



Bureau of Environmental Health
 8930 Stanford Boulevard, Columbia, MD 21045
 Main: 410-313-2640 | Fax: 410-313-2648
 TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
 Facebook: www.facebook.com/hocohealth

Maura J. Rossman, M.D., Health Officer

RECEIPT DATE: 3/16/16 **ONSITE SEWAGE DISPOSAL SYSTEM** P 558037
 APPROVAL DATE: 6/20/16 **PERMIT: CONSTRUCTION** A _____
 PROPERTY ADDRESS: 11029 Blevins Drive
 SUBDIVISION: Blevins Property LOT: 5 TAX ID: _____
 CONTRACTOR: Hatfield's Equipment EMAIL: ken@hatfieldsequipment.com
 CONTRACTOR ADDRESS: P.O. Box 519, Annapolis Junction, MD 20701 PHONE: 301-480-4289

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER:

PROPERTY OWNER: Williamsburg Group LLC EMAIL: marinamorris@williamsburgllc.com
 OWNER ADDRESS: 5485 Harpers Farm Road, Columbia, MD 21044 PHONE: 410-997-8800

BAT UNIT MODEL: NORWECO TNTLP-500 PUMP SIZE: 0.5HP PUMP TANK CAPACITY: 1500

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 2/23/15 DATE RECORDED: 10/1/15

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 5 APPLICATION RATE: 1.2

TRENCHES:	LINEAR FEET REQUIRED: <u>156</u>	INLET DEPTH: <u>4 4.5'</u>
	TRENCH WIDTH: <u>2</u>	MAXIMUM BOTTOM DEPTH: <u>7 7.5'</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>4.5 - 5'</u>

LOCATION: **PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.**

NOTES: Install force main as illustrated semler, 1500 gallon Pump tank specified
2x78' Trenches

ISSUED BY: Robert Bricker ISSUE DATE: 3/17/16 EXPIRATION DATE: 3/17/17

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS
- NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM
 ELECTRICAL PERMIT ISSUED E _____
- NOTE: AN INDIVIDUAL CERTIFIED BY MDE AND THE MANUFACTURER FOR BAT INSTALLATION MUST BE PRESENT AT ALL TIMES DURING BAT INSTALLATION.
- NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

**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 410-313-1771 TO SCHEDULE INSPECTIONS.**

NOT TO SCALE

See As-Built Drawing
On Separate Sheet

ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
2'	4.5'	7.5'
NUMBER OF TRENCHES 2		
TOTAL LENGTH 157'		
ABSORPTION AREA ~471		
DISTRIBUTION BOX LEVEL Yes		
DISTRIBUTION BOX BAFFLE Elbow		
DISTRIBUTION BOX PORT Yes		

SEPTIC TANK DATA

SEPTIC TANK I LEVEL Yes		
MANUFACTURER	Norweco/Back River	
CAPACITY	1300	GAL
SEAM LOC	Top	
TANK LID DEPTH	2'-3.5'	
BAFFLES	No	
BAFFLE FILTER	N/A	
MANHOLE LOC	F, M + R	
6" PORT LOC	None	
WATERTIGHT TEST	No	
SLOTTED	N/A	
DATE ON LID	2/23/2016	

PUMP/SEPTIC TANK LEVEL

SEPTIC TANK LEVEL Yes		
MANUFACTURER	Babylon	
CAPACITY	1500	GAL
SEAM LOC	Top	
TANK LID DEPTH	0.5'-2'	
BAFFLES	No	
BAFFLE FILTER	N/A	
MANHOLE LOC	Front	
6" PORT LOC	None	
WATERTIGHT TEST	No	
SLOTTED	N/A	
DATE ON LID	2/25/2016	

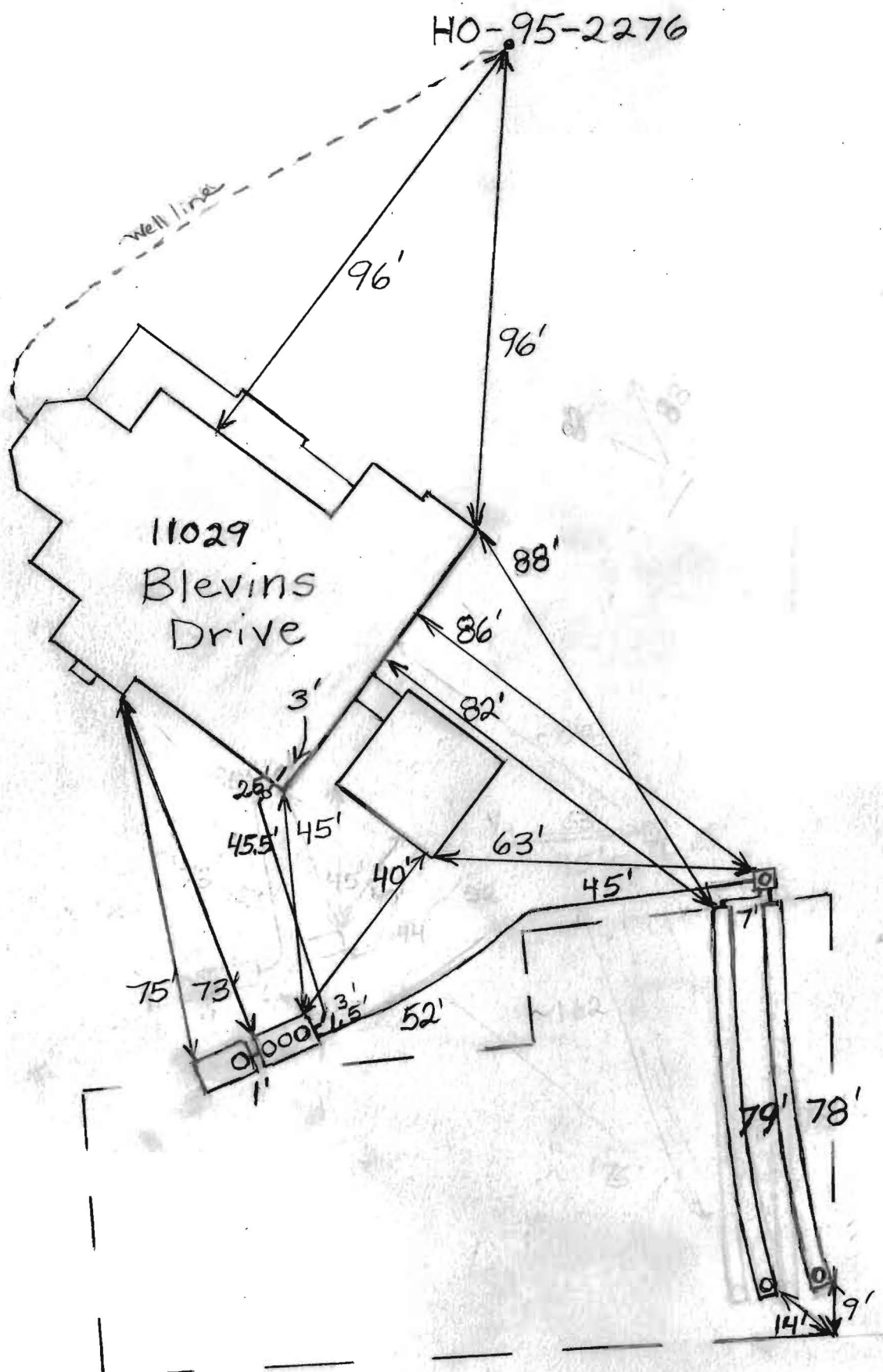
PRE-CONSTRUCTION:

3/29/2016 Install trenches similar to plan. Location of house connection changed by plumber. Tank locations need to be changed. Builder gave the O.K. to set the tanks next to the bottom part of the septic easement. (BB)

INSTALLATION: 3/31/2016 Tanks set. House connection made.

