



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: 8/4/15

ONSITE SEWAGE DISPOSAL SYSTEM

P 556569

APPROVAL DATE: 12/3/15 SEC

PERMIT: CONSTRUCTION

A

PROPERTY ADDRESS: 2150 Duvall Road, Woodbine MD 21797

SUBDIVISION: Mullinix

LOT: 4

TAX ID:

CONTRACTOR: Francis Bollinger & Son (Jeff Bollinger)

EMAIL:

CONTRACTOR ADDRESS: 1343 Bollinger Rd, Westminster, MD 21157

PHONE: 410-259-0282

CONTRACTOR CERTIFIED FOR BAT INSTALLATION:



MDE



MANUFACTURER:

PROPERTY OWNER: Gene Mullinix

EMAIL:

OWNER ADDRESS: 16525 A.E. Mullinix Road, Woodbine, MD 21797

PHONE: 410-489-4510

BAT UNIT MODEL: Norweco 600

PUMP SIZE:

PUMP TANK CAPACITY:

OPERATION & MAINTENANCE AGREEMENT

DATE SIGNED:

DATE RECORDED:

DISTRIBUTION SYSTEM:



GRAVITY



PRESSURE DOSED

BEDROOMS: 4

APPLICATION RATE: 0.8

TRENCHES:

LINEAR FEET REQUIRED: 114 LF 135'

INLET DEPTH: 4 FT

TRENCH WIDTH: 3 FT 2'

MAXIMUM BOTTOM DEPTH: 8 FT

MINIMUM SPACE

BETWEEN TRENCHES: 10 FT

EFFECTIVE AREA BEGINNING DEPTH: 4 FT

LOCATION:

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

NOTES:

2-57 Ft Long Trenches
2 x 68'

ISSUED BY:

Hank Oswald

ISSUE DATE:

8/6/15

EXPIRATION DATE:

8/6/16

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

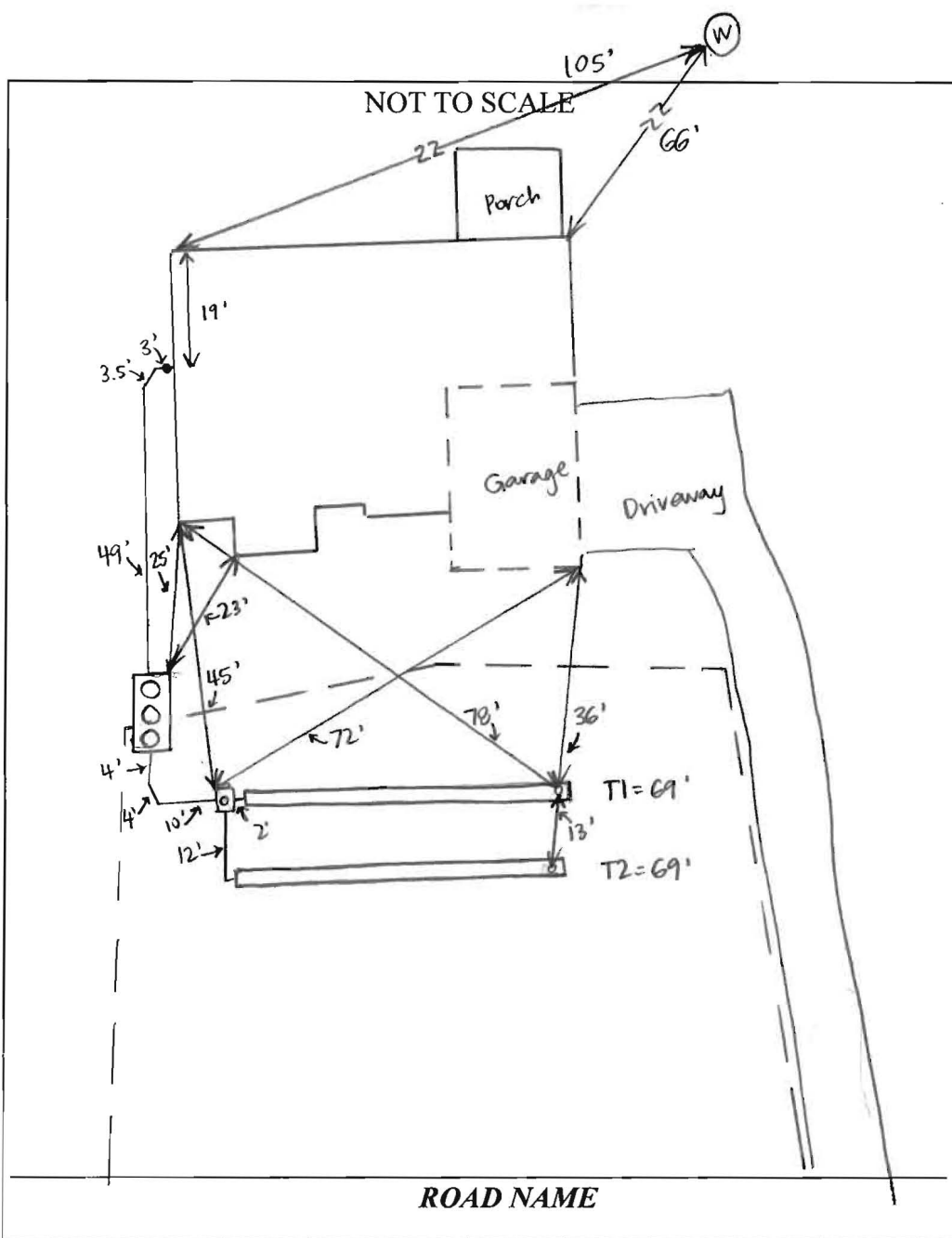
NOTE: AN INDIVIDUAL CERTIFIED BY MDE AND THE MANUFACTURER FOR BAT INSTALLATION MUST BE PRESENT AT ALL TIMES DURING BAT INSTALLATION.

