER FABRIC (SIDES ONLY)
2.0' PLANTING SOIL
4" PVC (NON-PERFORATED) OBSERVATION PIPE W/CAP
4" PVC (NON-PERFORATED) OVERFLOW PIPE
4" #8 STONE OVER ¼" WIRE FABRIC
2" CLR.
4" PVC PIPE UNDERDRAIN COLLECTION SYSTEM. PERFORATED PIPE @ 0.0% WITHIN AREA OF FACILITY, CHANGING TO 0.5% SLOPE OUTSIDE OF THE FACILITY.
TYPICAL SECTION
#2 STONE – 4" PIPE ENCASEMENT, WITH A DEPTH BELOW SIZED TO CONTAIN 25% ESDv AS TABULATED BELOW
15' GRASS SHEET FLOW
WIDTH
6" TOPSOIL COVER
9" HIGH 4" PVC OVERFLOW W/ATRIUM GRATE
ELEV. A
ELEV. B
ELEV. C
ELEV. D
ELEV. E
ELEV. F
ELEV. G
3" MULCH LAYER
4" PVC (NON-PERFORATED) OBSERVATION PIPE W/CAP
TYPICAL PROFILE

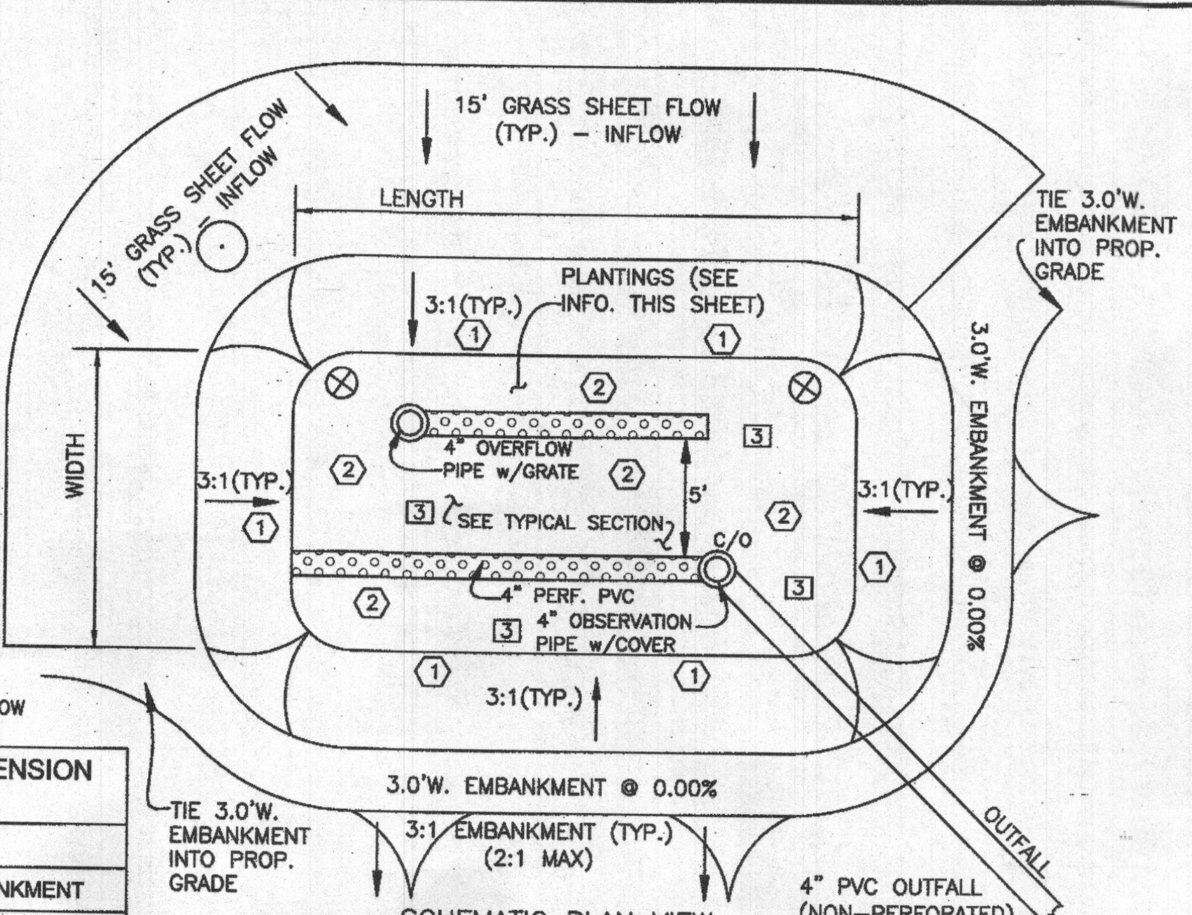
MICRO-BIORETENTION DETAILS

NOT TO SCALE

ON-LOT BIORETENTION CONCEPTUAL DIMENSIONS*													
FACILITY	LENGTH (FT)	WIDTH (FT)	A	B	C	D	E	F	G	H	FILTER (Af)	PLANTINGS		
MB-A	34	11	432.00	431.00	430.75	428.75	428.42	427.92	427.54	423.00	329	15	11	11
MB-B**	33	16	398.00	397.00	396.75	394.75	394.42	393.92	393.43	393.20	478	21	16	16
MB-2	36	20	410.00	409.00	408.75	406.75	406.42	405.92	404.92	405.00	531	24	18	18
MB-3	47	15	436.00	435.00	434.75	432.75	432.42	431.92	431.14	405.80	624	28	21	21

BIO-RETENTION DIMENSION LEGEND

FACILITY	NAME
A	TOP OF EMBANKMENT
B	TOP OF MULCH
C	TOP OF SOIL
D	TOP OF STONE FILTER
E	TOP OF STONE STORAGE
F	UNDERDRAIN INVERT
G	BOTTOM OF STONE
H	OUTFALL ELEVATION


15' GRASS SHEET FLOW (TYP.) – INFLOW
15' GRASS SHEET FLOW (TYP.) – INFLOW
LENGTH
WIDTH
PLANTINGS (SEE INFO. THIS SHEET)
3:1(TYP.)
4" OVERFLOW PIPE w/GRATE
SEE TYPICAL SECTION
5'
C/O
4" PERF. PVC
4" OBSERVATION PIPE w/COVER
TIE 3.0'W. EMBANKMENT INTO PROP. GRADE
3.0'W. EMBANKMENT @ 0.00%
3:1 EMBANKMENT (TYP.) (2:1 MAX)
OUTFALL
4" PVC OUTFALL (NON-PERFORATED) MIN. 0.5% DISCHARGE MIN 5'MIN. FROM P/L ELEV. H

SCHEMATIC PLAN VIEW

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

1. THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
2. WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
3. A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
4. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
5. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
6. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2)

1. MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

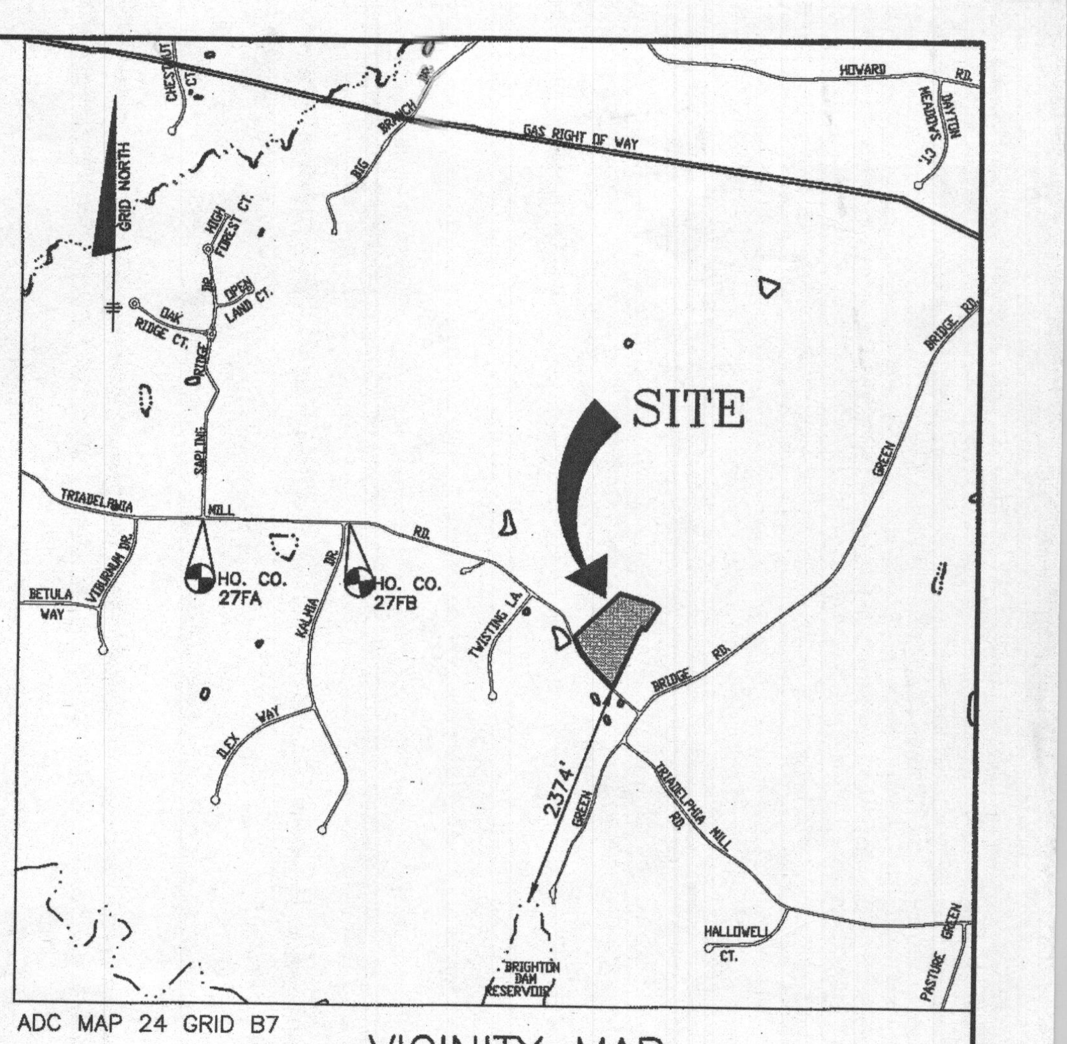
OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. 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. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.

B. THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.

C. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.

D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.