Pump line installed. (BB)
4/1/2016 Trenches installed. Need BAT certification and pump and alarm test. (BB) 4/8/2016 Received Norweco certification from Back River Pre-Cast. Need pump and alarm test. (BB) 6/20/16 On site for pump + alarm. Alarm sounds, pump pumps effluent to D-box. (C) location from Back River Pre-Cast. (BB)

FINAL INSPECTOR Sarah Collins DATE OF APPROVAL 6/20/16



Back River Pre-Cast, LLC

PO BOX 329
Glyndon, MD 21071
Phone # 410-833-3394
Fax # 410-833-4116

Letter of Certification

This is to certify that the Norweco Singulair TNT 600 GPD Septic Tank installed at 11029 Blevins Dr., Clarksville, MD 21029 March 31, 2016 was installed according to the manufacture's specifications.

Installer: Jeff Reiter

Property Owner: Williamsburg Group

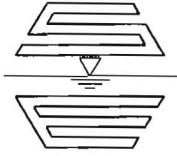
Permit #

THIS CERTIFICATION IS FOR INSTALLATION ONLY. THE 5-YEAR OPERATIONS & MAINTENANCE AGREEMENT FROM DATE OF INSTALLATION WILL ONLY GO INTO EFFECT AFTER BACK RIVER PRE-CAST, LLC RECEIVES FINAL AND FULL PAYMENT FOR THE SYSTEM.



MATTHEW GECKLE

Vice-President



11130 Dovedale Court, Suite 200
Marriottsville, MD 21104
Website: www.sillengineering.com

Office: 443-325-5076
Fax: 410-696-2022
Email: info@sillengineering.com
Civil Engineering for Land Development

SILL ENGINEERING GROUP, LLC

November 11, 2015

Howard County Health Department
Bureau of Environmental Health
8390 Stanford Boulevard
Columbia, Maryland 21045

Attn: Mr. Robert Bricker

Re: Blevins Property
Lot 5
Septic System Design

Dear Mr. Bricker:

Please find below the Septic System Design for this project. Based on this design we recommend:

- C.R. Semler, Inc 1,500 gallon top seam tank or equivalent
- Norweco Singlair Model 500 or equivalent
- Meyers MWH50 series pump or equivalent

Septic System Trench Design Specifications

- Initial System And Replacements:
 - Application Rate: 1.2
 - Effective Area Beginning Depth: 4.5'
 - Bottom Maximum Depth: 7.0'
- Design Flow:
 - 5 Bedrooms at 150 gpd
 - 5x150 gpd = 750 gpd
- Square Footage of Drain field Required:
 - Design Flow (750 gpd) / Application Rate (1.2) = 625 sf
- Sidewall Reduction Credit:
 - Trench Width (W) = 2'
 - Trench Effective Depth (D) = 2.5'
 - $(W+2) / (W+1+2D) \times 100 = (2'+2') / (2'+1+2(2.5)) = 4/8 = 50.0\%$
- Linear Length of Trench Required:
 - Drain field Square Footage (625) x Sidewall Reduction Credit (50.0%) / Trench Width (2') = 156.25
- Linear Length of Trench Provided = 156.4
 - Two trenches 78.2 lf each

Approved for BAT installation
R. Bricker
11/19/2015

Blevins Property
Lot 5
November 11, 2015

- Total Dynamic Head = Static head + Distal Head + Friction head
- $25.9 + 2.0' + 3.7' = 31.6'$ use 32' *use 30' MB*
- Pump Chamber Design:
 - For pump tank dimensions and detail, see plans.
 - Pump chamber elevations:
 - Proposed grade at top of tank: 435.20'
 - Top of pump tank: 432.85'
 - Pump chamber invert in: 431.77'
 - High Water Alarm: 429.79'
 - Pump On: 429.29'
 - Pump Off: 428.93'
 - Bottom inside slab of tank: 426.68'
 - Pump Chamber volumes:
 - Pump On to Pump Off: 16.49 cf or 123.38 gallons
 - Excess (High Water Alarm to top of tank): 125.07 cf or 935.62 gallons

Thank you for your consideration of this Septic System Design. Should you have any questions or comments regarding this matter, please do not hesitate to contact this office.

Sincerely,
Sill Engineering Group, LLC



Anita E. Allen

- Design Flow: 750 GPD
- Diameter of Force Main: 2.0"
- Material: Schedule 40 PVC
- Dose Calculations:
 - Design Flow: 750 gpd
 - Length of force main:
 - 2.0" force main = 190.5'
 - Volume of force main:
 - 190.5' x 17.4 gallons per 100' = 33.15 gallons
 - Minimum dose is the greater of:
 - Volume of force main: 33.15 gallons
 - Or
 - 1/6th the design flow: 1/6 x 750 gallons = 125.0 gallons

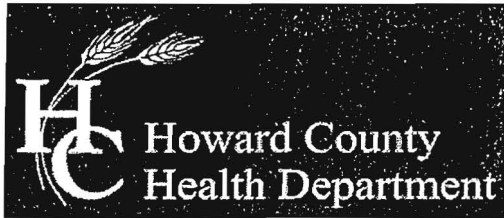
Use 125 gallons for dose

- Pump Design:
 - Pump flow required: 30 gpm
 - Dose amount: 125 gallons
 - Pump run time: 4.2 minutes
 - Static head (see profile for detail): 25.92' use 25.9'
 - Friction head calculation (Table 4.3):

235 - see Response Curve
OK - RB
probably ~ 3.5 minutes

Pipe size	-	2.0"
1/4 Bend (90°)	-	
1/8 Bend (45°)	-	6 @ 4.0' = 24.0'
1/16 Bend (22.5°)	-	-
1/32 Bend (11.25°)	-	-
Gate Valve	-	1 @ 1.3' = 1.3'
Standard Tee	-	-
Run Tee	-	-
Cross	-	-
Reducer	-	-
Couplings	-	10 @ 2.0' = 20.0'
Quick Disconnect	-	1 @ 4.5' = 4.5'
Total Equivalent Length of pipe	-	49.8'

- Flow at 2.0" pipe = 30 gpm
 - Friction loss per 100' (Table 4.4) of 2.0" schedule 40 plastic pipe: 1.54
 - Total equivalent length of 2.0" Force Main and appurtenances = 190.5' + 49.8' = 240.3'
 - Friction loss in 2.0" pipe = 240.3'/100 x 1.54 = 3.7'
- Total Friction Head = 3.7'



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Facebook: www.facebook.com/hocohealth

Twitter: HowardCoHealthDep

Maura J. Rossman, M.D., Health Officer

**OPERATION AND MAINTENANCE AGREEMENT
FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM
HAVING AN ADVANCED PRE-TREATMENT SYSTEM**

THIS AGREEMENT is made this 15th day of ~~September~~ ^{OCTOBER} 2015 among Mark Iguchi
& Julie Everhart, hereinafter collectively referred to as
"Owner", and the Howard County Health Department hereinafter referred to as the "County".

WHEREAS, Owner is the owner or contract owner of a parcel of land located at Lot 5
11029 Blevins Drive, Clarksville, in the ___ Election District of Howard
County, Maryland, and the deed to same is recorded or shall be recorded among the Land
Records of Howard County, Maryland in Liber 15765 Folio 325.

WHEREAS, The Lot is suitable for the installation of a conventional on-site sewage disposal
system with an advanced pre-treatment system, utilizing best available technology to perform
nitrogen reduction, in accordance with the Code of Maryland Regulations 26.04.02.07, effective
January 1, 2013. The pre-treatment device being installed is NORWECO 600.

NOW, THEREFORE, the parties hereto agree as follows:

- A. Owner hereby grants to the County the right to enter upon the Lot at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data in Owner's possession reasonably requested and needed by the County to develop accurate and thorough test results.
- B. Owner acknowledges and agrees that neither the County nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.
- C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.
- D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.
- E. This agreement shall run with the land and upon Owner's taking title to the Lot shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as long as the property is in existence and after installation of the system. Owner further agrees that they shall inform in writing any subsequent purchaser or lessee of the Lot that the system shall require

maintenance or other attention. Upon taking title to the Lot, the Owner agrees to cause this agreement to be recorded in the Land Records of Howard County and assure that it becomes part of the Deed for the subject property in order that prospective buyers may be aware of the special conditions affecting this property.

F. This agreement shall not be construed to limit any authority of the County to protect the public health, safety or comfort or to issue any other orders to take any other action which is now or may hereafter be within its authority.