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.



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
2'	4'	8'
NUMBER OF TRENCHES	2	
TOTAL LENGTH	69'	
ABSORPTION AREA	138' + SIDEWALL	
DISTRIBUTION BOX LEVEL	YES	
DISTRIBUTION BOX BAFFLE	YES	
DISTRIBUTION BOX PORT	YES	

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	YES
MANUFACTURER	NORWECO
CAPACITY	1300 GAL
SEAM LOC	TOP
TANK LID DEPTH	2-3'
BAFFLES	NO
BAFFLE FILTER	NO
MANHOLE LOC	FRONT, MID, REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	
PUMP/SEPTIC TANK LEVEL	
MANUFACTURER	
CAPACITY	
SEAM LOC	
TANK LID DEPTH	
BAFFLES	
BAFFLE FILTER	
MANHOLE LOC	
6" PORT LOC	
WATERTIGHT TEST	
SLOTTED	
DATE ON LID	

PRE-CONSTRUCTION:

8/19/15 Layout with Jeff Bellinger. Tank stakes and SDA corner stakes all present. Engineer also staked trench start + finish. Confirmed contour is level across trenches. Increased length to 68', 2' wide. Fill on top portion of SDA - trenches to go on native ground to avoid steep dropoff onto SDA from in front of house. House connection already drilled - hung sewer and not under footer as shown on BAT plan. (SC)

INSTALLATION: 8/25/15 Tank installed. T1 dug and left open without stone - 8' to bottom. (SC)

8/26/15 T1 + T2 finished, T2 left open. 3.5' to stone. Levelled D-box w/ speed levelers.

House connection made, pipe into tank has >2% fall - Jeff Bellinger says flow will be better than putting in step. Need BAT startup certification. (SC) 12/3/15 BAT startup certification received. (SC) 12/3/15 BAT startup - aerator functional, alarm sounds. (SC)

FINAL INSPECTOR Sarah Collins DATE OF APPROVAL 12/3/15

Back River Pre-Cast, LLC

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

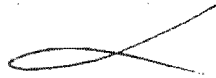
Letter of Certification

This is to certify that the Norweco Singlair TNT 600 GPD Septic Tank installed at 2150 Duvall Rd., Woodbine, MD 21797 on August 24, 2015 was installed according to the manufacture's specifications.