GRID NORTH
SITE
CHESTNUT CT.
BIG BRANCH DR.
GAS RIGHT OF WAY
HOWARD RD.
MEADOWS CT.
DAYTON RD.
HIGH FOREST CT.
OPEN LAND CT.
OAK RIDGE CT.
SAPLING RIDGE DR.
TRIADELPHIA MILL RD.
VIBURNUM DR.
BETULA WAY
HO. CO. 27FA
HO. CO. 27FB
KALMIA DR.
TWISTING LA.
ILEX WAY
GREEN BRIDGE RD.
2374'
TRIADELPHIA MILL RD.
HALLOWELL CT.
BRIGHTON DAM RESERVOIR
PASTURE GREEN

ADC MAP 24 GRID B7

VICINITY MAP

SCALE : 1"=2000'

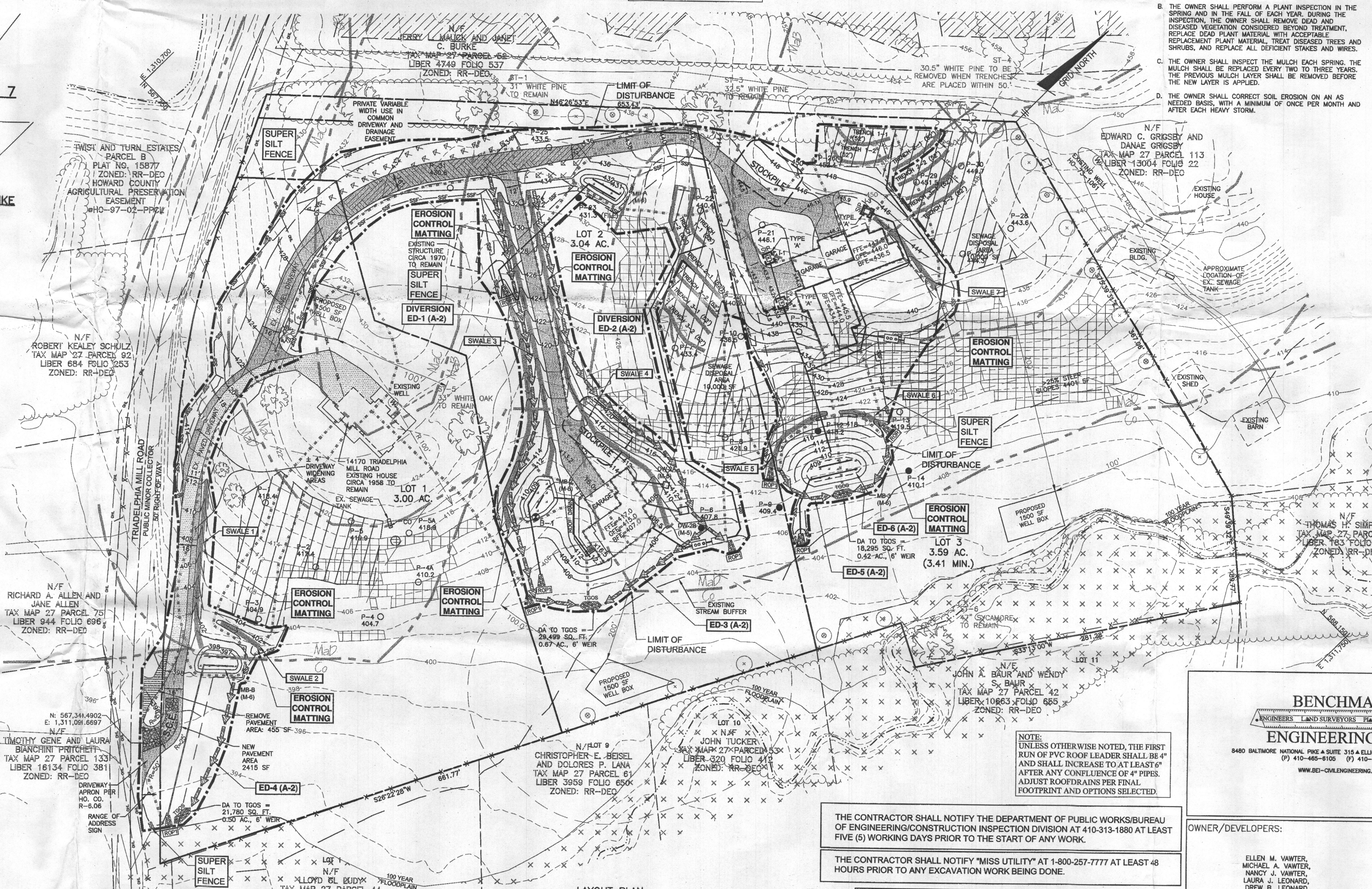
BENCHMARKS (NAD83)

HO. CO. No. 27FA ELEV. 496.35
18.2' SOUTH OF THE CENTERLINE OF TRIADELPHIA MILL RD AT THE INTERSECTION OF SAPLING RIDGE DR.
N 569002.176 E 1306892.586

HO. CO. No. 27FB ELEV. 512.22
3.2' SOUTH OF THE EDGE OF PAVING OF TRIADELPHIA MILL RD 61' EAST OF THE CENTERLINE OF KALMIA DR.
N 568975.151 E 1308421.369

LEGEND

SOILS CLASSIFICATION	GnB
SOILS DELINEATION	▬ ▬ ▬
EXISTING CONTOURS	—480— – – 478 – –
EXISTING WOODS LINE	⌒⌒⌒⌒
EXISTING WELL	Ⓦ
PROPOSED WELL	PROPOSED WELL BOX
PASSING PERCOLATION TEST	○
FAILING PERCOLATION TEST	●
EXISTING STRUCTURE	⬚
PROPOSED STRUCTURE	▭
EXISTING SEWAGE DISPOSAL AREA	▨
PROPOSED SEWAGE DISPOSAL AREA	▨
25% OR GREATER SLOPES 10' OR GREATER VERTICAL	▦
EX. 100 YEAR FLOODPLAIN	+ +
LIMIT OF DISTURBANCE	▬ · ▬ · ▬
DISCONNECTION AREA	▨
DISCONNECT RECEIVING	▦
FACILITY DRAINAGE AREA	········
SILT FENCE	—— SF ——
SUPER SILT FENCE	—SSF——SSF—
EROSION CONTROL MATTING	▬
EARTH DIKE	ED-1 ⇨⇨⇨
STABILIZED CONSTRUCTION ENTRANCE	S.C.E.
ROCK OUTLET PROTECTION	ROP1
STANDARD INLET PROTECTION (TYPE 'A')	SIP
TEMPORARY GABION OUTLET STRUCTURE	TGOS


N/F
JERRY L. MAUCK AND JANET C. BURKE
TAX MAP 27 PARCEL 52
LIBER 4749 FOLIO 537
ZONED: RR-DEO
ST-1
31" WHITE PINE TO REMAIN
LIMIT OF DISTURBANCE
ST-3
32.5" WHITE PINE TO REMAIN
ST-4
30.5" WHITE PINE TO BE REMOVED WHEN TRENCHES ARE PLACED WITHIN 50.'
GRID NORTH
E 1,310,700
N 567,700
PRIVATE VARIABLE WIDTH USE IN COMMON DRIVEWAY AND DRAINAGE EASEMENT
SUPER SILT FENCE
TWIST AND TURN ESTATES
PARCEL B
PLAT NO. 15877
ZONED: RR-DEO
HOWARD COUNTY AGRICULTURAL PRESERVATION EASEMENT
#HO-97-02-PPC
N/F
EDWARD C. GRIGSBY AND DANAE GRIGSBY
TAX MAP 27 PARCEL 113
LIBER 13004 FOLIO 22
ZONED: RR-DEO
EXISTING WELL HO-73-1061
EXISTING HOUSE
STOCKPILE
TRENCH 1-1 (52')
TRENCH 1-2 (52')
TRENCH 2-1 (52')
TRENCH 2-2 (52')
TRENCH 3-1 (52')
TRENCH 3-2 (52')
P-26
P-29
P-30
P-28
EROSION CONTROL MATTING
EXISTING STRUCTURE CIRCA 1970 TO REMAIN
SUPER SILT FENCE
LOT 2
3.04 AC.
SEWAGE DISPOSAL AREA
EXISTING BLDG.
APPROXIMATE LOCATION OF EX. SEWAGE TANK
DIVERSION ED-1 (A-2)
DIVERSION ED-2 (A-2)
SWALE 3
SWALE 4
SWALE 5
SWALE 6
SWALE 7
SWALE 1
SWALE 2
N/F
ROBERT KEALEY SCHULTZ
TAX MAP 27 PARCEL 92
LIBER 684 FOLIO 253
ZONED: RR-DEO
SEWAGE DISPOSAL AREA 10,000 SF
25% STEEP SLOPES
EXISTING SHED
EXISTING BARN
30" WHITE OAK TO REMAIN
EXISTING WELL
SUPER SILT FENCE
LIMIT OF DISTURBANCE
TRIADELPHIA MILL ROAD
PUBLIC MINOR COLLECTOR
50' RIGHT OF WAY
14170 TRIADELPHIA MILL ROAD
EXISTING HOUSE CIRCA 1958 TO REMAIN
EX. SEWAGE TANK
LOT 1
3.00 AC.
4" DRIVEWAY WIDENING AREAS
STOCKPILE
GARAGE
P-14
410.1
ED-6 (A-2)
EROSION CONTROL MATTING
DA TO TGOS = 18,295 SQ. FT. 0.42 AC., 6' WEIR
ED-5 (A-2)
LOT 3
3.59 AC.
(3.41 MIN.)
PROPOSED 1500 SF WELL BOX
N/F
THOMAS H. SIMPSON
TAX MAP 27 PARCEL 34
LIBER 183 FOLIO 554
ZONED: RR-DEO
100 YEAR FLOODPLAIN
N/F
RICHARD A. ALLEN AND JANE ALLEN
TAX MAP 27 PARCEL 75
LIBER 944 FOLIO 696
ZONED: RR-DEO
EROSION CONTROL MATTING
P-4
404.7
EXISTING STREAM BUFFER
ED-3 (A-2)
DA TO TGOS = 29,499 SQ. FT. 0.67 AC., 6' WEIR
LIMIT OF DISTURBANCE
ST-6
47" SYCAMORE TO REMAIN
S33°13'00"W
281.28'
LOT 11
N/F
JOHN A. BAUR AND WENDY S. BAUR
TAX MAP 27 PARCEL 42
LIBER 10663 FOLIO 655
ZONED: RR-DEO
PROPOSED 1500 SF WELL BOX
N: 567,341.4902
E: 1,311,096.6697
N/F
TIMOTHY GENE AND LAURA BIANCHINI PRITCHETT
TAX MAP 27 PARCEL 133
LIBER 16134 FOLIO 381
ZONED: RR-DEO
REMOVE PAVEMENT AREA: 455 SF
NEW PAVEMENT AREA 2415 SF
DRIVEWAY APRON PER HO. CO. R-6.06
RANGE OF ADDRESS SIGN
ED-4 (A-2)
DA TO TGOS = 21,780 SQ. FT. 0.50 AC., 6' WEIR
S28°22'28"W
661.77'
N/F LOT 9
CHRISTOPHER E. BEISEL AND DOLORES P. LANA
TAX MAP 27 PARCEL 61
LIBER 3959 FOLIO 650
ZONED: RR-DEO
N/F LOT 10
JOHN TUCKER
TAX MAP 27 PARCEL 53
LIBER 320 FOLIO 412
ZONED: RR-DEO
N/F LOT 8
LLOYD B. BUDY
TAX MAP 27 PARCEL 44
LIBER 408 FOLIO 733
ZONED: RR-DEO
100 YEAR FLOODPLAIN
SUPER SILT FENCE
N 568,150
E 1,311,750
MaB
MaC
MaD
Co

LAYOUT PLAN

SCALE: 1" = 50'

0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

NOTE:
UNLESS OTHERWISE NOTED, THE FIRST RUN OF PVC ROOF LEADER SHALL BE 4" AND SHALL INCREASE TO AT LEAST 6" AFTER ANY CONFLUENCE OF 4" PIPES. ADJUST ROOFDRAINS PER FINAL FOOTPRINT AND OPTIONS SELECTED.

THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF ANY WORK.

THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

SOILS LEGEND

SYMBOL	TYPE	K* FACTOR	NAME
Co*	C	.37**	CODORUS AND HATBORO SILT LOAM, 0 TO 3 PERCENT SLOPES
GgC	B	.28	GLENELG LOAM, 3 TO 8 PERCENT SLOPES
MaC	B	.32	MANOR LOAM, 8 TO 15 PERCENT SLOPES
MaD	B	.32**	MANOR LOAM, 15 TO 25 PERCENT SLOPES

* INDICATES HYDRIC SOILS
** HIGHLY ERODIBLE, K>0.35, AND/OR 15% OR GREATER SLOPES
TAKEN FROM THE NRCS WEB SOIL SURVEY, APRIL 2016. PAGE 15

BENCHMARK
ENGINEERS LAND SURVEYORS PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315 ▲ ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28376, Expiration Date: 1-1-2019.

ALICE A. MILLER No. 28376

12-18-17

OWNER/DEVELOPERS:

ELLEN M. VAWTER,
MICHAEL A. VAWTER,
NANCY J. VAWTER,
LAURA J. LEONARD,
DREW B. LEONARD
14170 TRIADELPHIA MILL ROAD
DAYTON, MARYLAND 21036
301-706-6044

HEALTH

PROJECT:

VAWTER PROPERTY

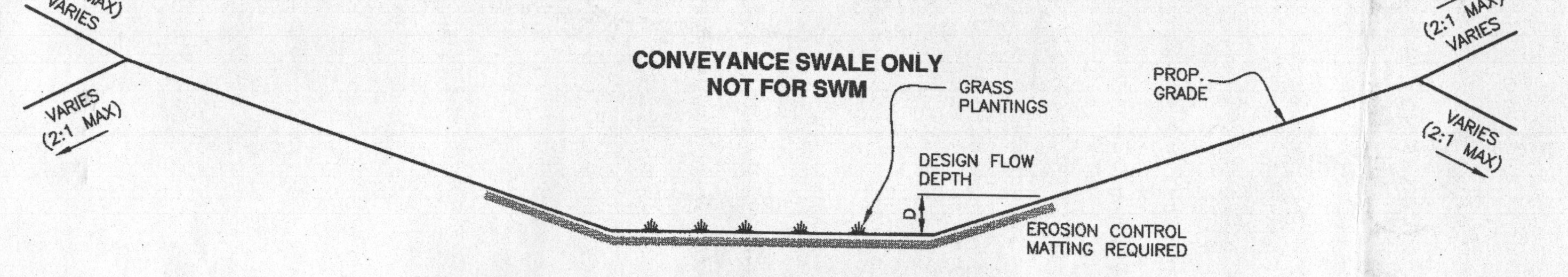
LOTS 1, 2 AND 3

LOCATION:
14170 TRIADELPHIA MILL ROAD
TAX MAP: 27 – GRID: 24 – PARCEL: 68
ZONED: RR-DEO RURAL RESIDENTIAL
ELECTION DISTRICT NO. 5 – HOWARD COUNTY, MARYLAND

TITLE:
CUSTOM GRADING PLAN
EROSION AND SEDIMENT CONTROL
AND DRAINAGE AREA MAP

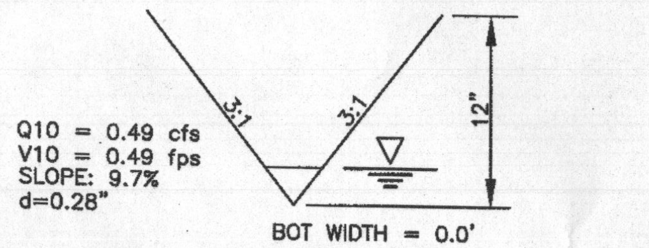
DESIGN: AAM/LDD	DRAFT: LDD	CHECK: AAM	
DATE:	DECEMBER, 2017	PROJECT NO.	2766
SCALE:	AS SHOWN	SHEET 1 OF 3	

GP-18-25


(2:1 MAX) VARIES
VARIES (2:1 MAX)
CONVEYANCE SWALE ONLY NOT FOR SWM
GRASS PLANTINGS
PROP. GRADE
DESIGN FLOW DEPTH
D
EROSION CONTROL MATTING REQUIRED

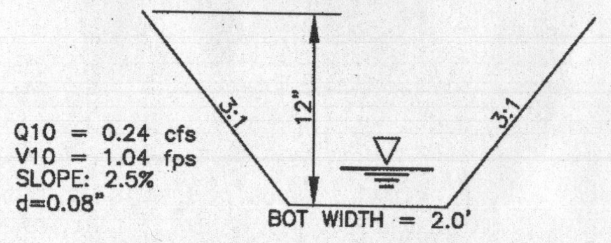
GRASS SWALE TYPICAL SECTION DETAIL

NOT TO SCALE


Q10 = 0.49 cfs
V10 = 0.49 fps
SLOPE: 9.7%
d=0.28"
3:1
3:1
12"
BOT WIDTH = 0.0'

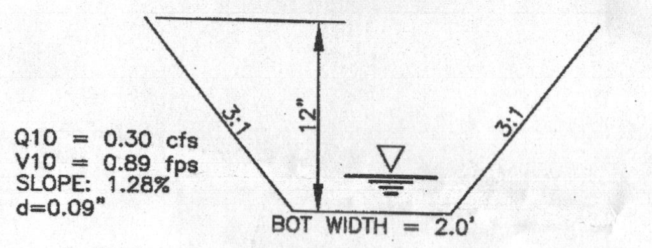
LOT 1 GRASS SWALE 1

NOT TO SCALE


Q10 = 0.24 cfs
V10 = 1.04 fps
SLOPE: 2.5%
d=0.08"
3:1
3:1
12"
BOT WIDTH = 2.0'

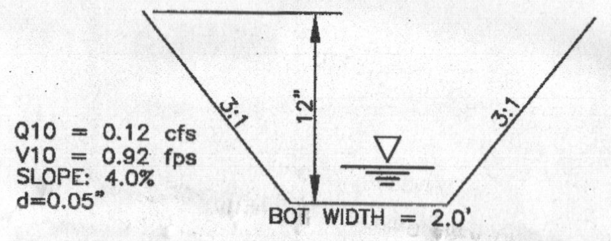
LOT 3 GRASS SWALE 5

NOT TO SCALE


Q10 = 0.30 cfs
V10 = 0.89 fps
SLOPE: 1.28%
d=0.09"
3:1
3:1
12"
BOT WIDTH = 2.0'

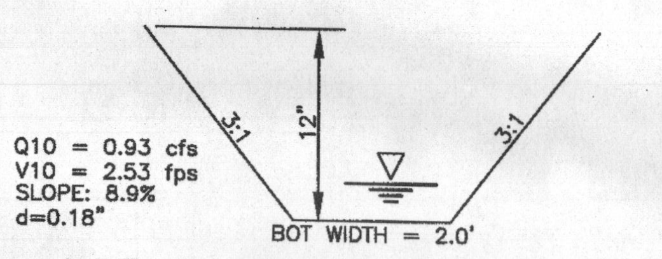
LOT 1 GRASS SWALE 2

NOT TO SCALE


Q10 = 0.12 cfs
V10 = 0.92 fps
SLOPE: 4.0%
d=0.05"
3:1
3:1
12"
BOT WIDTH = 2.0'

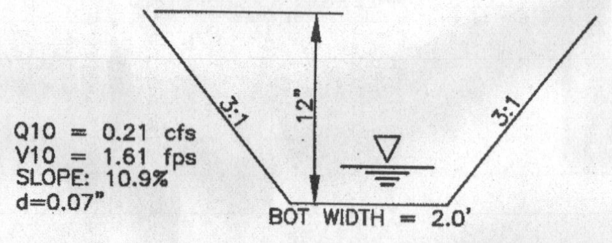
LOT 3 GRASS SWALE 6

NOT TO SCALE


Q10 = 0.93 cfs
V10 = 2.53 fps
SLOPE: 8.9%
d=0.18"
3:1
3:1
12"
BOT WIDTH = 2.0'

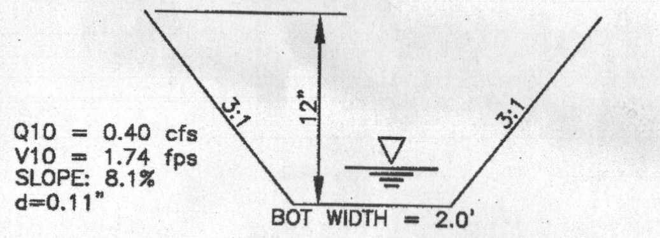
LOT 2 GRASS SWALE 3

NOT TO SCALE


Q10 = 0.21 cfs
V10 = 1.61 fps
SLOPE: 10.9%
d=0.07"
3:1
3:1
12"
BOT WIDTH = 2.0'

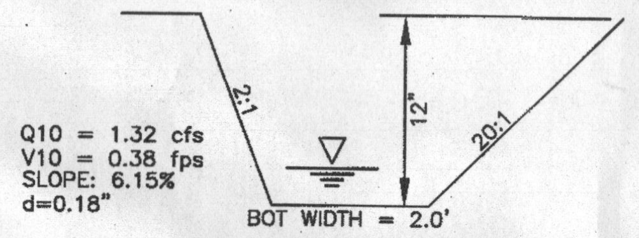
LOT 3 GRASS SWALE 7

NOT TO SCALE


Q10 = 0.40 cfs
V10 = 1.74 fps
SLOPE: 8.1%
d=0.11"
3:1
3:1
12"
BOT WIDTH = 2.0'