G. This agreement may be voided at any time at the discretion of the County.

H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

I. The laws of the State of Maryland govern the provisions of all transactions pursuant to this agreement.

J. Owner acknowledges and agrees that interior renovations to increase the number of bedrooms or an increase in living space shall not be permitted without approval from the County.

IN WITNESS WHEREOF, the parties have signed and sealed this agreement on the date indicated above.

Beal Nye 10/1/2015
Howard County Health Department

[Signature] 2-23-15
Owner #1 Signature Date
BOB CORBETT
WILLIAMSBURG GROUP LLC
Owner #1 Print Name

Owner #2 Signature Date

Owner #2 Print Name

[Signature] 9/28/15
Buyer #1 Signature Date

[Signature] 9/28/15
Buyer #2 Signature Date

Mark Tauchi
Buyer #1 Print Name

Julia Everhart
Buyer #2 Print Name

Transaction Receipt

Howard County Office of the Health Officer
Environmental Health
MID:200002420198
7178 Columbia Gateway Drive
Columbia , MD 21046
410-313-6300

03/17/2016 01:36PM

Remittance ID

Environ [REDACTED]

Transaction ID:

[REDACTED]

REITER/JEFF

N/A, N/A

United States

MasterCard - [REDACTED]

Approval Code: [REDACTED]

Sale

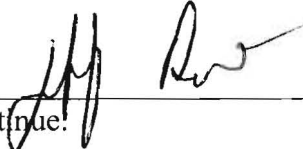
Amount: \$31.00

Well & Septic

Balance of Septic Permit/ 11029 Blevins Dr.

Cardmember acknowledges receipt of goods and/or services in the amount of the total shown hereon and agrees to perform the obligations set forth by the cardmember's agreement with the issuer.

Signature


[click here](#) to continue.

N 46°02'51"W

369.04'

LOT
3.0897 AC.

PART OF
PUBLIC FOREST
CONSERVATION
EASEMENT 7

PRIVATE
SEWAGE
EASEMENT

35' BRL

#71029
(SEE DETAIL)

35' BRL

35' BRL

86'±

92'±

75' BRL

34'±

30.0'

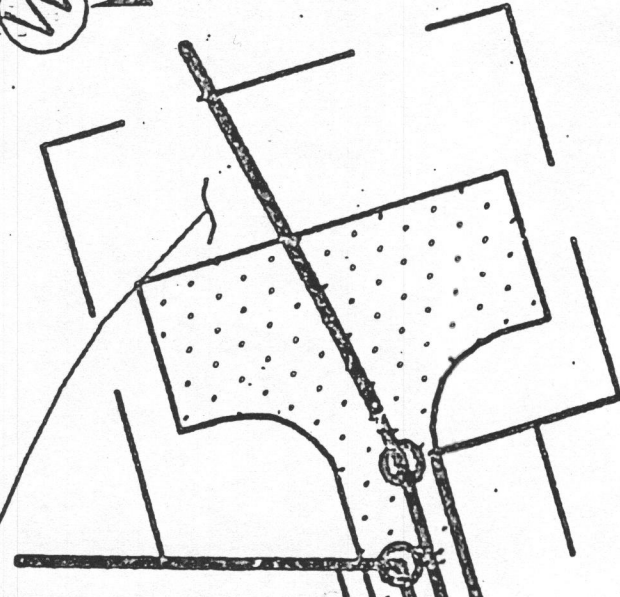
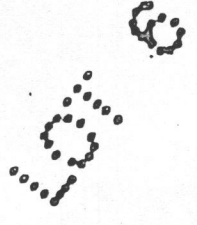
30' BRL

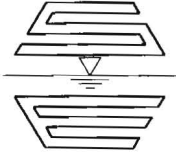
E 04°36'11"

S 71°51'04"

EX. WELL
#95-2276

460.34'





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Marriottsville, MD 21104
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Fax: 410-696-2022
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Civil Engineering for Land Development

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- Initial System And Replacements:
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 - 5 Bedrooms at 150 gpd
 - $5 \times 150 \text{ gpd} = 750 \text{ gpd}$
- Square Footage of Drain field Required:
 - Design Flow (750 gpd) / Application Rate (1.2) = 625 sf
- Sidewall Reduction Credit:
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- Linear Length of Trench Required:
 - Drain field Square Footage (625) x Sidewall Reduction Credit (50.0%) / Trench Width (2') = 156.25
- Linear Length of Trench Provided = 156.4
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*Approved for Blevins installation
R. Bricker 11/19/15*

- Design Flow: 750 GPD
- Diameter of Force Main: 2.0"
- Material: Schedule 40 PVC
- Dose Calculations:
 - Design Flow: 750 gpd
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 - 2.0" force main = 190.5'
 - Volume of force main:
 - 190.5' x 17.4 gallons per 100' = 33.15 gallons
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 - Or
 - 1/6th the design flow: 1/6 x 750 gallons = 125.0 gallons

Use 125 gallons for dose

- Pump Design:
 - Pump flow required: 30 gpm
 - Dose amount: 125 gallons
 - Pump run time: 4.2 minutes
 - Static head (see profile for detail): 25.92' use 25.9'
 - Friction head calculation (Table 4.3):

*u35 see response curve.
 OK vCB
 probably ~3.5 minutes*

Pipe size	-	2.0"
1/4 Bend (90°)	-	
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Blevins Property
Lot 5
November 11, 2015