Installer: Jeffery Bollinger

Property Owner: Elizabeth McDonald

Permit #



MATTHEW GECKLE

Vice-President



BLUEGRASS
MATERIALS COMPANY

305039359

Weighed At: Medford
1111 Medford Road
New Windsor, MD 21776

Location: 2305

Order: 24804 Dispatch: Date: 08/25/2015
Ship To: 4382 - FRANCIS BOLLINGER & SONS INC
AG: CMD,05, WHOLESALE PRICING

Instruct:

PO: DUVALL ROAD

Job #:

Product: 4STONE - ASTM #4, LIMESTONE

Carrier: CHARLES LBOPST - CHARLES L BOPST

Vehicle: MD-6683

StateID#:

Qty: 22.51 ton --- DRIVER ON AT TARE & GROSS ---

	lb	ton	tne
Weighmaster: BLUEGRASS MATERIALS	Gross: 69,420	34.71	31.49
Deputy Weighmaster: KATHRYN BAKER	Tare: 24,400	12.20	11.07
	Net: 45,020	22.51	20.42

Scale: 2 * Predetermined Tare

In: Today Loads: 2

Out: 7:06 am Today Qty: 45.13 ton

BLUEGRASS MATERIALS COMPANY
STANDARD TERMS AND CONDITIONS
APPLY.

Signature of Receiving Agent

METRIC CONVERSION FORMULA: POUNDS DIVIDED BY 2204.623, ROUNDED TO 2 DECIMALS
SEE REVERSE SIDE FOR PRODUCT LABEL INFORMATION

AGGREGATE PRODUCTS

Aggregate products are naturally occurring materials including limestone, dolomite, granite, volcanic rock, sand, gravel, and other siliceous materials. These products may contain more than 0.1% crystalline silica.

CAUTION!

Hazards AGGREGATE DUST MAY CAUSE IRRITATION TO EYES, SKIN, AND/OR RESPIRATORY TRACT. DUST FROM HANDLING, CRUSHING, GRINDING, CUTTING AND/OR DRILLING MAY CONTAIN CRYSTALLINE SILICA, WHICH MAY CAUSE SILICOSIS AND CANCER IF INHALED. HEALTH RISK DEPENDS ON DURATION AND LEVEL OF EXPOSURE.

Safety Avoid contact with eyes and prolonged contact with skin. Wear gloves, eye protection, and appropriate protective clothing. Rinse hands thoroughly after handling. Avoid breathing dust. If exposed to dust above recommended limits (see MSDS), wear suitable NIOSH-approved respiratory protection.

First Aid In case of eye contact, immediately flush eyes with water. If dust is inhaled, remove to fresh air. Get proper medical attention if irritation persists.

V6 **BLUEGRASS MATERIALS COMPANY, LLC**
1700 PATRICK WAY, UNIT B
8/08 BOWLING GREEN, KY 42104



BLUEGRASS
MATERIALS COMPANY

305039352

Weighed At: Medford

1111 Medford Road

New Windsor, MD 21776

Location: 2305

Order: 24804

Dispatch:

Date: 08/25/2015

Ship To: 4382 - FRANCIS BOLLINGER & SONS INC

AG CMD,05, WHOLESALE PRICING

Instruct:

PO: DUVALL ROAD JOB

Job #:

Product: 4STONE - ASTM #4, LIMESTONE

Carrier: CHARLESLBOPST - CHARLES L BOPST

Vehicle: MD-1132

StateID#:

Qty: 22.62 ton

--- DRIVER ON AT TARE & GROSS ---

Weighmaster:

BLUEGRASS MATERIALS

	lb	ton	tne
Gross:	70,000	35.00	31.75
Tare:	24,760	12.38	11.23
Net:	45,240	22.62	20.52

Deputy Weighmaster:

KATHRYN BAKER

Scale: 2

* Predetermined Tare

In: 5:53 am

Today Loads: 1

Out: 6:26 am

Today Qty: 22.62 ton

BLUEGRASS MATERIALS COMPANY
STANDARD TERMS AND CONDITIONS
APPLY.