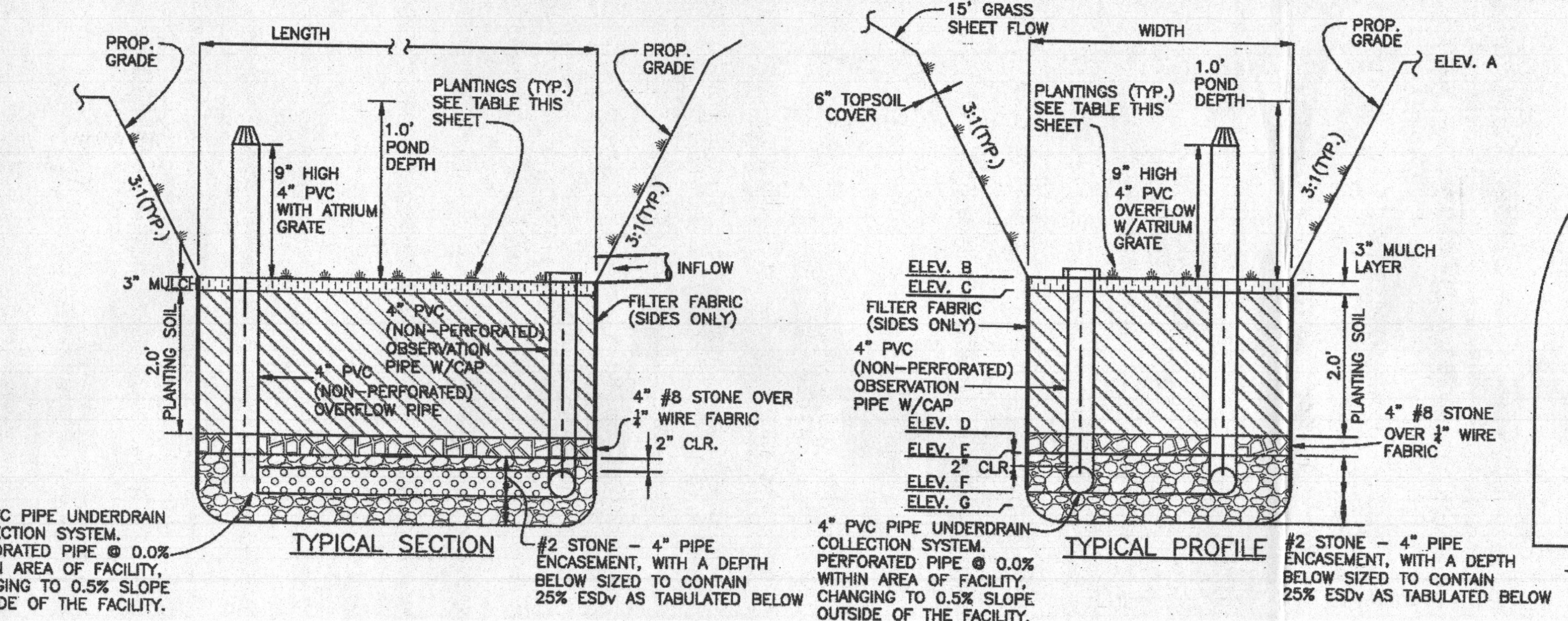
LOT 2 GRASS SWALE 4

NOT TO SCALE


Q10 = 1.32 cfs
V10 = 0.38 fps
SLOPE: 6.15%
d=0.18"
2:1
20:1
12"
BOT WIDTH = 2.0'

LOT 2 (ED-1) EARTH DIKE W/ GRASS SWALE

NOT TO SCALE

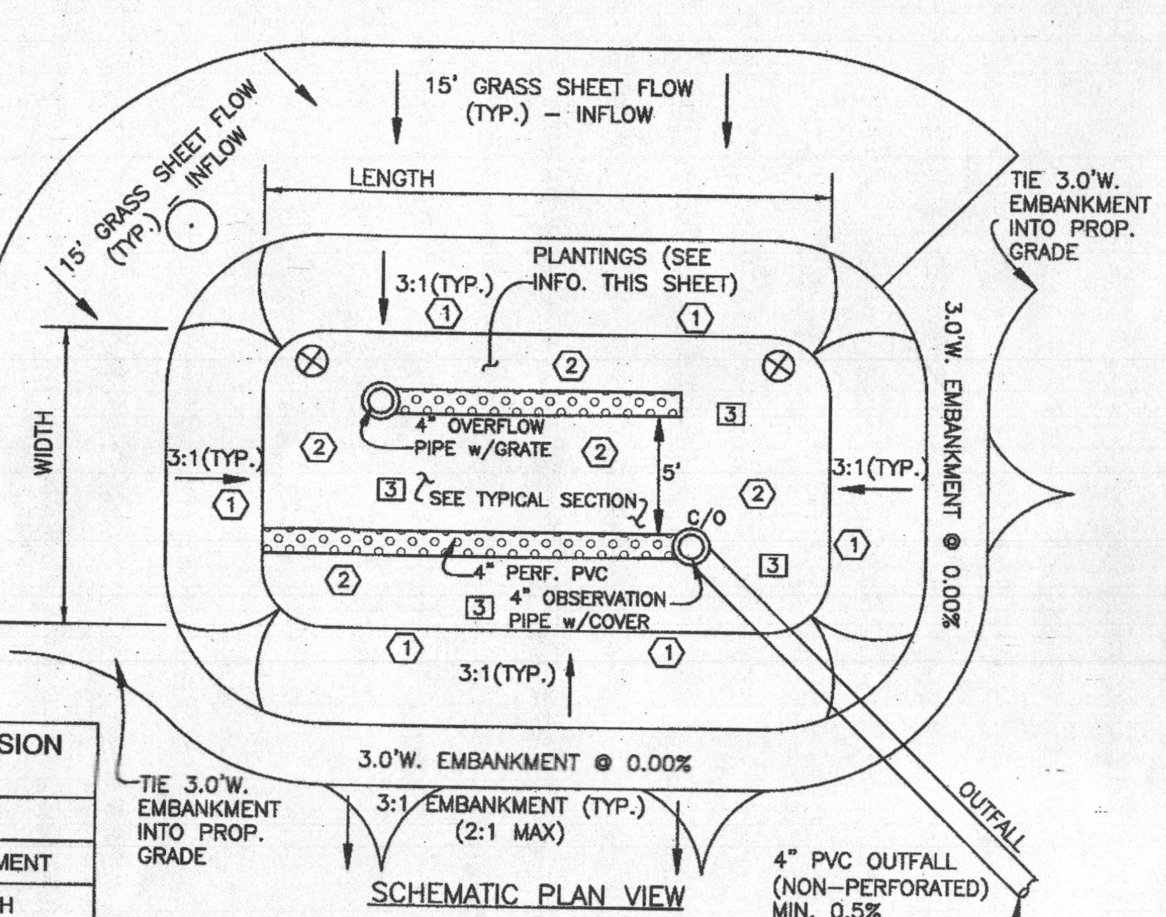

PROP. GRADE
LENGTH
PLANTINGS (TYP.) SEE TABLE THIS SHEET
1.0' POND DEPTH
9" HIGH 4" PVC WITH ATRIUM GRATE
3:1(TYP.)
INFLOW
FILTER FABRIC (SIDES ONLY)
4" PVC (NON-PERFORATED) OBSERVATION PIPE W/CAP
4" PVC (NON-PERFORATED) OVERFLOW PIPE
4" #8 STONE OVER 4" WIRE FABRIC
2" CLR.
2.0' PLANTING SOIL
3" MULCH
TYPICAL SECTION
4" PVC PIPE UNDERDRAIN COLLECTION SYSTEM. PERFORATED PIPE @ 0.0% WITHIN AREA OF FACILITY, CHANGING TO 0.5% SLOPE OUTSIDE OF THE FACILITY.
#2 STONE – 4" PIPE ENCASEMENT, WITH A DEPTH BELOW SIZED TO CONTAIN 25% ESDv AS TABULATED BELOW
15' GRASS SHEET FLOW
WIDTH
6" TOPSOIL COVER
ELEV. A
ELEV. B
ELEV. C
ELEV. D
ELEV. E
ELEV. F
ELEV. G
3" MULCH LAYER
TYPICAL PROFILE

MICRO–BIORETENTION DETAILS

NOT TO SCALE

ON-LOT BIORETENTION CONCEPTUAL DIMENSIONS*														
FACILITY	LENGTH (FT)	WIDTH (FT)	A	B	C	D	E	F	G	H	FILTER (Af)	PLANTINGS		
MB-A	34	11	432.00	431.00	430.75	428.75	428.42	427.92	427.54	423.00	329	15	11	11
MB-B**	33	16	398.00	397.00	396.75	394.75	394.42	393.92	393.43	393.20	478	21	16	16
MB-2	36	20	410.00	409.00	408.75	406.75	406.42	405.92	404.92	405.00	531	24	18	18
MB-3	47	15	436.00	435.00	434.75	432.75	432.42	431.92	431.14	405.80	624	28	21	21

BIO-RETENTION DIMENSION LEGEND	
FACILITY	NAME
A	TOP OF EMBANKMENT
B	TOP OF MULCH
C	TOP OF SOIL
D	TOP OF STONE FILTER
E	TOP OF STONE STORAGE
F	UNDERDRAIN INVERT
G	BOTTOM OF STONE
H	OUTFALL ELEVATION


15' GRASS SHEET FLOW (TYP.) – INFLOW
15' GRASS SHEET FLOW (TYP.) INFLOW
LENGTH
WIDTH
PLANTINGS (SEE INFO. THIS SHEET)
3:1(TYP.)
4" OVERFLOW PIPE w/GRATE
SEE TYPICAL SECTION
4" PERF. PVC
4" OBSERVATION PIPE w/COVER
C/O
3.0'W. EMBANKMENT @ 0.00%
3:1 EMBANKMENT (TYP.) (2:1 MAX)
TIE 3.0'W. EMBANKMENT INTO PROP. GRADE
4" PVC OUTFALL (NON-PERFORATED) MIN. 0.5% DISCHARGE MIN 5'MIN. FROM P/L ELEV. H
OUTFALL

SCHEMATIC PLAN VIEW

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M–5)

1. THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
2. WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
3. A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
4. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
5. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
6. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF NON–ROOFTOP RUNOFF (N–2)

1. MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

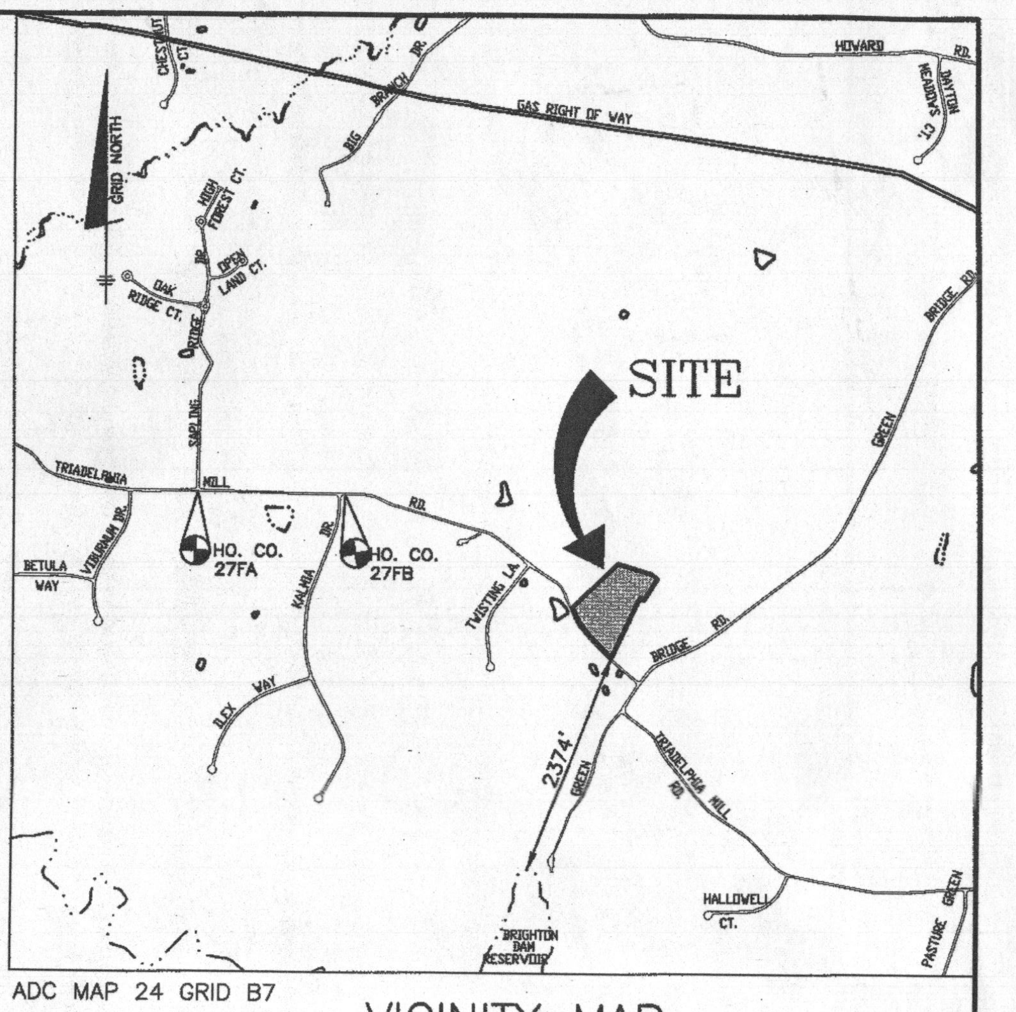
OPERATION AND MAINTENANCE SCHEDULE FOR MICRO–BIORETENTION (M–6)

A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. 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. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.

B. THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.

C. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.

D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.


SITE
GRID NORTH
HO. CO. 27FA
HO. CO. 27FB
TRIADELPHIA
VIBURNUM DR.
BETULA WAY
2374
GREEN
TRIADELPHIA MILL RD.
HALLOWELL CT.
PASTURE GREEN
BRIGHTON DAM RESERVOIR

ADC MAP 24 GRID B7

VICINITY MAP

SCALE : 1"=2000'

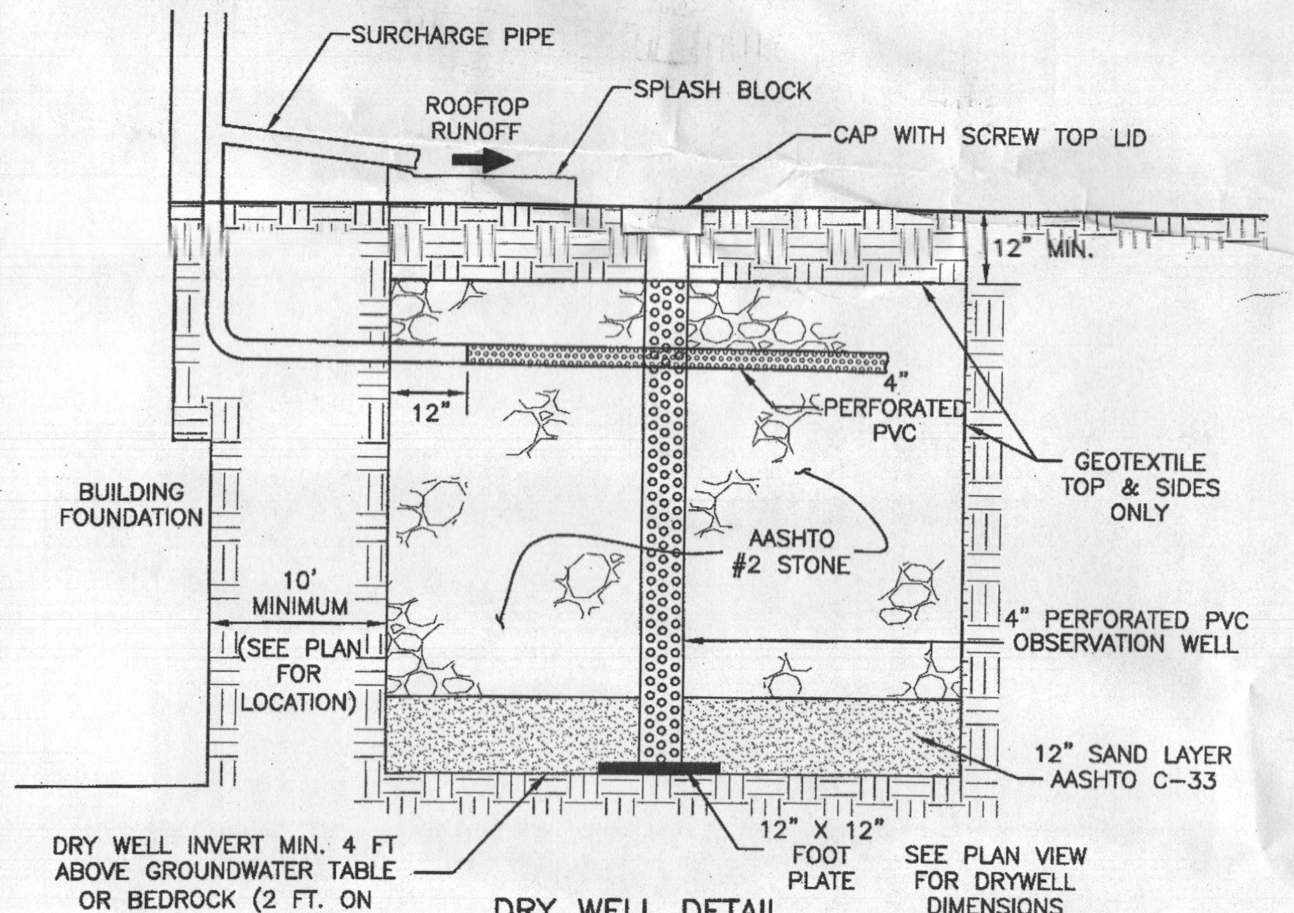
BENCHMARKS (NAD83)

HO. CO. No. 27FA ELEV. 496.35
18.2' SOUTH OF THE CENTERLINE OF TRIADELPHIA MILL RD AT THE INTERSECTION OF SAPLING RIDGE DR.
N 569002.176 E 1306892.586

HO. CO. No. 27FB ELEV. 512.22
3.2' SOUTH OF THE EDGE OF PAVING OF TRIADELPHIA MILL RD 61' EAST OF THE CENTERLINE OF KALMIA DR.
N 568975.151 E 1308421.369

LEGEND

SOILS CLASSIFICATION	GnB
SOILS DELINEATION	— — —
EXISTING CONTOURS	480 / 478
EXISTING WOODS LINE	⌒⌒⌒
EXISTING WELL	Ⓦ
PROPOSED WELL	PROPOSED WELL BOX
PASSING PERCOLATION TEST	○
FAILING PERCOLATION TEST	●
EXISTING STRUCTURE	⬚
PROPOSED STRUCTURE	▭
EXISTING SEWAGE DISPOSAL AREA	▨
PROPOSED SEWAGE DISPOSAL AREA	▨
25% OR GREATER SLOPES 10' OR GREATER VERTICAL	▦
EX. 100 YEAR FLOODPLAIN	+ +
LIMIT OF DISTURBANCE	—·—·—
DISCONNECTION AREA	↙ ↙
DISCONNECT RECEIVING	▤
FACILITY DRAINAGE AREA	······
SILT FENCE	—SF—
SUPER SILT FENCE	—SSF—SSF—
EROSION CONTROL MATTING	▬
EARTH DIKE	ED–1 ⇨⇨⇨
STABILIZED CONSTRUCTION ENTRANCE	S.C.E.
ROCK OUTLET PROTECTION	ROP1
STANDARD INLET PROTECTION (TYPE 'A')	SIP
TEMPORARY GABION OUTLET STRUCTURE	TGOS


SURCHARGE PIPE
SPLASH BLOCK
ROOFTOP RUNOFF
CAP WITH SCREW TOP LID
12" MIN.
12"
4" PERFORATED PVC
GEOTEXTILE TOP & SIDES ONLY
AASHTO #2 STONE
4" PERFORATED PVC OBSERVATION WELL
BUILDING FOUNDATION
10' MINIMUM (SEE PLAN FOR LOCATION)
12" SAND LAYER AASHTO C–33
12" X 12" FOOT PLATE
SEE PLAN VIEW FOR DRYWELL DIMENSIONS
DRY WELL INVERT MIN. 4 FT ABOVE GROUNDWATER TABLE OR BEDROCK (2 FT. ON EASTERN SHORE)

DRY WELL DETAIL

NOT TO SCALE

Drywell Designation	Length (ft)	Width (ft)	Depth (ft)	Grade	Top of Stone	Bottom of Sand
DW-2A	5.00	5.00	5.00	410.0	409.0	404.0
DW-2B	8.00	6.00	5.00	410.0	409.0	404.0

MICROBIORETENTION PLANTING SCHEDULE

(ESTIMATED PLANTINGS TABULATED, THIS SHEET. SPECIFIC NUMBER OF PLANTINGS SHALL BE DETERMINED WITH FINAL DESIGN AT PLOT PLAN PHASE)

①	IRIS VERSICOLOR (IRIS)
②	LOBELIA CARDINALIS CARDINAL FLOWER
3	RUDBECKIA SUBTOMENTOSA – SWEET CONEFLOWER
⊗	CALLUNA VULGARIS (HEATHER) (2 PER FACILITY)
○	SALIX NIGRA (BLACK WILLOW) (1 PER FACILITY)

MICROBIORETENTION PLANTING DATA

1. PLANTINGS WITHIN THE PONDING AREA OF THE MICRO–BIORETENTION FACILITY ARE TO BE OF A MEDIUM TO HIGH WATER TOLERANCE.
2. PLANTINGS ALONG THE PERIMETER (BERM) AREA OF THE MICRO–BIORETENTION FACILITY ARE TO BE OF A LOW TO MEDIUM WATER TOLERANCE.
3. AVOID PLANTINGS WITH EXCESSIVE ROOT MASS IN POND AREA OF THE MICRO–BIORETENTION FACILITY NEAR O.B. PIPE AND UNDERDRAIN.