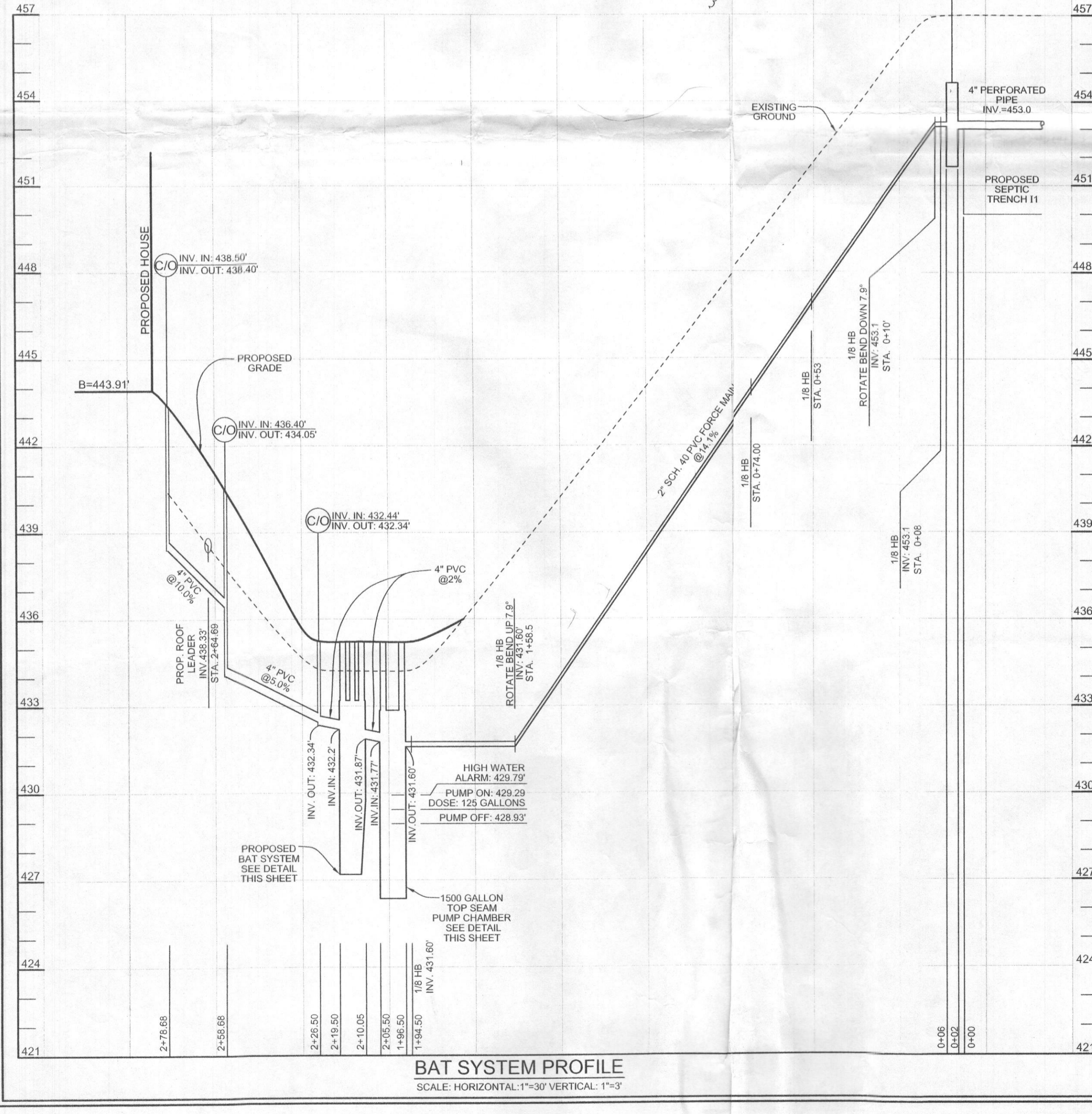
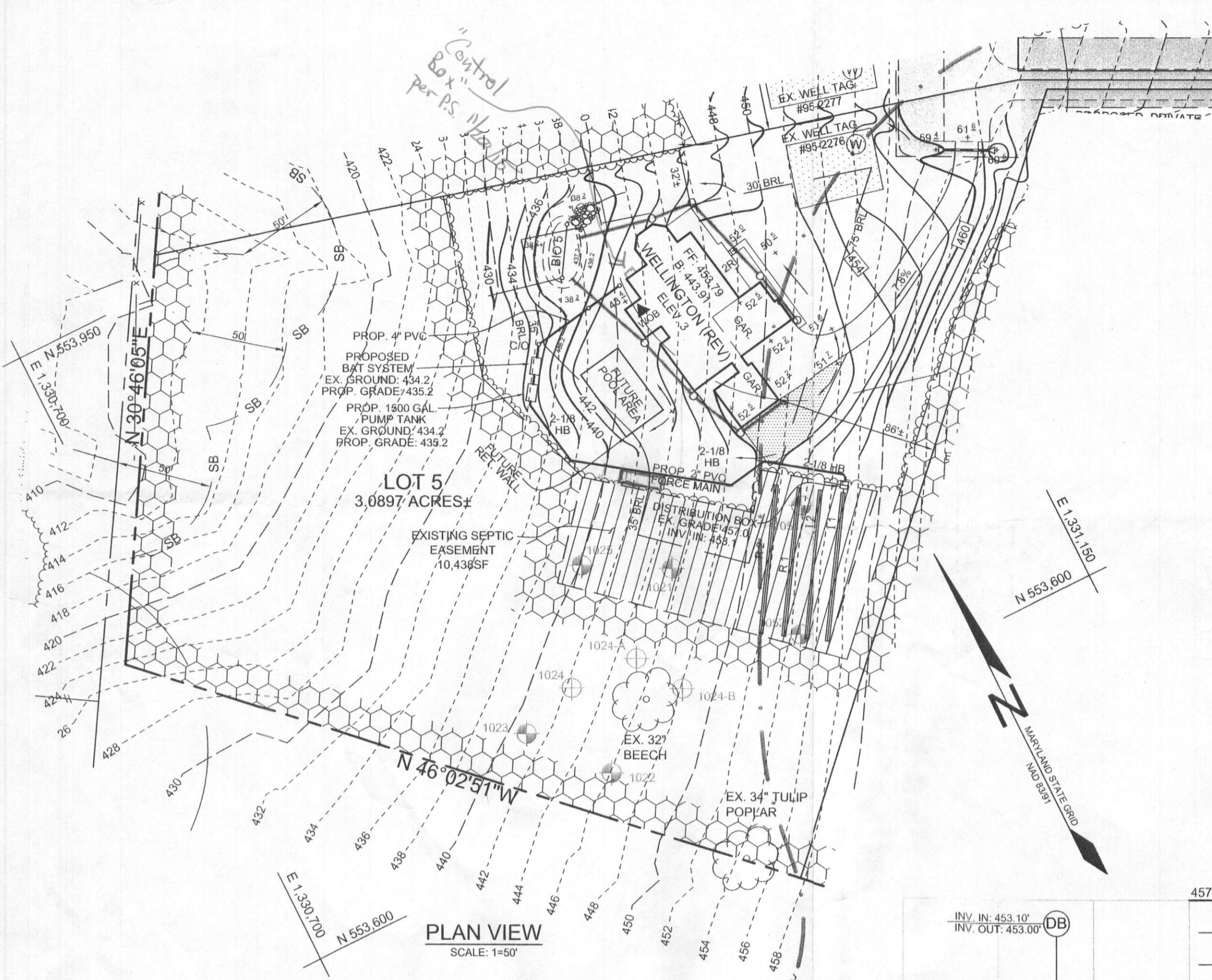
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Sincerely,
Sill Engineering Group, LLC



Anita E. Allen



SEWAGE PUMPS

MYERS® MW SERIES

Dimensions: 12.00" Dia. x 12.00" H. (12.00" Dia. x 12.00" H.)

Pump Performance: Capacity 1000 gpm @ 30' TDH. Capacity 500 gpm @ 40' TDH. Capacity 250 gpm @ 50' TDH.

Notes: Note: Portland Type I/II 6000 psi min Concrete. NOTE: This product is not designed, manufactured, or recommended to be used under a vehicle traffic area.

Plan View: 6'-0" x 5'-6" with electrical wire sleeve and manhole access.

Section A-A: Shows tank construction with 6x6 W1-AW14 side and WWF-Top, Bottom. Includes notes on valve and union requirements.

Manufacturer: C.R. Semler, Inc. Smithsburg, MD. 1500 Gallon Top Seam Pump Chamber Single Compartment 1/2" = 1'-0".

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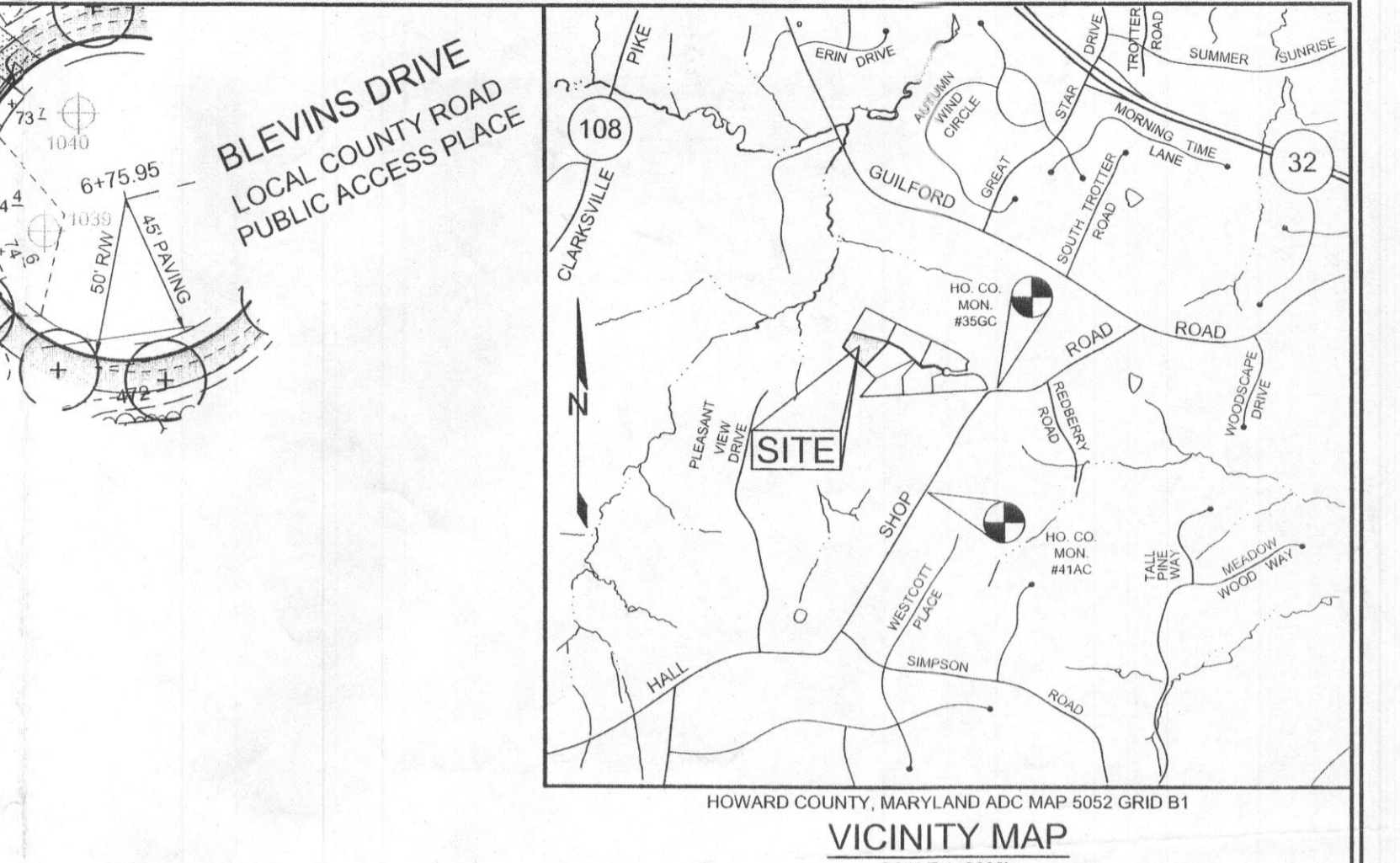
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LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING TREELINE
- EXISTING TREE
- SOIL BOUNDARY
- PROPOSED BIORETENTION FACILITY
- EXISTING FOREST CONSERVATION EASEMENT PER F-12-041
- INITIAL TRENCH SYSTEM
- REPLACEMENT TRENCH SYSTEM
- FAILED PERCOLATION TEST LOCATION
- PASSED PERCOLATION TEST LOCATION