Signature of Receiving Agent

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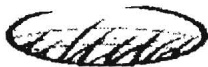
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1700 PATRICK WAY, UNIT B
8/08 **BOWLING GREEN, KY 42104**



BLUEGRASS
MATERIALS COMPANY

305039393

Weighed At: Medford

1111 Medford Road

New Windsor, MD 21776

Location: 2305

Order: 24804

Dispatch:

Date: 08/25/2015

Ship To: 4382 - FRANCIS BOLLINGER & SONS INC

AG:CMD.05.WHOLESALE PRICING

Instruct:

PO: DUVALL ROAD

Job #:

Product: 4STONE - ASTM_#4.LIMESTONE

Carrier: CHARLES LBOPST - CHARLES L BOPST

Vehicle: MD-6800

StateID#:

Qty: 22.01 ton

--- DRIVER ON AT TARE & GROSS ---

Weighmaster:

BLUEGRASS MATERIALS

Deputy Weighmaster:

KATHRYN BAKER

	lb	ton	tn
Gross:	68,960	34.48	31.28
Tare:	24,940	12.47	11.31
Net:	44,020	22.01	19.97

Scale: 2

* Predetermined Tare

In: 10:51 am

Today Loads:

3

Out: 11:05 am

Today Qty:

67.14 ton

BLUEGRASS MATERIALS COMPANY
STANDARD TERMS AND CONDITIONS
APPLY.

Signature of Receiving Agent

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V6 **BLUEGRASS MATERIALS COMPANY, LLC**
1700 PATRICK WAY, UNIT B
8/08 **BOWLING GREEN, KY 42104**

1" = 30'

N23°29'31"E 105.02'

EX. WELL
H095-2866

30' B.R.L.
LOT 4
1.00 AC.±

PROP. HSE.
FF 592.0
B. 582.16

CAR.
589.115

COVERED PORCH

586'20'43"W 344.72'

BLOWER
NORM. PANTS
25'-11" @ 0.2.0%

NORWECO 600 GPD
BAT TANK
15'-11" @ 0.2.0%

DIST. BOX

INITIAL SYSTEM
2 @ 57'

1st REPLACEMENT
2 @ 57'