ENGINEER'S 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.

Alice A. Miller 12-18-17
ALICE A. MILLER PE, LICENSE #28376 DATE

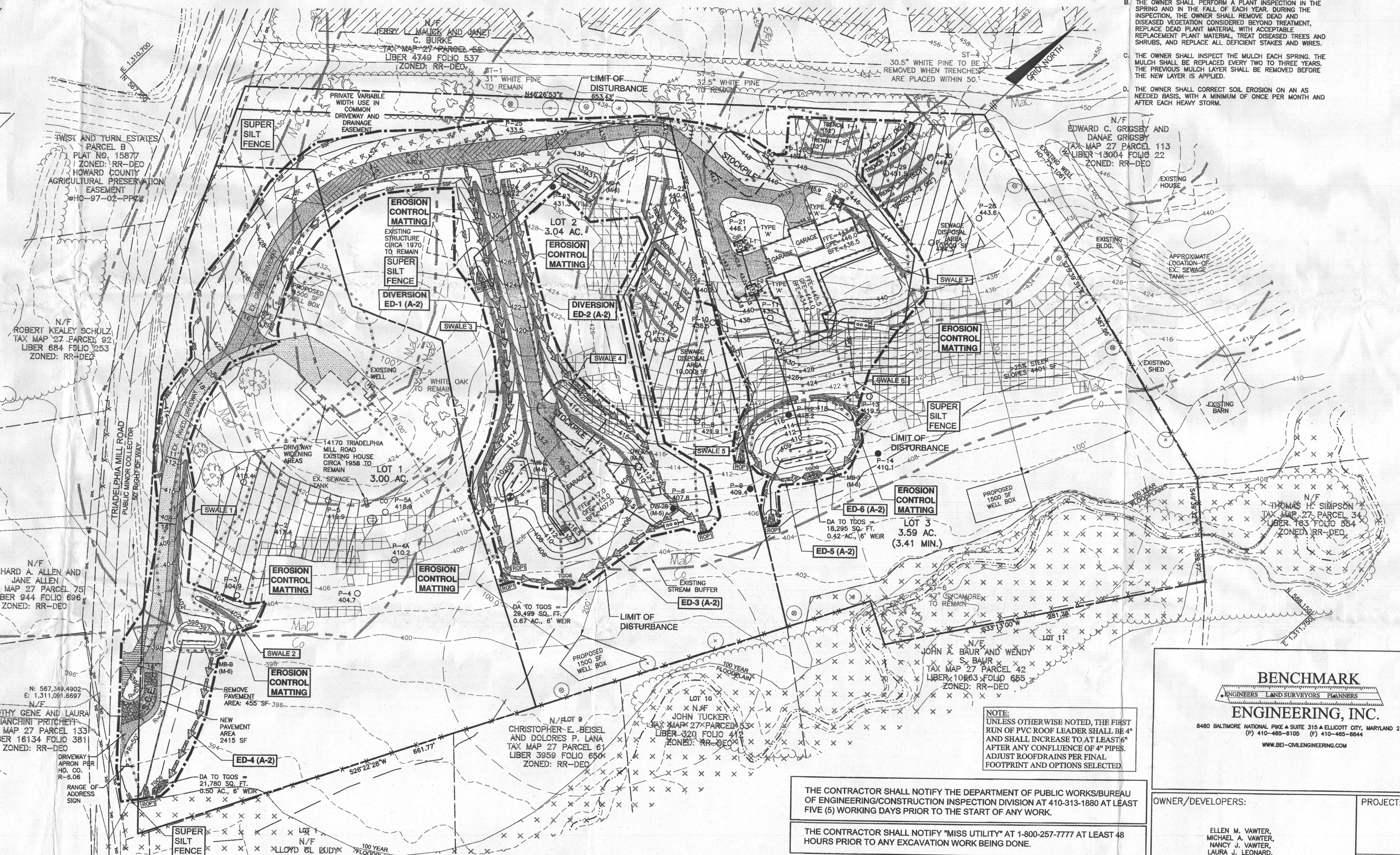
DEVELOPER'S CERTIFICATE

"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."

Ellen V 12-20-17
VAWTER FAMILY DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

12/19/17
HOWARD SOIL CONSERVATION DISTRICT DATE


GRID NORTH
N/F JERRY L. MAUCK AND JANET C. BURKE TAX MAP 27 PARCEL 62 LIBER 4749 FOLIO 537 ZONED: RR-DEO
TWIST AND TURN ESTATES PARCEL B PLAT NO. 15877 ZONED: RR–DEO HOWARD COUNTY AGRICULTURAL PRESERVATION EASEMENT #HO–97–02–PPCE
N/F ROBERT KEALEY SCHULZ TAX MAP 27 PARCEL 92 LIBER 684 FOLIO 253 ZONED: RR–DEO
N/F RICHARD A. ALLEN AND JANE ALLEN TAX MAP 27 PARCEL 75 LIBER 944 FOLIO 696 ZONED: RR–DEO
N/F TIMOTHY GENE AND LAURA BIANCHINI PRITCHETT TAX MAP 27 PARCEL 133 LIBER 16134 FOLIO 381 ZONED: RR–DEO
N/F LLOYD E. BUDY TAX MAP 27 PARCEL 44 LIBER 408 FOLIO 733 ZONED: RR–DEO
N/F LOT 9 CHRISTOPHER E. BEISEL AND DOLORES P. LANA TAX MAP 27 PARCEL 61 LIBER 3959 FOLIO 650 ZONED: RR–DEO
LOT 10 JOHN TUCKER TAX MAP 27 PARCEL 53 LIBER 320 FOLIO 412 ZONED: RR–DEO
N/F JOHN A. BAUR AND WENDY S. BAUR TAX MAP 27 PARCEL 42 LIBER 10663 FOLIO 655 ZONED: RR–DEO
LOT 11
N/F THOMAS H. SIMPSON TAX MAP 27 PARCEL 34 LIBER 183 FOLIO 554 ZONED: RR–DEO
N/F EDWARD C. GRIGSBY AND DANAE GRIGSBY TAX MAP 27 PARCEL 113 LIBER 13004 FOLIO 22 ZONED: RR–DEO
TRIADELPHIA MILL ROAD PUBLIC MINOR COLLECTOR 50' RIGHT-OF-WAY
PRIVATE VARIABLE WIDTH USE IN COMMON DRIVEWAY AND DRAINAGE EASEMENT
LIMIT OF DISTURBANCE
N46°26'53"E 653.53'
S26°22'28"W 661.77'
S33°13'00"W
LOT 1 3.00 AC.
LOT 2 3.04 AC.
LOT 3 3.59 AC. (3.41 MIN.)
14170 TRIADELPHIA MILL ROAD EXISTING HOUSE CIRCA 1958 TO REMAIN
EXISTING STRUCTURE CIRCA 1970 TO REMAIN
EXISTING HOUSE
EXISTING BLDG.
EXISTING SHED
EXISTING BARN
APPROXIMATE LOCATION OF EX. SEWAGE TANK
EX. SEWAGE TANK
4' DRIVEWAY WIDENING AREAS
EROSION CONTROL MATTING
SUPER SILT FENCE
DIVERSION ED–1 (A-2)
DIVERSION ED–2 (A-2)
ED–3 (A-2)
ED–4 (A-2)
ED–5 (A-2)
ED–6 (A-2)
SWALE 1
SWALE 2
SWALE 3
SWALE 4
SWALE 5
SWALE 6
SWALE 7
STOCKPILE
GARAGE
TYPE 'A'
SEWAGE DISPOSAL AREA 10,000 SF
PROPOSED 1500 SF WELL BOX
DA TO TGOS = 29,499 SQ. FT. 0.67 AC., 6" WEIR
DA TO TGOS = 18,260 SQ. FT. 0.42 AC., 6" WEIR
DA TO TGOS = 21,780 SQ. FT. 0.50 AC., 6" WEIR
NEW PAVEMENT AREA 2415 SF
REMOVE PAVEMENT AREA: 455 SF
DRIVEWAY APRON PER HO. CO. R–6.06
RANGE OF ADDRESS SIGN
EXISTING STREAM BUFFER
100 YEAR FLOODPLAIN
30.5" WHITE PINE TO BE REMOVED WHEN TRENCHES ARE PLACED WITHIN 50.'
31" WHITE PINE TO REMAIN
32.5" WHITE PINE TO REMAIN
33" WHITE OAK TO REMAIN
42" SYCAMORE TO REMAIN
>25% STEEP SLOPES 4401 SF
N: 567,349.4902 E: 1,311,091.6697
E 1,310,700
E 1,311,750
MaC
MaD
Co
GgC

LAYOUT PLAN

SCALE: 1" = 50'

(IN FEET)
1 inch = 50 ft.

NOTE:
UNLESS OTHERWISE NOTED, THE FIRST RUN OF PVC ROOF LEADER SHALL BE 4" AND SHALL INCREASE TO AT LEAST 6" AFTER ANY CONFLUENCE OF 4" PIPES. ADJUST ROOFDRAINS PER FINAL FOOTPRINT AND OPTIONS SELECTED.

THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF ANY WORK.

THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

SOILS LEGEND			
SYMBOL	TYPE	K* FACTOR	NAME
Co*	C	.37**	CODORUS AND HATBORO SILT LOAM, 0 TO 3 PERCENT SLOPES
GgC	B	.28	GLENELG LOAM, 3 TO 8 PERCENT SLOPES
MaC	B	.32	MANOR LOAM, 8 TO 15 PERCENT SLOPES
MaD	B	.32**	MANOR LOAM, 15 TO 25 PERCENT SLOPES

* INDICATES HYDRIC SOILS
** HIGHLY ERODIBLE, K>0.35, AND/OR 15% OR GREATER SLOPES
TAKEN FROM THE NRCS WEB SOIL SURVEY, APRIL 2016. PAGE 15

HEALTH

BENCHMARK
ENGINEERS LAND SURVEYORS PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315 ▲ ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28376, Expiration Date: 1-1-2019.

ALICE A. MILLER No. 28376

12-18-17

OWNER/DEVELOPERS:

ELLEN M. VAWTER,
MICHAEL A. VAWTER,
NANCY J. VAWTER,
LAURA J. LEONARD,
DREW B. LEONARD
14170 TRIADELPHIA MILL ROAD
DAYTON, MARYLAND 21036
301-706-6044

PROJECT:

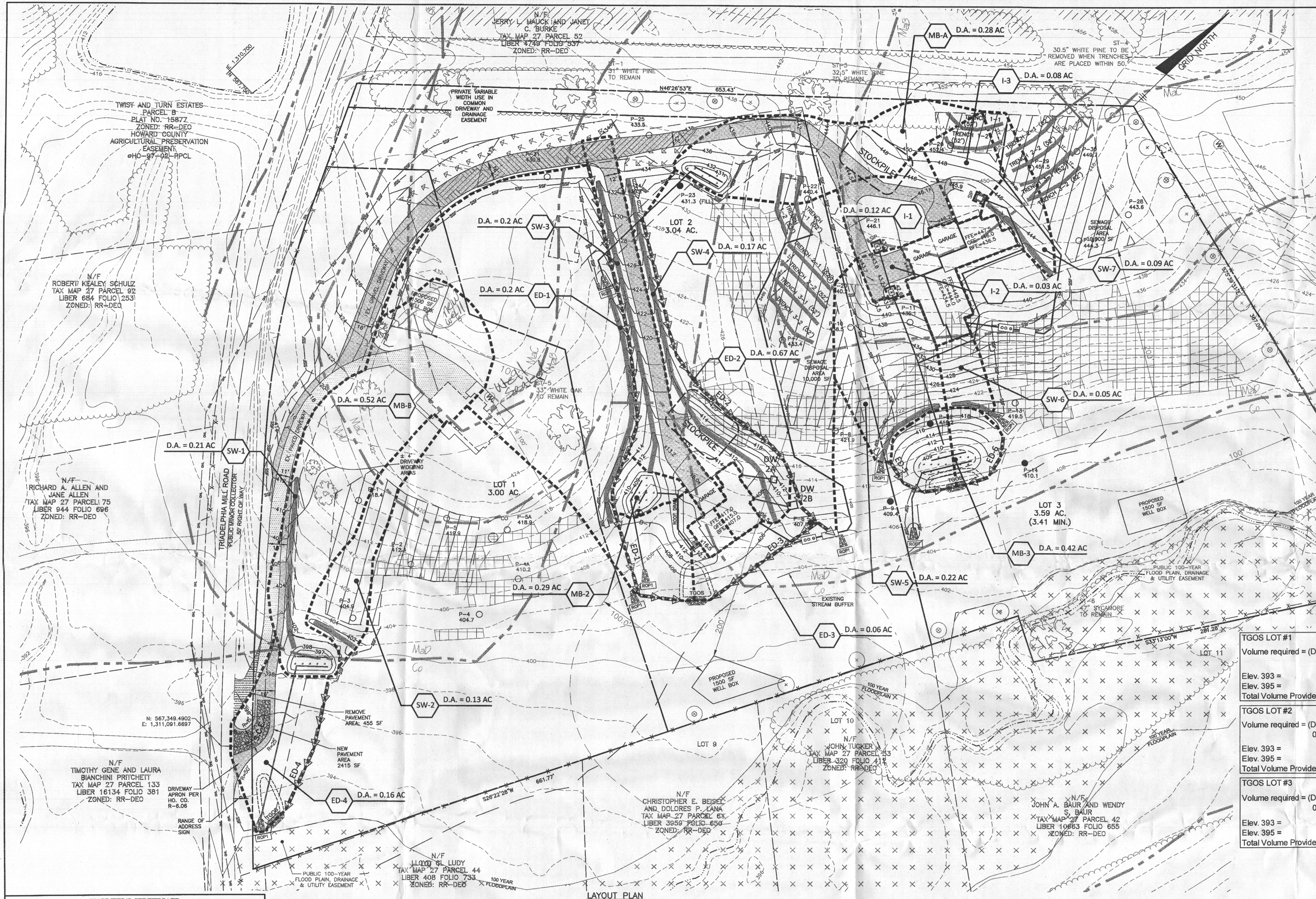
VAWTER PROPERTY
LOTS 1, 2 AND 3

LOCATION: 14170 TRIADELPHIA MILL ROAD
TAX MAP: 27 – GRID: 24 – PARCEL: 68
ZONED: RR–DEO RURAL RESIDENTIAL
ELECTION DISTRICT NO. 5 – HOWARD COUNTY, MARYLAND

TITLE: CUSTOM GRADING PLAN
EROSION AND SEDIMENT CONTROL
AND DRAINAGE AREA MAP

DESIGN: AAM/LDD DRAFT: LDD CHECK: AAM
DATE: DECEMBER, 2017 PROJECT NO. 2766
SCALE: AS SHOWN SHEET 1 OF 3

GP–18–25


N/F
JERRY L. MAUCK AND JANET C. BURKE
TAX MAP 27 PARCEL 52
LIBER 4749 FOLIO 337
ZONED: RR-DEO
TWIST AND TURN ESTATES
PARCEL B
PLAT NO. 15877
ZONED: RR-DEO
HOWARD COUNTY AGRICULTURAL PRESERVATION EASEMENT
#HO-97-02-PPCL
N/F
ROBERT KEALEY SCHULZ
TAX MAP 27 PARCEL 92
LIBER 684 FOLIO 253
ZONED: RR-DEO
N/F
RICHARD A. ALLEN AND JANE ALLEN
TAX MAP 27 PARCEL 75
LIBER 944 FOLIO 696
ZONED: RR-DEO
N/F
TIMOTHY GENE AND LAURA BIANCHINI PRITCHETT
TAX MAP 27 PARCEL 133
LIBER 16134 FOLIO 381
ZONED: RR-DEO
N/F
LLOYD GL LUDY
TAX MAP 27 PARCEL 44
LIBER 408 FOLIO 733
ZONED: RR-DEO
N/F
CHRISTOPHER E. BEISEL AND DOLORES P. LANA
TAX MAP 27 PARCEL 61
LIBER 3959 FOLIO 650
ZONED: RR-DEO
N/F
JOHN TUCKER
TAX MAP 27 PARCEL 53
LIBER 320 FOLIO 411
ZONED: RR-DEO
N/F
JOHN A. BAUR AND WENDY S. BAUR
TAX MAP 27 PARCEL 42
LIBER 10663 FOLIO 655
ZONED: RR-DEO
N/F
EDWARD C. GRIGSBY AND DANAE GRIGSBY
TAX MAP 27 PARCEL 113
LIBER 13001 FOLIO 22
ZONED: RR-DEO
TRIADELPHIA MILL ROAD
PUBLIC MINOR COLLECTOR
50' RIGHT OF WAY
PRIVATE VARIABLE WIDTH USE IN COMMON DRIVEWAY AND DRAINAGE EASEMENT
GRID NORTH
31" WHITE PINE TO REMAIN
32.5" WHITE PINE TO REMAIN
30.5" WHITE PINE TO BE REMOVED WHEN TRENCHES ARE PLACED WITHIN 50.
33" WHITE OAK TO REMAIN
47" SYCAMORE TO REMAIN
N46°26'53"E 653.43'
S26°22'28"W 661.77'
S33°13'00"W 281.28'
S49°39'32"E
N: 567,349.4902
E: 1,311,091.6697
LOT 1
3.00 AC.
LOT 2
3.04 AC.
LOT 3
3.59 AC.
(3.41 MIN.)
LOT 9
LOT 10
LOT 11
SW-1 D.A. = 0.21 AC
SW-2 D.A. = 0.13 AC
SW-3 D.A. = 0.2 AC
SW-4 D.A. = 0.17 AC
SW-5 D.A. = 0.22 AC
SW-6 D.A. = 0.05 AC
SW-7 D.A. = 0.09 AC
ED-1 D.A. = 0.2 AC
ED-2 D.A. = 0.67 AC
ED-3 D.A. = 0.06 AC
ED-4 D.A. = 0.16 AC
MB-A D.A. = 0.28 AC
MB-B D.A. = 0.52 AC
MB-2 D.A. = 0.29 AC
MB-3 D.A. = 0.42 AC
I-1 D.A. = 0.12 AC
I-2 D.A. = 0.03 AC
I-3 D.A. = 0.08 AC
DW 2A
DW 2B
STOCKPILE
GARAGE
SEWAGE DISPOSAL AREA 10,000 SF
SEWAGE DISPOSAL AREA 10,000 SF
PROPOSED 1500 SF WELL BOX
PROPOSED 1500 SF WELL BOX
PROPOSED 1500 SF WELL BOX
EX. PAVED DRIVEWAY
EX. GRAVEL DRIVEWAY
DRIVEWAY WIDENING AREAS
REMOVE PAVEMENT AREA: 455 SF
NEW PAVEMENT AREA 2415 SF
DRIVEWAY APRON PER HO. CO. R-6.06
RANGE OF ADDRESS SIGN
EXISTING STREAM BUFFER
PUBLIC 100-YEAR FLOOD PLAIN, DRAINAGE & UTILITY EASEMENT
100 YEAR FLOODPLAIN
ROOF DRAIN
TGOS
ROP1
S.C.E.
MaC
MaD
Co
GgC

LAYOUT PLAN
SCALE: 1" = 40'