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
G6a	GLADSTONE LOAM, 0 TO 3 PERCENT SLOPES	B	0.20
G6b	GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
G6c	GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES	B	0.20
M6d	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24

NOTES:

- SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEBB SOIL SURVEY.
- HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

SEPTIC SYSTEM TRENCH DESIGN SPECIFICATIONS

- INITIAL SYSTEM:** APPLICATION RATE: 1:2, EFFECTIVE AREA BEGINNING DEPTH: 4.5', BOTTOM MAXIMUM DEPTH: 7', DESIGN FLOW: 5 BEDROOMS AT 150 GPD, 5X150 GPD = 750 GPD.
- REPLACEMENT SYSTEM:** APPLICATION RATE: 1:2, EFFECTIVE AREA BEGINNING DEPTH: 4.5', BOTTOM MAXIMUM DEPTH: 7', DESIGN FLOW: 5 BEDROOMS AT 150 GPD, 5X150 GPD = 750 GPD.

GENERAL NOTES:

- SINGULAR® AERATOR, AS TESTED AND ACCEPTED BY NSF, OPERATING 60 MINUTES ON / 60 MINUTES OFF.
- FALL THROUGH SINGULAR® PLANT FROM INLET INVERT TO OUTLET INVERT IS FOUR INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
- ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND AERATOR MOUNTING CASTING AND BIO-KINETIC® SYSTEM MOUNTING CASTING TO GRADE. INSPECTION COVER ON PRETREATMENT CHAMBER MUST BE DEVELOPED TO WITHIN TWELVE INCHES OF GRADE.
- TANK REINFORCED PER ACI STD. 318.
- REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
- CONTACT THE LOCAL LICENSED SINGULAR® DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

PROJECT ENGINEER'S APPROVAL: I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE: _____

NAME: _____

CONTRACTOR'S CERTIFICATION: I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE: _____

NAME: _____

CRITICAL DIMENSIONS:

1'-0"	0'-3"
2'-9"	0'-6"
2'-8"	0'-2 1/2"
3'-7"	1'-4"
2'-3"	0'-8"
0'-3"	0'-0"
1'-0"	1'-0"
5'-0"	0'-6"
0'-3"	0'-0"
0'-3"	0'-0"
1'-0"	0'-0"
0'-2"	0'-0"
4'-6"	0'-0"

NOTE: TOTAL SYSTEM CAPACITY: 1,360 GALLONS. RATED CAPACITY: 600 GALLONS PER DAY.

Approved Septic System Plan
Howard County Health Department
NORWECO TATLP-500
& Semler 1500-gal Pump Tanks
with Myers MWHSO Pump
91 gpd/lv
Signature: [Signature]
Date: 4/19/2015
BISCO4676
1029 Blewins Drive
See attached 3-page Report