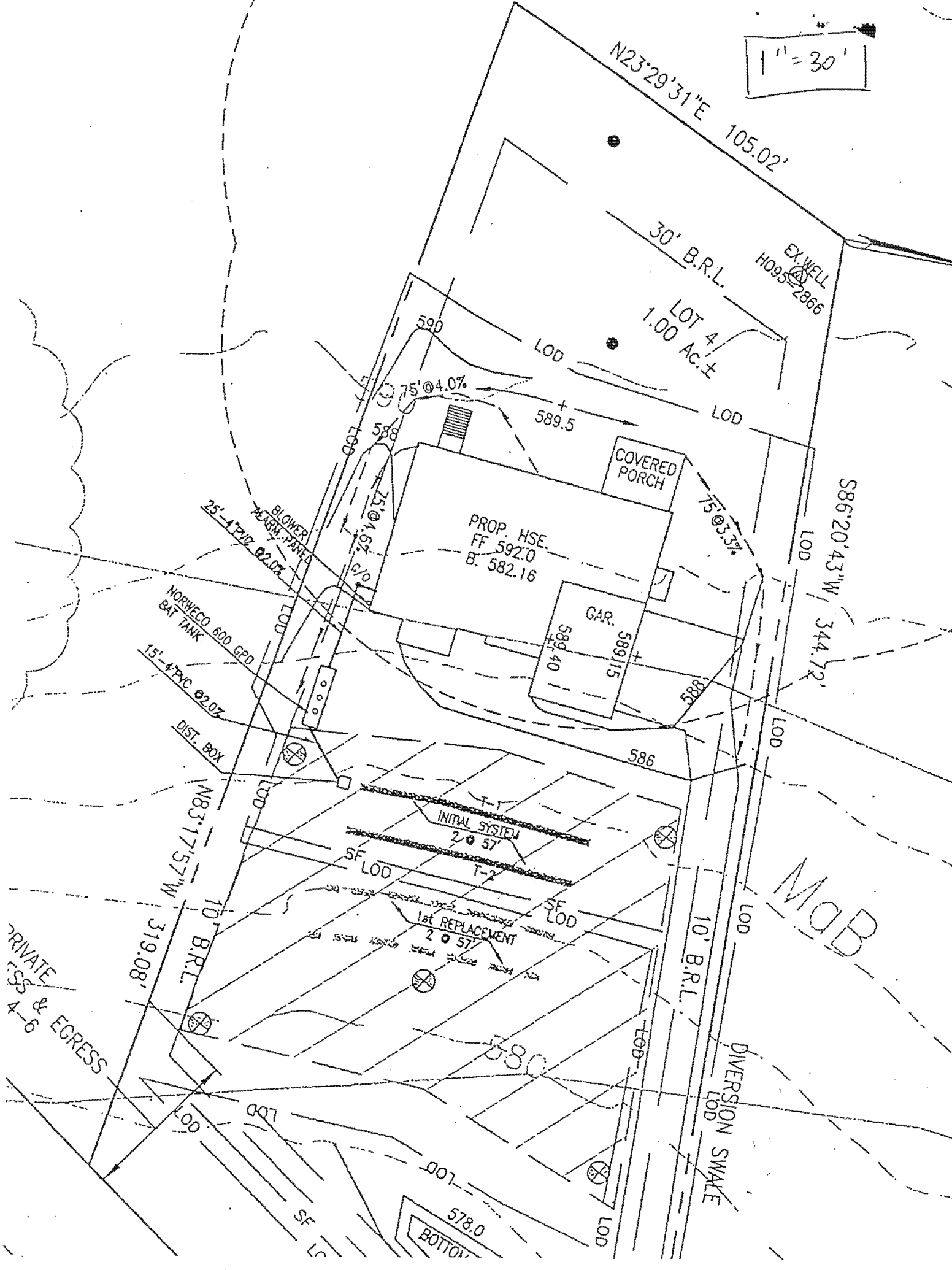
M&B

10' B.R.L.
M83°17'57"W 319.08'