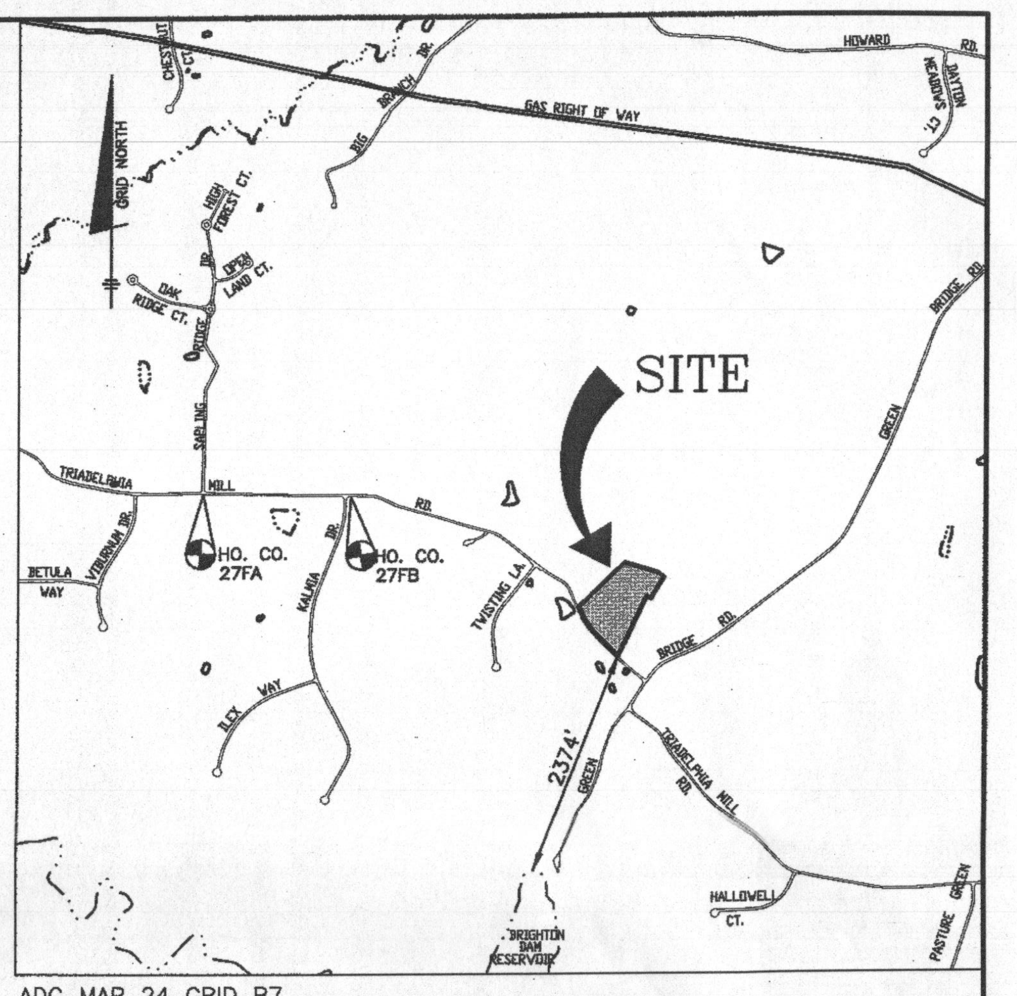
40
0
20
40
80
160

(IN FEET)
1 inch = 40 ft.

BENCHMARKS (NAD83)

HO. CO. No. 27FA ELEV. 496.35
18.2' SOUTH OF THE CENTERLINE OF TRIADELPHIA MILL RD AT THE INTERSECTION OF SAPLING RIDGE DR.
N 569002.176 E 1306892.586

HO. CO. No. 27FB ELEV. 512.22
3.2' SOUTH OF THE EDGE OF PAVING OF TRIADELPHIA MILL RD 81' EAST OF THE CENTERLINE OF KALMIA DR.
N 568975.151 E 1308421.369


SITE
GRID NORTH
HOWARD RD.
GAS RIGHT OF WAY
CHESTNUT CT.
BIG BRANCH DR.
HIGH FOREST CT.
OPEN LAND CT.
OAK RIDGE CT.
SAPLING RIDGE DR.
TRIADELPHIA MILL RD.
VIBURNUM DR.
BETULA WAY
KALMIA DR.
ILEX WAY
TWISTING LA.
HO. CO. 27FA
HO. CO. 27FB
GREEN BRIDGE RD.
2374'
BRIGHTON DAM RESERVOIR
HALLOWELL CT.
PASTURE GREEN
DAYTON MEADOWS CT.

ADC MAP 24 GRID B7

VICINITY MAP
SCALE : 1"=2000'

LEGEND

SOILS CLASSIFICATION	GnB
SOILS DELINEATION	▬ ▬ ▬
EXISTING CONTOURS	—480— --478--
EXISTING WOODS LINE	⌒⌒⌒⌒
EXISTING WELL	Ⓦ
PROPOSED WELL	PROPOSED WELL BOX
PASSING PERCOLATION TEST	○
FAILING PERCOLATION TEST	●
EXISTING STRUCTURE	⬚
PROPOSED STRUCTURE	▭
EXISTING SEWAGE DISPOSAL AREA	▨
PROPOSED SEWAGE DISPOSAL AREA	▨
25% OR GREATER SLOPES 10' OR GREATER VERTICAL	▦
EX. 100 YEAR FLOODPLAIN	+ +
DISCONNECTION AREA	▨
DISCONNECT RECEIVING	▤
FACILITY DRAINAGE AREA	- - - -
SILT FENCE	—SF—
SUPER SILT FENCE	—SSF—SSF—
EROSION CONTROL MATTING	▬
EARTH DIKE	ED-1 ⇨⇨⇨
STABILIZED CONSTRUCTION ENTRANCE	S.C.E.
ROCK OUTLET PROTECTION	ROP1
STANDARD INLET PROTECTION (TYPE 'A')	SIP ◘
TEMPORARY GABION OUTLET STRUCTURE	TGOS

TGOS LOT #1
Volume required = (Drainage Area) x 3600 cf/ac
0.5 ac. x 1800 c.f. = 900 c.f.

Elev. 393 = 353 s.f.
Elev. 395 = 632 s.f.
Total Volume Provided = 977.5 c.f.

TGOS LOT #2
Volume required = (Drainage Area) x 3600 cf/ac
0.67 ac. x 1800 c.f. = 1206 c.f.

Elev. 393 = 482 s.f.
Elev. 395 = 773 s.f.
Total Volume Provided = 1247 c.f.

TGOS LOT #3
Volume required = (Drainage Area) x 3600 cf/ac
0.42 ac. x 1800 c.f. = 756 c.f.

Elev. 393 = 267 s.f.
Elev. 395 = 567 s.f.
Total Volume Provided = 825.2 c.f.

ENGINEER'S 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.

12-18-17
ALICE A. MILLER PE, LICENSE #28376 DATE

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."

Ell VA 12-20-17
VAWTER FAMILY DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

12/19/17
HOWARD SOIL CONSERVATION DISTRICT DATE

SOILS LEGEND

SYMBOL	TYPE	K* FACTOR	NAME
Co*	C	.37**	CODORUS AND HATBORO SILT LOAM, 0 TO 3 PERCENT SLOPES
GgC	B	.28	GLENELG LOAM, 3 TO 8 PERCENT SLOPES
MaC	B	.32	MANOR LOAM, 8 TO 15 PERCENT SLOPES
MaD	B	.32**	MANOR LOAM, 15 TO 25 PERCENT SLOPES

* INDICATES HYDRIC SOILS
** HIGHLY ERODIBLE, K>0.35, AND/OR 15% OR GREATER SLOPES
TAKEN FROM THE NRCS WEB SOIL SURVEY, APRIL 2016. PAGE 15

SWALE COMPUTATIONS

PROJECT: VAWTER DESIGN BY: LDD

D.A. #	Channel Slope (%)	Q_{10} (cfs)	V_{10} (cfs)	10-yr Stabilization Requirement
		Grass lined		
SW-1	9.70	0.49	0.49	Permanent*
SW-2	1.28	0.30	0.89	Permanent*
SW-3	8.90	0.93	2.53	Permanent*
SW-4	8.10	0.40	1.74	Permanent*
SW-5	2.50	0.24	1.04	Permanent*
SW-6	4.00	0.12	0.92	Permanent*
SW-7	10.90	0.21	1.61	Permanent*
Swale (ED-1)	6.15	1.32	0.38	Permanent*

STORMWATER MANAGEMENT SUMMARY TABLE

Pe: 1.0 inches

BIORETENTION FACILITIES (M-6)

						Required	Provided		
FACILITY	Drainage Area	Impervious	I (%)	Rv	ESDv (cf)	75% ESDv (cf)	Volume Stored	Volume treated (V/0.75)	Pe Treated
MB-A	12228	2045	17%	0.201	204.3	153.2	326 cf	435 cf	2.13
MB-B	22773	3744	16%	0.198	375.7	281.8	624 cf	832 cf	2.21
MB-2	12474	5429	44%	0.442	459.2	344.4	680 cf	906 cf	1.97
MB-3	18444	9541	52%	0.516	792.4	594.3	880 cf	1173 cf	1.48
						TOTAL:	2509 cf	3345 cf	

DRIVEWAY TREATMENT

	Area Treated	Pe	Converted to ESDv
Non-rooftop Disconnection (N-2):	5355	1.000	446

DRYWELL FACILITIES (M-5)

					Required					Provided	
FACILITY	Drainage Area	Impervious	I (%)	Rv	ESDv (cf)	Depth	Porosity	Width	Length	Volume Stored	Pe Treated
DW-2A	453	453	100%	0.950	35.9	5.0	0.40	5	5	50	1.39
DW-2B	919	919	100%	0.950	72.8	5.0	0.40	6	8	96	1.32
									TOTAL:	146 cf	

BENCHMARK
ENGINEERS LAND SURVEYORS PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315 ▲ ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28376, Expiration Date: 1-1-2019.

ALICE A. MILLER No. 28376
12-18-17

OWNER/DEVELOPERS:
ELLEN M. VAWTER,
MICHAEL A. VAWTER,
NANCY J. VAWTER,
LAURA J. LEONARD,
DREW B. LEONARD
14170 TRIADELPHIA MILL ROAD
DAYTON, MARYLAND 21036
301-706-6044

PROJECT:
VAWTER PROPERTY
LOTS 1, 2 AND 3

LOCATION:
14170 TRIADELPHIA MILL ROAD
TAX MAP: 27 – GRID: 24 – PARCEL: 68
ZONED: RR-DEO RURAL RESIDENTIAL
ELECTION DISTRICT NO. 5 – HOWARD COUNTY, MARYLAND

TITLE:
CUSTOM GRADING PLAN
EROSION AND SEDIMENT CONTROL
AND DRAINAGE AREA MAP

DESIGN: AAM/LDD	DRAFT: LDD	CHECK: AAM	
DATE:	DECEMBER, 2017	PROJECT NO.	2766
SCALE:	AS SHOWN	SHEET 2 OF 3	

GP-18-25

766 VAWTER PROPERTY\dwg\8026 GP.dwg, GRADING PLAN SHEET 2, 12/14/2017 4:54:13 PM, nfignar