SITE PLAN FOR BAT INSTALLATION

BLEWINS PROPERTY

LOT 5
PARCEL 310
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

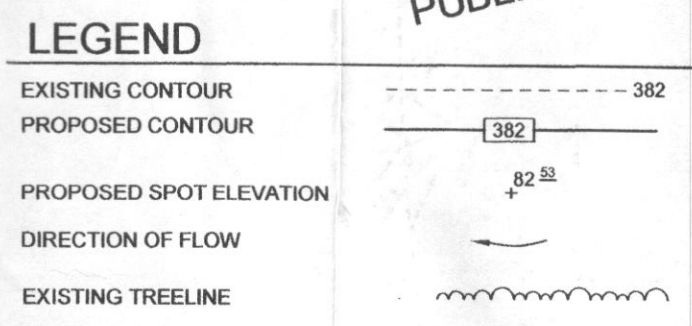
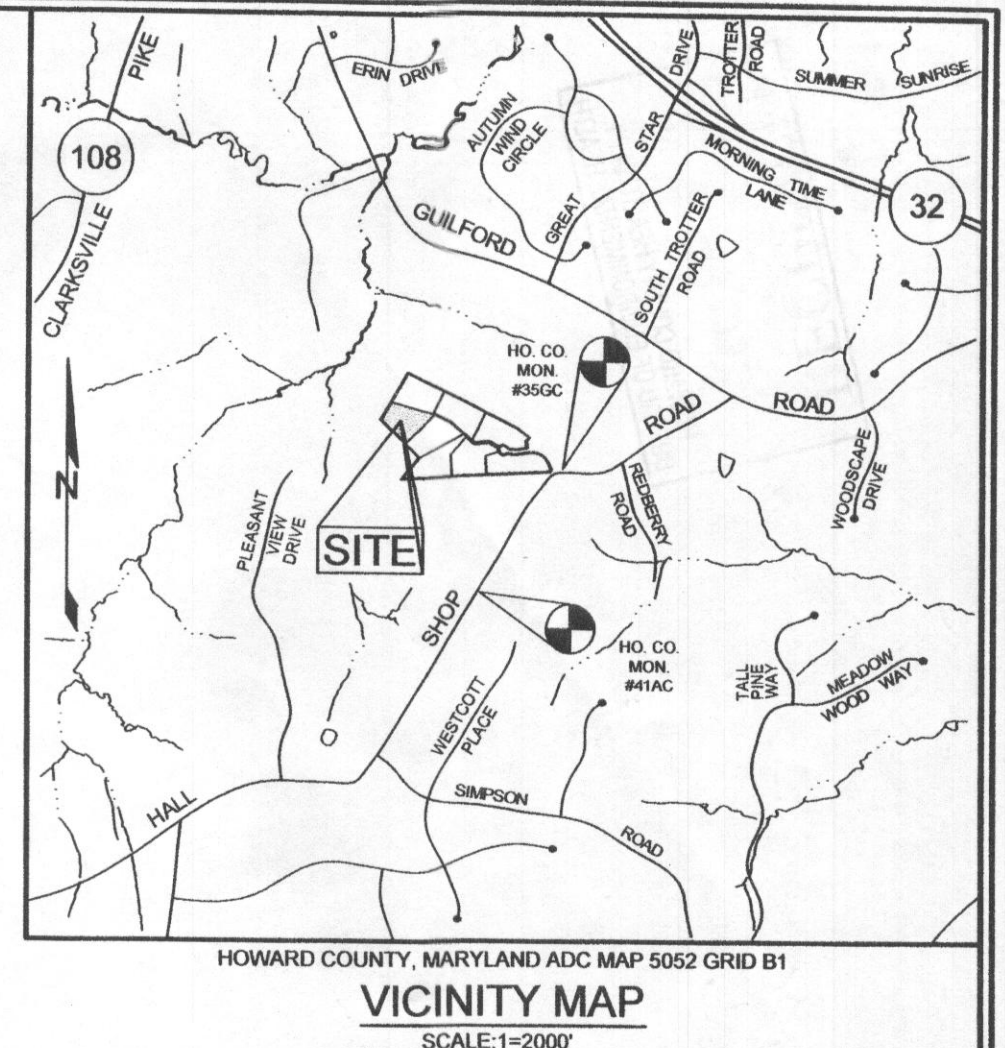
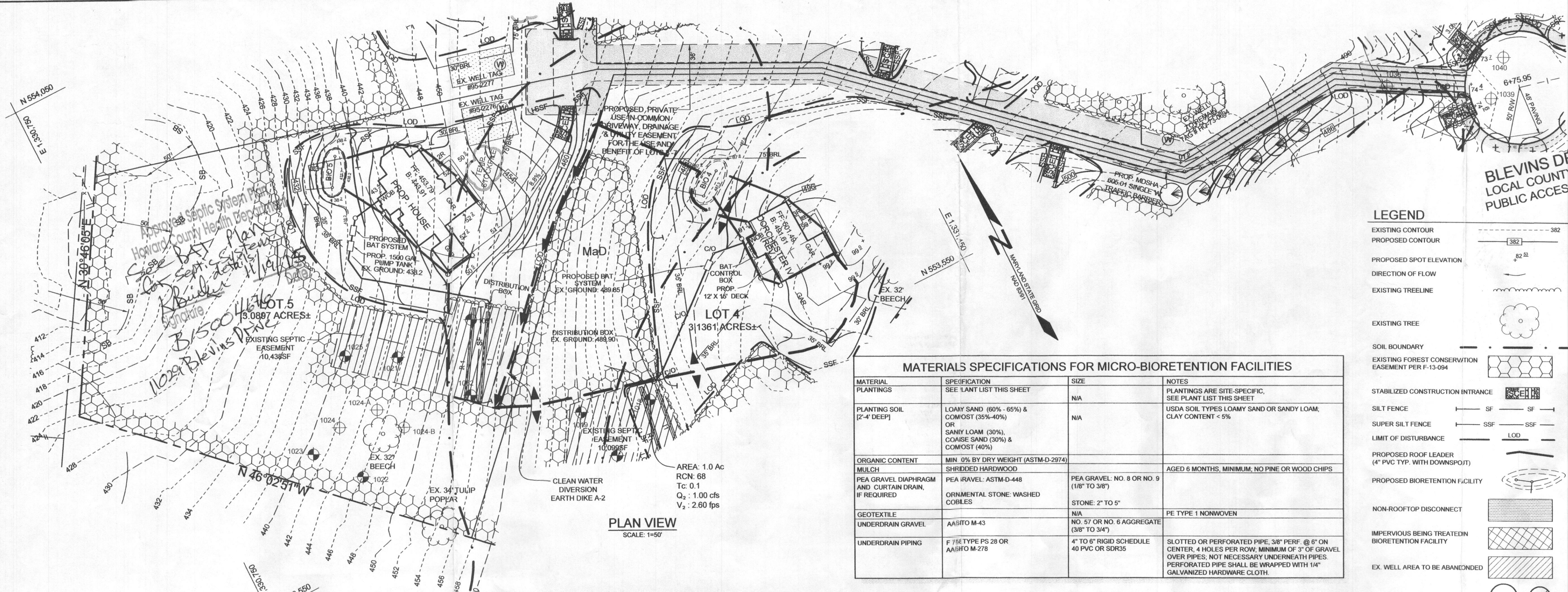
TAX MAP 35 GRID 19

OWNER/DEVELOPER: WILLIAMSBURG GROUP
5485 HARPERS FARM ROAD, SUIT 200
COLUMBIA, MARYLAND 21044
410 9918800

DESIGNER: SILL ENGINEERING GROUP, LLC
11130 Dovedale Court, Suite 200
Marriottsville, Maryland 21104
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: KSZ/AEA
CHECKED BY: PS
SCALE: AS SHOWN
DATE: NOVEMBER 12, 2015
PROJECT #: 14-040
SHEET #: 1 of 1

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. 30025, EXPIRATION DATE: JUNE 30, 2017.

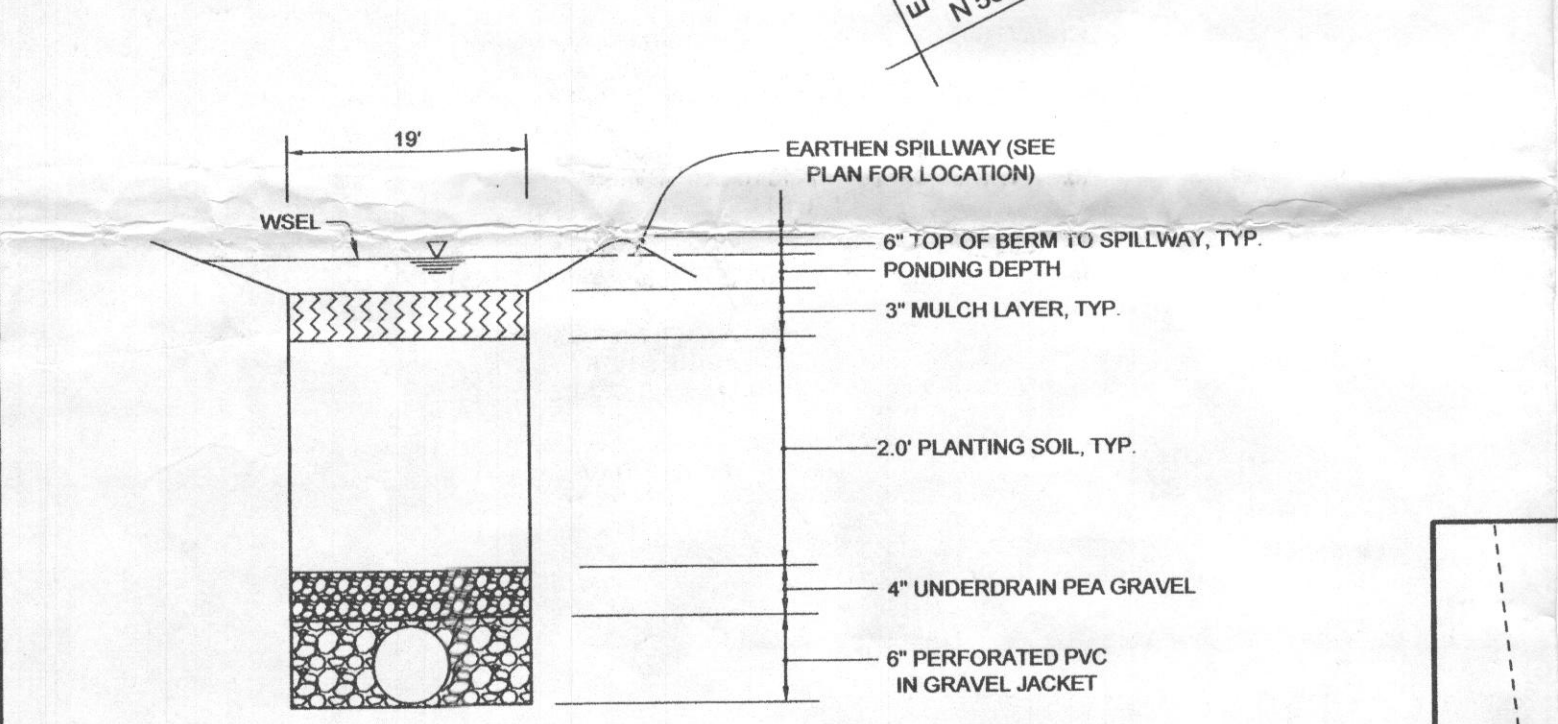


BENCHMARKS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
35GC	553,244.4	1,332,505.9	482.40	N SIDE OF HALL SHOP ROAD, 1/3 MILE SW OF GUILFORD ROAD, 30' NE OF POLE#112401
41AC	551,969.6	1,331,695.3	488.34	E SIDE OF HALL SHOP ROAD, 135' N OF POLE#112411, 111' S OF POLE#112410