10' B.R.L.
DIVERSION SWALE

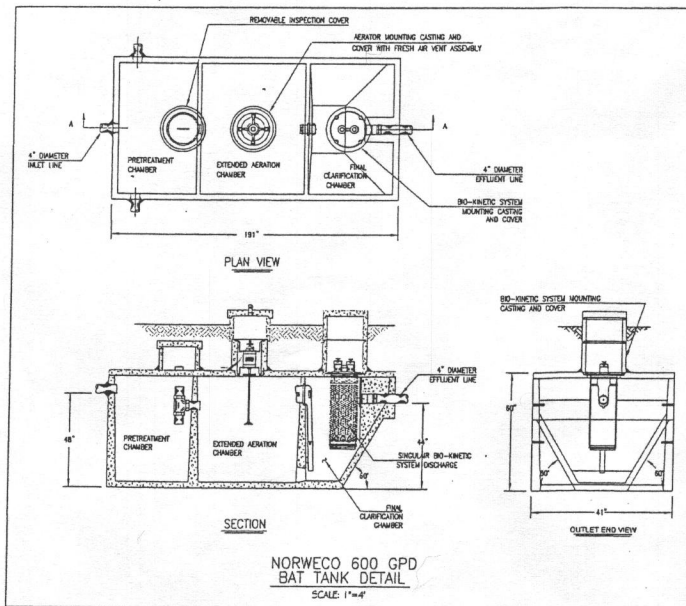
PRIVATE
ACCESS & EGRESS
4-6

578.0
BOTTOM

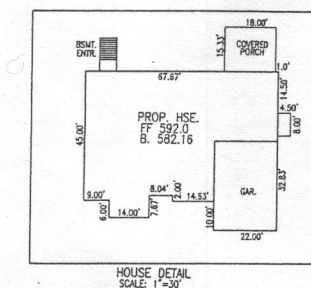
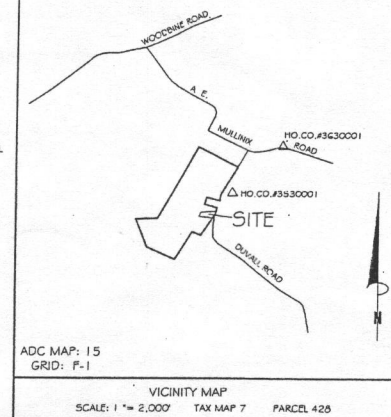
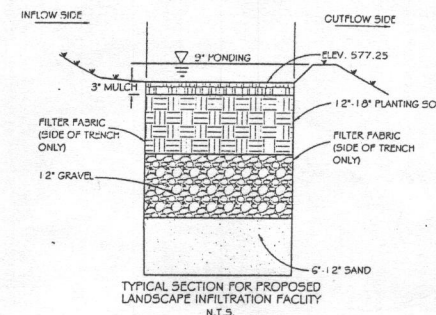
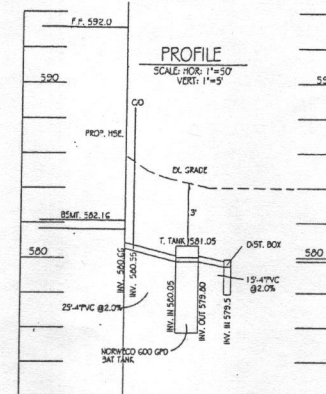


Approved Septic System Plan
Howard County Health Department

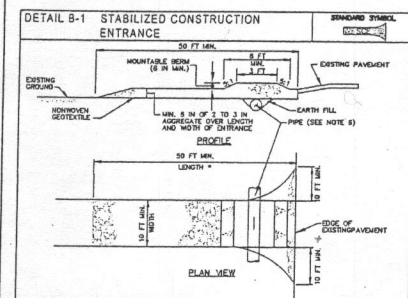
reapproved Hank Oswald 8/5/15
Signature Date