MATERIALS SPECIFICATIONS FOR MICRO-BIORETENTION FACILITIES			
MATERIAL PLANTINGS	SPECIFICATION	SIZE	NOTES
PLANTING SOIL [2'-4" DEEP]	LOAMY SAND (60% - 65%) & COMPOST (35% - 40%) OR SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%)	N/A	PLANTINGS ARE SITE-SPECIFIC, SEE PLANT LIST THIS SHEET
ORGANIC CONTENT	MIN. 0% BY DRY WEIGHT (ASTM-D-2974)		
MULCH	SHRUBBED HARDWOOD		AGED 6 MONTHS, MINIMUM, NO PINE OR WOOD CHIPS
PEA GRAVEL DIAPHRAGM AND CURTAIN DRAIN, IF REQUIRED	PEA GRAVEL: ASTM-D-448	PEA GRAVEL: NO. 8 OR NO. 9 (1/8" TO 3/8")	
GEOTEXTILE	N/A	STONE: 2" TO 5"	PE TYPE 1 NONWOVEN
UNDERDRAIN GRAVEL	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" TO 3/4")	
UNDERDRAIN PIPING	F 7/8" TYPE PS 28 OR AASHTO M-278	4" TO 6" HIGHER SCHEDULE 40 PVC OR SDR35	SLOTTED OR PERFORATED PIPE, 3/8" PERFOR. @ 6" ON CENTER, 4 HOLES PER ROW, MINIMUM OF 3" OF GRAVEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES. PERFORATED PIPE SHALL BE WRAPPED WITH 1/4" GALVANIZED GEOTEXTILE CLOTH.

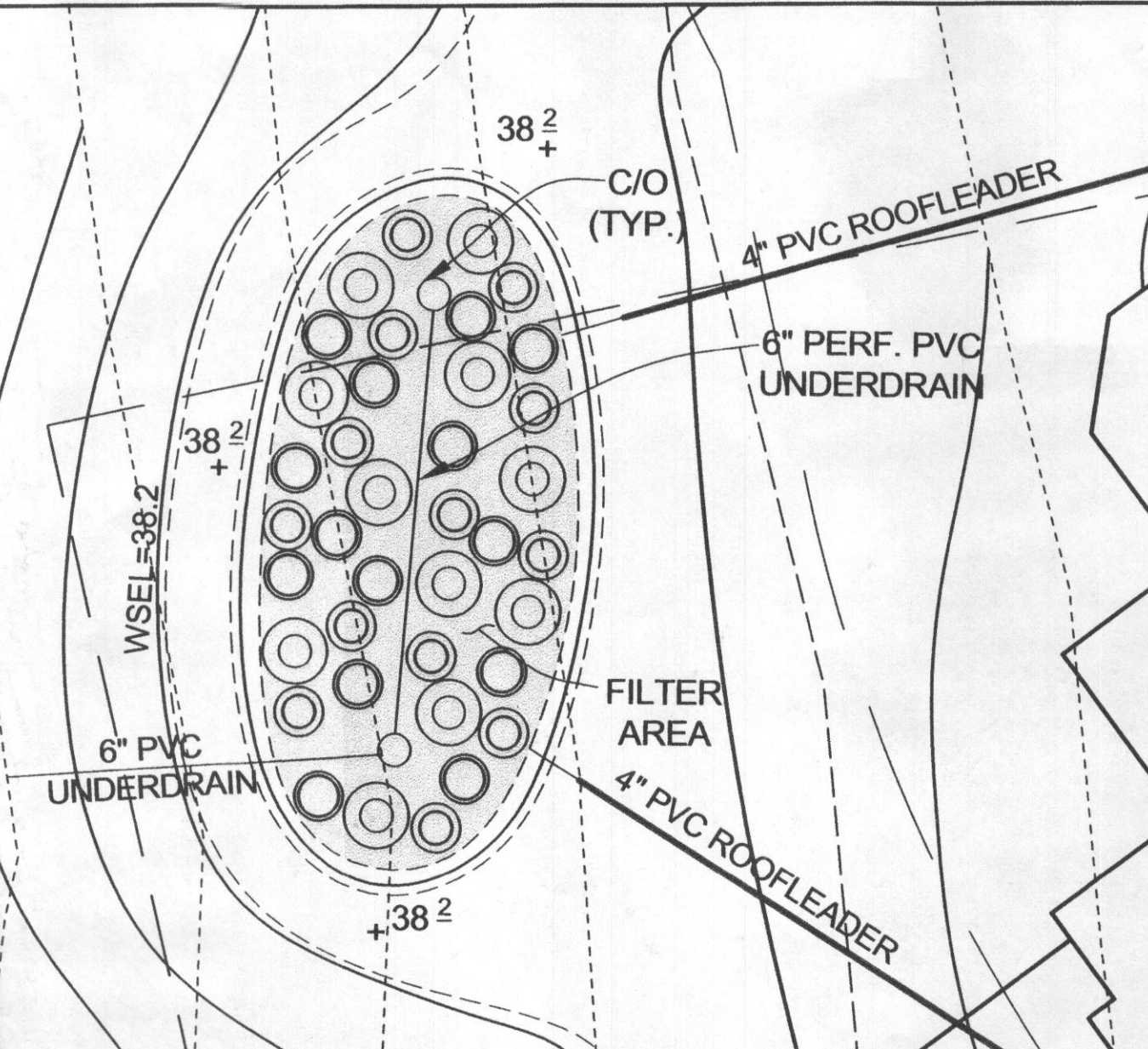
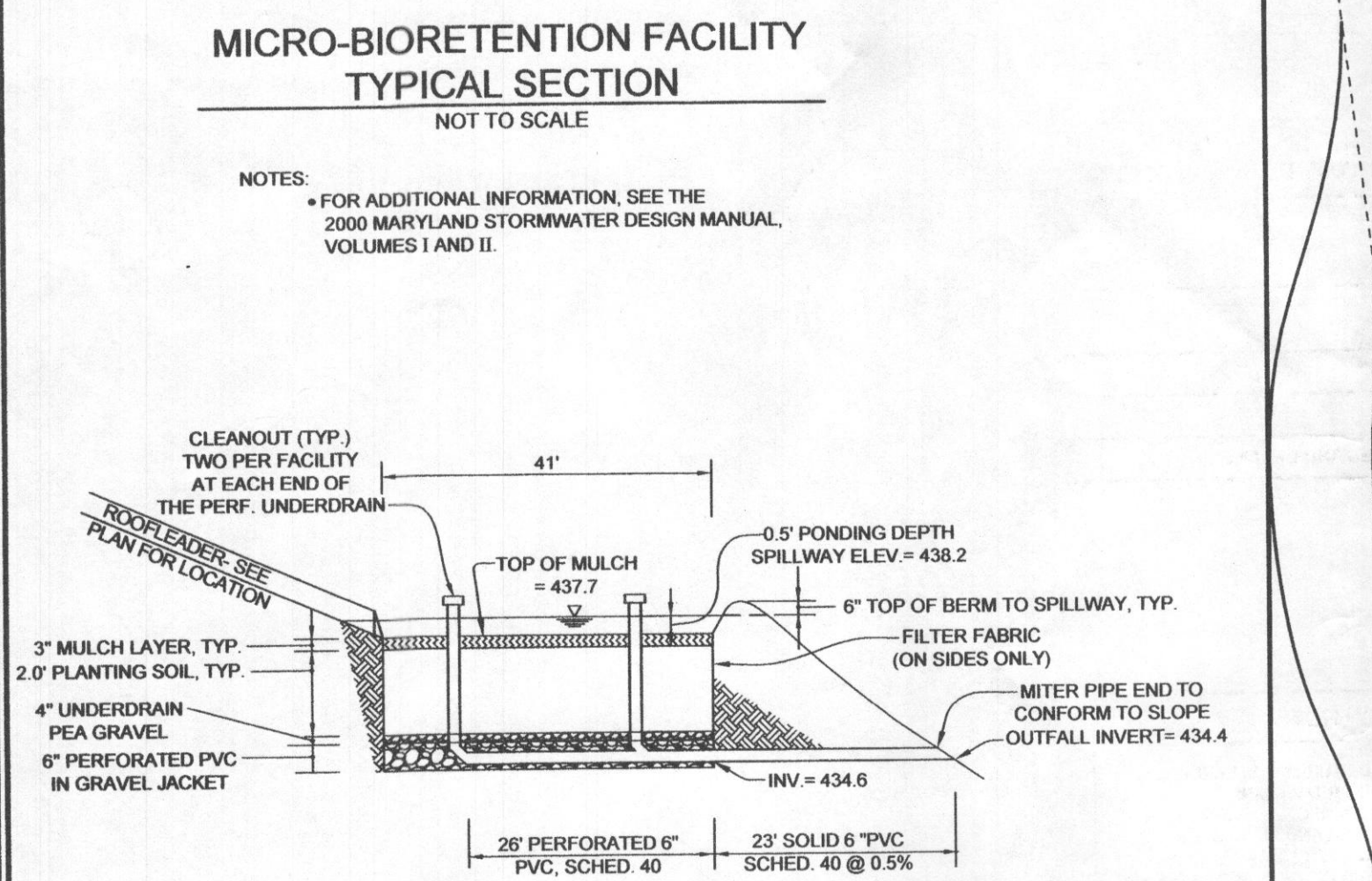
GENERAL NOTES