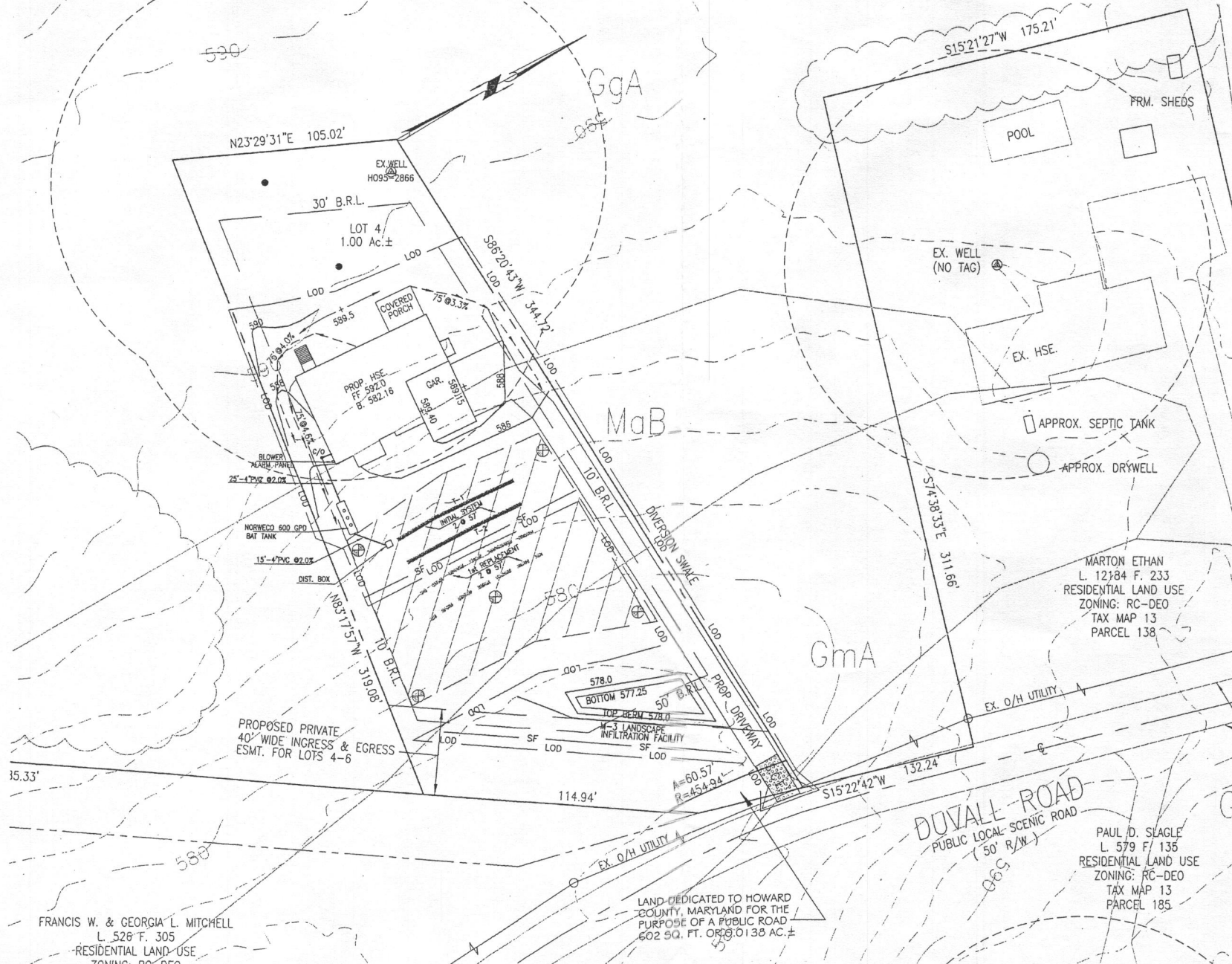
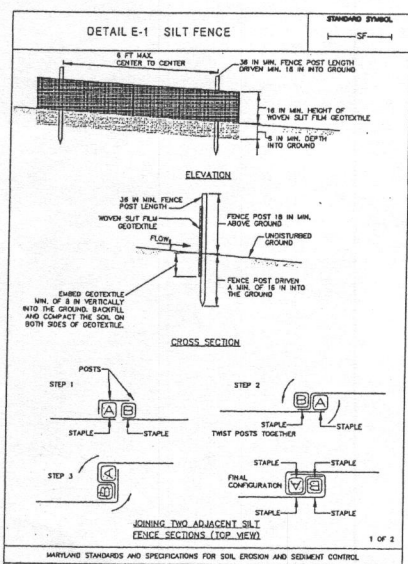
- BAT SITE PLAN NOTES:**
1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
 2. MAXIMUM COVER OVER THE BAT PER MANUFACTURERS SPECIFICATION IS 3 FEET.
 3. THE BLOWER MAY NOT BE LOCATED MORE THAN 100 FEET FROM THE TANK BASED ON MANUFACTURERS SPECIFICATIONS.
 4. THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
 5. THE BAT SHALL BE OPERATED AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
 6. WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT IN A MANNER ACCEPTABLE TO ME, THE ADDRESS AND DATE OF COMPLETION OF THE BAT, INSTALLATION AND TYPE OF BAT INSTALLED.
 7. ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
 8. AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDS OF HOWARD COUNTY.
 9. THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF INSTALLATION.



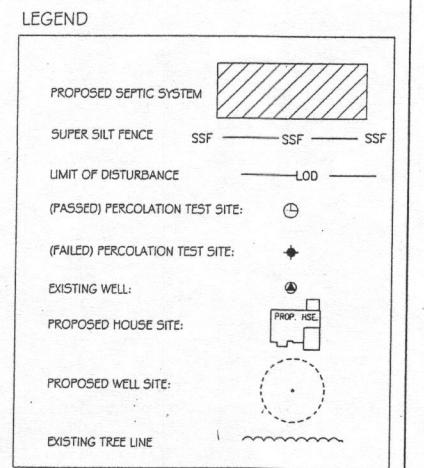
- GENERAL NOTES:**
1. TOPOGRAPHY & PLANIMETRIC FEATURES SHOWN HEREON TAKEN FROM COPYRIGHTED GIS DATA FROM HOWARD COUNTY, SUPPLEMENTED WITH FIELD LOCATIONS BY VANMAR ASSOCIATES, INC. CONTOUR INTERVAL IS 2 FEET. VERTICAL DATUM IS NAVD83.
 2. THE EXISTING WELLS SHOWN ON THIS PLAN HAVE BEEN FIELD LOCATED BY VANMAR ASSOCIATES OR TAKEN FROM AVAILABLE RECORDS AND ACCURATELY SHOWN.
 3. ZONING DISTRICT: RC-DEO
 4. LIMIT OF DISTURBANCE (LOD) = 19,950 SQ.FT.
 5. THERE ARE NO STREAMS, PONDS, FLOODPLAINS OR WETLANDS ON THIS LOT.
 6. STORM WATER MANAGEMENT FOR THIS LOT IS PROVIDED BY H-1 ROOFTOP DISCONNECT AND M-3 LANDSCAPE INFILTRATION FACILITY.



- CONSTRUCTION SPECIFICATIONS:**
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE TRENCH. USE MINIMUM LENGTH OF 50 FEET (100 FEET FOR SINGLE RESIDENCE LOTS). USE MINIMUM WIDTH OF 10 FEET. PLACE SIDE TO SIDE MINIMUM AT THE EXISTING ROAD TO MATCH A TURNING RADIUS.
 2. PIPE ALL SURFACE WATER FLOWING TO OR OVER THE ENTRANCE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE WETTED THROUGH THE SOIL WITH A MOUNTABLE BERM WITH 8\"/>
 - 3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
 - 4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
 - 5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ADD STONE OR HAVE OTHER PREPARED AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE. MOUNTABLE BERM, AND SLOPED ENTRANCE. MANICURE BERM, STONE AND/OR SEDIMENT GRIPPER, BRUSHES, OR TRACKS TO REMOVE TRACKS AND PREVENTS IS NOT ACCEPTABLE UNLESS RAIN WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.



- SEPTIC SYSTEM TRENCH DESIGN:**
- NUMBER OF BEDROOMS = 4
 - APPLICATION RATE = 0.6 GPD / sq.ft.
 - DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
 - 600 GPD / 0.6 GPD/sq.ft. = 750 sq.ft.
 - 750 sq.ft. / 3 ft. WIDE TRENCH = 250 LF TRENCH
 - 250 LF TRENCH X 0.45 REDUCTION CREDIT = 114 LF TRENCH
 - TRENCH 1 (T-1) EX. GRD=503.5 - INV. TRENCH=579.5 - B. TRENCH=576.0
 - TRENCH 2 (T-2) EX. GRD=503.0 - INV. TRENCH=579.0 - B. TRENCH=575.0



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. 43205, Expiration Date: 12-30-2014.

DATE	REVISIONS
03/24/15	EX. WELL LOT 4
03/24/15	BAT TANK

PLOT PLAN FOR BAT TECHNOLOGY
LOT 4
MULLINX SUBDIVISION
PLAT No. 4
ELECTION DISTRICT: No. 4
HOWARD COUNTY, MARYLAND
SCALE 1" = 50'
JAN. 2015
OWNER: GENE W. MULLINX
16523 A.E. MULLINX ROAD
WOODBINE, MD 21797
410-489-4510
VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners
310 South Main Street Mount Airy, Maryland 21771