- SUBJECT PROPERTY ZONED RC-DEO PER 1006/13 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF LOT = 3.0887 AC.
- PRIVATE WATER AND PRIVATE SEWER WILL BE USED WITHIN THIS SITE.
- THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT, OF AT LEAST 10,000 SF AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL (COMAR 26.04.03). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE 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 ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED SEWAGE EASEMENT SHALL NOT BE NECESSARY.
- ALL EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL EASEMENTS WITHIN 100 FEET OF THE PROPERTY BOUNDARIES AND ALL EXISTING AND PROPOSED WELLS THAT ARE LOCATED WITHIN 200 FEET DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS AND SEWAGE DISPOSAL EASEMENTS HAVE BEEN FIELD LOCATED.
- THE EXISTING WELL SHOWN ON THIS PLAN (#95-2217) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
- THE BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN BOUNDARY SURVEY PREPARED BY SILL, ADCOCK & ASSOCIATES, LLC IN FEBRUARY 27, 2012.
- THE TOPOGRAPHY SHOWN HEREON HAS BEEN FIELD RUN BY SILL, ADCOCK & ASSOCIATES, LLC IN APRIL 13, 2012. THE EXISTING TOPOGRAPHY SHOWN OUTSIDE THE SITE IS BASED ON HOWARD COUNTY AERIAL TOPOGRAPHY FLOWN IN 2004.
- THE SOILS SHOWN HAVE BEEN TAKEN FROM THE NRCS WEB SOIL SURVEY WEBSITE.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS, NUMBERS 35GC AND 41AC, WERE USED FOR THIS PROJECT.
- THERE ARE NO HISTORIC STRUCTURES OR CEMETERIES WITHIN THE PROJECT BOUNDARY.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- ALL DITCHES AND SWALES WILL HAVE SOIL STABILIZATION MATTING UNLESS SOD IS BEING UTILIZED.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, UNLESS WAIVERS HAVE BEEN APPROVED.
- STORMWATER MANAGEMENT OBLIGATIONS FOR THIS LOT HAVE BEEN MET BY NON ROOFTOP DISCONNECTS AND MICRO BIORETENTION FACILITY. STORMWATER MANAGEMENT OBLIGATIONS FOR CHAPEL RISE HAVE BEEN APPROVED UNDER F-13-094. SEE THE FINAL STORMWATER MANAGEMENT REPORT FOR ADDITIONAL INFORMATION.
- BOLLARDS ARE TO BE PLACED BETWEEN THE EXISTING WELL AND THE PROPOSED DRIVEWAY BEFORE HEALTH DEPARTMENT APPROVAL OF THE BUILDING PERMIT.
- REFUSE COLLECTION, SNOW REMOVAL, AND ROAD MAINTENANCE FOR PIPESTEM LOTS ARE PROVIDED TO THE JUNCTION OF THE PUBLIC ROAD AND THE PIPESTEM DRIVEWAY. COUNTY TRASH AND RECYCLING COLLECTION WILL BE AT BLEVINS DRIVE WITHIN 5' OF THE COUNTY ROADWAY.
- DRIVEWAY(S) SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING REQUIREMENTS:
 - WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE);
 - SURFACE - SIX (6) INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MINIMUM);
 - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS;
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING);
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE;
 - MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- LIMIT OF DISTURBANCE = 43,727 S.F.



BIORETENTION PLANT LIST						
LEGEND	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	REMARKS	QTY
○	EUPATORIUM FISTULOSUM	JOE-PYE WEED	AS SHOWN* (MIN. 4' O.C.)	1 QT./12" HT.	CONT.	11
○	MONARDA DIDYMA	BEEBALM	AS SHOWN* (MIN. 3' O.C.)	1 QT.	CONT.	13
○	RUDEBECKIA LACINIATA	TALL CONEFLOWER	AS SHOWN* (MIN. 3' O.C.)	1 QT.	CONT.	14

NOTE: PLANT MATERIAL MUST COVER 50% OF THE MULCH AREA AT MATURE GROWTH. *INTERPERSE PLANTINGS THROUGHOUT BIORETENTION FILTER AREA



SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	K FACTOR
GSA	GLAUCONITE LOAM, 0 TO 3 PERCENT SLOPES	B	0.20
GGB	GLAUCONITE LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GBC	GLAUCONITE LOAM, 8 TO 15 PERCENT SLOPES	B	0.20
MaD	MANC LOAM, 15 TO 25 PERCENT SLOPES	B	0.24

- NOTES:
- SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE; NATURAL RESOURCE CONSERVATION SERVICE; WEB SOIL SURVEY.
 - HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL EROSION FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

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

- 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 INSEST INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
- THE OWNER SHALL FORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD OR DISEASED VEGETATION CONSIDERED BEYOND TREATMENT; REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL; TREAT SEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- 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.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

STORMWATER MANAGEMENT PRACTICES			
LOT #	ADDRESS	MICRO-BIORETENTION M6 (NUMBER)	NON-ROOFTOP DISCONNECT N-2 (Y/N)
5	11029 BLEVINS DRIVE	1	Y

NOTE: ALL ROOFTOP DRAINAGE MUST BE CONVEYED TO THE BIORETENTION FACILITY.

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	GRADING PLAN
2	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DICES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL (3:1), AND;
- SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

DURING GRADING AND AFTER EACH RAINFALL, CONTRACTOR WILL INSPECT AND PROVIDE NECESSARY MAINTENANCE TO THE SEDIMENT CONTROL MEASURES ON THIS PLAN.

OWNER/DEVELOPER

WILLIAMS GROUP
5485 HARPERS FARM ROAD, SUITE 200
COLUMBIA, MARYLAND 21044
410.957.8800

GRADING PLAN

BLEVINS PROPERTY

LOT 5

TAX MAP 35 GRID 19
5TH ELECTION DISTRICT

PARCEL 310
HOWARD COUNTY, MARYLAND

SILL ENGINEERING, LLC

11130 Dovetail Court, Suite 200
Marriottsville, Maryland 21043
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: KSZ
CHECKED BY: PS
SCALE: AS SHOWN
DATE: APRIL 14, 2015
PROJECT #: 14-040
SHEET #: 1 of 2

ENGINEERS CERTIFICATE

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

DEVELOPER'S CERTIFICATE

"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 SIGNATURE AND SPECIES SECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT."

DATE: 4/14/15

